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CONTENTS

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A world of uncertainties: litigation and order in a flood irrigation society: three villages in southern Shanxi since late imperial times

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ABSTRACT

Flood diversion irrigation is a unique way of water resource development and utilization in the semi-arid area of the South Shanxi Loess Plateau, a widespread technique since Wang Anshi's (1021–1086) political reforms in the Northern Song era (960–1127). The uncertainty of flooding has brought many uncertainties to an area that is completely dependent on fluvial submersion for its livelihood. Long-term water disputes between the villages of Kang, Yangshe and Chaili in southern Shanxi province thus became the basis of petty disputes and momentous lawsuits. Litigation thus became a behavioral habit to deal with the plight of subsistence. Government rulings were habitually violated by the villagers. To government offices at all levels, the repeated submission and adjudicating of water conservancy lawsuits by the Three Villages became a normal occurrence. Uncertainty over the supply of flood water led to uncertainty in society, and this in turn intensified the uncertainty concerning the availability of flood water, in particular in terms of socio-economic utilization. Only when the local economy became no longer completely dependent on flood waters for irrigation, this uncertainty began to minimize or even disappear. In this regard, uncertainty is a core concept for understanding the relationship between man and nature in the semi-arid Shanxi Loess Plateau, throughout and since the late imperial period.

KEYWORDS

Uncertainty; flood irrigation society; socio-economic use of water; three villages in southern Shanxi (*jinnan sancun*)

I. Introduction: bringing uncertainty into history

As a historical constant, human society has always been full of uncertainties. Natural disasters, diseases, wars, conflicts, and accidents have threatened human life, health, safety, and social stability in regular intervals. Societies worldwide have therefore made it their common pursuit to minimize uncertainty to the greatest extent, in order to avoid risks and achieve prosperity. If uncertainty as a fact of life is opposed to the human desire for stability, then the ability to achieve this aim is limited by both subjective and objective factors. The historical pursuit of such uncertainties and the human desire to deal with uncertainties in the past, by reducing risks and turning uncertainties into stable conditions, has become an academic topos in its own right, as well as a key analytical concept for exploring the relationship between man and nature.

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In recent years, with the advancement of environmental history, disasters in history, as well as social history, the study of uncertainty in history has established itself as as a new historical category. Han Maoli's research posits that the emergence of farming civilization in China since the beginning of the neolithic era is an invention by prehistoric humans to overcome unstable ways of making a living, such as fishing, hunting and gathering. It can be regarded as a major step for humans to overcome uncertainty. With the onset of agriculture, human settlement began, and with it a long tradition of farming.[1] Following Xia Mingfang's straightforward analysis, "In all kinds of disasters, including natural, man-made, and by the interaction between nature and man, our historical research should include in our scope both natural and social 'uncertainties' reflected in such kinds of disasters. We should take uncertainty as a research object, as a research perspective, and even as our methodology, epistemology. As a worldview and cosmology, we can observe the human world becoming intertwined with nature."[2] Although his own research is derived from disaster history, new concepts of historical research can instill new inspirations. Uncertainty is the normal state of affairs, and the uncertainties of nature and society play an important role in the historical development of human society. In focusing on uncertainty, and by analyzing how people seek advantages and adapt to uncertainty useful historical theorems can be deduced from the history of human civilization.

As such, this article brings uncertainty to the social history of water conservancy, as it explores the relationship between humans and water in the past as well as the socio-cultural implications. Starting from the multiple interactions between people and water, the environment in general, as well as in terms of social cohesion, it attempts to scrutinize the civilizational and ecological knowledge of water conservancy in pre-modern China and to explore the historical changes in water conservancy. This research is thus conducive to promoting new approaches and findings relating to the history of water conservancy in social history.

II. The "three villages water conservancy litigation documents" and flood diversion irrigation in the South Shanxi Loess Plateau

The Three Villages in southern Shanxi and the area to which they belonged developed a special type of water resource development and utilization in the semi-arid area of the South Shanxi Loess Plateau – a society dependent on spate-water, i.e. an agrarian system where the flood waters from nearby rivers are preserved through water conservancy for later irrigation. This kind of water conservancy in mountainous areas is a small-scale water conservancy system, resulting from relatively poor water resources and limited irrigation. For the people whose ancestors lived on the South Shanxi Loess Plateau, facing the unfavorable conditions of lacking water resources, they gave full play to their subjective initiative. In the process of dealing with inundations, they used the flood water as an economic resource, turning harm into benefit. The collective knowledge of adapting to and utilizing the environment is a useful case study for exploring the historical relationship between man and nature on the South Shanxi Loess Plateau.

[1]Han Maoli, "Shijie nongyexingqi de dili jichu," 114–124.
[2]Xia Mingfang, *Wenming de shuangxiang*, 2.

The discovery of three villages water conservancy litigation documents

The "Three Villages Water Conservancy Litigation Documents" were originally collected by the villagers of Yangshe Village (Weicun Town, Yaodu District, Linfen City). The originals are two thick volumes, written by brush on hemp paper, the handwriting at times difficult to decipher. Zuo Yuanlong, a native of Chaili Village in Linfen City, formerly employed by the Religious Affairs Bureau of Yaodu District in Linfen City, visited, screened, and collated the supplements. The two volumes total more than one hundred thousand words, with details of the Three Villages of Kang, Yangshe, and Chaili, all situated in Linfen City. The published disputes and lawsuits, at times violent feuds over water, all constitute precious historical materials on water conservancy, stretching back more than three hundred years in history.[3]

Our sources comprise formal plaints submitted by the villages of Kang, Yangshe, and Chaili to Linfen County, Pingyang District, Hedong Circuit, Shanxi Board of Investigation, Shanxi Governor, Jiumen Garrison, Metropolitan Procuratorate, et al. There are 104 pleas, defense and solicitor statements, etc., each of which contains the plaintiff's and defendant's place of origin, name, cause of action, claim, case process, inter alia. There are ten verdicts by high-level officials; four requests by lower-level yamen officials for instructions or reports to their superiors. Furthermore, there are more than one hundred instructions by officials of all levels, with full details of the three villages' water conservancy lawsuit. By means of these sources, we gain insight into the conflicts, disputes and lawsuits arising from the use of water among the three arid villages of Kang, Yangshe, and Chaili. The Three Villages had been allocated water as early as in 1587 in the Ming era, reiterated until 1908, at the end of the Qing era.

Although the Three Villages Water Conservancy Litigation Documents cannot be compared in scale with the Qingshui River documents, Longquan judicial archives, Qing Dynasty Baxian Yamen archives and other systematically compiled source materials published by academic circles in recent years, their nature and value is very similar. In particular for the northern region, the Three Villages Water Conservancy Litigation Documents are more relevant, and fill an important lacuna. This article is based on these valuable documents in its analysis of the history of flood-irrigated water conservancy society in southern Shanxi.

Flood diversion irrigation in the South Shanxi Loess Plateau

The ancient inhabitants in the Loess Plateau region realized very early that mountain floods had the effects of irrigating, silting and fertilizing fields.[4] Experts have posited that since the Han era (206 BCE–220 CE), this has had a special impact on the irrigation and drainage of farmland, reaching its climax during the Wang Anshi reform of the eleventh century.[5] Many large-scale water diversion projects such as the Zhangshui, Zhengguo, Hedong, and Longshou canals, which were first built in northern China during antiquity, were not water diversion irrigation projects in the common sense. Among them, the silting of the Zhengguo Canal and the "irrigation and excretion" of Baiqu are the two main forms of silting irrigation, achieving unprecedented

[3]*Raodu wenshi*, vol. 20.
[4]Rao Hanyuan, "Zhongguo gudai de nongtian yuguan,"1–13.
[5]Li Lingfu, "Lun yuguan shi Zhongguo nongtian shuilli," 3–11.

progress in the Qin and Han periods (221 BCE–220 CE). The flood irrigation and water conservancy system of the Three Villages in southern Shanxi investigated in this article, despite being a small-scale flood water irrigation canal, is close to the nature of the Baiqu Canal, which plays a major role in irrigation and fertilization.

The Shanxi flood irrigation area to which the three villages belong is most typical in the south of Shanxi at the southeastern foot of Luliang Mountain. From north to south, it involves seven counties including Fenxi, Hongdong, Linfen, Xiangfen, Xinjiang, Jishan and Hejin. Geographically, it belongs to Luliang, the junction at the southern foot of Shandong and the lower reaches of the Fen River being a transitional zone of inclined terrain, the northern and western sides being high in altitude, the east and south low. Affected by the pertaining terrain and precipitation, these areas develop valleys and ditches. Usually there is no or only little water in the ditch, water only flowing out after heavy rainfall. The "Tianhe water" mentioned by Cheng Shimeng (1015–1092) is thus vividly referred to as "thunder water." During our in situ investigation, we learned that this "Thunder Water" is much appreciated by the local population. As the saying goes, "Three cannons announce a good harvest" and "Three cannons announce gold coins." Water from the mountain floods thus announce a good harvest in the coming year. The scale of this type of flood irrigation and water conservancy system varies. The larger ones, such as Huodu Valley in Xiangfen, can irrigate 38 villages in Xiangling and Taiping counties, benefiting about 200,000 *mu* of land. Small ones can irrigate one or several villages, and the irrigated area ranges from one or two hundred *mu* to several thousand *mu*. According to preliminary statistics, the famous flood irrigation areas in the above-mentioned areas include Huodu Valley, Weibi Valley, and Sanguan Valley in Xiangfen, Mabi Valley at the junction of Xinjiang and Jishan, Huanghua Valley in Jishan, and Sanyu in Hejin. Many others are unknown gullies. Flood irrigation in these areas follows in chronological sequence the flood siltation irrigation advocated by Cheng Shimeng in Hedong during the eleventh century, which can be regarded as the origin of this form of water resource development.

III. The dry and mountainous zone and the development of flood resources in the three villages of Southern Shanxi

Environment, population, and family of the three villages

The three southern Shanxi Villages are located in the Diaodi River Basin, a little-known seasonal river, some 45 kilometres northwest of Linfen City in Shanxi Province. Diaodi River has a total length of more than 35 kilometres and is the only river in the local area which is developed and utilized. The nine villages which the river flows through use the river water in different ways. Panjiazhuang, Lingshang, and Diaodi are three upstream villages which, due to their mountainous location, do not have the preconditions for water diversion. Kang, Yangshe, and Chaili villages in the middle reaches are located in the piedmont alluvial fan zone at the mouth of the Diaodi River. The terrain gradually descends from west to east, making it easy to open canals and divert water. Guocun, Taijian, and Wucun are the three downstream villages. When the flood water reaches the downstream through the upstream villages, the remaining water volume is very

small. Even if all the water is used, the benefiting land is very limited. Therefore, Taijian and Wu villages in the lower reaches must find another solution, and the flood waters of the Diaodi River can only play a supporting role.

Kang Village is located on the northern side of the mountain pass by the Jianhe River. The terrain of the village is relatively high, the land generally sloping, with an area of more than 2,000 *mu*. However, it is difficult to divert water, and only a few rivers benefit from it. Going down the slope from Kang, Yangshe Village is six kilometres east to north, and Chaili Village is eight kilometres south to the east. Chaili faces the mountain pass of the Diaodi River, positioning the village into a unique position for water diversion. Yangshe is more than six kilometres away from Diaodi Hebei, separated by the land belonging to Kang, the terrain being slightly higher. Despite water intake conditions being better than for Kang, they are inferior to those of Chaili.

The population of the three villages is very limited. Statistics show that in 1932, there were 145 households with 1,078 people in Yangshe, 106 households with 550 people in Chaili, and 93 households with 464 people in Kang. Among the Three Villages, Yangshe has the largest population and geographical extent, Chaili ranking second, slightly ahead of Kang. Linfen County had implemented the district-village system, there were five districts in the whole county, the Three Villages belonging to the second district of Northwest Township in Linfen County. The second district comprised 69 villages (towns) with 7,510 households and 38,012 inhabitants, with an average of 551 people per village. Seven of the villages under the jurisdiction of the second district had a population of more than 1,000, among which Yangshe ranked sixth, much higher than the average local population.[6] From this, it can be determined that Yangshe Village was a local village with a large population, while Chaili and Kang were below the average and thus counted as a small village. The spatial distance between the three villages did not exceed eight kilometres, and they are located in a similar geographical and economic area. The demographic figures in Republican era reveal that they were similar in size to the late imperial period.

Yangshe Village is a village with mixed surnames, dominated by the Zhang family. According to the village chronicles, the Zhang surname accounted for 45% of the village population, the six surnames Du, Wang, An, Cao, Li, and Wu for 35% of the population, while the remaining 36 miscellaneous surnames accounted for 20%. The proverbial saying "Zhang Shangfeng, a man from ancient times" relates to the fact that the Zhang family had relocated to Shandong during the sixteenth century, when they were hit by natural and man-made disasters and had nowhere to live. The eldest daughter and two brothers fled from famine and had to beg for food and return to Linfen. The eldest, Shilong, settled in Yangshe, and the second eldest, Shihu, in Dongyang. The family tree of the Zhang family in Yangshe starts from the memory of the second ancestor, Shilong. As of 2013, the Zhang of Yangshe counted 19 generations, which can basically be traced back to the early fifteenth century.

Chaili is a single-surname village with the majority of households being of the Zuo surname, which accounts for more than 70% of the village's population. The Zuo surname in Chaili Village is divided into two branches, Dazuo and Xiaozuo. The two branches originally belonged to one family. They moved from Zuojiagou in Hongdong

[6] *Linfen xianzhi*, 50–51.

County and kept in touch with the Zuojiagou people in Hongdong for 17 generations to the present time. Like Yangshe, Kang is also a village with mixed surnames. The village has five surnames: Liu, Han, Zhang, Wang, and Su. At present, there are 1,400 people in the whole village, of whom most share the Liu surname, namely some 600 to 700 people. The Lius in Kang has been dominant for more than 10 generations. There is no genealogy and ancestral hall, but each family carries out ancestral activities on an individual household basis during the Qingming Festival and other festivals every year. The social function of the clan has been weakened.[7]

Development of flood resources in Sancun

Among the three villages, Chaili was the earliest to develop the Diaodi River. In 1842, in the lawsuit between the villages of Chaili and Yangshe, Zuo Rongqing of Chaili Village hailed the long history of "our Yongfeng Canal." This is the earliest record about the Yongfeng Canal in this village. During the field investigation, we learned that the village canal, commonly known as Qiaozi Canal, was divided into two streams after the Diaodi River flooded through Chaili, one drained directly from the south ditch of the village to the Fen River, and the other drained from the north stream of the village. The Fen River was directly discharged, so the villagers discussed to build a stone weir in the channel of the Diaodi River more than two hundred meters away from the village to force the water into the canal. Therefore, the opening of the canals in Chaili cannot have occurred later than in the Wanli reign period of the Ming era (1573–1620). Considering the historical fact that the Zuo and Lian clans moved into Chaili in the final quarter of the fourteenth century, it is easy to conjecture that these new residents multiplied for several generations into the Wanli reign period. Yongfeng Canal in Chaili is about eight kilometers long, its sides reinforced in stone. Every piece of land has an opening made of stone to facilitate the gate water to enter the field, which creates an effective flood irrigation system. In contrast, Yangshe and Kang had no dams or canals at that time. In the flood development of Diaodi River, Chaili can thus be said to have taken the lead.

It is much more difficult to build canals in Yangshe than in Chaili. Its canal is named Hengling Canal, after Mount Hengling.[8] Originally, Yangshe Village had no canal, but received water from the stone mouth of Dongzi Canal in Kang, so irrigation was limited. In 1596, Yangshe and Chaili villages jointly won a lawsuit to prevent Kang from opening a canal. Zhang Shichun, a member of the Yangshe gentry, stepped forth and asked Chaili to share part of the flood waters of Diaodi River. Chaili promised to distribute water to Yangshe and to build Hengling Canal. The key project of Hengling Canal is the stone platform across the Diaodi River channel as shown in the figure below. It is about 10 meters high and 30 meters long. Built jointly by Yangshe and Chaili in the Ming era, it symbolises the friendship between the two villages. Yangshe is located northeast of the Diaodi River, separated by the Kang land massif. Since the terrain is high and the river course low, it was necessary to build an effective stone dam to raise

[7]On November 28, 2021, the author conducted a field investigation on the surnames, families, and population of the three villages, and combined the village chronicles, genealogy and county chronicles to arrive at this conclusion.
[8]*Chaili cun Zuo Rongqing suzhuang* (Daoguang ershier nian qiyue ershi qi ri), 57.

the water level and force the water to flow into the canal. On the stone platform, Yangshe Village also built a sand weir three meters by one hundred and sixty centimeters long, one meter high outside, and thirty centimeters inside. Floodwater from one foot of the sand weir can overflow from the Dishui stone platform and enter the river channel, for use by the Yongfeng Canal of Chaili downstream. As such, both villages can both make use of the flood water.

Schematic diagram of water distribution in Yangshe and Chaili villages in 1846[9]

Compared with Chaili and Yangshe villages, Kang in the upper reaches has more pronounced water shortages. There used to be a small canal in the village, the Dongzi Canal, which was named after an earth cave.[10] The construction date is unknown, and the irrigation scale is limited. Although Kang Village is by the Diaodi River, due to the high terrain, it is difficult to irrigate more than 2,000 *mu* of sloping land. The downstream Chaili and Yangshe villages benefit from water diversion, which makes the people of Kang anxious. The entry of 1908 titled "Chaili Village Yongfeng Canal Records," an important document which records the past attempts of the Kang villagers to open the canal, states that "since the canal was opened in the Wanli era, Liu Jinmin and others of Kang village had appropriated water four times."[11] Although these inscriptions and water conservancy litigation documents do not have detailed records on the history of opening canals in Kang Village during the Ming era, it can be concluded that Kang tried to divert water in the upper reaches but was stopped by Chaili and Yangshe villages, since they feared that the opening of canals could endanger the downstream villages of Chaili and Yangshe. In 1802, the people of Kang village brought up the old matter and launched a lawsuit against Yangshe and Chaili villages. However they failed again, frustrated in their attempt to open the canal.

IV. Water conservancy litigation and local upheaval in the three villages

By means of the water conservancy litigation documents on the Three Villages in southern Shanxi, we arrive at a better understanding of competition for water in the water-stressed areas of the South Shanxi Loess Plateau during the late imperial period, and can furthermore make a observations of the performance of the court, officials, and different social entities during the litigation process. The belligerent behavior of the people in the Three Villages is the result of lacking water resources and the uncertain nature of floods. This uncertainty created by the water conditions plunged regional society into a state of continuous turmoil and instability. This became the hallmark of South Shanxi Loess Plateau's history, of people's daily struggles, as well as of the interaction between human communities and water.

[9]This illustration produced by the author is based on the litigation materials and field investigation. For ease of presentation, the direction of the canals and various water conservancy facilities shown in the figure have been abstracted. The "Shuishui Weir Terrace" on the lower left of the picture was built after resetting the water division regulations in 1846; the "Drip Water Stone Terrace" in the picture was jointly built by Yangshe and Chaili in 1596.

[10]*Chaili cun Zuo Rongqing suzhuang* (Daoguang ershier nian qiyue ershi qi ri), 57.

[11]*Chaili cun Yongfeng qu beiji* (Guangxu sanshi si nian).

Interaction between the government and the people in the water conservancy disputes in the three villages

The water conservancy disputes of the three villages consist of two main characteristics. Firstly, the late imperial right to access the flood waters of the Diaodi River by Kang Village, which was repeatedly blocked by Yangshe and Chaili villages, and secondly, the "Chaiyang Litigation Case" that occurred in Yangshe and Chaili villages concerning the water rights of the Diaodi River between 1739 and 1820. These two lines run through the entire process of the three villages' water dispute litigation, which lasted for more than three hundred years and became the most influential event in local society.

(1) The "case of canal opening in Kang Village" during the late empire

The legal case of the Kang village canal opening was comprised of two stages: between 1587 and 1595, Chaili and Yangshe villages jointly preventing the opening of a canal in Kang village; and between 1804 and 1809, the central government in Beijing accusing Kang village of illegally opening canals. The cause for the plaint was in both cases exactly the same: the people of Kang village attempting to open canals in order to divert water to the dry plateau. Since the same water provided Chaili and Yangshe with irrigation water, the two villages jointly intervened, and Kang village was denied its wish. The two sides argued endlessly for this, and continued to appeal, resulting in a litigation battle, in particular during the early nineteenth century.

Regarding the canal opening case of Kang Village in 1587, there are not many litigation documents, with merely one judgment of Pingyang Prefecture dated 1595. This judgment had critical consequences, producing outcomes which the people of Kang in have never since been able to accommodate. Pingyang Prefecture ordered Kang Village to "only irrigate the flat land next to the stream, and never open canals to seize water to divert water to irrigate sloping land." If a canal were to be constructed, any excess water would inevitably flow downstream, submerging Chaili, Yangshe and other low-lying villages. The villagers of Kang would not see any benefits, but Chaili, Yangshe and other villages would be struck with disaster.[12] In this eight-year lawsuit, Kang villagers Yang Rulin and Liu Jinmin repeatedly violated the order and thus flouted imperial law. Because of this lawsuit, Yangshe won the right to share the Diaodi River flood waters with Chaili, while Kang was banned from opening canals by the government. In 1844, a plaint submitted by Chaili Village to Pingyang Prefecture recorded that in the late Ming era, Liu Jinmin of Kang and others had opened channels covertly from the upper stream, prompting Zuo Guanghui and Zuo Guangyao of our village and Zhang Shichun of Yangshe to produce a law suit. Due to Kang Village having been unable to open canals for seizing water, Zhang Shichun's concerted efforts paid off, resulting in Kang sharing water with Yi, with monuments erected by the two villages to commemorate the agreement.[13] The two records complement each other, roughly restoring the process of the first opening of the canal in Kang Village in 1587.

In 1803, the Kang villagers joined forces and reopened the canal. The details of the canal opening incident can be gleaned from the litigation documents of Kang, Yangshe, and Chaili: "During the first month of this year, fourteen people from Kang Village,

[12] *Pingyangfu "Kang cun kaiqu an"* duan jie (Daming Wanli ershisan nian), 11–12.
[13] *Chaili Zuo Rongqing deng cheng Pingyangfu suzhuang* (Daoguang ershi si nian liuyue chuer ri), 94.

including Su Mingyuan, led hundreds of people to dig into the mountains upstream of us. By means of contructing canals, they attempted to intercept our ancient water conservancy."[14] Kang Village upstream of Yangshe, had excavated a canal mouth on the hillside rocks to irrigate the northeast slope, but it had not yet begun to dig.[15] In many Kang speeches, the concept of water use for "sharing the benefits of heaven, earth and nature." Accordingly, the "water of the Jianhe River passes through our village first, but is emptied into the upper and lower villages. Why can we not build canals to divert the water and benefit from water conservancy?"[16] On the 19th day of the first lunar month in 1803, Zhang Shizheng from Yangshe and Pan Zhengli from Chaili jointly sued Kang to the governor of Pingyang Prefecture, who on the fifteenth day of the second month ordered Kang Village to "fill the excavated canals and never open them again."[17] Although Su Mingyuan, village head of Kang, and township representative Liu Quande, pledged not to open the canal, they were not convinced. On the twenty-eighth day of the second month, they went to the superior Hedong circuit official to file a lawsuit, accusing the two villages of monopolizing water conservancy and preventing Kang from repairing the reservoirs. The Hedong circuit official immediately instructed that the case be sent back to Pingyang District for review. After it emerged that the Kang canal had been surreptitiously opened, the magistrate of Pingyang ordered Kang village to fill up the newly opened channel, so as to prevent any further disputes.[18] A copy of the judgment was reported to the Hedong circuit. Plaintiffs Liu Tongda of Kang as well as village notable Liu Quande, defendants Zhang Shizheng of Yangshe and Pan Zhengli of Chaili all agreed to meet in court. However, on the twelfth day of the eighth month of 1803, Liu Tongda, Han Wenfu, and Su Hongde from Kang jointly sued Yangshe and Chaili before the Shanxi Procuratorate. Once accepted, the Shanxi Procuratorate approved and forwarded Hedong Circuit's personal survey and report. Liu Tongda, Han Wenfu, and Su Hongde escorted him to the provincial residence of the Hedong Circuit, pending investigation." The Hedong circuit official was transferred to Jiangzhou and Pingyang District for investigation and trial, the case once again returned to Pingyang District. The case was closed on the fifteenth day of the second month of the following year, and the original judgment of Pingyang Prefecture was upheld. Kang Village was not allowed to open the mouth of the canal or build dams to stop the flow of the water.[19]

After losing the lawsuit, the villagers of Kang refused to give up and continued to sue. They were divided into two groups, and one group was led by villager Zhang Guangtai to the governor's office in Shanxi in order to prosecute. On the twenty-fourth day of the second month 1804, Zhang Guangtai stopped the sedan chair of the governor in Renyi Town, Xugou County, and presented his grievances. He filed an appeal to Bolin, governor of Shanxi, accusing the officers and officials of Hedong Circuit, Pingyang District, and the Qing Ministry of War. The villagers of Kang Village had been wronged and could not open the canal, so they asked the governor of Shanxi to

[14]*Yangshe Chaili Zhang Shizheng Pan Zhengli Pingyangfu chengci* (Jiaqing qinian sanyue chushi ri), 27.
[15]*Pingyangfu Qian dalaoye duanan* (Jiaqing qinian wuyue ershiwu ri), 20.
[16]*Kang cun cheng hedongdao Zhuang* (Jiaqing qinian eryue ershiba ri), 25.
[17]*Pingyangfu tongzhi Wang taiye duanan* (Jiaqing qinian eryue shiwu ri), 24.
[18]*Pingyangfu Qian dalaoye duanan* (Jiaqing qinian wuyue ershiwu ri), 30.
[19]*Kang cun Su Hongde Han Wenfu jujie* (Jiaqing banian eryue shiwuri), 35.

uphold justice. The governor of Shanxi ordered that his instructions be followed meticulously, that the committee members investigate and report all details impartially, and without any complaints.[20] The other group was led by Liu Tongda, Su Mingyuan and others who had set off for Shangkong in Beijing one month earlier. Having walked for over 2,700 kilometers, they filed a complaint against the garrison commander in Jiumen, Beijing, on the twenty-eighth day of the second month in 1804. Lu Kang, then the military commander of Jiumen, immediately issued the instructions to transfer the original submission by Liu Tongda to the governor of Shanxi for detailed investigation and clarification, for impartial investigation.[21] Both approaches, namely Zhang Guangtai stopping the sedan chair of the governor and presenting his grievances and Liu Tongda's method both resulted in the Shanxi governor hearing their case. Having received the approval from the nine military commanders, the governor of Shanxi immediately appointed officials to investigate. On the first day of November in 1804, the final verdict was proclaimed: Liu Tongda was found having violated the prohibition to open the canal, against the orders of magistrate Wang Cheng. When the latter was alleged to be a descendant of the first Ming emperor in opposition to the Qing Dynasty, Liu Tongda was found to have committed serious misrepresentations. Han Wenfu needed to respect the law and was to receive 80 blows of the cane, so that the sentence could be reduced.[22] Kang Village had thus lost the lawsuit. On the twenty-seventh day of the tenth month in 1807, Zhang Yongshun and Wu Juncai of Yangshe Village sued Su Mingyuan before Pingyang District for not following the judgment and for reopening the canals to irrigate their land.[23]

On the fifteenth day of the third month 1808, Qian Zhen, magistrate of Pingyang, ordered Zhan Dianshi to personally order Liu Zhijiang and others from Kang Village to demolish the weir and fill in the canal, and ordered Kang Village "to never dare re-open the canal." In the fifth month of 1809, Kang Village sent Han Wenfu to Beijing to appeal once again to the central authorities. The Metropolitan Procuratorate instructed the governor of Shanxi to consider both agrarian and water conservancy issues, lest Kang be turned into wasteland.[24] This was the third time the governor of Shanxi has received a plaint from Kang. We lack the archival information to know how the appeal process ended, but judging from the results, Kang Village lost the lawsuit again.

(2) The "Chai Yang entanglement lawsuit" (18th to 19th centuries)

Chaili and Yangshe villages were originally allies in the "Kang Village Canal Opening Case" in the late Ming era. However, conditions changed and the water conservancy conflict turned the two friendly villages against each other. The first conflict between the two villages was remembered by the villagers of Chaili clearly: In 1770, Yangshe had monopolized the water conservancy, the other village being controlled by the county government. This contravened the obligation to avoid partiality.[25]

[20] *Kang cun Zhang Guangtai deng cheng Shanxi xunfu suzhuang* (Jiaqing banian eryue ershisi ri), 36.
[21] *Jiumen tidu piwen* (Jiaqing banian sanyue chuwu), 39.
[22] *Jiumen tidu duanan* (Jiaqing banian shiyiyue ershiliu ri), 45.
[23] *Yangshe cun Zhang Yongshun Wu Juncai jujie* (Jiaqing ernian sanyue shiwuri), 48; and *Kang cun Su Hongde Liu Quande jujie* (Jiaqing shiernian sanyue shiwuri), 49.
[24] *Duchayuan gei Shanxi xunfu pishi* (Jiaqing shisannian wuyue), 52.
[25] *Chaili cun Zuo Rongqing deng cheng Pingyangfu suzhuang* (Daoguang ershi sinian liuyue chuer ri), 94.

In 1772, the court judgement of Pingyang District explained in detail that the only way of ending the old water dispute was by sharing the water supply. The dispute between the two villages centered on the Diaodi River flood waters. After a field survey in Pingyang Prefecture, it was found that the bone of contention related to the water diversion between the two villages. Dishui Stone Terrace "has a sloping ground system, and the water cannot flow into the Yangshe Canal unless a sand weir is built. If a gap is left, it will inevitably flow down." In order to ensure that the two villages could be irrigated at the same time, sharing water evenly even when levels were low, it was decided that "above the stone platform, Yangshe Village was to build a sand weir with a length of three meters by one hundred eighty centimeters. In times of heavy rain and thunderstorms, villagers cold cross the weir and reach the village directly. Chaili village could be irrigated at the same time as Yangshe Village when the weir was opened upstream. But the dispute between the two villages was not about central but local access to water, and regardless of quantities"[26] Neither party raised any objections. Therefore, in 1772, Pingyang District settled the case and obliged itself to monitor the rule, so that the dispute could be settled in perpetuity.

Between 1842 and 1847, the two villages were locked into water conservancy disputes. The peak of the legal action was reached, according to the archival sources, in December 1842, when on the seventeenth day of the twelfth month, Zuo Rongqing of Chaili Village filed a plaint with Pingyang District against Wu Shaohu and others in Yangshe Village for defying the law and monopolizing water conservancy. On the twentieth day of the twelfth month, Yangshe Village countered and accused Chaili of intending to deviate water away from their village in perpetuity.[27] The crux of the dispute went back to the problem faced by Pingyang District in 1776 when the case was first settled. In 1843, the two villages submitted twenty plaints to Pingyang Prefecture and in 1844 fifteen plaints, petitions and pleas. 1845 counted twelve legal proceedings, and another twelve for the following year.

The tenor of the plaint documents is that "Yangshe Village dominates the water, and Chaili Village steals water." The construction of the sand weir was the result of the Pingyang Prefecture's judgment of 1776, which both parties adhered to for many years. In times of inundations, Yangshe was to ensure that water in excess of 30 centimeters could be made available, so that water could overflow downstream for use by Chaili Village. In this manner, the irrigation of both villages as well as equal access to water conservancy could be guaranteed. However, due to the passage of time, as well as to flood erosion and sediment deposition, the "side slope" of the sand weir had left behind two "fish-shaped" ridges.[28] Following an in situ investigation, Li Rong, Lao Chongguang and Yanzhi, the three prefects of Pingyang Prefecture, advocated that according to the changed situation, the water provision of Yangshe Village to Chaili Village needed to be adapted by means of a stone weir at the canal mouth.[29] Having requested the support of the Shanxi Inspection Commissioner, the Shanxi Procuratorate issued its approval on the twenty-fifth day of the sixth month 1845, ordering both villages to comply. However, on the eighteenth day of the fourth month

[26]*Pingyangfu panjue* (Qianlong sanshi qinian), 16.
[27]*Yangshe cun cheng Pingyangfu suzhuang* (Daoguang ershiernian shieryue ershi ri), 59.
[28]*Huozhou Hua zhizhou huikanshu* (Daoguang ershiliunian qiyue ershi wu ri), 146.
[29]*Pingyangfu zhifu Yan tongzhi lian bing niexian wen* (Daoguang ershiwunian wuyue chujiu ri), 12.

1846, Zuo Rongqing, the canal supervisor of Chaili Village, suddenly repented. "The orderly servants applied medicine, bandaged and pasted him for rescue, and cooperated with Zuo Rongqing and others to carry Zuo Zhang to an inn in front of the office for recuperation, and died of his injuries immediately."[30] Zuo Zhang, a native of Chaili, injured his neck and paid for the water rights with his life, which became a turning point in the entangled sequence of lawsuits.

After receiving the report, the Shanxi Procuratorate immediately dispatched people to collect the relevant persons and files of the plaintiff and the accused, escorted them to Taiyuan for interrogation, and appointed the prefect and the tongzhi of Taiyuan Prefecture, as well as the Xugou County Magistrate to interrogate representatives of the two villages. Then, the district magistrate for Huozhou, Hua zhizhou, was appointed together with Pingyang Prefecture Magistrate Yanzhi to survey the mouth of the canal and proposed a "herringbone weir water diversion plan," decided to set up a herringbone-shaped weir in the middle, leaving a gate for five villages in the east and five villages in the west.[31] In this way, the principle of water distribution between the two villages had changed to "simultaneous irrigation and equal distribution of water conservancy." Until this day, there is a saying in Yangshe Village that "Zuo Zhang sacrificed his neck and blackmailed half of the canal in Yangshe." Nevertheless, between 1852 and 1854, as well as in 1861, fifteen water conservancy lawsuits between Chaili and Yangshe were submitted to the Linfen County authorities. As before, these were due to allegations of secretly digging or repairing the canal mouth, or of otherwise violating the watersharing agreement.

Local society in the water conservancy dispute of the three villages

(1) Prominent figures, local elites and clans

In the "Kang Village Canal Opening Case" of the Wanli period, Yang Rulin and Liu Jinmin, the leading figures in Kang Village, took the lead in organizing both the canal opening and litigation. In Chaili Village, Zuo Guanghui, brothers Zuo Guangyao and Zhang Shichun, a gentry member from Yangshe Village, jointly initiated a lawsuit against Kang opening the canal. In the two early ninteenth-century cases investigated by Beijing against Kang Village, village leaders initiated the opening the canal, and convinced the Kang villagers to pretend that they were working on the old canal. They instigated the villagers to go to the provincial capital to hold up the sedan chair of the governor and to submit a grievance and to fabricate lies. Having reversed right and wrong, they sought to persuade Beijing of the rightfulness of their claim. The continuous legal turmoil, between the sixteenth and the ninteenth century, caused local society permanent tension. The Ming officials therefore punished Yang Rulin and Liu Jinmin with incarceration, whereas their Qing counterparts used physical punishment against Liu Tongda, Su Mingyuan and others, and even exile. The case report of 1804 dispatched by the governor of Shanxi to Jiumen contains a list of representatives including both the plaintiffs and the defendants. Clearly identifiable are student Zhang Yaoding, Yangshe canal chief Zhang Shizheng, Zuo Quanyou and scribe Hou

[30] *Pingyangfu zhifu Yan tongzhi lian bing niexian wen* (Daoguang ershiliunian siyue ershiyi ri), 142.
[31] *Huozhou Hua zhizhou duanyu* (Daoguang ershi liunian bayue chuyi ri), 149.

Jianye. Although their positions and identities were not elevated, they can be counted as illustrious village figures.

During the nineteenth-century litigation between Chaili and Yangshe, when in 1774 the Pingyang administration granted Yangshe village the right to use one foot of water, the Yangshe villagers had a stele carved in stone to record the entire lawsuit saga in detail, not least to ward off any future infringement on their water rights. The litigation battle between the two villages in the 1840s embodied the central role played by the leading figures in the water conservancy litigation. The canal chief of Chaili was the first to come forward. The former head of the canal, Zuo Quanren, sued Yangshe Village for alleged water rights abuse, followed by canal chief Zuo Rongqing. Chaili Village countered, after Wu Shaohu, as canal chief of Yangshe Village, had accused Chaili of illegally rerouting water. As the litigation unfolded, the number of persons involved continued to expand. In Kang Village, we can discern the clan members Zuo Rongqing, Zuo Quanjin, Zuo Gui, Zuo Zhang (et al.), whereas in Yangshe, Wu Shaohu, Wu Cuiwen, Zhang Yongwei, Zhang Xun featured amongst the activists, originating from two large clans in Yangshe Village. Neither side was prepared to give in and both villages went to extraordinary lengths to seek the support of the provincial capital. In 1861, Liu Shilin, a student of Yangshe Village and canal head, as well as Lian Jukui, canal head of Chaili Village, once again participated in the lawsuit to protect their respective rights and interests.

In 1908, in order to demonstrate the legitimate rights and interests of Chaili Village in the utilization of the Diaodi River flood waters, five members of the Zuo clan who carried social status and extra clout for having participated in the imperial examinations, raised the "Chaili Village Yongfeng Canal Stele." The documents reveal the names of all participants, including five Zuo clan members: Zuo Tingkai, Zeng Gongsheng, Zuo Tinglin, Xinyou Kebagong, Ke Bingxu and Zuo Chongdian, the scholars Qin Jia, Wen Linliang (also head of the Tuntian Department of the Ministry of Industry), long-serving magistrates Lang Wenlin and Zuo Bingjun, as well as Zuo Bingnan and Sui Gongsheng. The stele was erected by the five members of the Zuo family, led by the village head, canal chief, and other local eminencies. The above reflects a characteristic pattern of village politics, namely that high achievers, often participants in the imperial examinations, and those of hereditary social status have tended to participate in local public life, thus safeguarding the rights and interests of the village.

(2) Private mediation and its limitations in water conservancy litigation

Further to the extensive participation of all levels of government and grassroots elites, scholar gentry, and established clans, the Three Villages Water Conservancy Litigation case shows that there was also a non-governmental adjustment mechanism between state and local society.[32] When disputes between villages emerged, and the authorities' judgment could not be effectively implemented, a non-governmental adjustment mechanism was activated. In the fifth month of 1898, the litigating villagers of Yangshe proposed to the magistrate as follows: "We are afraid of causing disasters, and we are in a dilemma. We beg your lordship that each of the two constructions will be dealt with by the neighbors of the village, or the case will be finalized by means of

[32]Huang Zongzhi, *Qingdai de falü shehui yu wenhua*, 129–130.

sandstone, as specified on the stele." On the fifteenth day of the sixth month, an account by Yangshe to the Shanxi Inspection Division recorded the following: "At the beginning of March this year, we showed sufficient kindness to allow for our water to be shared, and to send the wealthy villagers Zuo Rongchao and Zuo Changling, as well as student Zuo Pu, to mediate." But judging from the results, the gentry in Chaili concluded that the dispute between the two villages could not be satisfactorily resolved. In 1861, the two villages clashed again when repairing the water diversion platform of the Herringbone Weir. The magistrate Wang Pu entrusted the class to "invite the two parties to one place, make peace with each other, and reconcile with words about our continuing partnership."[33] Among the peacemakers was said to be a gentleman from the neighboring village. After mediation, the two villages reached an agreement and reported it to the prefect of Pingyang in writing. The content of the mediation post submitted to the prefect is as follows:

> On the seventh day of March, the Hexi people paid tribute to Liu Shanqing, Congjiu Wen Rufan, student Jiang Wangli, student Li Yourong, and Zhang Kezhen. Respectfully, I sincerely pray for instructions so that the construction work can be carried out. Because last month, Chaili Village and Yangshe Village filed mutual accusations over the canal. On the seventeenth day, they were heard by Entang, but it has not been settled. They are concerned with relatives and friends, and they can't bear to sit and watch the final lawsuit. Li village was repaired, and the damaged area in the southwest of Shiyan was divided, and the stone boundary was divided into two villages. Fearing internal mistrust, people from the two villages are not allowed to work, and they are looking for people from neighboring villages to repair according to the 26-year case files. Rely on our written agreements, show the edict, and order the supervisors, so that there will be no disputes between the two villages, and no mistakes in the project. Liu Shanqing and others approved the order to supervise the repairs and urged the canal chiefs of the two villages to start the work quickly, and report to the government once the repairs are completed.[34]

This post is direct evidence for the role of the private mediation mechanism, and it is also the most complete and effective private mediation in the three villages water conservancy dispute. It shows that private mediation was an effective supplement to official trials and in fact constituted the most common practice in local society. However, under the environmental conditions of severe water shortage in the three villages of southern Shanxi, these mediation mechanisms were limited in effect and time. Less than two months after their successful conclusion, Chaili and Yangshe had another dispute over the construction of the water diversion platform, which rendered the earlier mediation effort fruitless.[35]

(3) The struggle for water rights

The conceptual motivation, behavior and psychology of the people in the three villages are issues worthy of attention. Since water conservancy is related to people's livelihood, the villagers living in this area are the easiest to be incited and organized, especially on major issues related to the economic development of the village.

[33] *Pingyangfu guotang shiqing* (Xianfeng shiyinian eryue ershiqi ri), 171–172.
[34] *Chaili yangshe liangcun hexi tiaochu bingtie* (Xianfeng shiyinian sanyue chuqiri), 172.
[35] *Chaili cun Lian Jukui Pingyangfu suzhuang* (Xianfeng shiyinian siyue ershiwu ri), 173.

Conversely, competition over water rights can have an adverse effect on social stability, affect inter-village relations and destabilize the regional social order.

In the "Kang Village Canal Opening Case" of 1803, Su Mingyuan and like-minded village worthies of Kang advertised with posters to recruit workers for the canal excavation project. Hundreds gathered every day, eager to start digging. Masons were needed to chisel the rockface and to dig holes at the foot of the mountain. Eager for instant results, they were intent on dominating the water for their own benefit, over the interests of the neighboring villages.[36] In 1804, Liu Tongda and Su Mingyuan crossed the Qing empire on their way to find justice in the imperial capital, ordered fellow Kang villager Zhang Guangtai to hold up the sedan chair of the governor in Taiyuan and to sue for their rights in the Shanxi Governor's office. At the same time, Kang villager Han Wenjie self-assuredly assembled the crowds with a gong, claiming that the canal be opened regardless of the legal outcome.[37] In the end, chief activist Liu Tongda was exiled to a remote garrison and his supporters punished. Similar to this, in a plaint by Chaili Village of 1843, the description of the water contention was as follows: "On the seventh day, there was a lot of commotion around the water. Zhao, Zhang Lifeng, Du Fengji and others beat gongs and gathered dozens of people, each holding a murderous weapon to force the water. We dared not come near, fearing that we be murdered. As a result, there are more than 1,000 acres of irrigated land in Yi Village, and there are still many idle fields. Our village is without a drop of water, all the simple villagers are eager to fight, and we will do our best to stop them. The Yi villagers outnumbers us, and they are furious like the offspring of tigers and wolves. Our village is small and weak, who would dare sacrifice their lives?"[38] The water dispute created a tense confrontation, with a clear imbalance in power between the bigger and smaller villages.

The antagonistic inter-village rivalry has had a detrimental impact on interpersonal relationships and has negatively affected the marriage patterns in the region. Although Chaili and Yangshe are neighboring villages, there has been an unwritten rule for a long time that the two sides do not marry each other. If a girl wanted to marry into a Yangshe household, she would face the wrath of the whole Chaili village, as well as of her clan. This multi-generational tradition has deterred matchmakers from seeking to form matrimonial bonds between the two villages. Even today, although the relationship between the two villages has improved and intermarriage is not unheard of, it is not common since, in the eyes of the villagers, intermarriage with Yangshe people brings bad luck. Conversely, Yangshe villagers do not allow their girls to marry Chaili people.[39] Intermarriage between Chaili and Yangshe had become a social taboo, which even today affects social reality in the Three Villages. Affecting all social activities in work, communication, marriage, and rituals, past tensions between Chaili, Yangshe and Kang have created an abnormal state of social relations in everyday life, clearly a destabilising force in rural society.

[36]*Chaili yangshe Zhang Shizheng Pan Zhengli suzhuang* (Jiaqing qinian eryue chujiu ri), 19.
[37]*Chaili yangshe cheng Pingyangfu suzhuang* (Jiaqing banian bayue ershisan ri), 40.
[38]*Chaili cun Zuo Rongqing deng cheng Pingyangfu suzhuang* (Daoguang ershisan nian liuyue chushi ri), 70.
[39]On-site interview in Chaili Village conducted on November 2, 2019, interviewee: Zuo Xingxi, a villager in Chaili, aged 76 at the time; recorder: Bai Rujing.

V. Conclusion

The twofold character of natural and societal uncertainty has left the most prominent impact of flood-water conservancy on irrigation societies in China's late imperial period. The historical context are the harsh living conditions dictated by the limited water resources, production methods and limited output. The use of the flood waters that only come in summer and autumn to irrigate the land, produce food, and meet basic subsistence thus became the most urgent choice that farmers in flood irrigation areas on the South Shanxi Loess Plateau had to make. The symbiotic relationship between people and flood waters fills many flood irrigation areas belonging to the Three Villages with uncertainty.

In recent history, both officials and local society have worked hard to enhance water distribution plans and facilities. These have aimed at protecting the rights and interests of all parties affected by the destructive forces of the flood and by the unstable water volumes. In order to prevent harassment and the unfair diversion of water, the root causes of the dispute needed to be addressed in a comprehensive and mutual manner. The dispute between Chai and Yang villages related to the imperfect distribution of flood water, to depend on physical strength and on the unwillingness of the villages to respect each other. Water shapes society and society shapes water. In the Kang canal opening case, the Kang villagers could not realize their long-cherished wish of opening canals and diverting water for more than three hundred years. Caused by the huge disparity in strength between Kang and its rival Chaiyang, and the limited nature of flood water resources, the original canal opening plans became impossible to realize. Furthermore, where social relations and population resources are negatively affected by competing claims to water – hence where "society shapes water" – socio-economic conflicts reinforced the natural uncertainties of flood-irrigated water conservancy.

Uncertainty constitutes a main feature of the daily life of the people in flood irrigation areas. As a result, they are forced to take recourse to the most beneficial way in order to survive and develop. Interestingly, the Three Villages chose to sue not entirely out of trust in their own righteousness; they had rather hoped that the district, provincial or central governments would intervene to solve their plight in an equitable manner. The experience of repeatedly losing appeals made litigation a natural means for expressing their dissatisfaction with the current system and water distribution rules. In challenging the authority and patience of officials at all levels by initiating lawsuits, the villagers were pinning their hopes on a path of silent resistance that repeatedly failed. In the process, some officials became the targets of slander or physical attack, a typical weapon of the weak in the institutional space of the late empire. But judging from the results, this resistance did not bring the desired results, but rather stagnation and poverty.

Since the 1980s and 1990s, the people of the Three Villages in southern Shanxi have undergone changes and faced fresh choices. The government's water conservancy department dug many motorized wells in the fields of the three villages, replacing unstable flood irrigation with stable groundwater irrigation. The relationship between floods and people's daily life has gradually faded away, leaving behind only the flood irrigation canals, barrages, dams and other water conservancy relics and historical memories that cost countless ancestors painstaking efforts, as well as physical and

financial resources. Further to agricultural production, which used to be the only economic activity, opportunities related to coal, such as coal mining, washing and processing, coal storage and transportation, have presented new choices for the people of the Three Villages.

During our in situ investigation, we saw that the flood canals, herringbone diversion weirs, dripping stone platforms, and other engineering relics that witnessed the historical grievances of the people of the three villages still stood silently in the valley of the Diaodi River, and in the fields of the Three Villages. History is gone forever. People rely on coal-related industries to obtain a stable source of income, and the uncertainties of the past have disappeared. People dug coal mines in the mountains above the Diaodi River and built coal washing plants and coal storage yards in the river. Heavy trucks transporting coal frequent the roads between the Three Villages and the banks of the Diaodi River, whirling up dust. The livelihood of the Three Villages in Jinnan no longer relies on the weather for food and flood irrigation, but instead on an industrial chain centered on coal mines.

While uncertainty has become certainty, the ecological environment and living environment have also undergone major changes. Environmental pollution, dilapidated villages, social erosion, and aging have made people here face new and greater challenges. The end and exit of the flood-irrigated water conservancy society, and the improvement of the seemingly certain material circumstances have not completely changed the living conditions of the people here, and uncertainty in view of the future still exists. Getting out of the curse of resource dependence, rebuilding beautiful mountains and rivers, promoting rural revitalization, while retaining a life of certainty are the prospects of the traditional flood-water conservancy irrigation society represented by the Three Villages.

(translated by FENG Miao)

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Glossary

Bu quedingxing	不确定性
Chaili cun	柴里村

Chaili cun Lian Jukui Pingyangfu suzhuang	《柴里村连居奎平阳府诉状》
Chaili cun Zuo Rongqing suzhuang	《柴里村左荣清诉状》
Chaili cun Zuo Rongqing deng cheng Pingyangfu suzhuang	《柴里村左荣清等呈平阳府诉状》
Chaili cun Yongfeng qu beiji	《柴里村永丰渠碑记》
Chaili yangshe cheng Pingyangfu suzhuang	《柴里羊舍呈平阳府诉状》
Chaili yangshe liangcun hexi tiaochu bingtie	《柴里羊舍两村和息调处禀帖》
Chaili yangshe Zhang Shizheng Pan Zhengli suzhuang	《柴里羊舍张世政潘正礼诉状》
Cheng Shimeng	程师孟
Duchayuan gei Shanxi xunfu pishi	《都察院给山西巡抚批示》
Huozhou Hua zhizhou duanyu	《霍州华知州断语》
Huozhou Hua zhizhou huikanshu	《霍州华知州会勘书》
Jinnan sancun	晋南三村
Jiumen tidu duan'an	《九门提督断案》
Kang cun	亢村
Kang cun cheng hedongdao zhuang	《亢村呈河东道状》
Kang cun Su Hongde Han Wenfu jujie	《亢村苏洪德韩文福具结》
Linfen xianzhi	《临汾县志》
Pingyangfu guotang shiqing	《平阳府过堂实情》
Pingyangfu "Kang cun kaiqu an" duanjie	《平阳府"亢村开渠案"断结》
Pingyangfu Qian dalaoye duan'an	《平阳府乾大老爷断案》
Pingyangfu zhifu Yan tongzhi lian bing niexian wen	《平阳府知府延、同知联禀臬宪文》
Wang Anshi	王安石
yinhong guangai	引洪灌溉
Yangshe cun	羊舍村
Yangshe cun cheng Pinyangfu suzhuang	《羊舍村呈平阳府诉状》
Yangshe Chaili Zhang Shizheng Pan Zhengli Pingyangfu chengci	《羊舍柴里张世正、潘正礼平阳府呈词》
Yangshe cun Zhang Yongshun Wu Juncai jujie	《羊舍村张永顺吴君才具结》
Yaodu wenshi	《尧都文史》

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Sea changes of sandbanks and reclamation of shallows in the middle reaches of the Yangtze River in the modern period

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ABSTRACT

The Yangtze River waterway is an open and dynamic natural system, where we see natural changes such as soil and water loss, river flooding, and rise and collapse of sandbanks and activities people carried out for land reclamation in the waterfront lowlands. Riverine island, a typical waterfront lowland, is formed by the sediment carried by the water from the middle and upper reaches of the Yangtze River when it is blocked, slowed down, and silted up in the process. It needs the protection of the dam. As important water conservancy facilities in lowland society, dams are, in fact, the result of state intervention and local self-organization governance. People's adaptation to and transformation of the ecological environment in the waterfront region mainly revolves around the rise, collapse, and reclamation of the land and water control, which demonstrates the dynamic balance between "man and nature." Since the late Qing, the north branch of Zhangjiazhou has gradually developed into a curved channel; the north bank has been eroded by water and accelerated to collapse, whereas the south bank has gradually silted up. The residents who lived on the north bank of the Yangtze River went to the south bank to reclaim land, resulting in continuous disputes over the reclamation of the new alluvial land. People realized their own demands for land reclamation by organizing groups beyond villages and families and using regulations on reclamation or land laws. This demonstrates that in the modern period the state and its institutional construction played a more important role in "confirming the rights" of the new alluvial land.

KEYWORDS

Modern period; middle reaches of the Yangtze River; new alluvial land; reclamation of shallows; lowland society

Introduction

"Sangluo Island," located at the junction of Jiangzhou Town (Chaisang District, Jiujiang City, Jiangxi Province), Huikou Town (Susong County, Anhui Province), and Liuzuo Township (Huangmei County, Hubei Province), is a waterfront lowland, the area and location of which are constantly changing due to the influence of the Yangtze River over time. Riverine islands and waterfront lowlands are always changing like water flow rather than "nearly silent" as described by Fernand Braudel.[1] This dynamic natural stage begs a question: what is the relationship between man and nature? One of the

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[1]Braudel, *Dizhonghai yu Feilipu ershi shidai de Dizhonghai shijie*, 8-9.

challenges waterfront lowlands present is how to take advantage of water and minimize its harm. On the one hand, the influx of silt from the Yangtze River has created large swathes of unclaimed land, which is, on the other hand, prone to flooding because of its low and flat terrain. Protecting the area from floods is thus a perpetual concern.

In addition to the natural changes of this section of the Yangtze River, the author seeks to answer three questions about the residents there and their social history: first, what environmental changes have the section undergone from the collapse of Sangluo Island to the rise of Zhangjia Island? Second, how have the people altered and reshaped waterfront lowlands through the construction of dikes to make them more habitable and established a set of social systems adapted to the geographical environment? Third, how have the people living on the waterfront been affected by the natural buildup and collapse of lowlands and how have the state, local governments, and residents interacted in the disputes over the rights to reclaim the new alluvial land?

This article draws primarily from a collection of archival documents preserved in the Jiangxi Provincial Archives known as the "New Alluvial Land Reclamation Case in Sangluo Township, Jiujiang County" and supplementary sources such as local gazetteers from the Ming and Qing dynasties, newspapers from the late Qing and Republican period, family genealogies, and interviews. These documents include not only petitions from the land reclamation groups submitted to different government departments but also a variety of relevant government documents, which are typical "process documents." The documents could reveal interests of the parties involved and their interactions. Land reclamation cases mainly happened between 1946 and 1948, after the victory of the War of Resistance against Japanese Aggression, involving the residents living on the north bank of the Yangtze River between Yejiawan and Guijiaying, including villages such as Chengjiaying, Qiaojiadun, and Guijiaying. Before the provincial boundary between Hubei, Anhui, and Jiangxi was drawn in 1936, most of these villagers belonged to Sangluo Township of Jiujiang County. Afterwards, they were governed by Huikou Township of Susong County, Anhui Province. In order to validate their reclamation rights, these groups traced the disputes back to the late Qing dynasty. To gain a better understanding of these historical records, the author has conducted a field survey in Huikou Town, Susong County, to collect genealogies of the Gui, Qiao, and Cai families. This is to put the people involved in the historical records back to the local community, complementing official records with documents from folks.

Flowing land: changes of the riverine island

Sangluo Island was formed because of the changes of the ancient Yangtze River and ancient Pengli Lake in the Jiujiang Basin. The Ganjiang River and Poyang Lake in the south pushed the water in the northeast bank of Jiujiang upwards; silt was gradually accumulated in the river center where the water sources converged, forming the Sanluo Island.[2] The exact time when the island appeared is unknown,[3] but by the Eastern Jin and Southern dynasties, it already became an important gateway to Jiangzhou and a strategic battlefield in the middle and lower reaches of the Yangtze River.[4] In the Tang dynasty, Sangluo Island was the

[2]Similarly, Meijia Island, located at the intersection of Poyang Lake and the Yangtze River, was formed by sedimentation. See Wu Yanhong, "Meijiazhou xingcheng, yanhua," 68-73.
[3]Fu Zuyu, "Changjiang Jiujiang duan Zhangjiazhou," 276-279.
[4]Shen Yue, "Wu di benji shang," 10; and "Tianwen zhi di shiwu," 732.

subject of various poems, such as Li Bai's "Cloudless skies span the serene river, islets interconnected with Sangluo Island."[5] Li Qunyu had a five-character poem entitled "Sangluo Island." The most famous poem about the island is Hu Fen's "Sangluo Island" written during the late Tang period: "Don't ask of life its vicissitudes, but look at Sangluo Island. New houses stand where the river used to flow. Ancient banks start to collapse and silt builds up."[6] This poem captures the dramatic changes Sangluo Island was undergoing: ancient river banks were collapsing and silt continued to build up. During this period of time, Sangluo Island was collapsing in the south, and silt was building up in the north. By the Song and Yuan dynasties, it approached the north bank of the river.

In the Ming dynasty, Sangluo Island was situated in the middle of the river between Susong and Hukou counties and was still separated from the north bank by a river channel.[7] The island continued to collapse and was frequently struck by severe floods during Emperor Wanli's reign. According to the records in the *Gazetteer of Dehua County* (Dehua xianzhi) complied in Emperor Qianlong's reign, "During the period between the 20th year of Emperor Wanli's reign to the 3rd year of Emperor Tianqi's reign, over 10 *li* of the bank of Sangluo Island collapsed, destroying countless dwellings, forcing people to flee and move and causing great suffering."[8] In the Ming and Qing dynasties, "Sangluo Island was already connected with Susong County,"[9] and its north channel might have been completely silted up and abandoned. The *Gazetteer of Dehua County* did not mark the exact location of the east and west ends of Sangluo Island.[10] During Emperor Daoguang's reign, Sangluo Island "continued to collapse, and the river banks gradually fell into the Yangtze River; the residents there migrated to Chengjiaying." *The Gazetteer of Dehua County* compiled in Emperor Tongzhi's reign clearly stated the boundary of the Island as "east to Hengbatou and west to Yangxue Town in Meiyi."[11] In other words, during the Qing dynasty, Sangluo Island was located west to Yangxue Town, Huangmei County[12] and east to Hengbatou. The boundary between Dehua and Sushuang counties was marked by the dike, and the area within the dike belonged to the island.

During the Ming and Qing period, the bank of Sanluo Island was continuously eroded by the river, and the island gradually approached to the northern bank. At the same time, in the northeast of Jiujiang, a new sandbank, Zhangjia Island, appeared in the southwest of Sanluo Island. Lin Chengkun and Zhang Xiugui believed that the island emerged from the water during the reign of Emperor Yongle in the Ming dynasty.[13] However, there is no mention of the island in *Records of the Unity of the Great Ming* (Ming yitong zhi) collected during the Emperor Tianshun's reign or the *Gazetteer of Jiujiang Prefecture* (Jiujiang fuzhi) compiled during the Emperor Jiajing's reign. Su Shoude believed that Zhangjia Island was formed in the late Tang and early Song dynasties but did not provide any evidence.[14] Under the entry of "Yangjiaxue City" in the *Gazetteer of Jiujiang Prefecture*, we could find records that "on the north bank of the river . . . there is a sandbank, extending for seven or eight *li*, where boats can

[5]Li Bai, "Xunyang song di Changtong," 1060-1061.
[6]Wang Dingbao, *Tang zhiyan*, 73.
[7]Li Xian et al., *Da Ming yitong zhi*, 3346; and Peng Dayi, "Liu sang," 364.
[8]"Gushi," 4.
[9]Gu Zuyu, *Du shi fangyu jiyao*, 3933.
[10]"Jiangyu," 3-4.
[11]"Dili: Jiangyu," 4.
[12]"Fangxiang," 20.
[13]Lin Chengkun, "Changjiang zhongxiayou hegu, hechuang," 45-74.
[14]Su Shoude, "Poyanghu chengyin yu yanbian," 44.

be parked." Considering the location of Yangjiaxue City, this "sandbank" is likely to be the early form of Zhangjia Island. In addition, the *Gazetteer of Dehua County* compiled in Emperor Qianlong's reign used the previous "Xing sheng" (Landscape) records and mentioned "three new sandbanks in the middle of the river, extending for tens of miles."[15] The "three newly-formed sandbanks" could refer to the Zhangjia Island and its nearby sandbanks. Though the name "Zhangjia Island" did not appear in documents until the mid-Qing dynasty,[16] it is likely that the island had already emerged before the mid-Ming dynasty.

Zhangjia Island and Sangluo Island were formed in a similar way: the convergence of rivers and lakes caused the water to slow down, allowing sand from upstream to accumulate. It is important to note that Zhangjia Island was not formed at once but is made up of several sandbanks that emerged during Ming and Qing periods. These sandbanks generally developed in a "west-to-east and south-to-north pattern." Among all sandbanks, Zhangjia Island in the southwest emerged first, which later became the general name of the entire riverine islands. In the early and mid-Qing period, Tongxing Island, Chang Island, and Liu Island were formed downstream of Zhangjia Island and eventually connected with it to make a long strip that divided the Yangtze River into north and south channels. Since the mid-Qing, islands such as Huangjiazi Island, Caijia Island, and Fujia Island were formed in the north of Zhangjia Island, because of which the north channel of the Yangtze River turned into a sinusoidal shape. At the time, these sandbanks were separated by streams that were part of Jiajiang and can still be seen around Jiangzhou Town today. These new sandbanks were often named after the surnames of the nearby residents. For example, Caijia Island is under the Cai family, and Huangjiazui Island is under the Huang family.

According to the *Anhui Gazette* (Anhui tongzhi gao) complied in the Republican period, "Poyang Lake was blocked and filled with sediment, forming a large island." The "large island" was Zhangjia Island, which was "about 10 *li* long and 30 *li* wide," much larger than it was during the Qing period. As the Yangtze River flowed eastward through the Island, "the north channel was the main navigation route due to the shoals and reefs in the south channel. However, there was a hidden shoal in the middle section of the north channel that needed to be avoided." The river and lake converged at the end of the south channel of Zhangjia Island.[17] This shows that the north channel of Zhangjia Island was the main navigation route in the Republican period and the wide river and slow-flowing sand formed shallow shoals.[18] The islands discussed in this article, located in the north of Caijia Island and Fujia Island, were formed later, as a result of the "collapse of the north bank and siltation in the south bank" during the reigns of Emperors Xianfeng and Tongzhi.

Riverine islands were formed as a result of the destruction of vegetation and environmental deterioration in the upper reaches of the Yangtze River. The introduction of American crops, such as corn and sweet potatoes, into China brought new opportunities for the poor and unemployed to survive by reclaiming land and growing crops, which, however, caused serious soil and water loss. Tao Shu of the Qing dynasty noticed this issue and commented: "The excessive reclamation of land in provinces like Sichuan, Shaanxi, Yunnan, and Guizhou, which are in the upper reaches of the river, has resulted in the formation of islands. Unemployed people have been cutting down

[15]"Xing sheng," 1.
[16]Han Wenqi, "Soubu nanzi shu," 333.
[17]"Shuixi gao: Jiangxi shui (3)," 2.
[18]Ibid.

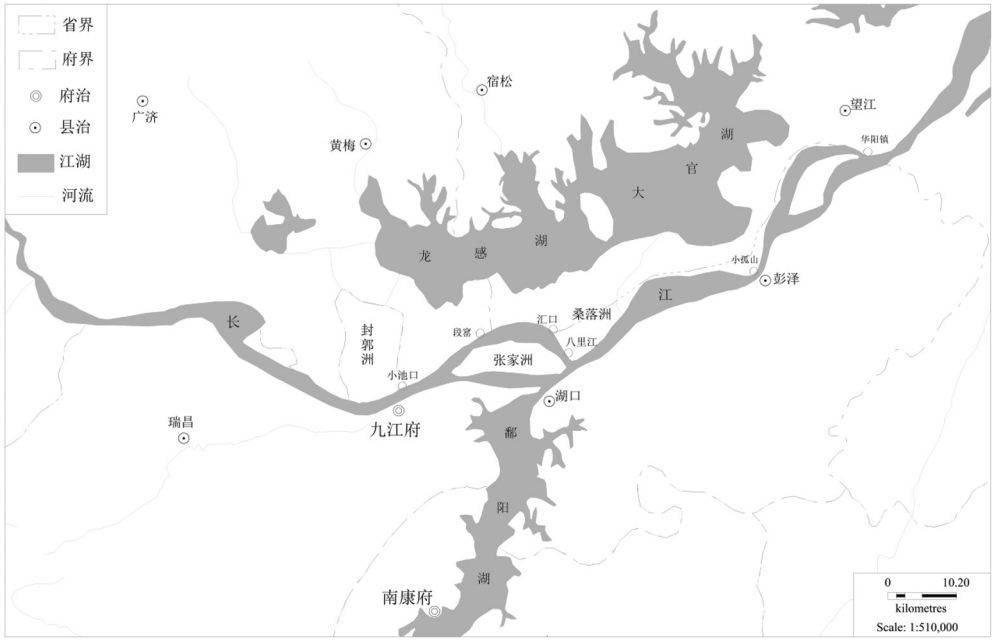

Figure 1. A section of the Yangtze River ("Jiujiang-Zhangjiazhou" section) during the Qing period.
Source: The Chinese Historical Geographic Information System (CHGIS V4) "Data in 1820," The Center for Historical Geography Studies, Fudan University, August 15, 2022. See also Tan Qixiang, *The Historical Atlas of China*, vol. 8, published by Sinomaps in 1996, 33-34.

trees and planting crops in these regions, leading to heavy rains washing soil and stones into the river. Yet there is little to be done to stop these individuals."[19] Riverine islands were thus formed because of the changes in the upper reaches of the river. The soil and water from the upper reaches of the river created a large amount of new fertile land to the middle and lower reaches.

Low-lying land reconstruction: reclamation and landscape reshaping

Sangluo Island has "a low terrain, making it particularly vulnerable to river flooding during rainy days."[20] Lowlands like Sangluo Island are a precious gift from nature, but dikes must be built to protect the inhabitants and safeguard them from frequent floods. Though it is difficult to pinpoint when people started living on Sangluo Island, Hu Fen's account of "several new settlements, and the great river flows in the past" suggests that there were human activities on the island by the end of the Tang dynasty.[21]

The early development of Sangluo Island began with the settlement of three garrisons (*weisuo*) in the Ming dynasty. At the end of the Yuan dynasty, Jiujiang Prefecture was destroyed by war and its land was deserted. To reclaim the land, three garrisons in Jiujiang, Nanchang and Qizhou were set up.[22] The dike of Sangluo Island was first built in the

[19]Tao Shu, "Jiang du gao," 674.
[20]"Jiangyu," 3-4.
[21]Wang Dingbao, "Hai xu buyu," 73.
[22]Yu Zhijia, "Mingdai Jiangxi weisuo de tuntian," 665-666.

fourth year of Emperor Wanli's reign (1576) with Pan Jixun as the Governor of Jiangxi.[23] During that time, people from Dehua, Huangmei, Sushong, and another county had already made their homes on the island, while troops from the three garrisons (Nanchang, Jiujiang, and Qizhou) had also established a presence there.[24] To this day, in the vicinity of Huikou Town in Susong County, many villages still bear the name of *ying* (camp), such as "Guijiaying" and "Qibaihuying," indicating that they used to be military camps. According to the *Genealogy of the Gui Family* (Guishi zongpu), the family's founding ancestor Zhugong originally resided in Dongliu County, located in the south of the river. He was assigned to manage the military fields and camp sites in Peng City. In the second year of Emperor Yongle's reign (1404), he relocated to Sangluo Island in Dehua, became a military officer in charge of grain transportation.[25] In addition, the *Genealogy of the Qiao Family* (Qiaoshi zongpu) records that the ancestors of the Qiao family were mostly "company commanders," and moved to Sangluo Island in Dehua from Pengze.[26]

In the seventh year of Emperor Qianlong's reign (1742), Governor Chen Hongmou of Jiangxi submitted a memorial to the court, noting that "the low-lying farm land along the rivers and lakes in the province was heavily dependent on dikes and dams to protect it from flooding."[27] This reflects the conditions of the riverside area – regardless of the expansive, fertile fields, people's lives and agricultural production would be threatened by frequent water disasters without the protection of dikes and dams. Soon after taking office, Chen quickly recognized the importance of these structures for the lowland society in Jiangxi and people's livelihood and interests. He thus submitted a report to the Qing court, pointing out that funds should be borrowed to build or rebuild dikes in areas where they were either nonexistent or too damaged to be effective and for places "had projects too large to work on," public funds could be borrowed, and people could be hired for the construction.[28]

In the Qing dynasty, there were seventeen townships in Dehua County, and "three of the townships were in the north of the river, namely Fengyi, Feng'er, and Sangluo. They were lower than the south, prone to flooding, and mostly used to grow grains."[29] Dehua County was divided into the northern and southern parts by the Yangtze River, with its border jaggedly running along Huangmei and Susong counties. This was due to the north-south shifting of the main stem of the Yangtze River in history and the garrisons in the early Ming dynasty. To protect the townships from floods, a dike was built in Sangluo Island in the fourth year of Emperor Wanli's reign (1576). In the 49th year of Emperor Qianlong's reign (1784), Zhang Jin, a resident, petitioned to borrow grains from the community to build another dike, but it was turned down. Later, Chu Zhipu, a prefectural official proposed to donate money and build a new dike, called "Chugong Dike." Unfortunately, the dike was broken by floods in the 58th year of Emperor Qianlong's reign (1793); the county magistrate of Dehua made a request for official

[23]Wan Yi, "Xiu Sangluozhou dibei ji," 108.
[24]Ibid.
[25]"Qianlong jiwei nian xu," 9.
[26]"Laojiageng shixi," 1-4.
[27]"Jiangxi xunfu Chen Hongmou zou wei xiuzhu xudi yi zi zhen xu yi li nongtian shi" [Jiangxi governor Chen Hongmou's Petition to Build a Dike for the Farmland] (September 28, 1742, during Emperor Qianlong's reign)], Zhupi zouzhe [Imperial Memorial], file no. 04-01-01-0085-020.
[28]Ibid.
[29]"Fengsu," 2.

funds to repair it, which was also not approved because there was no precedent. In the 9th, 18th, and 21st years of Emperor Jiaqing's reign, the river rose sharply and broke the dike. In response, local officials donated money or hired farmers to work on repairing. However, the bank eventually collapsed and most of the Chugong Dike had fallen into the river by the 21st year of Emperor Jiaqing's reign. A new long dike had to be built from the old dam of Liujia Bay.[30] It is clear that the construction and maintenance of dikes relied heavily on the contributions of local officials, gentry, and tenant farmers.

In the Ming and Qing dynasties, the north bank of Zhangjia Island saw gradual construction of multiple small dikes, which eventually merged into a single long dike spanning multiple administrative regions. This made managing the dike harder and Tongren Dike is a perfect example. With a total length of about 12,600 feet, it was connected to three provinces, starting from Dongjiakou in Duanyao Town, Huanmei County to Kanggong Dike in Susong County. It was an essential protector for the land along the river in Hubei, Jiangxi, and Anhui. In the 18th year of Emperor Daoguang's reign (1838), the Hubei government requested a committee to supervise, set up six working groups, and instructed that a two *chi*-high dike be built in every *mu* of land and that the dikes to be built each year be completed by section each year and maintained by Huangmei, Dehua and Susong counties respectively.[31] Whenever the river burst or large-scale dike maintenance was required, Huangmei County requested funds from Hubei and then Jiujiang and Susong counties requested equal funds as well. If the river burst in an area under the jurisdiction of a particular county, the county would take the lead in the response and be supported by the other two counties.[32] When the Tongren Dike collapsed in 1908, Huangmei, Dehua, and Susong counties estimated the repair fee to be 29,000 taels of silver, and Hubei, Jiangxi, and Anhui provinces allocated funds and supervised the repair work.[33] In April 1911, the dike was breached by a large flood again, and the three provinces allocated funds for the repair work, but it was not completed in time because of the sudden outbreak of the 1911 Revolution. It was not until 1912 that the three provinces came back and discussed the resumption of the repair work.[34] It is evident that since the mid-Qing Hubei, Jiangxi, and Anhui provinces had regulations in place for the maintenance of Tongren Dike, each with its own responsibilities.

In the early Republican period, a major dike was built on the north bank of the Yangtze River, connecting Tongren Dike, Chugong Dike, and Dingjiakou Dike at the upper reaches of the river and Jingjiang Dike (built in 1885) and Mahua Dike (built in 1916) at the lower reaches in Susong, Pengze, and Wangjiang counties. In 1963, the 175.5 kilometer-long dike was formally renamed "Tongma Grand Dike,"[35] extending from Duanyao Town, Huangmei County to Huayang Town, Wangjiang County. Together with the dikes along the upstream Yangtze River in Hubei and Jiangxi provinces, Tongma Grand Dike could form a longer dike – "Panhua Dike," spanning three provinces, starting from Pantang in Guangji County, Hubei, passing through Huangmei, Susong, Jiujiang, Pengze and ending at Huayang Town in Wangjiang

[30]"Dili: Shuili," 24-26.
[31]Ibid., 27.
[32]"Huitong gu xiu xudi an," 50.
[33]"Hui xiu Tongren di gong," 13.
[34]"San sheng he xiu Tongren di," 2.
[35]Wang Kai, *Tongma dadi zhi*, 1.

County, Anhui. The 296 mile-long dike protected over 1.2 million *mu* of farmland in Hubei, Anhui, and Jiangxi. It was constructed from three sections. Though it was owned by the three provinces, the dike was actually under separate management because of jagged provincial borders. In addition, the lack of clarity over who was responsible for maintaining meant the maintenance was often neglected, leading to the deterioration of the dike.[36] To address this issue, the Jiangxi Provincial Construction Office proposed to establish Panhua Dike Work Committee for unified management of the dike in March 1930. Yet it was not until two years later that the committee was finally set up.[37]

In the aftermath of the devastating 1931 flood in the Yangtze River basin, the people living in this region experienced yet another major flood only five years later in 1935.[38] This was a stark reminder of the need to properly manage the river and build dikes to protect people's lives and property. During the flood in 1935, Mahua Dike at the lower end of the Panhua Dike burst at the Fifteenth Protection Section in Pengze County, Jiangxi Province.[39] Upon seeing dike breaks and great floods in Jiangxi in the same year, H. H. Kung (Kong Xiangxi), Vice President of the Executive Yuan, learned that "the dike on the north bank of the Yangtze River extended across three provinces and was unevenly managed. The responsibilities were not clearly assigned."[40] This was not conducive to the management of the dike. To address this, he proposed to redraw the borders of Anhui, Jiangxi, and Hubei on the north bank of the Yangtze River, taking the main channel of the Yangtze River as the boundary, and the three provinces should decide the details.[41] On January 31, 1936, the resolution of the Executive Yuan was published in the *Central Daily* (Zhongyang ribao), which stated that Huangmei County of Hubei Province took over Tuopai Island and Fengkuao County of Jiujiang, and Suzhou County of Anhui Province took over Sangluoban County and Laozoutun Dike of Jiujiang.[42]

From the above, it can be concluded that dikes were vital facilities in reshaping low-lying waterfront and gave people a measure of control over the natural disasters they faced. The garrisons in the early Ming dynasty were the first to develop the area of Sangluo Island on a large scale, laying the foundation for the demographic structure of the area. During the mid and late Ming period, with the support of local governments, long dikes began to be built in Sangluo Island for flood control. Due to technological limitations, the earth dikes were not strong and often collapsed and shifted under the force of water flow. This left people in a state of dynamic balance with nature, still unable to effectively control it. Nonetheless, the construction of the dikes allowed

[36]Chen Zerong, "Chakan Panhua jiangdi baogao shu," 33.
[37]"Sheng zhengfu zhun Anhui sheng zhengfu," 14.
[38]Xu Jianping, *Zhengzhi dili shijiao xia de shengjie bianqian*, 288-290.
[39]"Mahua di Gan duan kuijue," 12.
[40]"Gongwu ke guanyu chengbao fengling huikan Yangzi jiang beian san sheng shengjie yi an qingxing" [The Report on the Investigation of the Provincial Boundary between the Three Provinces on the North Bank of the Yangtze River by the Work Department] (November 11, 1935), Jiangxi sheng shuili ju dang'an [Jiangxi Provincial Water Conservancy Bureau Archives], file no. J023-1-00441.
[41]"Jiangxi sheng zhengfu guanyu anfeng Xingzhengyuan ling yi Kong yuanzhang tiyi wei Changjiang beian Wan Gan E san sheng shengjie cenci cuoluo qing ling huishang gaiding banfa yi an de xunling" [Ordinance of the Jiangxi Provincial Government on the Implementation of the Executive Yuan's Order to Hold Meetings to Determine the Province Borders of Anhui, Hubei and Jiangxi on the North Bank of the Yangtze River According to the Proposal of President Kong] (September 17, 1935), Jiangxi sheng shuili ju dang'an [Jiangxi Provincial Water Conservancy Bureau Archives], file no. J023-1-00441.
[42]"E Gan Wan san sheng chong hua," 1.

people to reshape the low-lying landscape. With more and stronger dikes built, short dikes gradually connected into a long line, allowing people to control the river within a certain fixed and narrow riverbed and to reclaim the riverside land. This practice led to rivers and lakes drying up, causing new environmental problems.

Land reclamation in the south bank of the Yangtze River: people in a changing environment

Sangluo Island and Zhangjia Island were shaped by both nature and human factors in terms of their formation and evolution. Then, how did environmental changes in waterfront lowlands affect the people living here? The case of reclamation disputes over the new alluvial land in northern Zhangjia Island during the Republican period (1912–1949) provided us with an excellent example to look into this question.[43] In May 1946, Cao Yuandi, then head of the Construction Section of Jiujiang County, investigated and found that this alluvial land, though small, took shape in the Guangxu period (1875–1908) of the Qing dynasty (1644–1911).[44] In the early Republican period, the siltation increased and developed to the northwest, bordering Huangjiazui Island in Huangmei County.[45] The eastern section silted up slowly because the Yangtze River flowed eastward. The western section of this alluvial land was high and the eastern section low, making it look like a long belt.[46] This alluvial land was located in Sangluo Township, Jiujiang County, with Huangxing Island in the west, Caijia Island and Fujia Island in the south, separated by a stream in the middle, bordering the Yangtze River in the north and east, and with Qiaojiadun Village, Bali River and Guijiaying Village at Huikou Township, Susong County on the other side of the river.[47]

Pre-war disputes over reclamation

In nature, the alluvial land was formed by sediment deposition in the river and was regarded as "government-owned wasteland" rather than private wasteland. However, in the 25th year of Guangxu's reign (1899), when this alluvial land was still a white sand field in the water, Qiao Zhengmao and others from the north bank of the Yangtze River

[43]The dispute over land reclamation in this area has been a long-standing problem. See "Xunyang suowen," 2; and "Xiangmin zheng zhou an youqi bozhe," 12.

[44]Deng Shifang and others, who had different views on the formation of this alluvial land, claimed that it was first discovered as a water shadow shoal in the eighth year of the Republic of China (1919), and emersed until the 12th year of the Republic of China (1923). See "Jiujiang xianzhang Tan Bingjian wei Qiao Zhengmao yu Deng Shifang deng huzheng chengling Jiujiang xianshu Sangluo xiang huangzhou yi an gei Deng Shifang deng de yuchi" [Reprimand from Tan Bingjian, Magistrate of Jiujiang County, to Deng Shifang and Others for the Dispute over a Wasteland in Sangluo Township, Jiujiang County between Qiao Zhengmao and Deng Shifang] (October 18, 1931), Jiangxi sheng jiansheting dang'an [Jiangxi Provincial Construction Department Archives], file no. J045-2-00093.

[45]"Jiujiang xian zhengfu wei kancha Sangluo xiang Changjiang nei xinyu zhoudi qingxing gei Jiangxi sheng zhengfu zhuxi Wang Lingji de chengfu" [Reply from Jiujiang County Government to Wang Lingji, Chairman of the Jiangxi Provincial Government, for Surveying the New Alluvial Land in the Yangtze River in Sangluo Township] (June 29, 1946), Jiangxi sheng kenwuchu dang'an [Jiangxi Provincial Reclamation Division Archives], file no. J060-2-00083.

[46]"Shi Daokui guanyu huibao Chakan Jiujiang jiangshui shuiwei de qiancheng" [Report of Shi Daokui on Surveying the River Water Level of Jiujiang County] (December 1, 1946), Jiangxi sheng kenwuchu dang'an [Jiangxi Provincial Reclamation Division Archives], file no. J060-2-00083.

[47]"Jiujiang xian zhengfu wei kancha Sangluo xiang Changjiang nei xinyu zhoudi qingxing gei Jiangxi sheng zhengfu zhuxi Wang Lingji de chengfu" [Reply from Jiujiang County Government to Wang Lingji, Chairman of the Jiangxi Provincial Government, for Surveying the New Alluvial Land in the Yangtze River in Sangluo Township] (June 29, 1946), Jiangxi sheng kenwuchu dang'an [Jiangxi Provincial Reclamation Division Archives], file no. J060-2-00083.

(i.e. Qiao-Wang-Chen-Cheng Reclamation Group and other reclamation groups who later applied for the reclamation right) applied for reclamation certificates for this alluvial land[48] and paid taxes in full every year for it as an infertile land of 25.34 *mu*. By convention, once someone registered and paid taxes for a white sand field in the water, he would have priority in obtaining its reclamation right. This was similar to the occupation and reclamation of tidal land in the Pearl River Delta.[49] In December 1928, Deng Shifang and others (i.e. the Tan-Deng-Lao Reclamation Group which later applied for the reclamation right) applied to reclaim the alluvial land, which was opposed by Qiao Zhengmao, marking the beginning of their perennial reclamation disputes and lawsuits. In 1931, Jiangxi Provincial Water Conservancy Bureau judged that the 1,700 *mu* in the west of the alluvial land would be reclaimed by Deng Shifang and the 1,448.66 *mu* in the east by Qiao Zhengmao.[50] However, Qiao Zhengmao refused to accept this decision and appealed to the Jiujiang District Court. The court rejected the appeal and affirmed the original judgment.[51]

Qiao Zhengmao and others claimed that they had the priority to apply for reclamation, which was based on the practice of Qing dynasty, that is, to register and pay the taxes. In the 34th year of Emperor Guangxu's reign (1908), the alluvial land was measured by Guangxin-Raozhou-Jiujiang-Nankang Military Defense Circuit, together with Cang Erzhen, officer in charge of military defense of the Yangtze River, according to the regulations. It was classified as an infertile land, the area of which was 25.34 *mu*, requiring paying a tax of about 0.2534 tael of silver. According to this, Qiao Zhengmao advocated that this alluvial land be their private land. However, Deng Shifang believed that the measurement register in the late Qing was inconsistent with the current area, and neither was the tax. Except for the 25 *mu* of infertile land, the rest should belong to the government.[52] Though the two sides held their own opinions, Jiujiang County government did not recognize the Qiao-Wang-Chen-Cheng Reclamation Group's private property rights to this alluvial land. Except that the group was allowed to exempt from paying the price of the 25.34 *mu* infertile land which it had paid taxes according to the regulations, the other over 1,000 *mu* of land needed to be re-applied according to the Provisional Regulations on Reclamation.[53] It is not difficult to find that, different from the way of the Qing dynasty (first reclaiming the land and then registering and

[48]"Laojiageng shixi," 1-40; "Qiao Chuangqi deng wei buling lingken zhengshu gei Jiangxi sheng zhuxi Wang Lingji de chengqing shu" [Petition of Qiao Chuangqi and others to Wang Lingji, Chairman of the Jiangxi Provincial Government, for Replacement of Reclamation Certificate] (April 1, 1947), Jiangxi sheng jiansheting dang'an [Jiangxi Provincial Construction Department Archives], file no. J045-2-00091.

[49]Tan Dihua, *Qingdai sanjiaozhou de shatian*, 30-42.

[50]"Jiujiang xianzhang Cai Xiang'ou wei xinyu zhoudi zhengken jiufen yi an gei Jiangxi sheng zhengfu Wang Lingji de cheng" [Report from Cai Xiang'ou, Magistrate of Jiujiang County, to Wang Lingji, Chairman of the Jiangxi Provincial Government, on the Reclamation Dispute over a New Alluvial Land] (February 1947), Jiangxi sheng jiansheting dang'an [Jiangxi Provincial Construction Department Archives], file no. J045-2-00091.

[51]"Jiangxi Jiujiang difang fayuan minshi diyi shenpanjue" [Civil First-instance Judgment of Jiujiang District Court of Jiangxi Province] (December 20, 1933), Jiangxi sheng jiansheting dang'an [Jiangxi Provincial Construction Department Archives], file no. J045-2-00093.

[52]"Jiujiang xianzhang Tan Bingjian wei Qiao Zhengmao yu Deng Shifang deng huzheng chengling Jiujiang xianshu Sangluo xiang huangzhou yi an gei Deng Shifang deng de yuchi" [Reprimand from Tan Bingjian, Magistrate of Jiujiang County, to Deng Shifang and Others for the Dispute over a Wasteland in Sangluo Township, Jiujiang County between Qiao Zhengmao and Deng Shifang] (October 18, 1931), Jiangxi sheng jiansheting dang'an [Jiangxi Provincial Construction Department Archives], file no. J045-2-00093.

[53]Ibid.

paying taxes), there have been some procedural changes in reclamation during the Republican period, forming a relatively formal reclamation system.

As early as the 28th year of Emperor Guangxu's reign (1902), Jiangxi provincial government issued the regulations on the reclamation of wasteland, which stipulated that it was necessary to confirm whether the reported wasteland was privately-owned or government-owned and that indigenous people should have priority to apply for reclamation. Others could apply unless they did not.[54] On August 23, 1927, Jiangxi provincial government approved and promulgated the *Provisional Regulations of Jiangxi Province on Wasteland Reclamation*, which stipulated that "wasteland" referred to province-owned barren land in public lakes, mountains, alluvial land, tidal land, sandy fields where reeds grew, etc. Applications for wasteland reclamation were divided into two types: free and paid. The former referred to those by poor peasants and peasant associations at all levels, while the latter referred to those by other groups or individuals. Poor peasants were limited to those who did not have land but had the ability to cultivate, and the area of wasteland they applied for should not exceed 100 *mu*. For the reclamation procedures, applicants or groups that would like to apply should submit an application including the applicant, area of the land, and other information, which would be submitted by the local government to the competent authority for approval.[55] Accordingly, in response to the complaints of Qiao Zhengmao, the government argued that the area of the alluvial land was now much larger than the land they had originally claimed, indicating that it was obviously a new alluvial land.

Despite the judgment, the two sides did not engage in reclamation because the alluvial land was low and still in the form of white sands. Later, the alluvial land experienced drought and flood and witnessed the "July 7 Incident of 1937." Affected by these natural disasters and the incident, the two reclamation groups represented by Qiao Zhengmao and Deng Shifang respectively did not go through the formalities to obtain formal reclamation certificates.[56] This left a foreshadowing for the disputes over reclamation after the victory of the Chinese War of Resistance against Japanese Aggression. However, the area of this alluvial land was further silted up, from the original 3,000 *mu* to over 10,000 *mu*.[57] In March 1946, people who were exiled because of the war returned one after another, and four reclamation groups, called Minsheng, Yihu, Guijiaying Village along the Bali River, and Qiaojiadun Village in Huikou Township respectively, competed for the reclamation of the expanded alluvial land. At the same time, Qiao Zhengyi and Deng Shifang applied for replacement of reclamation certificates in the name of Qiao-Wang-Chen-Cheng and Tan-Deng-Lao Reclamation Groups, respectively.

[54]"Xulu Jiangxi sheng kenhuang zhangcheng," 9.
[55]"Xiuzheng Jiangxi kenhuang zanxing tiaoli," 54-56.
[56]"Qiao Chuangqi deng wei buling lingken zhengshu gei Jiangxi sheng zhuxi Wang Lingji de chengqing shu" [Petition of Qiao Chuangqi and others to Wang Lingji, Chairman of the Jiangxi Provincial Government, for Replacement of Reclamation Certificate] (April 1, 1947), Jiangxi sheng jiansheting dang'an [Jiangxi Provincial Construction Department Archives], file no. J045-2-00091.
[57]"Jiangxi jiansheting guanyu baogao dui Sangluo xiang xinyu zhoudi zhengken jiufen chuli qingxing de qiancheng" [Report of the Jiangxi Provincial Construction Department on the Handling of the Dispute over the Reclamation of the New Alluvial Land in Sangluo Township] (June 5, 1948), Jiangxi sheng jiansheting dang'an [Jiangxi Provincial Construction Department Archives], file no. J045-2-00093.

Post-war application for reclamation from six reclamation groups

On March 30, 1946, the Minsheng Reclamation Group, represented by Ye Shiyong, submitted an application to Cao Haosen, then provincial chairman, to reclaim this new alluvial land. On April 30, Qiao Chuangqi, Qiao Xunquan, and others also submitted an application for reclamation.[58] On May 4, Gui Huishan and Gui Dingcheng, representatives of Guijiaying Village in Huikou Township, submitted an application for reclamation, claiming that "this new alluvial land was, in fact, formed through the accumulation of silt the Bali River carried down from an old alluvial land at the Guijiaying Village." In addition, they also mentioned that in the past, the right of ownership was based on registration, but now the government regulations have changed: "an application for reclamation must be submitted to obtain the right of ownership of a new alluvial land."[59] On May 5, Huang Nanting and Zhou Zhigang, representatives of Qiaojiadun Village Reclamation Group in Huikou Township, also petitioned for reclamation. On May 8, Dong Tingrui and Wang Jiyue, representatives of Yihu Reclamation Farm, once again submitted a petition to the provincial government to build a farm to reclaim the new alluvial land on the south bank.[60] In the petitions, all reclamation groups mentioned that since the north bank of the Yangtze River collapsed in the Xianfeng and Tongzhi periods (1850–1875) of the Qing dynasty, they would have no land for farming if they did not apply for reclamation of the new alluvial land.[61] In addition, the Minsheng and Yihu reclamation groups also stressed that their members were "barely getting by on rent land for cultivation" and it was an extravagant hope for those who "used to be landlords to become tenants today." They accused that the rest groups were all from big families living on the north bank, which owned a lot of fertile farm land, and were not homesteaders.[62] Since the *Land Law* (1946) stipulated that public wasteland could only be reclaimed by the people of the Republic of China, including homesteaders and agricultural producer's cooperatives.[63]

As for the priority of reclamation, these reclamation groups stressed only two points: First, they had no land to cultivate because their own land had collapsed one after another. Second, they highlighted themselves as poor farmers rather than landowners with large amounts of land. In fact, new alluvial land on the south bank was always

[58]"Qiao Chuangqi, Qiao Xunquan deng wei chengbao shenqing lingken kenyu beicha you" [Qiao Chuangqi and Qiao Xunquan's Petition for Land Reclamation] (April 30, 1946), Jiangxi sheng jiansheting dang'an [Jiangxi Provincial Construction Department Archives], file no. J045-2-00090.

[59]"Gui Huishan, Gui Dingcheng deng wei shiju laozhou tanta yu cheng xinzhou, qing hefa lingken zhengshu, bing zhun xianxing gengzuo you" [Gui Huishan and Gui Dingcheng's Application for New Reclamation Certificate and Permission for Advance Cultivation at the New Alluvial Land after the Old Alluvial Land Collapsed] (May 4, 1946), Jiangxi sheng jiansheting dang'an [Jiangxi Provincial Construction Department Archives], file no. J045-2-00090.

[60]"Dong Tingrui, Wang Jiyue deng guanyu shiban Yihu nongkenchang shouxie daoluan kenqi paiyuan checha de chengwen" [Dong Tingrui and Wang Jiyue's Petition for Assigning Officials to Investigate the Situation Where the Pilot Yihu Reclamation Farm Was Threatened and Disturbed] (May 8, 1946), Jiangxi sheng jiansheting dang'an [Jiangxi Provincial Construction Department Archives], J045-2-00090.

[61]"Huikou Qiaojiadun, Minsheng kenlingtuan deng si ge qingkentuan daibiao li yiyue hetong" [Contract Through Negotiation Between the Representatives of Four Reclamation Groups, including Qiaojiadun Village Reclamation Group in Huikou Township and Minsheng Reclamation Group] (February 8, 1947), Jiangxi sheng jiansheting dang'an [Jiangxi Provincial Construction Department Archives], file no. J045-2-00093.

[62]"Dong Tingrui, Wang Shirui deng guanyu Sangluo xiang xinyu huangzhou chengken quanli qiqing binggong chuzhi de cheng" [Dong Tingrui and Wang Shirui's Petition on impartially handling the right to reclaim the New Alluvial Wasteland in Sangluo Township] (August 18, 1946), Jiangxi sheng jiansheting dang'an [Jiangxi Provincial Construction Department Archives], file no. J045-2-00090.

[63]*Tudi fa*, 19.

occupied and reclaimed by the big families on the north bank. For example, the Huang Clan on the north bank had taken charge of Huangjiazui Island, while the Cai Clan had occupied the upper and lower Caijia Island; Qiaojiadun Village, Chenjiawan Village as well as Wang, Cheng, and other Clans had taken charge of Qiao-Wang-Chen-Cheng Island. The Shen Clan, as a rich and powerful family on the north bank, not only dominated the north bank, but also owned Sanbai Island, Bagu Island and part of the Qiao-Wang-Chen-Cheng Island on the south bank.[64] In the past, there was no formal system for reclaiming wasteland. To apply for an alluvial land, "one had to submit applications and bribe officials in charge." This was more favorable to the big and powerful families, but not to the poor and powerless peasants who really needed land.[65] In his petition, Dong Tingrui, the representative of Yihu Reclamation Farm, even bluntly stated that "almost all alluvial lands have owners from Shen and Cai Clans."[66]

Since "many groups applied to the Jiangxi Provincial Reclamation Division for reclamation registration," the Division believed that it should not grant permission rashly. It then asked Jiujiang county government to investigate and confirm the situation before it was approved. For this reason, on August 1, 1946, Shi Daokui, a technician assigned by the Jiangxi Provincial Reclamation Division, went to Sangluo Township together with Jiang Zhuofan, a technician of Jiujiang county government, and accompanied by Shi Jianzhong, the township head, to survey the alluvial land. However, it was a wet season, when the alluvial land was flooded, with only a few grass fields emersed. It was thus impossible for them to survey its detailed area and specific boundary in detail. To know the whole state of the alluvial land, it was necessary to wait until the water falls in winter.[67] In December of the same year, the river water fell and the alluvial land was emersed. Each reclamation group took the lead in ploughing and sowing rapeseed, and submitted document to the Construction Department of Jiangxi Province for record, which once again intensified the contradiction between these reclamation groups. In response, the Construction Department replied that "no ploughing is allowed without approval," and suspended the filing requirements of these reclamation groups, and sent officials to survey again.

On February 1, 1947, Zheng Renjie, a technician sent by the Jiangxi Provincial Reclamation Division, together with Wen Yaoqing, the chief of Jiujiang Construction Section, and Yu Qingzhen, a technician of Jiujiang county government, went to the

[64]"Ye Shiyong, Dong Jun deng wei mengpi zhunken ji mu kenwuchu enyu banli dengji, kenqi zaofa dengjizheng deng you" [Ye Shiyong and Dong Jun's Petition to the Jiangxi Provincial Reclamation Division for Reclamation and Registration and Application for the Registration Certificate (May 20, 1946), Jiangxi sheng jiansheting dang'an [Jiangxi Provincial Construction Department Archives], file no. J045-2-00090.

[65]"Ye Shiyong, Dong Jun, Dong Dekuan deng guanyu jiezao jiangbeng nongye wudi qingqiu zhunyu kaiken xinzhou bing banfa lingkenzheng gei Jiangxi sheng zhengfu zhuxi Cao Haosen de chengwen" [Ye Shiyong, Dong Jun, and Dong Dekuan's Petition to Cao Haosen, Chairman of Jiangxi Province Government, for Reclaiming a New Alluvial Land and Issuing the Reclamation Certificates to the Landless Farmers suffering from the Collapse of the River Bank] (March 30, 1946), Jiangxi sheng jiansheting dang'an [Jiangxi Provincial Construction Department Archives], file no. J045-2-00090.

[66]"Dong Tingrui deng wei xianxing gengzhong zai hou he duo yi wei kenwu er li minsheng shi gei sheng kenwuchu de cheng" [Dong Tingrui's Petition to the Jiangxi Provincial Reclamation Division for Approving the Reclamation Certificate and Advance Plowing to Facilitate the Reclamation Management and Benefit the People] (July 1946), Jiangxi sheng kenwuchu dang'an [Jiangxi Provincial Reclamation Division Archives], file no. J060-2-00083.

[67]"Jiangxi sheng kenwuchu chuzhang Wang Zenong wei juqing chengfu Jiujiang Sangluo xiang xinyu zhoudi paiyuan hui xian fucha qingxing qing chahe you" [Notice on Assigning Officials to Investigate the Situation of the New Alluvial Land at Sangluo Township, Jiujiang County Together with the County from Wang Zenong, Director of Jiangxi Provincial Reclamation Division] (August 1946), Jiangxi sheng jiansheting dang'an [Jiangxi Provincial Construction Department Archives], file no. J045-2-00090.

alluvial land again for survey. It was found that the area of the alluvial land had expanded to more than 10,000 *mu*, with about 4,000 *mu* of reclaimable land and about 1,700 *mu* of reclaimed land, and the rest was white sand field. Except for the reclamation groups represented by Deng Shijia and Qiao Chuangqi, the other four reclamation groups, represented by Gui Huishan, Huang Nanting, Dong Tingrui, and Ye Shiyong respectively, were in conflict with each other. However, after repeated persuasion, these reclamation groups reached an agreement on February 8, the general content of which was "the total area of the new alluvial land is 13,574 *mu*. Except for the 3,174 *mu* applied by Tan-Deng-Lao and Qiao-Wang-Chen-Cheng reclamation groups earlier, the rest was allocated to the other four groups in equal segments to reclaim, and each group should reclaim 2,600 *mu*."[68] The survey team also stressed that "the households that are planning to reclaim the alluvial land are indeed owner peasants, and the reported situation that the collapse of the north bank and the siltation on the south bank caused by the scouring of the river in successive years is true," to answer the question whether the people who requested for reclamation were landless poor peasants or landlords. So far, the parties to the reclamation dispute over the new alluvial land had reached a basic consensus, and the conflict was expected to be resolved smoothly, with only some additional reclamation procedures to go through.

Zhou Huanwen's application for reclamation

Just when the alluvial land reclamation dispute of the six reclamation groups was about to be settled, the Limin Reclamation Group organized by Zhou Huanwen, composed of 343 households from Chengjiaying Village, Huikou Township, Susong County, applied to join the reclamation of the new alluvial land. After receiving the application, the Jiangxi Provincial Reclamation Division was very dissatisfied and rejected their application by stating that Zhou Huanwen and others "had no intention of reclamation, since they did not participate in the reclamation application earlier." However, Zhou Huanwen and others argued that they did not participate in the reclamation application earlier because the alluvial land was still silting up and far from reclaimable period, so they could not go beyond the reclamation rules and apply for the reclamation indiscriminately. He also accused Zheng Renjie, an official from the Reclamation Division, and Wen Yaoqing, an official from the county government, of "not caring whether the alluvial land is reclaimable," but violating the reclamation regulations and allowing the six reclamation groups to divide the alluvial land.[69] In May 1947, Guo Fanghuai and

[68]"Jiujiang xian xianzhang Cai Xiang'ou chengbao xinyu zhoudi zhengken jiufen yi an" [Report from Cai Xiang'ou, the Magistrate of Jiujiang County, on the Dispute over the Reclamation of the New Alluvial Land] (February 1947), Jiangxi sheng jiansheting dang'an [Jiangxi Provincial Construction Department Archives], file no. J045-2-00091; and "Yihu nongkenchang Wang Jiyue, Dong Tingrui deng wei kenqi zhunyu xun fa lingken zhengshu you" [Application from Wang Jiyue and Dong Tingrui, Representatives of Yihu Reclamation Farm, on Issuance of Reclamation Certificate] (April 6, 1947), Jiangxi sheng jiansheting dang'an [Jiangxi Provincial Construction Department Archives], file no. J045-2-00091.

[69]"Zhou Huanwen deng guanyu buju shishi liyou kenqi lingchi kenwuchu tingfa Ye Shiyong, Wang Jiyue deng kenzheng bing paiyuan takan yi du mengbi er mian liuxie de cheng" [Submission from Zhou Huanwen on Providing Factual Reasons to Stop the Reclamation Division from Issuing Reclamation Certificates to Ye Shiyong and Wang Jiyue, and Requesting for Sending Officials for a Survey to Avoid any Conflict Led by Malpractices] (March 2, 1947), Jiangxi sheng jiansheting dang'an [Jiangxi Provincial Construction Department Archives], file no. J045-2-00093.

others from Huikou Township, Susong County, also complained to the government that the new alluvial land was low in terrain and was still a white sand field that are not reclaimable. Zheng Renjie and Wen Yaoqing failed to make judgment on the basis of "whether the new alluvial land is reclaimable at present and whether the six reclamation groups are real peasants." They must have been bribed and cheated.[70]

Zhou Huanwen and others said that they had the priority to claim the reclamation land on grounds of their location of residence. Jiangxi Provincial Reclamation Division held that, since Zhou Huanwen submitted a petition for reclamation after all the reclamation land was distributed, letting go unchecked would lead to more imitators and disputes. Moreover, rejecting the petition was legitimate according to the *Land Law* and various regulations related to reclamation in Jiangxi Province.[71] In addition, the Division asked Zhou Huanwen and others, "why did you request reclamation of the alluvial land, which is not yet cultivable?" The Division decided that they deliberately caused trouble because their request was unreasonable.[72] Undeterred, Zhou Huanwen and others refused to accept the decision made by the Jiangxi Provincial Reclamation Division, and submitted a complaint to Wang Lingji, then chairman of the Jiangxi provincial government, and the Department of Land Administration, demanding that people be attracted to reclaim land regularly. In October 1947, Jiangxi provincial government decided to reject Zhou Huanwen's appeal after the Jiangxi Provincial Reclamation Division explained the reasons.[73] Unexpectedly, Zhou Huanwen and others still refused to accept it, and then appealed to Zhang Qun, then president of the Central Executive Yuan, which remanded the lawsuit to the Jiangxi provincial government for retrial.[74] In January 1948, the Jiangxi provincial government made a new administrative decision to "revoke the original decision" and "maintain the result on reclamation as in the decision made in the 22nd year of the Republic of China (1933). People should be attracted to reclaim other new alluvial land regularly according to law." However, Ye Shiyong and others refused to accept the decision of Jiangxi provincial government and filed a complaint with the Department of Land Administration again, which rejected it in October 1948.[75] So far, after two and a half years, the whole land dispute case returned to the starting point of the original conflict, and each reclamation group must apply for the reclamation right from the government again.

Why can Zhou Huanwen and others change the decisions of Jiangxi Provincial Reclamation Division and Jiangxi provincial government? The main points of their core

[70]"Guo Fanghuai deng wei jishi Zheng Renjie, kezhang Wen Yaoqing beizhang mengbao wubi feisi kenqi paiyuan chaming jiuban yi du tanfeng you" [Submission from Guo Fanghuai on Investigating the Illegal Practices of the Technician Zheng Renjie and the Section Chief Wen Yaoqing to Eliminate Corruption] (May 1947), Jiangxi sheng jiansheting dang'an [Jiangxi Provincial Construction Department Archives], file no. J045-2-00091.

[71]"Jiangxi sheng kenwuchu dui Zhou Huanwen deng qingqiu chexiao weifa kanhua Huangdi dingan lingxing dingqi zhaoken chengwen de qianzhu" [Endorsement of Jiangxi Provincial Reclamation Division on Zhou Huanwen's Request to Revoke the Decision of Illegal Allocation of Wasteland and for Regular Reclamation Recruitment] (May 1947), Jiangxi sheng jiansheting dang'an [Jiangxi Provincial Construction Department Archives], file no. J045-2-00093.

[72]"Jiangxi sheng kenwuchu dui Zhou Huanwen deng qingqiu chexiao zhunling yuanan de qianzhu" [Endorsement of Jiangxi Provincial Reclamation Division on Zhou Huanwen's Request to Revoke the Original Case Decision on Reclamation] (July 5, 1947), Jiangxi sheng jiansheting dang'an [Jiangxi Provincial Construction Department Archives], file no. J045-2-00093.

[73]"Jiangxi sheng zhengfu juedingshu" [Decision of Jiangxi Provincial Government] (October 1947), Jiangxi sheng jiansheting dang'an [Jiangxi Provincial Construction Department Archives], file no. J045-2-00093.

[74]"Xingzhengyuan jiaoban anjian tongzhidan" [Notice of Cases Assigned by the Executive Yuan] (October 1, 1947), Jiangxi sheng jiansheting dang'an [Jiangxi Provincial Construction Department Archives], file no. J045-2-00093.

[75]"Dizhengbu suyuan juedingshu" [Decision of Department of Land Administration on Appeal] (October 1948), Jiangxi sheng jiansheting dang'an [Jiangxi Provincial Construction Department Archives], file no. J045-2-00093.

appeals are as follows: (i) the new alluvial land has not been subjected to regular reclamation recruitment; (ii) it obliterates the priority of reclamation rights of residents around the alluvial land; (iii) Ye Shiyong and others are all squires, and not allowed to reclaim the alluvial land according to law.[76] Of the above three points, the first one is the most powerful, because the first six reclamation groups all obtained the reclamation right by applying on their own initiative, instead of the government's regular reclamation recruitment process. According to Article 126, 1946 *Land Law*, "for public wasteland suitable for farming, if any, except for those reserved by the government, the land administration authorities of the cities or counties in charge shall, together with the competent agricultural and forestry authorities, designate reclamation areas, assign reclamation units, and recruit farmers for reclamation regularly."[77] Obviously, the Jiujiang county government failed to handle these controversies over the reclamation right of the disputed alluvial land in accordance with the above laws and regulations, namely, the procedure went against the law. Except for the two reclamation groups represented by Qiao Zhengmao and Deng Shifang respectively, the other four reclamation groups did not obtain the certificate of land reclamation, that is, they did not obtain legitimate right of reclamation, and thus had no right to the disputed alluvial land. Accordingly, Jiangxi provincial government had to revoke the original decision. The Department of Land Administration viewed this a "correction of administrative procedure."[78]

Since modern times, new alluvial land has emerged in the center of the north branch of Zhangjia Island, Yangtze River, and tended to expanding and heightening over the years, representing a geomorphological change like "sea changes" as the ancients said. The evolution of natural landforms has profoundly affected the people and settlements in this land, forcing them migrate to the south bank along with the new alluvial land. However, with many challenges ahead, it is not easy for people to build their homes on waterfront lowlands. In addition to the hardships of overcoming difficulties, they must also rely on the defense of dikes and the cooperation of various settlements along the line to resist the frequent intrusion of floods. At the end of the Qing period (1644–1911), when the new alluvial land on the south bank was still a white sand field in the water, people living on the north bank forestalled others by including the water into their certificates to pay taxes and occupy the reclamation right. This was generally in line with the custom of Qing dynasty. In addition to the principle of "first occupy first possess," the claiming and management of unowned wasteland must be based on tax registration with the government first. By the Republican period, new alluvial land was regarded as "government-owned wasteland," with a series of new rules for reclamation issued. This undoubtedly constrained the original land occupation and reclamation by powerful landlords, and changed the situation that biggest clans living on the north bank monopolized new alluvial land in the past. In order to occupy the new alluvial land, people living on the north bank began to organize reclamation alliances covering many villages and surnames, and formed several reclamation groups or

[76]"Jiangxi sheng zhengfu juedingshu" [Decision of Jiangxi Provincial Government] (January 1948), Jiangxi sheng jiansheting dang'an [Jiangxi Provincial Construction Department Archives], file no. J045-2-00093.
[77]"Tudi fa (Xu)," 5.
[78]"Dizhengbu suyuan juedingshu" [Decision of Department of Land Administration on Appeal] (October 1948), Jiangxi sheng jiansheting dang'an [Jiangxi Provincial Construction Department Archives], file no. J045-2-00093.

organizations to reclaim wasteland on the south bank. Mostly represented by and centered on landlords and gentries, these reclamation groups were mainly composed of members of several clans. Most of them claimed to be owner peasants or landless tenants.

Concluding remarks

A central island is a typical waterfront lowland, which is formed by deposition of sediment carried by water from the middle and upper reaches of the Yangtze River, and the mobility of which is more intense than other lands. The siltation and collapse of such alluvial lands are directly related to the hydrological environment of the Yangtze River Basin. A central island has always been shaped by two forces: (i) the drastic evolution of the natural environment itself, including soil erosion, river diversion, siltation, and collapse of sandbanks, flooding, and land migration. Human beings, as a part of nature, have always been highly dependent on natural systems. The sandbar formed by deposition of sediment from the upper reaches is a gift of nature to human beings, provides a large number of new lands for cultivation, expands the living space of human beings, and attracts a large number of immigrants to compete for reclamation. However, the land in these waterfront lowlands is unstable, which is not only impermanent in siltation, collapse, and migration, but also easily invaded by floods; (ii) in order to live in the waterfront lowland, human beings have made a lot of artificial modifications to nature, such as building dams, drainage ditches, reclaiming water surfaces and transforming rivers, trying to tame and control the disorderly water flow.[79] Therefore, the transformation of lowlands is the result of the joint action of natural forces and human activities. Human production and life have always been deeply embedded in the natural system, and have always been influenced and restricted by it.

How could naturally silted-up land become the "property" of man? Liu Zhiwei once pointed out: "From unowned wasteland to cultivated land, the nature of land has changed in two aspects at the same time, one is from wasteland to cultivated land, which is the change of its natural attribute, and the other is from unclaimed to reclaimed, which is the change of its social attribute."[80] The key lies in the historical process of "how to change land from unclaimed to reclaimed," i.e. the definition of land property rights. With the rise of land value and the increase of claimants, if no clear land property rights can be provided and implemented in time, people will seek to establish a new order by violence.[81] For unclaimed wasteland, the initial definition of property rights often stems from violence or power.[82] However, continuous violence will not only result in the loss of resource value but also bring about governance problems. Institutional construction is thus essential. In Ming and Qing dynasties (1368–1912), in addition to the principle of "first occupy first possess," reclamation of unclaimed wasteland also needed to be based on tax registration first. By the Republican period, the new alluvial land was regarded as "government-owned wasteland," with a series of new rules for reclamation issued. It would be regarded as illegally occupied and reclaimed without going through the reclamation procedures. In modern times,

[79]Will, "Shuili jichu sheshi guanli," 629-630.
[80]Liu Zhiwei, "Jianlun Ming Qing shiqi Guangdong shatian," 36.
[81]Alston et al., "Baxi Yamasun he liuyu baoli," 176-197.
[82]Nye, "Guanyu guojia de sikao," 154.

states played an increasingly important role in the process of changing the new alluvial land from "unclaimed" to "reclaimed," indicating that procedural justice gradually replaced local customs.

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Glossary

Chaisang	柴桑
Chengjiaying	程家营
Ganjiang	赣江
Guijiaying	桂家营
Huangmei	黄梅
Huikou	汇口
Hukou	湖口
Jiangzhou	江洲
Jiujiang	九江
Liuzuo	刘佐
Nanchang	南昌
Qiaojiadun	乔家墩
Qizhou	蕲州
Sangluo	桑落
Susong	宿松
Tianqi	天启
Wanli	万历
weisuo	卫所
Yejiawan	叶家湾
Zhangjiazhou	张家洲

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Water politics: disputes about the "Yellow River-Huai River diversion proposal" in the 1930s

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ABSTRACT

Between the Southern Song and the Republican era in China, the Yellow River recurrently changed its course and inundated the Huai River, often resulting in disastrous flooding and millions of refugees in the northern Anhui Province. In early 1933, those Anhui natives living in Tianjin sent a communication to their countrymen back home, informing them that the Construction Bureau of Henan Province was contemplating a plan to divert the Yellow River into the Huai River via northern Anhui Province. This news brought wide-spread panic to northern Anhui and triggered two-year long disputes concerning the relevant proposal. At the time, both the Nanjing Nationalist government and the Henan provincial government insisted that the proposed project was only intended for local irrigation purposes, posing no risk to northern Anhui. As a matter of fact, "diverting the Yellow River into the Huai River" had long been an important plan for the Nationalist government. It was expected to improve the soil quality in eastern Henan province, increase the national tax revenue, relieve Henan Province of the perils caused by the Yellow River and develop the local irrigation system. Located in the middle and lower reaches of the Huai River, both Anhui and Jiangsu provinces had been the victims of the course-changing Yellow River and both provinces ought to have a common interest in questioning the desirability of the proposed plan by the Henan provincial government, or at least in theory. However, the officials of Jiangsu Province collectively chose to keep silent, concerned about national interests such as ensuring the implementation of the Huai River Diversion Project and the collection of the salt tax, as well as attending to local interests.

KEYWORDS

Diversion of the Yellow River into the Huai River; history of water conservation; environmental history; Li Yizhi; Chen Guofu

In Chinese history, the central government tended to offer the Northern Huai River Area preferential policies if the rulers located their capitals in the Huanghuai Region, to which the Northern Huai River Area is in geographical proximity. With the shift of China's political center either to the northern or the south after the South Song era, however, the Northern Huai River Area became politically peripheral. Consequently, it became an area that can be sacrificed, if need be, often under the pretense of lofty political objectives or pragmatic necessities. Both the Ming and Qing administrations made great efforts in trying to to rein in the Yellow River, unparalleled in Chinese

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history, but the rulers did this not out of their concerns for the people's well-being. Instead, their aim was merely to ensure the safety and uninterrupted transportation of resources needed in their capital city. In practice, they deliberately diverted the Yellow River into places in the Northern Huai River Area such as Xuzhou and Pizhou, which were expected to be sacrificed in exchange for the safety of the capital area.[1] The Yellow River changed its course northwards in 1855, leaving the canal system dysfunctional. As a result, the Qing government gradually delegated the responsibility of managing the Yellow River and the Huai River to local governments. Even though the Yellow River changed course northwards, it periodically inundated and congested the waterway of the Huai River, aggravating the suffering of the local people.[2]

Researchers have studied the management of the Yellow River and the Huai River extensively prior the full outbreak of the Resistance War Against Japan [in 1937], but systematic studies on the integrated management of the Yellow River and the Huai River are still largely absent. According to Huang Lisheng, the Nanjing Nationalist government paid special attention to the management of the Huai River, since the Huai River Basin was geographically proximate to the core area of its rule. But it failed to pay sufficient attention to the management of the Yellow River, a failure that turned out to be one of the major defects of the river management policies of the Nationalist government.[3] David Allen Pietz argues that although water conservation and social problems were rather complex issues at the lower reaches of the Huai River when the Nationalist government had only just been just established, they paled before the tremendous challenges posed by managing the Yellow River. To increase its political legitimacy and strengthen its rule over the core area, the Nanjing Nationalist government decided to concentrate its water conservation efforts on the lower reaches of the Huai River.[4] Zhang Yan details how the Nanjing Nationalist government tentatively played a role in managing the Yellow River, a decision that was meant to pave the way for diverting the Yellow River into the Huai River.[5]

The disputes among Henan, Anhui and Jiangsu provinces concerning the diversion of the Yellow River into the Huai River proposal in the 1930s shed important light on the integrated management of the Yellow River and the Huai River on the one hand and the political maneuvers between the central and provincial governments, as well as between the provincial governments on the other. By detailing intergovernmental interactions surrounding these disputes, this article aims to lay bare the logic behind the intergovernmental interactions surrounding the management of the Yellow River and the Huai River.

I. Origins of the dispute and narratives from the involved sides

On March 30, 1933, the Huai River Dredging Committee (Daohuai weiyuanhui, or HRDC) of the Nationalist government received a communication sent by Anhui Huai River Dredging Society (Anhui daohuai xiejinhui) from Shanghai. In this

[1]See Ma Junya, *Beixisheng de "jubu"*.
[2]See Pomeranz, *Fudi de goujian*, 161–232.
[3]Huang Lisheng, *Huaihe liuyu de shuili shiye (1912–1937)*, 350.
[4]See Pietz, *Huanghe zhishui*, 80–81; and *Gongcheng guojia*, 40, 44–45.
[5]Zhang Yan, "Jindai zhongyang huigui zhihuang de xumu," 129–133.

communication, Anhui natives living in Tianjin reacted strongly against a plan proposed by the Construction Bureau of Henan Province to divert the Yellow River into the Huai River. They argued that the Huai River had been at peace with the people along its banks since ancient times and it only became a hazard when its course was inundated by the erratic Yellow River. Anhui Province in particular bore the brunt due to its geological position at the center of the Huai River basin. If the Yellow River Diversion Plan went ahead, both northern Anhui province and the northern banks of the Yangtze River would be flooded during the rainy season. Moreover, the shipping channel of the Huai River would be congested by the sand and mud washed in by the Yellow River even after the flood had subsided. They therefore appealed to the HRDC and asked the latter to intervene and to stop the egocentric plan proposed by the Henan provincial government.[6]

The HRDC forwarded this communication to the Henan provincial government the second day and asked the latter for an explanation.[7] In a formal reply to the HRDC on April 18, the Henan provincial government explained that it only planned to dredge the waterway of Huiji River so that the floodwater in Kaifeng city could be pumped out. It also planned to pump water from the Yellow River for irrigation purposes. In its reply, the Henan side admitted that it once contemplated the possibility of diverting the Yellow River into the Jialu River, a tributary of the Huai River, but had yet to do the feasibility study. It promised to discuss this plan with the provinces at the lower reaches of the Huai River before taking a final decision.[8] In another written reply to the HRDC on April 20, the Construction Bureau of Henan Province admitted that it was planning to divert the Luoshui River, the biggest tributary of the Yellow River in Henan Province, into the Jialu River for irrigation and waterway transportation purposes and had started relevant surveys.[9] Thus, the Henan side finally admitted that it had started the project of diverting the Yellow River into the Huiji River and was planning to divert the Luoshui River into the Jialu River. When some Anhui gentries raised this same issue to the HRDC as Anhui Huai River Dredging Society did, the HRDC only forwarded them the formal reply from the Henan side of April 18, but not the one of April 20, with an intention to prevent the dispute from escalating.[10]

Afterwards, the Water Conservancy Project Committee of Shouxian County (Shouxian shuili gongcheng weiyuanhui) and the Anhui Huai River Dredging Society consecutively sent protest letters to the HRDC. In its letter to the HRDC, Anhui Huai River Dredging Society expressed its concerns over the proposed plan by the Henan side to divert the Yellow River into the Jialu River and to dredge the Huiji River. Its members insisted that both the Huiji River and the Jialu River were tributaries of the Huai River. Entering Anhui Province via Luyi County, the Huiji River was the source of the Xifei River and the Wohe River and had enormous bearing on counties in northern Anhui such as Boxian County and Woyang County. They complained that the details of this proposed project, including the direction of the flow and the volume of the diverted

[6]"Anhui daohuai xiejinhui zhi Daohuai weiyuanhui daidian," March 29, 1933, file no. 27-06-013-03.
[7]"Daohuai weiyuanhui zi Henansheng zhengfu wen," April 4, 1933, file no. 27-06-013-03.
[8]"Henansheng zhengfu zi Daohuai weiyuanhui wen," April 18, 1933, file no. 27-06-013-03.
[9]"Henansheng jiansheting zhi Daohuai weiyuanhui han," April 20, 1933, file no. 27-06-013-03.
[10]"Henansheng zhengfu zi Daohuai weiyuanhui wen," April 29, 1933, file no. 27-06-013-03; and "Daohuai weiyuanhui xunling Fengtaixian xianzhang," May 6, 1933, file no. 27-06-013-03.

water, were far from clear and they urged the Henan side to provide more details in a timely manner.[11] It is noteworthy that the HRDC sent a formal reply to the Water Conservancy Project Committee of Shouxian County which was quite different from its previous reply to the Anhui side. In particular, it mentioned Henan's plan to divert the Luoshui River into the Jialu River, but claimed that this plan was still at the stage of a feasibility study and that it would present the Water Conservancy Project Committee of Shouxian County with more information once this had become available.[12] In addition, the Henan provincial government insisted that the Huiji River project was only for irrigation purposes and should not cause worry to the neighboring provinces since it did not involve water diversion from the Yellow River to the Huai River.[13] According to the public information released by the Construction Bureau of Anhui Province, the Anhui side seemed to have accepted such an explanation.[14]

However, this tranquility did not last long. With the wide-spread rumor about the Diversion of the Luoshui River into the Jialu River and the implementation of the Huiji River Project, the Anhui side decided to reenter the fray. In the spring of 1934, representatives of the gentry class of Mengcheng County sent a communication to Lin Sen, the Chairman of the Nationalist government, in which they complained that the Henan side had reactivated the water diversion plans recently after shelving them in the spring of 1933, under the pressure from both the Anhui side and the central government. According to a report of Ta Kung Pao, the Henan side planned to divert the Luoshui River into the Huai River via both the Jialu River and the Huiji River, under the pretense of developing waterway transportation. According to representatives from Anhui side, this new plan would bring way more harm to Northern Anhui than the previous one. The Huiji River entered the Anhui Province at Boxian County and emptied into the Huai River via Woyang, Mengcheng and Huaiyuan counties. If the Huiji River project proceeded as expected, it would divert more water into the already-congested waterway of the Wohe River and bring more hazards to Anhui. So they appealed to the Nationalist government to halt the plans by the Henan side.[15] In addition, Anhui provincial government submitted a comprehensive report to the Interior Ministry regarding the abortion of the plan of diverting the Luoshui River into the Jialu River.[16]

In his response to the aforementioned appeals, Chiang Kai-shek, then the HRDC Commissioner, reiterated that the proposed diversion project was still in its conception stage and the HRDC would take the interests of neighboring provinces into account and make concrete preparations if the project went ahead. As to the Huiji River Project, Chiang assured the Anhui side that it posed no threat to Anhui since the volume of water it planned to divert was rather limited.[17]

Nevertheless, the Anhui side proved to be relentless. To gather more evidence, the Anhui Huai River Dredging Society sent surveyors to Henan to conduct field surveys. The Henan side insisted that the project of diverting the Luoshui River into the Huai

[11]"Anhui daohuai xiejinhui zhi Daohuai weiyuanhui daidian," May 1933, file no. 27-06-013-03.
[12]"Daohuai weiyuanhui pi Shouxian shuili gongcheng weiyuanhui wen," May 10, 1933, file no. 27-06-013-03.
[13]"Henansheng zhengfu zi Daohuai weiyuanhui wen," June 14, 1933, file no. 27-06-013-03.
[14]Anhui sheng jianshe ting, "Dao Huang ru Huai shangwei jueding," 9.
[15]"Yang Hongcai cheng Lin Sen wen," March 23, 1934, file no. 001-116213-00006-019.
[16]"Wan shengfu ziqing zhizhi Henansheng yin Luo ru Huai an," May 1934, file no. 5–522.
[17]"Jiang Zhongzheng zhi guomin zhengfu wenguanchu han," May 23, 1934, file no. 001-116213-00006-022.

River was still at the conception stage due to the involved technical difficulties and financial burden, an explanation that was largely accepted by the Anhui side in its communication to the HRDC. But the other water diversion project by Henan, the Huanghui River Project, caused general panic in Anhui. According to a staff from the Construction Bureau of Henan Province, the Huanghui River Project started in 1932 and all the work was finished within a year. The dredged canal measured 170 km in length, 27 meters in width (13 meters wide for the bottom part), and 3.3 meters in depth. The starting point of the canal was Liuyuankou, located at the south bank of the Yellow River in northern Kaifeng city, where a powerful pump was stationed. Thanks to this pump, up to 240 cubic meters of water could be diverted into the Huiji River every second. The canal linked with the Wohe River at Boxian County of northern Anhui Province. The Anhui Huai River Dredging Society complained that the Huanghui River Project was bound to exacerbate the recurrent flooding problem in northern Anhui and vowed to fight to protect the interests of Anhui against all odds.[18]

Meanwhile, the HRDC also sent Sun Shixiong, an engineer, to conduct a field survey in Henan, who performed his work under the influence of the Henan side. In his field survey report submitted to the HRDC, Sun claimed that the project of diverting the Luoshui River into the Jialu River was still at the conception stage while the Huiji River project had no substantial impact on Anhui Province since it was expected to pump water from the Yellow River into the Huiji River only periodically.[19] The HRDC made its reply to the Henan side based on Sun's report.[20] In a meeting of the Yellow River Conservancy Commission (Huanghe shuili weiyuanhui, or YRCC) held on November 15, 1934, Liu Yiyan, then the director of Anhui Provincial Construction Bureau, only talked about its function in wastewater dilution for Kaifeng city when he mentioned the Huanghui River Project.[21]

At this point, the nearly two-year long dispute came to an end. The opinion of the HRDC and the Henan provincial government finally prevailed. According to them, the Huiji River Project was only for irrigation purposes and it would have no substantial impact on northern Anhui province since it was expected to use modern technologies and pump water from the Yellow River into the Huiji River only periodically. We should never forget that the HRDC enjoyed a dominant position in the policy narrative and Liu Zhi, then the governor of Henan Province, was a protegé of Chiang Kai-shek. But did the claims made by the HRDC and the Henan provincial government hold true in practice?

II. Managing the Yellow River and increasing national tax revenue

In a sense, managing the Yellow River could be equated with governing the country. One important indicators of evaluating the performance of a specific Chinese ruler was how well he managed the Yellow River. In addition, a dynasty's performance in managing the Yellow River always foreshadowed its rise and fall. Successive governments during the Republican era attempted to manage the Yellow River. The Beijing

[18]"Anhui daohuai xiejinhui cheng Daohuai weiyuanhui wen," July 1934, file no. 27-06-013-03.
[19]"Sun Shixiong cheng Daohuai weiyuanhui wen," September 1934, file no. 27-06-013-03.
[20]"Daohuai weiyuanhui zhi Anhuisheng zhengfu gonghan," October 13, 1934, file no. 27-06-013-03.
[21]"Huanghe shuili weiyuanhui zhi Daohuai weiyuanhui jianhan," November 15, 1934, file no. 27-05-009-03.

government also aspired to this ambitious aim, but it proved beyond its capability since China was divided and politically fragmented at the time. In *The General Plan of National Reconstruction* (*Jianguo fanglüe*), Sun Yat-sen paid special attention to the issue of managing the Yellow River,[22] leaving a long-lasting imprint on the governing practices of the Kuomintang (KMT) after the latter came into power. In one of his diaries in the early spring of 1928, Chiang Kai-shek wrote the following words: I plan to step down after the completion of the Northern Expedition and devote myself to the preparatory work regarding the management of those rivers like the Yellow River and the Huai River. My aspiration is to realize all the construction plans raised by Sun Yat-sen.[23] To build up its political legitimacy, the Nanjing Nationalist government prioritized the management of the Yellow River after its founding. Since the Huai River emptied into the Yangtze River at the time, it would affect the lower reaches of the Yangtze River and the core area of the Nanjing Nationalist government if the Huai River was hit by a massive flooding disaster. Hence, the Nanjing Nationalist government put the Huai River Dredging Project on top of the national water conservancy agenda.[24] The ministerial-level Huai River Dredging Committee was established in January 1929, with Chiang Kai-shek as the general commissioner.

Meanwhile, the Nationalist government had to pay additional attention to the management of the Yellow River, which had brought tremendous devastation to the south. For the Nationalist government, however, managing the Yellow River was only one part of its Huai River Dredging Project. In a report submitted to the Nationalist government in 1929, Chiang Kai-shek wrote: The Yellow River runs through the higher land in the north and the Huai River can be put in jeopardy if the Yellow River bursts its banks in such places like Kaifeng, Lanfeng and Caozhou. We have been preparing to launch the Huai River Dredging Project, which is of great significance to our nation and our people. But if we fail to simultaneously manage the Yellow River, the Huai River basin could be devastated by a Yellow River flood, which would annihilate everything we have achieved thus far. Therefore, Chiang ordered the YRCC to do what it could to prevent the Yellow River from flooding the south.[25] The Huai River Dredging Committee submitted a proposal to the YRCC in 1933, in which it specifically argued that the Huai River would be negatively affected should we failed to manage the Yellow River, and this was why the central government decided to establish the YRCC.[26]

Thus, it is no surprise that the task of preventing possible breaking of the riverbanks in the lower reaches of the Yellow River dominated the Nationalist government's Yellow River management agenda. Under these circumstances, diverting the flow of the Henan part of the Yellow River into the Huai River was an important component measure in the management of the Yellow River. In October 1932, the Nationalist government appointed Wang Yingyu as the Yellow River Conservancy Inspector. After nearly three months of survey, Wang submitted the report "Suggestions on Managing the Yellow River" (Zhili huanghe yijianshu) to the Nationalist government, which was

[22]Sun Yat-sen, *Jianguo fanglüe*, 150.
[23]Chiang Kai-shek riji, March 24, 1928.
[24]*Daohuai weiyuanhui shiqinianlai gongzuo jianbao*, 1.
[25]"Daohuai weiyuanhui qing Huanghe shuili weiyuanhui tongshi shu Huang dao Huai," August–September 1929, file no. 5-3789.
[26]"Daohuai weiyuanhui zhi Huanghe shuili weiyuanhui gonghan," September 15, 1933, file no. 27-05-009-03.

discussed on the Sixth Plenary of the Committee of Nationalist Government on March 11, 1933.[27] The plenary endorsed Wang's suggestions and ordered central and local construction bureaus to adopt them based on deliberation and taking into account local conditions. Wang unequivocally supported the idea of diverting the Yellow River into the Jialu River and other rivers for flood control purposes.[28] During the first plenary session of the YRCC, on September 26 of the same year, representatives from Henan proposed to divert the Yellow River into the Huai River to alleviate the dangers caused the Yellow River,[29] to which the YRCC showed no opposition.[30] In the opinion of Li Yizhi, the YRCC commissioner, this proposal would help tame the Yellow River once for all.[31]

The central government was incapable of completely taming the Yellow River at the time. However, the risk of the Yellow River flooding the south increased day by day. The Huai River Dredging Project would be jeopardized, and the core area of the Nationalist government would be threatened if the Yellow River breaches its banks. After the Yellow River floodings of 1933, Chiang Kai-shek urged the Nationalist government to strengthen the southern bank of the Yellow River since its well-being had direct bearings on the Huai River Basin.[32] Compared to a bank-breaching scenario of the Yellow River, diverting the Yellow River would do less harm to the Huai River Basin. Put it differently, considering the inability of the Nationalist government to fundamentally address the Yellow River challenge, diverting the Yellow River became the lesser of two evils. This was why Chiang supported the relevant plans proposed by the Henan side. Zhu Yong, then the director of Construction Division of YRCC, unequivocally stated that one major functions of the Yellow River Diversion Project was to contain flood.[33] This attested to the fact that diverting the Yellow River into the Huai River had been a component of the Nationalist government's vision in managing the Yellow River.

It should be noted that increasing tax revenue was also an important reason for the positive attitude of the Nationalist government towards the Yellow River Diversion Project. The Nationalist government believed that diverting the Yellow River into such rivers such as the Jialu River and the Huiji River would help improve the soil quality in eastern Henan and increase the revenue from salt tax. Salt tax was the backbone of national revenue at the time, accounting for over 23% of the Nationalist government revenue between 1928 and 1937. It provided about 150 million Yuan annually to the national coffers, second only to the tariff revenues in volume.[34]

According to official surveys, saline-alkali soil was prevalent in the Huang-Huai area at the time. So local people could directly extract salt from the soil for sale, a practice that decreased national revenue from the salt tax. Henan Province had a population of

[27]"Guomin zhengfu weiyuanhui diliuci huiyi yishi jilu," March 11, 1933, file no. 001-046100-00007-001.
[28]"Huanghe shuili shicha zhuanyuan Wang Yingyu chengbao shicha huanghe jingguo qingxing bing fuchen yijian," January-March 1933, file no. 5-3270.
[29]"Huanghe shuili weiyuanhui dahui di'erci yishi richeng," September 27, 1933, file no. 27-05-009-03.
[30]"Huanghe shuiweihui guanyu di'erci dahui yicheng ji huanghe fangxun huiyi jilu," 1933–1934, file no. L001-000005-01448.
[31]Li Yizhi, "Huanghe zhiben jihua gaiyao xumu," 169; and Li Yizhi, "Woguo de shuili wenti," 119.
[32]"Huanghe shuili weiyuanhui banli huanghe dukou ji xiayou shanhou difang gongcheng," February 21, 1934, file no. 5-3269.
[33]Zhu Yong, "Huanghe shuili shiye," 28.
[34]Fairbank, *Jianqiao zhonghua minguoshi (1912–1949)*, vol. 1, 121.

34 million people at the time and was expected to generate 10.88 million Yuan of salt tax revenue. Since the local people could extract salt from the soil, however, the government could only collect 60% of the expected salt tax revenue on average. Eastern Henan in general and basins of the Huiji River and Jialu River in particular were severely confronted with the saline-alkali soil problem. The Finance Ministry was very concerned that its national tax revenue would be negatively affected if this situation continued. To change this situation root and branch, the Finance Ministry sent some professionals to Henan in 1930, with the aim to make necessary preparations for changing the river system and improving the soil quality. The Nationalist government passed a resolution in 1932, in which it decided to root out "illegal" salt trade in Henan through improving the saline-alkali soil there and digging more water channels. Surveyors of the Finance Ministry claimed that dredging such rivers like the Huiji River and Jialu River was the final solution to the problem of "illegal" local salt production. As a result, the Finance Ministry and the Henan provincial government jointly established the Henan River Dredging and Soil Improvement Committee, to which a budget of circa 1.5 million Yuan was allocated.[35]

As for the central government's decision to manage the Jialu River and the Huiji River, the initial official narrative stressed the imperative to crack down on illegal salt production by avaricious local traders, which reduced national tax revenue. According to an investigation by the HRDC, however, the Jialu River and the Huiji River basins could only produce low-quality coarse salt mostly consumed by the very poor people, since they were recurrently inundated by the Yellow River and thus confronted by saline-alkali soil.[36] It was obvious that those who engaged in illegal salt production were mostly poor peasants of Henan and generating profits from such activity was just out of the question. For its part, the Nationalist government focused only on increasing the salt tax revenue and the livelihood of ordinary people was not what it cared too much about. This was why it discussed the plan to bankroll an irrigation project in southern Henan.[37] As Fu Pucheng, then a member of Water Conservancy Division of National Economic Committee, mentioned in his report that both the Henan provincial government and the Henan Salt Monopoly directly affiliated with the Department of Salt of the Finance Ministry advocated improving the saline-alkali soil in eastern Henan, under the pretense of improving the people's livelihood. However, Fu also unequivocally stated that diverting the Yellow River into the Jialu River and the Huiji River would root out "illegal" local salt production and provide the market for the official salt when he talked about the benefits of such a plan. It turned out that the central government prioritized bankrolling water conservancy projects in the saline-alkali zone of Henan, although Henan province urgently needed more projects to dredge its congested waterways.[38]

According to public statistics, military expenses, debt payment and repayment of indemnity with interest accounted from 67%-85% of the total expenditure of the Nationalist government between 1927 and 1937. Considering that the actual military expenses may have been even higher than the official statistics, budget allocations for

[35]See Zhou Xizhen, "Henan jiandi liyong zhi yanjiu," 24918–24923, 24987–24992.
[36]"Sun Shixiong cheng Daohuai weiyuanhui wen," September 1934, file no. 27-06-013-03.
[37]Ibid.
[38]Fu Pucheng, *Chakan Henan gexian zhiqu gongcheng baogaoshu.*

public projects were rather limited.[39] Under such circumstances, the purpose of the Nationalist government's substantial support of the water conservancy projects and soil improvement projects in Henan was probably not improving the people's livelihood as it publicly stated.

III. Yellow River diversion, disaster alleviation, and regional development of Henan

According to a survey, all the cases before the 1930s in which the Yellow River breached its banks and flooded the areas to its south occurred in Henan.[40] Both the Jialu River and the Huiji River used to function as important sources of irrigation water and waterways in the modern times. However, their irrigation function atrophied later due to increasingly congested watercourse and the resultant decrease in water flow. Consequently, the massive flat land in southeastern Kaifeng city nearly became desolate.[41] This was why most governors of Henan during the period of Republican China put managing the Yellow River on the top of their agenda. Specifically, they hoped to alleviate disasters and improve irrigation in Henan by diverting the Yellow River into the Jialu River and the Huiji River.

For example, Yan Mei, the chief of the Henan Water Conservancy Sub-bureau during the period of Beijing government, advocated diverting the Luoshui River into the Huai River via the Jialu River. According to him, such a project would halve the water flow of the Yellow River and thus reduce its flooding risk. Yan's proposal became one of the options for managing the Yellow River at the time.[42] Feng Yuxiang prioritized Henan's development after he put the province under his control in 1927. He put "flood control and water conservancy projects" on top of his policy agenda.[43] Feng also mentioned water conservancy ideas on numerous occasions in his diary.[44] A broken stele titled "Prefatory Remarks on the Liuyuankou Pumping Project" was unearthed at Liuyuankou at the southern bank of the Yellow River in Kaifeng in 1983. According to it, Henan was hit hard by a drought in the spring of 1928 and Feng Yuxiang urged his men to purchase pumps from Shanghai and install two generators and three pumps at Liuyuankou. Reservoirs were dug and equipment rooms were constructed at his behest so that the surrounding farmland would be irrigated. Half century later, local villages who had witnessed this episode of history agreed that Feng's efforts really made a difference at the time.[45] Meanwhile, Feng also asked his people to conduct on-site investigations of the Yellow River and make relevant work plans in a bid to develop the Yellow River basin. Since the south bank of the Yellow River tilted southeast and the Huiji River was the ideal site for the diversion of the Yellow River, he proposed the plan of "diverting the Yellow River into the Huiji River," for the purpose

[39]See Fairbank, *Jianqiao zhonghua minguoshi (1912–1949)*, 129–130; and Yang Yinpu, *Minguo caizhengshi*, 69–71.
[40]Chen Zhiding, "Zhihuang yu daohuai," 27.
[41]"Huanghuihe gongcheng jihua," July 1931-March 1934, file no. 26-00-03-006-01.
[42]Yu Qian, *Yu Qian xingshui shangtao*, vol. 2, 1, 7.
[43]"Feng Yuxiang shizheng gangling bei," 415.
[44]Zhongguo di'er lishi dang'an guan, *Feng Yuxiang riji*, March 29, 31, 1929, vol. 2, 603, 604; and Zhongguo di'er lishi dang'an guan, *Feng Yuxiang riji*, June 26, 1929, vol. 3, 3.
[45]Wang Huanong, "Feng Yuxiang kaichuang huanghe zhongxiayou," 129–131.

of providing sanitary water to Kaifeng and irrigation water for the Huiji River basin.[46] Feng's plan was included in the Henan Provincial Government Action Plan in 1929.[47] Simultaneously, another water conservancy plan prepared by Henan proposed to divert the Yellow River into the Jialu River. According to the drafters, this plan would link the Yellow River, the Huai River and the Yangtze River on the one hand and the Jinpu Railway, the Pinghan Railway and the Longhai Railway on the other, generating around one million Yuan of waterway transport tax revenue. More importantly, it was meant to promote business development and cultural progress.[48] In his report to the Nationalist government later that year, Han Fuju, then chairman of the Henan provincial government, put Diverting the Luoshui River into the Jialu River Project on top of his list of proposed construction projects.[49] Nevertheless, Henan became the major battlefield of the Central Plains War after conflicts between those local strongmen like Feng Yuxiang and the Nationalist government intensified. All the aforementioned projects came to a halt consequently.[50]

The Nationalist government strengthened its control of Henan after the Central Plains War. Liu Zhi, high-ranking KMT general and protegé of Chiang Kai-shek, became Henan governor in October 1930. To lessen the risks posted by the Yellow River, Liu spared no efforts to dredge the waterways in Henan. In addition, he also prioritized the Diversion of the Yellow River into the Huai River plan for irrigation and waterway transport purposes. He submitted a Yellow River Diversion proposal to the Executive Committee of the KMT Central Committee when he first took office, in which he made the following suggestions. First, floodgates and pumps were to be introduced to some selected sites along the banks of the Yellow River in Henan so that water could be diverted from the Yellow River into rivers like the Huiji River and the Jialu River. It was claimed that such a measure could improve irrigation on the one hand and decrease flooding risks on the other. Second, canals should be constructed along the over 300 li-long Huiji River and Jialu River for irrigation purposes. Third, waterway transportation should be developed long the waterway between the Jianghuai region in the south and the Tianjin and Tanggu region in the north. The Executive Committee of the KMT Central Committee endorsed this proposal on November 18, 1930[51] and the Henan side immediately laid out relevant action plans. In 1931, an unprecedented flood affected many regions in China, Henan Province included. Based on its investigations, the Henan Provincial Construction Bureau claimed that dredging the Huiji River would help places along its banks like Kaifang and Chenliu deal with their flooding problems and facilitate other nearby counties to pump floodwater out. In addition, diverting the Yellow River into the Huiji River would bring other considerable benefits to southeastern Henan in terms of transportation and irrigation.[52] In a message to T.V. Soong, then the commissioner of National Economic Committee, in early 1933, Liu Zhi proposed to divert the Yellow River into the Jialu and Huiji Rivers for the

[46]Cao Ruizhi, "Henan huanghe shuili chubu jihuashu."
[47]*Henansheng zhengfu xingzheng jihua dagang*, 36.
[48]Cao Ruizhi, *Henan sheng shuili guihua*, vol. 3, 37–38.
[49]"Han Fuju cheng guomin zhengfu wen," November 10, 1929, file no. 001-012071-00166-001.
[50]Zhang Jingyu, "Henan jianshe zhi huigu yu qianzhan," 143.
[51]Liu Zhi, "Qing she daohuang jihua chouding," 333–334.
[52]"Shanhou banfa," 12.

purposes of flood control, river conservancy and improvement of the people's livelihood.[53]

On a YRCC meeting on September 26, 1933, Henan representatives further advocated the Yellow River Diversion into the Huai River plan. Zhang Jingyu and Li Peiji, then the chief of Henan Provincial Construction Bureau and the Bureau of Civil Affairs respectively, proposed to divert the Luoshui river and the Yishui river into the Huai River via the Jialu river in order to reduce the risk of flooding.[54] As a member of the Water Conservancy Division of National Economic Committee, Fu Pucheng submitted a report in early 1934, in which he explicitly argued that the purpose of the Henan side to divert the Yellow River into the Huai River via the Jialu river was to reduce flooding risks and he did not mention other benefits like irrigation or waterway transportation. Fu did not shy away from the challenges of such a project, like huge investment, enormous construction difficulty and serious impacts on those areas along the Huai River.[55] In fact, as early as in 1931, Chen Ruzhen, then the chief of Henan River Conservancy Bureau, implied in a Yellow River Management Plan that diverting the Yellow River into Northern Anhui would "resolve the flood problem in Kaifeng once for all."[56]

It is clear that the price for the plan to "resolve the flood problem in Kaifeng once for all" would be paid by Northern Anhui. In a nutshell, diverting the Yellow River into the Huai River had long been an important plan of the Henan side to promote local development, manage the Yellow River and reduce flooding risks. It was just impossible for the Anhui side to "misunderstand" such a plan. As Liu Zhi recollected later, the Yellow-Huiji River project, one part of the Yellow River-Huai River Diversion plan, had been completed before the all-out outbreak of the Resistance War against Japanese Aggression. It helped link the Huiji River with the Yellow River, reduce the water flow in the lower reaches of the Yellow River and thus covert harm into benefit.[57]

IV. Different responses from Jiangsu and Anhui provinces

In the early days of the Nanjing Nationalist government, the Construction Committee reached the following conclusion based on solid data analysis: The Anhui part of the Huai River in general and the lower land in the Huaibei are in particular was prone to flooding.[58] It was no wonder that local people in northern Anhui, who had been traumatized by flooding since the Ming and Qing dynasties, panicked after they heard of the plan of diverting the Yellow River into northern Anhui.

In the communications they sent to the Nationalist government and Henan provincial government protesting the plan, the Anhui side insisted that the proposed Yellow -Huai River Diversion plan would result in landslides in northern Anhui and northern Jiangsu. Based on the documents available to date, we found that the Jiangsu side had never filed any complaint about the diversion plan, which was rather

[53]"Yusheng zhihuai."
[54]"Huanghe shuili weiyuanhui dahui di'erci yishi richeng," September 27, 1933, file no. 27-05-009-03.
[55]Fu Pucheng, *Chakan Henan gexian zhiqu gongcheng baogaoshu.*
[56]Chen Ruzhen, *Zhengli Yu he fang'an*, 4, 26.
[57]Liu Zhi, "Wode huiyi," 122.
[58]Jianshe weiyuanhui, "Zhengli daohuai tu'an baogao," 49.

surprising. Both Jiangsu and Anhui were provinces whose interests would be compromised should the Yellow River-Huai River Diversion plan go ahead. So why did they respond so differently to this plan proposed by the Henan side? The answer to this question lies in the disputes of interest between the central government and the local governments, but also among the provinces of China.

During the Ming and Qing eras, the central government tended to sacrifice poorer regions in its management of rivers due to its lack of coordination and ignorance of comprehensive governance principles, resulting in long-standing regional conflicts. It turned out that water conservancy projects in the Huaibei region at the time only cared about local interests, unapologetically harming the interests of these neighboring provinces if need be.[59] Such a reality changed the government's mentality in its management of the Huai River during the late Qing era. Nevertheless, the central government was very weak at the time, unable to implement its policies across the country. Under such circumstances, the four provinces along the Huai River, namely Henan, Anhui, Jiangsu and Shandong, tended to entangle themselves in disputes while conflicts between Jiangsu and Anhui, the two provinces that were at the lower reaches of the Huai River and had long been plagued by recurrent flooding, were especially intense. Even though Zhang Jian, a prestigious late Qing figure, had been advocating the plan of dredging the Huai River for more than 40 years, he actually made no substantial progress before he passed away.[60]

It is undeniable that the Nanjing Nationalist government made more strides in dredging the Huai River than its predecessor, the Beijing government. However, the Huai River Dredging plan mainly concentrated on Jiangsu Province, which harbored the capital city, Nanjing. In 1932, Chiang Kai-shek appointed Chen Guofu, one of his confidants, and Shen Baixian, a relative by marriage, respectively as the vice commissioner and the chief of the secretariat of the HRDC. Thus, both Chen and Shen became the de facto leaders of the HRDC. In 1933, Chen and Shen doubled as the chairman of Jiangsu provincial government and the chief of Jiangsu Provincial Construction Bureau respectively. In his memoirs, Chen Guofu wrote that he subscribed to the idea of managing the upper and lower reaches of the Huai River in a concerted manner while "objected to any plan that concentrated only on the lower reaches."[61] As it turned out, however, the HRDC, as the representative of the central government, enacted preferential policies towards Jiangsu. Specifically, the HRDC concentrated most of its resources and river conservancy projects in Jiangsu, a fact that triggered strong protests from Anhui Province.[62] On a HRDC meeting in June 1933, Chen Guofu himself mentioned that the first phase of the Yellow River Conservancy Project started from managing the Weishui River, a tributary of the Yellow River in its upper reaches. He argued that such an approach contravened our established practice of starting from the lower reaches."[63] Therefore, Chen did not uphold his idea of "managing the upper and lower reaches of the Huai River in a concerted manner" in practice.

[59]Ma Junya, *Beixisheng de "jubu"*, 109–117.
[60]Zhang Jian, "Huai Yi Shu zhibiao shangqueshu," 487.
[61]Chen Guofu, "Ji Daohuai weiyuanhui shi," 212.
[62]Pietz, *Gongcheng guojia*, 100, 104–105.
[63]"Daohuai weiyuanhui di shiliu ci dahui yishi richeng," June 10, 1933, file no. 27-05-003-01.

During the implementation of the Huai River Dredging project, the central government's preference towards the Jiangsu provincial government prolonged and even intensified the long-standing conflicts between Jiangsu and Anhui. To some extent, it was a conflict not only between the two provinces but also between the "national interests" and the regional interests of Anhui. Since the central government concentrated the Huai River Dredging project in Jiangsu, the Anhui side had to mobilize its local resources to manage the Huai River, which turned out to be a tall order.

The Anhui side never received satisfactory replies from the HRDC whenever it appealed to the latter. On several occasions, the YRCC only urged the Anhui side to concentrate on related Huai River management issues within the province. In a communication sent in October 1934, Liu Zhenhua, then the chairman of Anhui provincial government, asked the HRDC to meticulously evaluate the Yellow River-Huai River Diversion project and "release its opinions evenhandedly."[64] In its reply to the Anhui side, the HRDC showed its support to the Yellow River-Huai River Diversion project first and foremost. As for Anhui's demand that the Henan side should build floodgates at the lower reaches of the Huiji River to prevent the flooding water from entering Anhui, the HRDC only mentioned that such a proposal needed to get the approval from the Henan side first. It stressed that the Anhui provincial government should follow the HRDC's Huai River dredging plan and concentrate its efforts on managing the Anhui part of the Huai River.[65] The HRDC's stance was largely shared by the Nationalist government and the Jiangsu side. It seemed that the central government and the Jiangsu provincial government chose to jointly exert pressure on the Anhui side through showing their support to the river conservancy plan proposed by the Henan side.

It should be noted that the attitude of the Jiangsu side was also based on the perceived threat posed to northern Jiangsu by possible flooding in the lower reaches of the Yellow River. The Yellow River changed its course several times in history, mostly in Henan province. After the Yellow River changed its course the last time at Tongwaxiang and flew through Shandong to reach the sea, however, waterways in Shandong were badly congested, resulting in frequent floods. The central government and local governments used to allocate necessary financial resources to water conservancy projects in western Shandong, but these money were later re-appropriated for construction projects in other places of northern China. Such a reality coupled with the shift of the dyke maintenance responsibilities to the local people left the part of the Yellow River in western Shandong frequently hit by floods. Between 1911 and the Huayuankou dike breach in 1938, the Yellow River breached more frequently in westernShandong than in Henan, Hebei or Shandong.[66] There was a consensus among the Nationalist government leadership and Chinese and foreign water conservancy experts that if the Yellow River breach its banks in western Shandong, it would severely affect northern Jiangsu due to geographical reasons. In that scenario, the salt mines in the Huaibei region and the Huai River Dredging project would be threatened

[64]"Anhuisheng zhengfu zhi Daohuai weiyuanhui gonghan," October 2, 1934, file no. 27-06-013-03.
[65]"Daohuai weiyuanhui zhi Anhuisheng zhengfu gonghan," October 13, 1934, file no. 27-06-013-03.
[66]See Pomeranz, *Fudi de goujian*, 227–228.

and the financial lifeblood and political legitimacy of the Nationalist government would be compromised as a result.

The Yellow River breached its banks at Juancheng in western Shandong in 1935, posing a threat to the Huai River Dredging Project. In his communication to Chiang Kai-shek in the early days of the disaster, Chen Guofu wrote, "if the Yellow River breach its southern bank, northern Jiangsu would be flooded and the Huai River Dredging Project be destroyed."[67] In addition, the Huaibei Salt Mine, located in northern Jiangsu, was an important source of revenue for the central government. After the failure to restore the breaching banks at a timely manner, Chen wrote to Chiang again, stating that the salt mines in the south would be destroyed if the current situation continued and the finance and revenue of the central government would be put on the line.[68] He also warned that the Jinpu railway and the Longhai railway could be destroyed as well and the central government should pay more attention to the situation.[69] Considering the Yellow River could cause much more damages if it breaches in southwestern Shandong, Chen suggested to Chiang that efforts should be made to divert the Yellow River northward and protect the core area by sacrificing several counties in Shandong.[70] Chiang agreed by saying that "sacrificing a small number of places" was a worthy plan.[71] The attitudes of Chen and Chiang to some extent shed light on the mentalities of the Nationalist government and local Jiangsu officials in terms of river management.

If the Yellow River breaches its banks in Henan, it would probably flood northern Anhui and the Huai River. As a result, northern Jiangsu would not bear the brunt of flooding. It would cause much less damage should the Yellow River breach in Shandong and flood the salt mines in the Huai region, the Huai River Dredging Project, and important railways like the Jinpu railway and the Longhai railway. Damages to the "core areas" of the Nationalist government would be further reduced if the Yellow River were to be diverted into northern Anhui. What's more, the ongoing Huai River Dredging Project was tilted in Jiangsu's favor and relevant central government ministries were contemplating the plan to make northern Anhui the flood diversion zone.[72] Therefore, Chen Guofu and the Jiangsu provincial government under his leadership supported the Yellow River-Huai River Diversion Plan out of their concerns of local interests and the overriding interests of the central government.

V. Conclusion

Traditional China was a society dominated by administrative power. Whenever different layers of power interweave, the "correctiveness" of a narrative tends to be highly dependent on the degree of power involved. The management of the Yellow River and the Huai River could change the development trajectory of China in history. Since it tends to entangle the central government, core provinces and peripheral provinces in

[67]"Chen Guofu zhi Jiang Zhongzheng dian," July 14, 1935, file no. 002-090102-00011-251.
[68]Ibid., October 7, 1935, file no. 002-080200-00254-094.
[69]Ibid., August 29, 1935, file no. 002-080200-00247-091.
[70]Ibid., July 14, 1935, file no. 002-090102-00011-251.
[71]"Jiang Zhongzheng fu Chen Guofu dian," September 11, 18, 1935, file no. 002-080200-00249-108.
[72]"Dao Huai weiyuanhui diyici quanti weiyuanhui linshi huiyi," March 11, 1931, file no. 27-05-002-01.

disputes of interest, we can hardly grasp the whole picture only by referring to the official documents, since these mostly represent the views of the central authorities].

After learning of the Yellow River-Huai River Diversion Plan in 1933, the people of Anhui, who had borne the brunt of the flooding of the Huang River and the Huai River for centuries, reacted angrily. After nearly two years of appealing, however, the Anhui side did not get a satisfactory answer from either the Henan provincial government or such central-level river conservancy institutes like the HRDC. Both the Henan provincial government and the HRDC insisted that the project was only for irrigation and waterway transportation purposes, having no impact on northern Anhui. As a matter of fact, this project was promoted both by the central government and the Henan side. The Nanjing Nationalist government had been prioritizing the management of the Huai River since its founding, considering the geographical proximity of the Huai River to the core areas under its rule. It also stressed the importance of managing the Yellow River due to the fact that the Huai River would be threatened if the management of the Yellow River goes awry. Considering it was unable to fundamentally change the situation on the ground as well as the huge risk the breaching Yellow River would pose to the south, diverting the Yellow River into the Huai River became one important stopgap measure for the Nationalist government. Moreover, the Henan part of the Huai basin, after being frequently flooded by the Yellow River, had a large chunk of saline alkali land, from which poor local peasants extracted salt, a practice that decreased the expected tax revenue for the central government. Thus, from the perspective of the Nationalist government, diverting the Yellow River into the Jialu River and the Huiji River would help increase the market share of the "legal" salt and the tax revenue from salt as well. Henan has been recurrently flooded by the Yellow River since the Song dynasty, which took a heavy toll on both the local society and ecology. After the Yellow River changed its course in 1855, the local canal system in Henan atrophied and the central government shifted its focus on river conservancy to other regions. Consequently, managing the Yellow River became a local responsibility of Henan. This was why the successive governors of Henan advocated the Yellow River-Huai River Diversion Project for the purposes of disaster relief and local development.

Like Anhui, Jiangsu province was also in the middle and lower reaches of the Huai River and had been plagued by the frequent floodings of the Yellow River. Both provinces were expected to have some common interests at least in theory. However, it turned out that the Jiangsu provincial government largely remained silent in the face of the Yellow River diversion plan proposed by the Henan side. At the time, the Nationalist government prioritized the Huai River Dredging plan and Jiangsu province, which harbored the capital city Nanjing, the lower reaches of the Yangtze River being more politically important than northern Anhui. Chen Guofu, the de facto chief of the HRDC, doubled as the chairman of Jiangsu provincial government. So, he concentrated the resources for the implementation of the Huai River Dredging project in Jiangsu province, leaving Anhui on its own. In the face of appeals from the Anhui side, the HRDC only urged it to implement the Anhui part of the Huai River Dredging project. In addition, the salt mines in northern Jiangsu and the Huai River Dredging project would be put on the line should the Yellow River breach its banks in southwestern Shandong. Such a concern goes far in explaining the different attitudes between Jiangsu and Anhui.

The Nationalist government harbored the mindset of "preserving the core areas at the expense of the peripheries" in managing transbasin water diversions, ignorant of the coordinated and comprehensive governance approach. In the governance of traditional China, rulers tended to make preferential policies towards the core areas at the cost of those excluded peripheries. Preferential policies towards the "core areas" seemed to serve the overall interests of the nation. However, they would give rise to serious social dislocations and their costs would eventually outweigh their supposed benefits. Without jettisoning such an outdated mindset, governance in China in general and large-scale river management projects in particular would end up in a dead end. Both the "core areas" and those peripheries would have to live with the painful outcomes resulted from such an institutional logic. As proven by history, the Huanghuai region was a recurring victim of turmoils caused by such a mindset.

(translated by JIA Yajuan)

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Glossary

Anhui	安徽
Anhui daohuai xiejinhui	安徽导淮协进会
Boxian	亳县
Caozhou	曹州
Chen Guofu	陈果夫
Chen Ruzhen	陈汝珍
Chenliu	陈留
Daohuai weiyuanhui	导淮委员会
Feng Yuxiang	冯玉祥
Fu Pucheng	傅朴成
Han Fuju	韩复榘
Henan	河南
Huaibei	淮北
Huaihe	淮河
Huaiyuan	怀远
Huang Lisheng	黄丽生
Huanghe shuili weiyuanhui	黄河水利委员会
Huanghuai	黄淮
Huanghui	黄惠

Huayuankou	花园口
Huiji	惠济
Jialu	贾鲁
Jianghuai	江淮
Jiangsu	江苏
Jianguo fanglüe	《建国方略》
Jinpu	津浦
Juancheng	鄄城
Kaifeng	开封
Lanfeng	兰封
Li Peiji	李培基
Li Yizhi	李仪祉
li	里
Lin Sen	林森
Liu Yiyan	刘贻燕
Liu Zhenhua	刘镇华
Liu Zhi	刘峙
Liuyuankou	柳园口
Longhai	陇海
Luoshui	洛水
Luyi	鹿邑
Mengcheng	蒙城
Pinghan	平汉
Pizhou	邳州
Shandong	山东
Shen Baixian	沈百先
Shouxian shuili gongcheng weiyuanhui	寿县水利工程委员会
Sun Shixiong	孙士熊
Tanggu	塘沽
Tongwaxiang	铜瓦厢
Wang Yingyu	王应榆
Weishui	渭水
Wohe	涡河
Woyang	涡阳
Xifei	西淝
Xuzhou	徐州
Yan Mei	阎枚
Yishui	伊水
Zhang Jian	张謇
Zhang Jingyu	张静愚
Zhang Yan	张岩
Zhili huanghe yijianshu	《治理黄河意见书》
Zhu Yong	朱墉

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Function and crisis of the Nationalist Yellow River flood control system in wartime China

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ABSTRACT

The water management of the Yellow River was subsumed under the wartime system of the Nationalist government since the beginning of China's national resistance against Japanese aggression in 1937. The Yellow River Conservancy Commission, responsible for disaster prevention and economic exploration of the river, was on the one hand affiliated to the Ministry of Economic Affairs under the aegis of the Executive Yuan, while on another hand it was under the supervision of the First War Zone Command. The three parties above were closely related in all practical work and formed a complex operation mode which caused the water management in the flooded area to be riddled with difficulties and omissions. To be specific, albeit nominally unified, it functioned separately in its military, financial, and personnel management branches, and there was a lack of clarity in the responsibility of its three components. This resulted in chaotic circumstances, all parties impeding each other and denying responsibility. This situation reflected the serious deficiencies of the wartime system of the Nationalist government in various regards, such as in its functions, values, and administrative capacities.

KEYWORDS

1938 Yellow River flood; flood zones of the Yellow River; wartime system; Yellow River Conservancy Commission

Introduction

The Nationalist government had established a relatively unified and highly professionalized system to control the flood waters of the Yellow River before the start of China's national War of Resistance against Japanese Aggression in 1937. The Yellow River Conservancy Commission, affiliated to the National Economic Commission, was specifically in charge of effective governance and disaster prevention along the river, and it set up special offices for consolidating the river defenses in the provinces along the river. The provincial chairmen and the garrison headquarters were obliged to assist the Yellow River Conservancy Commission in handling river affairs. The funds for each province for the water conservancy projects were under the supervision of the Yellow River Conservancy Commission, and the provincial governments were required to allocate the amount specified as the reserves to the Yellow River Conservancy Commission on time. The inadequacies would be subsidized by the central government according to the actual conditions.[1] Since the outbreak of the war in

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[1]The special projects concerning the Yellow River, such as the closure of breaches and repair work of large-scale embankments, were mostly presided by the Yellow River Conservancy Commission or other specialized agencies, and the funds were raised and allocated by the central government. For more details, see *Faling zhoukan*, 5–6; "Huanghe shuili weiyuanhui zuzhifa" [Rules of the Yellow River Conservancy Commission], January 16, 1937, Documents of the Executive Yuan, file no. 2(1)-3745(2); and Huanghe shuili weiyuanhui huanghezhi zongbianjishi, *Huanghe hezhengzhi*, 281–283.

1937, the Nationalist government, out of national defense reasons, coopted the military into the flood control system of the Yellow River. Thus the system became less controlled but could be adapted to a wartime mode.[2] By focusing on the practical work of the water management in the flooded area after the 1938 Yellow River flood, this article attempts to probe the function and crisis of the Nationalist wartime water management of the Yellow River, and reveal the grave problems of the system.[3]

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The military defenses along the Yellow River were pivotal in the strategy of China's national defense against Japan. The Nationalist government, faced by urgency, failed to reestablish a complete and independent system of water management of the Yellow River, but took a simple and expedient approach, in which the Yellow River Conservancy Commission was on the one hand affiliated to the Ministry of Economic Affairs, but on another hand was under the supervision of the First War Zone Command.[4] This institutional arrangement, which was implemented until the end of the war, turned out to be a major cause of problems for the wartime water management of the Yellow River. In fact, the issues that the arrangement incurred arose from the reconstruction of the flood embankments after the 1938 Yellow River inundation of June 9, 1938.

With the breach of the embankments at Huayuankou, the First War Zone Command, intent on preventing the flood to spread westwards, in the first place ordered the Nationalist troops along the Peking-Hankow railway as well as the local people to separately build small flood dikes. On June 22, however, the Military Affairs Commission of the Nationalist government instructed to build a long embankment from north to south along the west side of the flooded area, known as the New Embankments for Flood Control (Fangfan xindi), with military installations for shooting, thus it would be used both to keep out floods and resist the enemies' attack, and facilitate military and civilian transportation as well. Then, the First War Zone Command immediately set up the Yellow River Flood Prevention and Work Relief Committee (Huanghe fangfan gongzhen weiyuanhui) to recruit disaster victims for taking part in the government launched water conservancy projects for disaster relief. Considering the specific division of work, the First War Zone Command served as the military adviser, the Yellow River Conservancy Commission provided technical

[2]This article focuses on the various projects of water management, including non-military river defense projects and military projects, carried out by the Nationalist government at Huayuankou and in the flooded areas to its south after the June 1938 Yellow River flood.

[3]The studies on the Nationalist wartime projects for flood control of the Yellow River have hitherto mostly revealed the historical facts of the Nationalists to utilize the floodwater as a military means against the enemies, and expounded the meaning of the Nationalist policy to treat the projects of river defense as an important part in its national defense strategies. These studies discussed the specific tactics or ideas of the Nationalist authority to utilize the Yellow River to defeat the enemies in different periods of the war, and the implementation of the water conservancy projects and the military benefits of the projects. See Qu Changgen, *Gongzui qianqiu*, 163–180; Hu Zhongsheng, *Guominzhengfu huanghe shuili weiyuanhui yanjiu*, 236–251; and Zhou Bei, *Jindai huanghe dang'an yanjiu*, 174–205. In addition, Muscolino borrowed the concept "energy" in ecology, revealing the flow of "energy" in the interactive network formed by armies, rivers, water conservancy projects and local society. See Muscolino, *The Ecology of War in China*. These studies, however, under-examined the Nationalist system of initiating and organizing the projects for flood control of the Yellow River.

[4]"Huangweihui zhi jingjibu dian" [A Message of the Yellow River Conservancy Commission to the Ministry of Economic Affairs], May 19, 1938, Documents of the Ministry of Economic Affairs, file no. 18-20-012-02(1). The Yellow River Conservancy Commission was affiliated to the Ministry of Economic Affairs in January 1938.

support, the government of Henan Province was in charge of the building work under the assistance of the local garrison, and the Relief Commission of the Executive Yuan (Xingzhengyuan zhenji weiyuanhui) and Henan's Provincial Relief Commission (Henan zhenwu weiyuanhui) were responsible for handling the practical matters relating to relief.[5] The general budget for the construction project was two million three hundred and eighty thousand yuan. The First War Zone Command planned to apply for an allocation from the Relief Commission of the Executive Yuan four times, totalling six hundred thousand yuan each in the first three times.[6]

The Executive Yuan, however, did not recognize the project's advantages for people's livelihood, and thus shirked the responsibility of allocating the funds. The Ministry of Economic Affairs convened a meeting with the representatives of the Relief Commission and the Ministry of Transportation and Communications, where they arrived at the conclusion that it was unnecessary to build the New Embankments for its contribution to transportation improvement and flood prevention. They pointed out that the region crossed by the railway from Beijing to Hankou could impossibly become flooded, since the topographic relief of this region was elevated to the west and low to the east. All local rivers, including Shuangjihe, Luohe, Yinghe, and Chaohe, furthermore flowed from west to east.[7] Soon after, Cheng Qian as the commandant of the First War Zone issued a rebuttal, arguing that some local counties in the region where the railway passed through, such as Yancheng and Linying, could still be hit by the unexpected floodwater. Zhengxian had been submerged, despite the high ground to the west and low grounds in the east. Furthermore, Cheng Qian emphasized the fundamental purpose of building the embankments for controlling the floods and saving local people's life, rather than merely assessing its values of transportation for military and civilian use.[8] The Executive Yuan, however, still stood their ground.

In order to prevent the autumn floods of the Yellow River from spreading westward, the First War Zone Command had to advance one hundred thousand yuan for the construction of the dike. This started on July 26, and by August 10 most of the building work in Zhengxian had been completed. Given that the embankment had been a fait accompli, Cheng Qian asked the Executive Yuan to fund the construction project, claiming that it could not ground to a halt at the halfway point. Unfortunately, this tactic did not work.[9] Cheng Qian had to plead with Chiang Kai-shek to urge the Executive Yuan to allocate three hundred thousand yuan as a temporary expedient.[10] Finally, the Executive Yuan allocated a mere two hundred thousand yuan, and added that any proposal about building defensive

[5]"Huangweihui zhi jingjibu dian" [A Message of the Yellow River Conservancy Commission to the Ministry of Economic Affairs], July 10, 1938, Documents of the Ministry of Economic Affairs, file no. 18-20-02-006-01(1); and "Huanghe fangfan huiyi jilu" [Minutes of the Yellow River Flood Prevention Conference], July 5–6, 1938, Documents of the Ministry of Economic Affairs, file no. 18-20-02-006-01(1).

[6]"Junshi weiyuanhui zhi xingzhengyuan dian" [Message of the Military Affairs Commission to the Executive Yuan], July 24, 1938, Document of the Executive Yuan, file no. 2(2)-3042.

[7]"Jiaotongbu, zhenjiweiyuanhui, jingjibu zhi xingzhengyuan qianchengwen" [The Ministry of Transportation and Communications, the Relief Commission and the Ministry of Economic Affairs Addressed to the Executive Yuan], July 27, 1938, Document of the Executive Yuan, file no. 2(2)-3042.

[8]"Cheng Qian zhi xingzhengyuan dian" [Cheng Qian's Message to the Executive Yuan], August 1, 1938, Documents of the Executive Yuan, file no. 2(2)-3042.

[9]"Cheng Qian zhi xingzhengyuan dian" [Cheng Qian's Message to the Executive Yuan], August 10, 1938, Documents of the Executive Yuan, file no. 2(2)-3042; and "Cheng Qian zhi xingzhengyuan dian" [Cheng Qian's Message to the Executive Yuan], August 1, 1938, Documents of the Executive Yuan, file no. 2(2)-3042.

[10]"Jiang Jieshi zhi xingzhengyuan dian" [A Message of Chiang Kai-shek to the Executive Yuan], August 17, 1938, Document of the Executive Yuan, file no. 2(2)-3042.

fortifications was to be submitted to the Military Affairs Commission for approval, the costs being counted as military spending. It reflected the Executive Yuan's worries about the misappropriation of the relief funds by the local garrison.[11]

According to the project plan proposed by the Yellow River Conservancy Commission, all sections of the New Embankments construction were to be carried out simultaneously, but were suspended after the completion of the section in Zhengxian. The section to Zhengxian needed to be completed first because of its geographic position and military value. Located in Zhengxian, Huayuankou was the first place to be flooded, suffering heavy losses. Meanwhile, Zhengxian was extremely important in military terms, for it was the intersection of the Beijing-Hankou and Gansu-Yellow Sea railways, and the base of the Third Army.[12] The military intention of the First War Zone Command to build the embankment had been abundantly clear. Cheng Qian initially anticipated that senior representatives could be posted by the central government in Henan, expecting an inspection of the construction and an investigation into the necessity of building the New Embankments in the flooded area south of Zhengxian. The Ministry of Economic Affairs, however, merely sent the director of the Construction Bureau of Henan Province to be present.[13] After the inspection, the embankment was temporarily taken over by the government of Henan Province where Cheng Qian was acting as chairman. In November 1938, Cheng Qian was transferred to become the director of Tianshui Field Headquarters (Tianshui xingying) of the Military Affairs Commission. Since then, the First War Zone Command no longer took the New Embankments construction seriously.

Given the difficulties in the New Embankments construction at the first stage, the Yellow River Conservancy Commission in January 1939 drew up a temporary remedial plan for the subsequent work, in which the original project of constructing the embankments from north to south was changed to take the construction and maintenance of the small embankments(*minnian*) by local people in the flooded areas as the priority. In February of the same year, however, the Military Affairs Commission telegraphed the government of Henan Province, asking to step up efforts to build large scale embankments for treating the imminent spring floods. The government of Henan Province felt that this far exceeded its capacity, and had to ask the Yellow River Conservancy Commission to preside over the project.[14] In fact, the Yellow River Conservancy Commission could not control any military and financial matters. The measure it was able to take was to advance the work based on the principle of mobilizing social forces under official supervision. It stipulated that the county governments of the flooded areas were to be put in charge of the construction, while the

[11]"Xingzhengyuan disanshiqici huiyi taolun shixiang diyian" [The First Case of the Matters Discussed at the 37th Session of the Executive Yuan], August 23, 1938, Document of the Executive Yuan, file no. 2(2)-3042.

[12]"Wang Yujun fabiao huanghe fangfan gongcheng jihua," *Dagongbao* (Xianggangban), August 19, 1938, 2; and "Jinniande bayue huanghui tujiangluo," *Dagongbao* (Hankouban), August 22, 1938, 3.

[13]"Jingjibu cheng xingzhengyuan wen" [Document of the Ministry of Economic Affairs to the Executive Yuan], September 30, 1938, Document of the Executive Yuan, file no. 2(2)-3042; and "Jiang Jieshi zhi xingzhengyuan dian" [A Message of Chiang Kai-shek to the Executive Yuan], September 1, 1938, Document of the Executive Yuan, file no. 2(2)-3042.

[14]"Huangweihui zhi jingjibu dian" [A Message of the Yellow River Conservancy Commission to the Ministry of Economic Affairs], February 28, 1939, Documents of the Ministry of Economic Affairs, file no. 18-20-02-020-01(5).

provincial governments were responsible for its inspection under the assistance of the Yellow River Conservancy Commission, if necessary.[15]

The particular urgency for continuing the construction of the New Embankments particularly manifested itself at the time, for the flood control construction on the eastern side the flooded area had become a Japanese occupation zone.[16] To such an extent that the Yellow River Conservancy Commission repeatedly met with the Secretary-General of the government of Henan Province, and eventually deciding to order all related commissioners and county heads to mobilize local people for a collective effort to complete the levee construction according to the 1938 survey. The Yellow River Conservancy Commission provided technical guidance, and the construction cost of approximately six hundred thousand yuan was requested from the Executive Yuan.[17] Under the mediation of Cheng Qian, the relevant departments of the Executive Yuan deliberated that the Ministry of Economic Affairs needed to allocate two hundred thousand yuan from the repair expenses of the fund for water conservancy project, while the Relief Commission would allocate two hundred thousand yuan from the work relief expenses, and the rest would be funded by the government of Henan Province.[18] On April 18, the Henan Provincial Commission of New Flood Embankments Construction and Work Relief (Henansheng xuxiu huanghe fangfan xindi gongzhen weiyuanhui) was established, and by early July most of the construction sections had been completed.[19]

The takeover of the New Flood Embankments was dominated by multi-party infighting. In view of the approaching flood season, and due to its lacking experience and limited capacity in guiding flood control measures, the government of Henan Province was eager to hand over the not fully completed new embankments to the Yellow River Conservancy Commission.[20] However, there were serious defects in the construction of the New Embankments, causing the authorities to instruct not to deliberately build firm structures in order to save public funds. This decision caused endless risks, thus the Yellow River Conservancy Commission refused to accept it on the grounds that the construction had not been fully completed.[21] Upon completion at the end of July, several segments of the embankments had burst.

[15]"Huanghe shili weiyuanhui niyi zai huanghe juekou weineng shigong duse Yiqian zanxian jiukuishuidaochu zhuduan xiuzhu minnian fangzhi fanlan banfa dagang" [Outline of the Measures Proposed by the Yellow River Conservancy Commission for Preventing Flooding by Building Small and Temporary Embankments by Local People Section by Section in the Flooded Areas prior to the Completion of Flood Prevention Constructions], February 1939, Documents of the Ministry of Economic Affairs, file no. 18-20-02-020-01(5).

[16]"Junshi weiyuanhui zhi zhenji weiyuanhui, jingjibu dian" [Messages from the Military Affairs Commission to the Relief Committee and the Ministry of Economic Affairs], March 12, 1939, Documents of the Ministry of Economic Affairs, file no. 18-20-02-020-01(4).

[17]"Huangweihui zhi jingjibu dian" [A Message of the Yellow River Conservancy Commission to the Ministry of Economic Affairs], March 21, 1939, Documents of the Ministry of Economic Affairs, file no. 18-20-02-020-01(3).

[18]"Jingjibu zhi huangweihui dian" [Message of the Ministry of Economic Affairs to the Yellow River Conservancy Commission], March 28, 1939, Documents of the Ministry of Economic Affairs, file no. 18-20-02-020-01(3).

[19]"Wang Yujun zhi jingjibu dian" [Wang Yujun's Message to the Ministry of Economic Affairs], April 29, 1939, Documents of the Ministry of Economic Affairs, file no. 18-20-02-020-01(1); and "Wei Lihuang zhi junshi weiyuanhui dian" [Wei Lihuang's Message to the Military Affairs Commission], July 17, 1939, Document of the Executive Yuan, file no. 2(1)-9278.

[20]"Wei Lihuang zhi junshi weiyuanhui dian" [Wei Lihuang's Message to the Military Affairs Commission], July 17, 1939, Document of the Executive Yuan, file no. 2(1)-9278.

[21]"Junshi weiyuanhui zhi zhenji weiyuanhui, jingjibu dian" [Messages from the Military Affairs Commission to the Relief Committee and the Ministry of Economic Affairs], April 9, 1939, Documents of the Ministry of Economic Affairs, file no. 18-20-02-020-01(2); and "Chao Kong Xiangrong zhi jingjibu dian" [A Copy of Kong Xiangrong's Message to the Ministry of Economic Affairs], July 23, 1939, Documents of the Ministry of Economic Affairs, file no. 18-20-02-020-01(1).

Finally, the Executive Yuan, at the request of the Yellow River Conservancy Commission, allocated five hundred thousand yuan for coping with the aftermath of the disaster, which the Yellow River Conservancy Commission agreed to take responsibility for.[22]

Professional water management compromised: the dilemmas of the Yellow River Conservancy Commission

In addition to cooperating with the military in handling military projects during the war, the Yellow River Committee had to take charge of non-military river defense projects, such as the Huayuankou Guotou Project and the Chunxiang Project of 1940. However, the Ministry of Economic Affairs and the local garrison repeatedly obstructed these projects, which caused great difficulties. The dilemma of professional water management of the Yellow River originated from the ill-fated separation of power and responsibility during the war years.

Rise and fall of the Huayuankou Guotou Project

More than a month after the 1938 Yellow River flood, the breach at Huayuankou had still not been repaired. On July 12, 1938, the Ministry of Economic Affairs in accordance with the conventional practice ordered the Yellow River Conservancy Commission to start the Guotou Project, aimed at decreasing the risk caused by the two breaches at Huayuankou and Zhaokou, respectively.[23] The dike head (guotou, or batou) was built by using stones and other materials wrapped around each side of the breach, divided into west and east.[24] The benefit of the river defense project was generally derived from its effectiveness in avoiding the expansion of the breach, thus to prevent the flooded areas from enlarging, as well as providing a cut-off point for the river's mainstream, for years to come. However, the project could negatively impact the war effort, by reducing water supply in the flooded areas, thus weakening the ability of these areas to resist the enemy.

Given that Zhaokou at the time was within Japanese firing range, the construction of the project had to start at Huayuankou. To avoid delays, the Yellow River Conservancy Commission advanced money for purchasing materials while it was preparing to submit the plan to the Ministry of Economic Affairs. Work began on the construction of the project on July 31. By August 5, the work of filling rocks around the breach for consolidating the east and west dikes of Huayuankou had been completed, and the width of the breach since then were maintained at three hundred and seventy-nine meters. However, the water level of the Yellow River during the flood season in 1938 was lower than previous years. As a result, the water flow of the lower reaches of the Yellow River's main section became

[22]"Huangweihui zhi jingjibu dian" [A Message of the Yellow River Conservancy Commission to the Ministry of Economic Affairs], August 3, 1939, Documents of the Ministry of Economic Affairs, file no. 18-20-02-020-02(4); and "Jingjibu zhi xingzhengyuan mishuchu gonghan" [Official Letter from the Ministry of Economic Affairs to the Secretariat of the Executive Yuan], August 24, 1939, Document of the Executive Yuan, file no. 2(1)-9278.

[23]"Huangweihui zhi jingjibu dian" [A Message of the Yellow River Conservancy Commission to the Ministry of Economic Affairs], July 30, 1938, Documents of the Ministry of Economic Affairs, file no. 18-20-02-021-01(2).

[24]Li Yizhi, *Heshangyu tujie*, 1; and Huanghe fanghongzhi bianzuan weiyuanhui, *Huanghe fanghongzhi*, 336.

reduced, silt was deposited, and the riverbed silted up. Up to August 16, water overflowed the breach, causing the Yellow River to change its course completely.[25]

After reviewing the project plan and learning that the construction at Zhaokou could not be implemented, the Ministry of Economic Affairs affirmed that this project would produce very little effect. In other words, given that the construction of the two breaches could not start simultaneously, the water would still flow out from Zhaokou, widening the breach further. This meant that the risk of the mainstream of the Yellow River being disrupted still existed. The fund that the Ministry of Economic Affairs approved for the Yellow River Conservancy Commission for the project was limited to thirty thousand yuan, although the original budget was about one hundred and sixteen thousand yuan.[26] It reflected that the Ministry of Economic Affairs who held limited financial resources was unwilling to support a high-cost project with such uncertainties.

The Yellow River Conservancy Commission did not agree with this assertion, and persisted in carrying out the construction based on the original plan. On September 4, the Yellow River Conservancy Commission sent a telegram to the Ministry of Economic Affairs, claiming that if the dike head at Huayuankou was built firmly, it would reduce the efflux of floodwater. As a result, the water supply in the lower reaches of the main section of the Yellow River downstream from the breach would be regained once the water level of the Yellow River had risen. In addition, the use of some accessory installations, such as spur dikes, would also help to restore the water supply. The Yellow River Conservancy Commission also argued that this project would force the floodwater to flow into Zhaokou at any time, and it was an advantage to prevent the attempts of the enemy to invade territories farther west. Finally, it was added that in view of the fact that the flow of the river had leaked out at Huayuankou, it was unlikely to cause the expansion of the breach at Zhaokou.[27]

The Ministry of Economic Affairs did not change their mind, pointing out that the Guotou Project would not significantly change the existing course of the Yellow River, in which case the value of the project would be limited.[28] Despite the continuous denial from the Ministry of Economic Affairs and the difficulties of the slow allocation of the funds for the project, the Yellow River Conservancy Commission insisted on the building work. By the end of September, the construction of the east and west dikes had been completed.[29] Based on its results, we can argue that the Guotou Project had to

[25]"Huangweihui zhi jingjibu dian" [A Message of the Yellow River Conservancy Commission to the Ministry of Economic Affairs], September 4, 1938, Documents of the Ministry of Economic Affairs, file no. 18-20-02-021-01(2); "Huangweihui zhi jingjibu dian" [A Message of the Yellow River Conservancy Commission to the Ministry of Economic Affairs], August 11, 1938, Documents of the Ministry of Economic Affairs, file no. 18-20-02-021-01(2-3); and "Huangweihui cheng jingjibu wen" [Document of the Yellow River Conservancy Commission to the Ministry of Economy], September 7, 1938, Documents of the Ministry of Economic Affairs, file no. 18-20-02-012-01(3).

[26]"Huayuankou guotou gongcheng jihua gaiyao" [An Outline of the Huayuankou Gaotou Project], July 1938, Documents of the Ministry of Economic Affairs, file no. 18-20-02-021-01(3); and "Jingjibu kuaijizhang Wang Wei, shuilisi sizhang Zheng Zhaojing qiancheng" [A Document Submitted by Wang Wei, Chief Accountant of the Ministry of Economic Affairs, and Zheng Zhaojing, Director of the Bureau of Water Resources of the Ministry of Economic Affairs], August 20, 1938, Documents of the Ministry of Economic Affairs, file no. 18-20-02-021-01(2).

[27]"Huangweihui zhi jingjibu dian" [A Message of the Yellow River Conservancy Commission to the Ministry of Economic Affairs], September 4, 1938, Documents of the Ministry of Economic Affairs, file no. 18-20-02-021-01(2); and "Huangweihui cheng jingjibu wen" [Document of the Yellow River Conservancy Commission to the Ministry of Economy], September 7, 1938, Documents of the Ministry of Economic Affairs, file no. 18-20-02-012-01(3).

[28]"Jingjibu zhi huangweihui dian" [Message of the Ministry of Economic Affairs to the Yellow River Conservancy Commission], September 24, 1938, Documents of the Ministry of Economic Affairs, file no. 18-20-02-021-01(2).

[29]"Huangweihui zhi jingjibu dian" [A Message of the Yellow River Conservancy Commission to the Ministry of Economic Affairs], October 12, 1938, Documents of the Ministry of Economic Affairs, file no. 18-20-02-021-02(5).

a certain degree lived up to its promise. When the flood arrived in October, the flow at Huayuankou, Zhaokou and the mainstream of the Yellow River accounted for seventy, twenty and ten percent, respectively.[30]

At the same time, however, certain side effects caused by the project on national defense were also gradually emerging. After the autumn flood of 1938, the water level of the Yellow River declined, and the mainstream section of the river below Huayuankou was cut off. In early March 1939, the pro-Japanese regime in Henan forcedly recruited migrant workers to block up the drained breach at Zhaokou.[31] Then the Japanese armies continuously harassed the area close to the east dike of Huayuankou. In order to facilitate their defenses, the Third Army crossed the river in late March to excavate large ditches behind the breach of the east dike at Huayuankou, in the hope of increasing the width of the flooded area and reduce the height of the east dike for enhancing the defensive value of the west dike. These actions were supported by the Military Affairs Commission. The Yellow River Conservancy Commission did their utmost to maintain the Guotou Project and made great efforts to negotiate with the local garrison. However, they were not able to prevent the military from carrying out their plans.[32]

With the construction of Kaifeng-Xinxiang railway in process,[33] the military significance of the Guotou Project gradually became prominent, which was to push the floodwater back into the mainstream of the Yellow River, in view of destroying the railway. As the acting chairman of the Yellow River Conservancy Commission, Wang Yujun took this opportunity to propose to Wei Lihuang, commander of the First War Zone, suggesting stopping the ditch construction, which was approved.[34] On April 28, the local garrison was ordered to stop their excavations. Soon after, however, the Japanese armies took countermeasures aimed at ascertaining the safety of the railway and of the occupied area. To foil the Japanese attempts, the Third Army was ordered by the Military Affairs Commission to immediately cross the river and fill the ditches.[35]

Kong Xiangrong, who had been reappointed as chairman of the Yellow River Conservancy Commission, changed the previous chairman's ideas concerning river defenses, and now encouraged the digging of the ditches. In his opinion, to restrict the width of the breach would reduce the size of the flooded areas, which would be conducive

[30]"Huanghe hongliu di Huayuankou," *Dagonbgbao* (Hankouban), October 16, 1938, 3.
[31]Huanghe shuili weiyuanhui, *Minguo huanghe dashiji*, 136.
[32]"Huangweihui zhi jingjibu dian" [A Message of the Yellow River Conservancy Commission to the Ministry of Economic Affairs], Documents of the Ministry of Economic Affairs, file no. 18-20-02-021-02(4); "Huangweihui zhi jingjibu dian" [A Message of the Yellow River Conservancy Commission to the Ministry of Economic Affairs], May 11, 1939, Documents of the Ministry of Economic Affairs, file no. 18-20-02-021-02(3); "Huangweihui zhi jingjibu dian" [A Message of the Yellow River Conservancy Commission to the Ministry of Economic Affairs], April 12, 1939, Documents of the Ministry of Economic Affairs, 18-20-02-021-02(3); and "Junshi weiyuanhui zhi jingjibu dian" [Message of the Military Affairs Commission to the Ministry of Economy], April 11, 1939, Documents of the Ministry of Economic Affairs, file no. 18-20-02-021-02(3).
[33]The railway crossed the mainstream of the Yellow River and connected the Longhai and Jinghan railways. It was opened to traffic in May 1939.
[34]"Huangweihui zhi jingjibu dian" [A Message of the Yellow River Conservancy Commission to the Ministry of Economic Affairs], Documents of the Ministry of Economic Affairs, file no. 18-20-02-021-02(3).
[35]"Huangweihui zhi jingjibu dian" [A Message of the Yellow River Conservancy Commission to the Ministry of Economic Affairs], June 7, 1939, Documents of the Ministry of Economic Affairs, file no. 18-20-02-021-02(2); "Huangweihui zhi jingjibu dian" [A Message of the Yellow River Conservancy Commission to the Ministry of Economic Affairs], June 9, 1939, Documents of the Ministry of Economic Affairs, file no. 18-20-02-021-02(2); "Huangweihui zhi jingjibu dian" [A Message of the Yellow River Conservancy Commission to the Ministry of Economic Affairs], July 12, 1939, Documents of the Ministry of Economic Affairs, file no. 18-20-02-021-02(1-2); and "Junshi weiyuanhui zhi jingjibu dian" [Message of the Military Affairs Commission to the Ministry of Economy], July 3, 1939, Documents of the Ministry of Economic Affairs, file no. 18-20-02-021-02(2).

for the Japanese armies to continue their invasion westwards. Furthermore, a restriction might increase the flow velocity and cause sediment movement at the breach, deepening the riverbed at the breach. He believed there would be other methods available to destroy the Kaifeng-Xinxiang railway, such as to force water to flow into the mainstream of the Yellow River by building spur dikes.[36] This proposal emphasized a coordinated approach between military and fluvial defenses, but in actual fact it sacrificed the defense of the river to the aims of military defense. Neither did the Guotou Project lead to a deepening of the breach, due to the stony consistence of the riverbed, as reported by Wang Yujun.[37] When the Japanese armies dug ditches again, the local garrison did not take any measures. It caused damages to the head of the east dike at Huayuankou, expanding the breach gradually to more than one thousand four hundred and sixty meters.[38] In order to guide the water flow into the mainstream of the Yellow River, in April 1940 the Yellow River Conservancy Commission drew up a plan to build Liushi dam at the head of the west dike at Huayuankou. In July 1940, the Commission tried to implement this plan, but to no avail.[39] The Military Affairs Commission harboured defense-related thinking, arguing that the planned dam at the western dike head would also need to reassure them that the Japanese advance could be stopped by means of flooding the Kaifeng-Xinxiang railway.[40]

Faults in the Chunxiang Project of 1940

The Division for Construction and Flood Prevention in Henan Province belonging to the Yellow River Conservancy Commission took over the New Embankments and divided the area into several sections for implementing sectional management.[41] In November 1939, the Yellow River Conservancy Commission introduced the Chunxiang Project, which was aimed at maintaining and repairing the New Embankments in the spring of 1940. The budget for the project was about five hundred and ninety thousand yuan, in addition to seventy thousand yuan in management fees.[42] According to the pre-war plans of repairing the embankments and relevant installations of the Yellow River, the government of Henan Province was to provide four hundred thousand yuan per annum towards the expenses of the project for the Henan section of the river. In case of insolvency, the Yellow River Conservancy Commission would draw subsidies from the fund, approximately one million yuan each year, allocated by the central government. The finance department was to shoulder the responsibility for problems caused by the late allocation of funds.[43] The wartime government of Henan Province

[36]"Huangweihui zhi jingjibu dian" [A Message of the Yellow River Conservancy Commission to the Ministry of Economic Affairs], July 12, 1939, Documents of the Ministry of Economic Affairs, file no. 18-20-02-021-02(1-2).
[37]"Huangweihui zhi jingjibu dian" [A Message of the Yellow River Conservancy Commission to the Ministry of Economic Affairs], September 4, 1938, Documents of the Ministry of Economic Affairs, file no. 18-20-02-021-01(2).
[38]Su Guanjun, "Huanghe Huayuankou bakou qingkuang jieshao," 80.
[39]"Huanghe shuili weiyuanhui xiuzhu Huayuankou xibatou liushi daba jihuashu" [The Plan of the Yellow River Conservancy Commission to Build the Liushi Dam at the Head of West Embankment of Huayuankou], Documents of the Ministry of Economic Affairs, file no. 18-20-02-022-01(1).
[40]"Huangweihui zhi jingjibu dian" [A Message of the Yellow River Conservancy Commission to the Ministry of Economic Affairs], November 28, 1940, Documents of the Ministry of Economic Affairs, file no. 18-20-02-022-01(1).
[41]Xu Fuling, "Kangzhan shiqi Henansheng huanghe fanghong," 25–26.
[42]"Huanghe shuili weiyuanhui fangfan xindi ershijiu niandu chunxiang jihuashu" [Plan of the Chunxiang Project of 1940 by the Yellow River Conservancy Commission for Flood Prevention and New Embankments Repair], Documents of the Ministry of Economic Affairs, file no. 18-20-02-031-01(3-4).
[43]"Tongyi huanghe xiufang banfa gangyao," 5-6.

could not provide financial support, so the costs of the Chunxiang Project had to be covered by allocations from the central government. In the past, the central government would allocate half of the subsidy funds in the winter of the previous year, or in the spring of the same year, the rest of the subsidy funds being provided after May.[44] Up to April 1940, when the spring flood had come, the central government had not allocated any money for the Chunxiang Project for 1940.

The Yellow River Conservancy Commission had to apply for support by the military, and urged the Ministry of Economic Affairs to allocate funds, claiming it was for military purposes. At this time, the construction of the embankments by the pro-Japanese regime in Henan on the eastern side of the flooded area could be utilized as an appropriate reason. Accordingly, the Yellow River Conservancy Commission requested that the Ministry of Economic Affairs allocate six hundred thousand yuan for the specific purpose of expediting the Chunxiang Project to maintain and repair the embankments, as well as prepare relevant flood control materials.[45] Although the Ministry of Economic Affairs had to allocate the fund, the plan by the Yellow River Conservancy Commission was criticized, for fear that the embankments built along the west side of the flooded areas could suffer from the onslaught of devastating floods. The Ministry of Economic Affairs hence cautioned that the necessity of such large scale construction needed to be carefully queried. Simultaneously, the Ministry of Economic Affairs asked to reduce the cost of the Chunxiang project for 1940 to less than four hundred thousand yuan.[46]

The Yellow River Conservancy Commission failed to handle the Chunxiang Project as planned. According to their report, they received a fund of six hundred thousand yuan for flood prevention and repairing relevant installations of the Yellow River in May. Up to the beginning of July, they had disbursed two hundred and fifty thousand yuan as an advance payment, but a mere one hundred thousand yuan were actually used, the remainder (circa one hundred thirty thousand yuan) being spent on materials for flood control. The payments, according to the Yellow River Conservancy Commission, had been reduced due to the cost of the essential materials for flood prevention. The Commission had originally requested a grant from the central government for three hundred thousand yuan which would have been used to pay for procuring materials for the repair of the new embankment, but this was not approved.[47] In fact, the Yellow River Conservancy Commission was facing a crisis.

[44]"Huangweihui zhi xingzhengyuan dian" [A Message of the Yellow River Conservancy Commission to the Executive Yuan], April 15, 1940, Document of the Executive Yuan, file no. 2(1)-9279.

[45]"Huangweihui zhi jingjibu dian" [A Message of the Yellow River Conservancy Commission to the Ministry of Economic Affairs], April 18, 1940, Documents of the Ministry of Economic Affairs, file no. 18-20-02-031-01(3); "Huangweihui zhi xingzhengyuan dian" [A Message of the Yellow River Conservancy Commission to t the Executive Yuan], April 15, 1940, Document of the Executive Yuan, file no. 2(1)-9279; and Xing Hansan, *Riwei tongzhi Henan jianwenlu*, 187–194.

[46]"Jingjibu zhi huangweihui dian" [Message of the Ministry of Economic Affairs to the Yellow River Conservancy Commission], May 9, 1940, Documents of the Ministry of Economic Affairs, file no. 18-20-02-031-01(2).

[47]"Huangweihui zhi jingjibu dian" [A Message of the Yellow River Conservancy Commission to the Ministry of Economic Affairs], July 9, 1940, Documents of the Ministry of Economic Affairs, file no. 18-20-02-031-01(2); "Huanghe shuili weiyuanhui Henan xiufangchu nianjiuniandu xinjiudi chunxiang ji fangxun gexiang gongkuan zongbiao" [A Project List of the Henan Repair Work Office in of the Yellow River Conservancy Commission for the New and Old Embankments, Chunxiang Project of 1940 and Flood Control], Archives of the Ministry of Economic Affairs, file no. 18-20-02-017-01 (3); and "Huangweihui zhi jingjibu dian" [A Message of the Yellow River Conservancy Commission to the Ministry of Economic Affairs], August 5, 1940, Documents of the Ministry of Economic Affairs, file no. 18-20-02-031-01(1-2).

They were pressed for time, but they had to deal with much work, and the money they could use was very limited. In the case, they could only repair the most dangerous and important sections of the New Embankments.[48] In this way, even if sufficient flood control materials were procured, the risk of the New Embankment to collapse was still unavoidable once a serious flood occurred. In 1940, the water level of the Yellow River increased significantly compared with the previous two years. In July, the flow in Shanxian increased sharply, exceeding ten thousand cubic meters per second, endangering many sections of the New Embankments. Despite great efforts to deal with the dangerous situation, the two sections, Shilipu and Siqianzhang in County of Weishi, of the New Embankment ruptured in August.

The Executive Yuan's determined quest for the responsibility for the New Embankment flooding reflected the war-time dilemma faced by the Yellow River Conservancy Commission. In the view of the Yellow River Conservancy Commission, its cause could be attributed to the Ministry of Economic Affairs' failure to allocate funds on schedule, which in turn delayed the construction work. The Commission claimed that because of the doubts raised by the Ministry, they were not impeded in the building work and in providing essential installations for flood control. More importantly, the shortage of money posed serious issues for the construction since their request for special funds was rejected.[49] These views were reprimanded by the Ministry of Economic Affairs as excuses for shifting the responsibility to them.[50] According to a field survey by commissioners sent by the Ministry, the section of the embankments where the breach occurred had not been repaired as part of the Chunxiang Project for this year, a major reason for the rupture.[51] The Commission retorted that the doubts by the Ministry were the cause, who had ignored their solutions and imposed undue constraints.[52] In an attempt to abdicate responsibility, the Ministry declared that they had never prevented the implementation of the Chunxiang Project, and blamed the Yellow River Conservancy Commission for not being prudent in their work. However, they were prepared to pardon the Yellow River Conservancy Commission, since the main reason for the breach was due to the unforeseeable force of the mountain torrents, rather than due to the flood waters flowing westwards.[53] The Executive Yuan were keen to prevent a deterioration of relations between the two sides and halted their investigations.

When in 1940 a new breach occurred in Weishi, the crisis of the New Embankment became once again exposed, alerting the attention of the Nationalist authorities. For the sake of the repair of the New Embankments, as well as other embankments built before 1938, Kong Xiangrong and Wei Lihuang agreed to ask the central government to allocate emergency funds. For this purpose, Kong travelled to Chongqing, explaining their proposals on the subject to Chiang Kai-shek at great length. Finally, the Executive Yuan decided

[48]"Huangweihui zhi jingjibu" [A Message of the Yellow River Conservancy Commission to the Ministry of Economic Affairs], July 29, 1940, Documents of the Ministry of Economic Affairs, file no. 18-20-02-031-01(2).
[49]"Huangweihui zhi jingjibu dian" [A Message of the Yellow River Conservancy Commission to the Ministry of Economic Affairs], September 20, 1940, Documents of the Ministry of Economic Affairs, file no. 18-20-02-031-01(1).
[50]"Jingjibu zhi huangweihui dian" [Message of the Ministry of Economic Affairs to the Yellow River Conservancy Commission], September 28, 1940, Documents of the Ministry of Economic Affairs, file no. 18-20-02-031-01(1).
[51]"Jingjibu shuilisi qiancheng" [A Document Submitted by the Bureau of Water Resources of the Ministry of Economic Affairs], December 7, 1940, Documents of the Ministry of Economic Affairs, file no. 18-20-02-017-01(3).
[52]"Huangweihui zhi jingjibu" [A Message of the Yellow River Conservancy Commission to the Ministry of Economic Affairs], December 30, 1940, Documents of the Ministry of Economic Affairs, file no. 18-20-02-017-01(2).
[53]"Jingjibu shuilisi qiancheng" [A Document Submitted by the Bureau of Water Resources of the Ministry of Economic Affairs], January 20, 1941, Documents of the Ministry of Economic Affairs, file no. 18-20-02-017-01(2).

to earmark three million yuan for the embankments' repair work. By early May 1941, the Ministry of Finance, in compliance with the order of the Executive Yuan, had allocated a total of two and a quarter million yuan on three occasions. In addition, the Executive Yuan ordered the Ministry of Finance to provide an extra annual fund of one million yuan for river defenses along the Yellow River.[54] In September 1941, the Yellow River Conservancy Commission was affiliated with the Water Conservancy Commission of the Executive Yuan, chaired by former serviceman Xue Dubi. In July of the same year, Kong Xiangrong passed away and Zhang Hanying, a well-known expert on hydraulics in modern China, was appointed as chairman of the Yellow River Conservancy Commission. Henceforth, the mutual tensions between the Yellow River Commission and the administrative departments began to dissipate.

No military solution: failure of the army to guide the water management of the Yellow River

In the continuing war against Japan, the flood zones of the Yellow River became an integral part in the Nationalist military's defense system, with increasing relevance. During the battle fought in the south of the Henan Province in January and February 1941, the Japanese troops deployed in east Henan were dispatched via Kaifeng and Zhuxianzhen to attack the flood zones of the Yellow River. Jieshou and Taihe, located in the southwestern flood zone, were captured.[55] Since then, the Nationalist troops were well aware of the military value of the flood zone, for blocking and containing their enemy. The flood pattern of the Yellow River, however, was very changeable. In order to maintain a favorable military status, the Nationalist troops realized that the work of water management in the flooded area needed to be stepped up. In practice, however, the flood control by the Nationalist troops sometimes suffered inevitable setbacks. The following part will reveal the reasons for the failure of the Nationalist flood control system caused by their faulty water management of the Yellow River between 1941 and 1943. It will also deal with the response by the government services and flood control agencies to the changing military situation.

Dilemmas in the implementation of military construction planning in 1941

In July 1940, the mainstream flood of the Yellow River rushed eastward, resulting in the collapse of local embankments in Wangpan, Taikang County and Jiangcun of Fugou County, located to the east of the flooded area. The flood spread southeast and exited into the Guohe River basin, creating a new flood zone.[56] This was the first significant change of the flood pattern of the Yellow River since the breach of embankment at Huayuankou in 1938. The options presenting themselves included the diversion of the flood waters back into the canal in

[54]"Xingzhengyuan ling caizhengbu" [Order of the Executive Yuan to the Ministry of Finance], February 6, 1941, Document of the Executive Yuan, file no. 2(1)-9280; "Xingzhengyuan ling caizhengbu" [Order of the Executive Yuan to the Ministry of Finance], May 5 1941, Document of the Executive Yuan, file no. 2(1)-9281; and "Huangweihui zuijin gongzuo gaikuang" [Overview of the recent work of the Yellow River Conservancy Commission], Document of the Yellow River Flood Control in the Republican Period, file no. MG 1.1–36.

[55]Jiang Weiguo, *Kangri yuru*, vol. 6, 42–45.

[56]"Yuwan huangfan chakantuan Chakan baogaoshu" [A Report of the Yellow River Flooded Areas Survey Mission after Field Excursion to Henan and Anhui], December 1941, Document of the Yellow River Flood Control in the Republican Period, file no. MG 4.1–124.

order to guide the Yellow River inundations to flow eastwards, or to force the flood waters southwards. Alternatively, the current situation could be maintained. But whatever solution the army arrived at, there would be a conflict of interest between the governments of Henan and Anhui provinces, as well as with the commands of the First and the Fifth War Zone. More importantly, due to its importance for the overall war strategy in China, they had to wait for the Supreme Command to decide on an overall arrangement.

On February 8, 1941, the Board of Military Operations (*junlingbu*) of the Military Affair Commission, in accordance with the current military geographical conditions of Henan and Anhui, instructed to implement to the principle of putting military concerns first, and ordered to retain the flood waters in the original main course area, thus utilizing the flood waters to prevent the heavily armed enemy from advancing westwards.[57] This instruction was helpful for patching up the conflicting interests between all parties, but it was by no means a long-term strategy for the flood control of the Yellow River. Furthermore, because of the uncertainty of the waterflow, as well as in terms of administrative capacity, it was not a simple task to maintain the status quo by virtue of the Nationalist Yellow River flood control system.

As the commander of the First War Zone, Wei Lihuang expressed his grievances to Chiang Kai-shek on February 26, saying that the agencies for flood control of the Yellow River he represented had always adhered to the Supreme Command's decision of maintaining the main course of the flood. The course, however, was constantly changing due to the terrain and soil conditions, and Wei felt it might be difficult to prevent the flash flood from bursting the banks. Neither was he sure of the sustainability of guiding the water into the Huai River via the Guohe River, in the hope of retarding the Shahe River's flow eastwards and southwards. He added that to cope with the continuously changing situation in the vast flooded areas and to put forward policy recommendations was the responsibility of the Yellow River Conservancy Commission. The Commission was responsible for the huge project requiring enormous cost but had no corresponding power. Therefore, Wei suggested to petition the Ministry of Economic Affairs to draw up a plan for establishing a specialized agency, assign the commissioners to be resident in the flooded areas and be responsible for investigating the public works.[58] The Ministry of Economic Affairs rejected the proposal on the grounds that to newly establish a specialized agency was likely to incur a mismatch between power and responsibility. It thus suggested to ask the workers employed in the flooded areas to take the responsibility of investigating the local situation instead of assigning new commissioners, since this might be implemented more conveniently.[59] In fact, the reluctance of handling the additional administrative and financial pressure might be the real reason why the Ministry of Economic Affairs provided such suggestions. As a result, the Executive Yuan deemed that it was unnecessary to assign additional commissioners, as it had already approved a Survey Mission to the Flooded Areas in Henan and Anhui (Yuwan huangfan chakantuan) and had allocated emergency funds for the mission.[60] Nevertheless, this survey mission was only

[57]"Chao junlingbu chuzhi yuwan huangfan zhi yijian" [A Copy of the Views of the Board of Military Operations about Handling the Yellow River Flood in Henan and Anhui], February 8, 1941, Document of the Executive Yuan, file no. 2(2)-2715.

[58]"Wei Lihuang zhi junshi weiyuanhui dian" [Wei Lihuang's Message to the Military Affairs Commission], February 26, 1941, Document of the Executive Yuan, file no. 2(1)-8193.

[59]"Jingjibu zhi xingzhengyuan mishuchu gonghan" [Official Letter from the Ministry of Economic Affairs to the Secretariat of the Executive Yuan], May 3, 1941, Document of the Executive Yuan, file no. 2(1)-8193.

[60]"Xingzhengyuan mishu Zhang Hongbing qiancheng" [A Document Submitted by Zhang Hongbing, Secretary of the Executive Yuan], May 22, 1941, Document of the Executive Yuan, file no. 2(1)-8193.

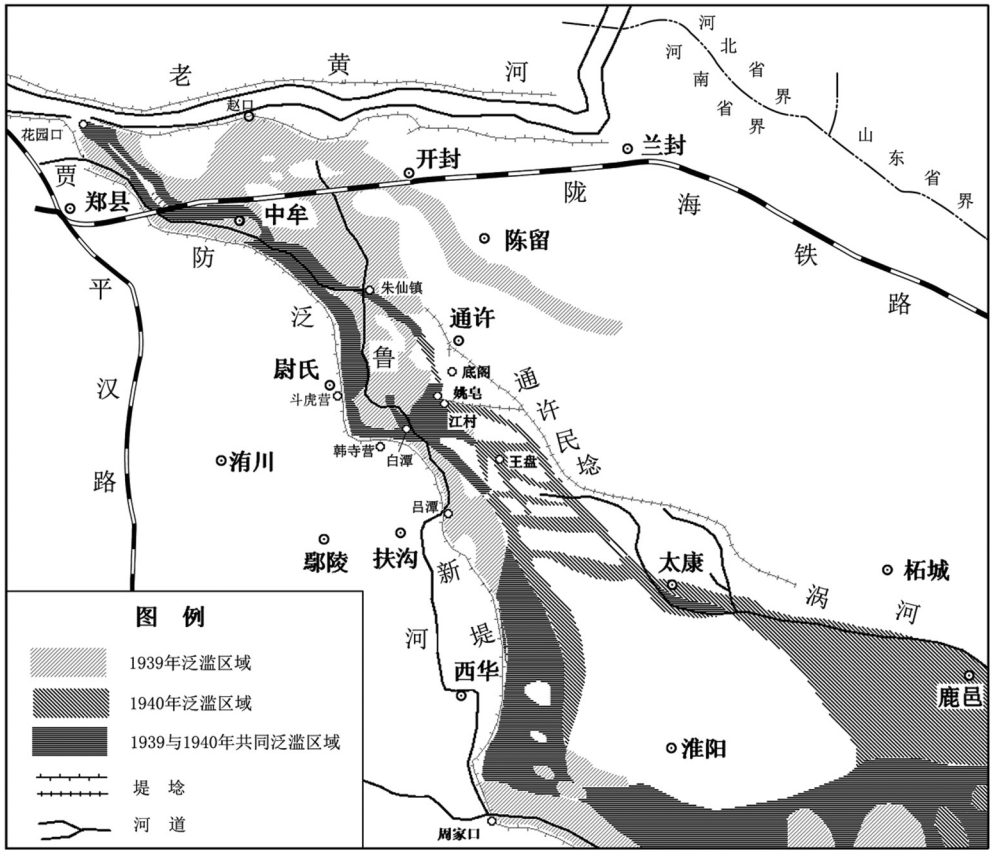

Figure 1. The flooded areas in Henan Province before April 1941.[61]

temporary, and it could not be resident in the flood areas to work for a prolonged period of time.

As the agency to implement the Nationalist flood control decisions, the Yellow River Conservancy Commission made great efforts to maintain the status quo of the flooded areas, but it was difficult for them to deal with the natural changes. In the first half of 1941, the Yellow River Conservancy Commission built new spur dikes (tiaoshuiba) for further consolidating the river defense in Wangpan. This measure came after it had blocked several breaches of the dike in the area from late 1940 to early 1941 in order to reduce the flow of the flood into the Guohe River and thus to help the armed forces in the original flood zone to resist the enemy. The waterflow, however, was constantly changing. After the construction was completed in Wangpan, the torrent turned to Jiangcun and then poured into the upper reaches of the Guohe River.[62]

[61]"Huaiyu gongcheng huiyi jilu" [Minutes of Construction in the Area of Huai River], April 1941, Document of the Executive Yuan, file no. 2(2)-2715.

[62]"Yuwan huangfan chakantuan Chakan baogaoshu" [A Report of the Yellow River Flooded Areas Survey Mission after Field Excursion to Henan and Anhui], Document of the Yellow River Flood Control in the Republican Period, file no. MG 4.1-124; and "Huangweihui zuijin gongzuo gaikuang" [Overview of the recent work of the Yellow River Conservancy Commission], June 1941, Document of the Yellow River Flood Control in the Republican Period, file no. MG 1.1-36.

By June 1941, the flood pattern of the Yellow River had changed again. The banks in Xunmukou and Jiangzhuangzhai in Taikang County burst, and as a result more than eighty percent of the water in the flooded area drained away, causing a decline of the flow in the original flooded area southwest of the city of Huaiyang. As a result, Huaiyang became a stronghold of the Japanese armies in the south of the flood zone. In August, the Survey Mission to the Flooded Areas in Henan and Anhui was established, which conducted field surveys to the flood area in September and October. As a specialized agency, the survey mission included a variety of staff from the military, government and the agencies for flood control of the Yellow River. Liu Zongpei, as the representative of the Yellow River Conservancy Commission, was commissioned as director. In accordance with the findings in the field surveys, the mission proposed to capture Huaiyang and build new dikes there aimed at forcing the floodwater to flow to the new flooded area. They saw the construction plan as a good strategy to strengthen the force against the enemy in the flooded areas of the Yellow River, for it would be beneficial to the military, conform to the water flows, and facilitate the envisaged engineering works. According to this proposal, as well as the instructions of the Military Affair Commission, the Yellow River Conservancy Commission drew up a plan to block the flow of the original inundation zone in the south of Huaiyang, but it was not granted for implementation.[63] Xu Fuling, who had participated in the New Embankment construction and management, furthermore recalled that the Japanese defensive force in Huaiyang at the time was weak, consisting of only eighty people equipped with just one cannon and one vehicle. It was thus definitely possible to capture the city. However, the Nationalist authority thought that the expansion of the new flooded area would give add to the local peasantry's suffering, and to build a new embankment was by no means an easy work. So in the end, they opted for a conservative practice.[64] In fact, most of the floodwater had flowed to the new flooded area at the time, which implied that blocking off the old inundation might not have resulted in the further expansion of the new flooded area. This measure, alongside many other military-led construction plans in 1941, failed to be implemented or to achieve the expected results.

The military-led mode of flood control of the Yellow River incurred the resentment of other departments. The Survey Mission to the Flooded Areas in Henan and Anhui pointed out in its report that the rationale for the military enjoying the priority in the war against Japan should not be argued against, but if the flooded areas had been merely seen a natural barrier to resist the enemies' attack, regardless of the construction for flood prevention, it would have not been advantageous to neither the military nor the people's livelihood. The report further suggested to build small dikes and connect them to form a flood control network, which would be advantageous for the local people without obstructing the military.[65] However, this was not added to the authority's agenda. Nevertheless, the Survey Mission to the Flooded Areas in Henan and Anhui in a message to the Xi'an General Office of the Military Affair Commission objected to a riverbank project in the Cihe River led by the Huai River Work

[63]"Yuwan huangfan chakantuan Chakan baogaoshu" [A Report of the Yellow River Flooded Areas Survey Mission after Field Excursion to Henan and Anhui], Document of the Yellow River Flood Control in the Republican Period, file no. MG 4.1-124; and "Shuili weiyuanhui zhi xingzhengyuan dian" [Message of the Water Conservancy Commission to the Executive Yuan], February 26, 1942, Document of the Executive Yuan, file no. 2(1)-8217.

[64]Xu Fuling, "Kangzhan shiqi henansheng huanghe fanghong," 27–28.

[65]"Yuwan huangfan chakantuan Chakan baogaoshu" [A Report of the Yellow River Flooded Areas Survey Mission after Field Excursion to Henan and Anhui], December 1941, Document of the Yellow River Flood Control in the Republican Period, file no. MG 4.1-124.

Relief Committee of Anhui Province (Anhuisheng huaiyu gongzhen weiyuanhui), arguing that the width between the two embankments was too narrow, and that it was in violation of the principle of utilizing the Yellow River floods to resist the enemy, although this project was good for the people's livelihood.[66] This shows that the boundary between military engineering and livelihood engineering was anything but non-ambiguous.

New ideas to cope with the flood and difficulties in practice

The situation in the flooded area of the Yellow River changed dramatically in the flood season of 1942. The floodwaters flowed westwards to the original flooded area, and impacted the section from Weishi to Zhoukou of the New Embankments with ferocity. Most of the floodwaters south of Zhoukou were absorbed by the Dongcaihe River and finally flowed to the Shahe River, which swelled dangerously.[67] From September 1942 to May 1943, several sections of the New Embankments from Weishi to Xihua burst. The overflow moved southwards along the western side of the New Embankments as well as the Jialuhe River into the flooded areas contained by the embankments and the Shahe River and did not further flow westwards. Due to the limited capacity of the Shahe River, and also since its riverbed was silted up, the embankment was in danger of collapse at any time. The south bank dike of the Shahe River as a particular concern for the safety of many counties of Anhui Province and the General Headquarters of the Eastern Military (Lu-Su-Yu-Wan) Border Region stationed in Linquan. Therefore, it was the most urgent and important task to prevent the breakout of the south bank at the time.

In order to prevent the floodwaters flowing into the Shahe River and continuing to spread southward, Tang Enbo – as the general in chief of the Eastern Military Border Region as well as the deputy commander of the First War Zone – convened a meeting in December 1942 where it was decided to establish a mission to inspect the inundations of the Yellow River, in order to develop a strategy for dealing with the flood crisis.[68] The mission suggested ideas aimed at both treating symptoms and solving root causes. As for treating symptoms, the mission suggested to consolidate the New Embankments as well as the banks of all tributary rivers, particularly the Shahe River. To solve the root causes, the mission proposed reducing or blocking off the tributaries that flowed into the Shahe River, and to redirect them eastwards, thus avoiding unexpected changes stemming from the Shahe River. The project included two specific steps, firstly to force the floodwater to pour into the Cihe River by cutting it off from the Dongcai and Nanbazhang rivers, the Canggou and Wanfu valleys to the Shahe River, and then to divert part of the water from the Cihe River to the Feihe River by dredging the Muzhugang and the Jihe rivers. This plan was good for people's livelihood as it would not only prevent the floodwaters from rushing into the Shahe River and further southwards, but also because the drained flood zone would become prime arable land.[69] However, there were many uncertainties, and it was particularly

[66]"Shuili weiyuanhui zhi xingzhengyuan dian" [Message of the Water Conservancy Commission to the Executive Yuan], February 26, 1942, Document of the Executive Yuan, file no. 2(1)-8217.
[67]"Huangfan shichatuan zongbaogaoshu" [A Report of the Yellow River Flood Inspection Mission], January 1943, Document of the Yellow River Flood Control in the Republican Period, file no. MG 4.1–39.
[68]Henan huanghe hewuju, *Henan huanghe dashiji*, 135.
[69]"Huangfan shichatuan zongbaogaoshu" [A Report of the Yellow River Flood Inspection Mission], Document of the Yellow River Flood Control in the Republican Period, file no. MG 4.1–39.

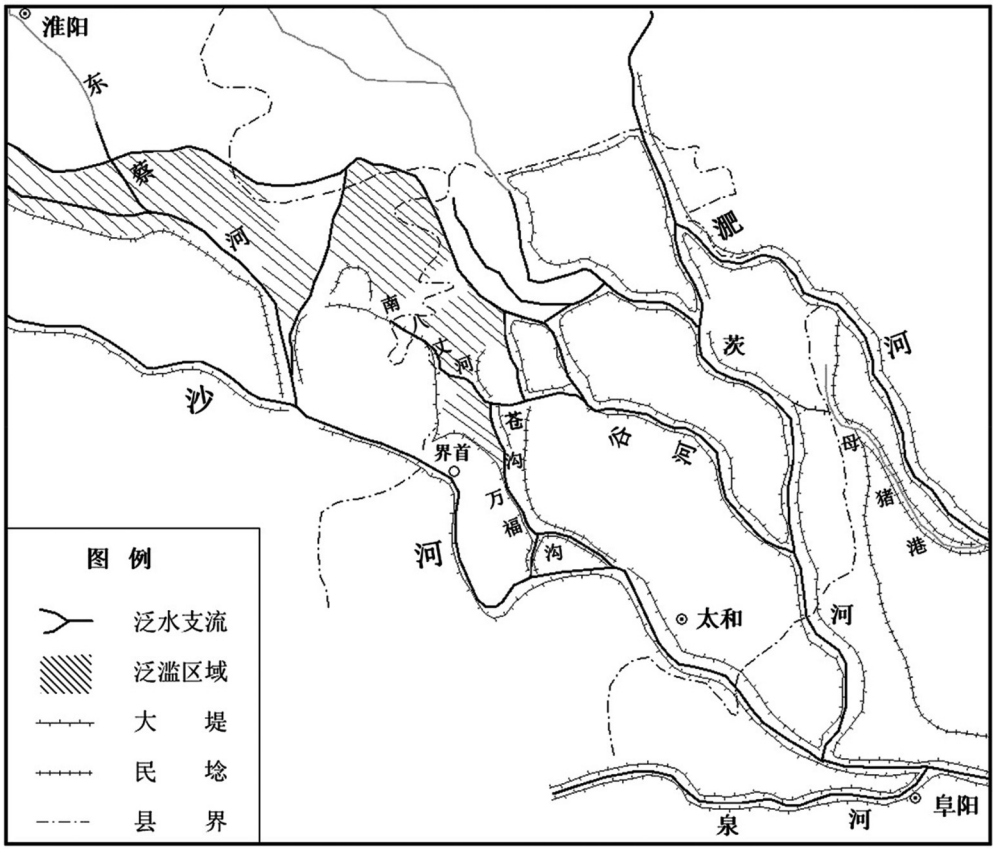

Figure 2. Situation of the floodwaters of the Yellow River from Huaiyin to Fuyang in December 1942.[70]

questionable whether the conditions of manpower, material, and financial resources, as well as the technology and environment would suffice for such a major project.

The General Headquarters of the Eastern Military Border Region directly presided over the project, and decided to adopt the principle, in which the sappers would be assigned to undertake the major work, and the laborers recruited from the local peasantry would perform auxiliary tasks. This arrangement seemed helpful for reducing the national expenditures and lightening the load of the people, but in fact military considerations trumped all else.[71] Li Peiji, the chairman of the government of Henan Province, felt dissatisfied with this principle, saying that there was a lack of professional knowledge and practical skills concerning flood control for the staff from local counties. They blindly sought to build high embankments and consolidate the installations to prevent floodwaters to dash against the embankments. However, such constructions were easily damaged or destroyed by the floods, and rendered the great efforts of the

[70]Ibid.

[71]"Dishiwu jituanjun zongbu canmouchu bian: Xiuzheng huangfan gongcheng zongchu zongbaogaoshu" [*A Report of the General Office of the Yellow River Flood Control Project*, Compiled by the Staff Office of the 15th Army Headquarters], 1943, Document of the Yellow River Flood Control in the Republican Period, file no. MG 4.1–219.

people totally in vain. He appealed to the Yellow River Conservancy Commission to take responsibility, applied their professional knowledge and technological means to control the floods of the Yellow River. He believed that more canals and spur dikes should be built in cooperation with the local laborers. Military support would only be essential if there was a lack of manpower.[72] Li questioned the result of combining military and professional forces, and furthermore worried that the local garrison would waste or embezzle public funds. He also reported to the Executive Yuan that the funds allocated by the central government for river defenses had not been fully used for construction, and that many may have been arbitrarily appropriated by the officials in charge.[73]

This principle was not implemented successfully. Due to the lack of manpower, most of the sappers for the project were dispatched to carry out other tasks. As a result, the project originally planned to be complete by the end of April had to be postponed. Later, the project was further delayed since the laborers recruited from the peasantry were engaged in the wheat harvest and the floodwaters burst the New Embankment. After that, the military and governmental representatives of the project decided to change the method, turning manpower into the main factor and mobilizing five hundred thousand local laborers for speedy construction.[74] The local governments were quite opposed the large-scale recruitment, but had to comply with the military order. According to Li Peiji's report, approximately four hunded ninety thousand people from twenty-five counties were mobilized for the constructions in Henan Province alone, the cost being in excess of one billion yuan. The laborers even needed to pay for most of the essential supplies out of their own pockets.[75] A journalist of *Ta Kung Pao* witnessed the tragic experience of the laborers, and reported it that they had to bring their own food, which was generally one kilogram of wheat per day. Some unconscionable chiefs responsible for recruitment attempted to extort money from them. To those who were reluctant to be recruited, the chiefs usually demanded extra food or more than three hundred yuan in cash in compensation. Some overseers profited by selling permits for laborers to return home. The journalist regretted the poor life of the local peasantry and blamed the corruption of grass-roots politics in Henan Province for it.[76]

The construction preserved the dike at the south bank of the Shahe River, but the result of the strategies proposed for solving the root cause less successful. According to an investigation by the Yellow River Conservancy Commission, the situation of water-flow in the flood season was as follows:

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[72]"Li Peiji zhi xingzhengyuan dian" [Message of Li Peiji to the Executive Yuan], June 28, 1943, Documents of the Water Conservancy Commission of the Executive Yuan, file no. 25-22-131-02.

[73]"Chao Li Peiji zhi xingzhengyuan dian" [A Copy of Li Peiji's Message to the Executive Yuan], 1943, Documents of the Water Conservancy Commission of the Executive Yuan, file no. 25-22-130-01.

[74]"Yujing fangfan xindi dukou fudi gongcheng chubu jihuashu" [A Preliminary Plan for Repairing the Breaches of the New Embankments for Flood Prevention Project in Henan Province], September 1943, Documents of the Water Conservancy Commission of the Executive Yuan, file no. 25-22-137-01.

[75]"Li Peiji zhi xingzhengyuan dian" [Message of Li Peiji to the Executive Yuan], November 1943, Documents of the Water Conservancy Commission of the Executive Yuan, file no. 25-22-135-02. According to Tang Enbo, there were totally 48 million yuan allocated to the project in Henan Province. Even so, this was far from the actual cost of the project. "Junshi weiyuanhui zhi xingzhengyuan dian" [Message of the Military Affairs Commission to the Executive Yuan], December 21, 1943, Document of the Executive Yuan, file no. 2(1)-8193.

[76]Gao Feng, "Yuwan huangxun xunli," *Dagongbao* (Guilinban), October 1, 1943, 3.

> In the flood season, the floodwater overflowed along the Shahe River and many places north of the river became inundated. Up to the Taihe area, most of the floodwater north of the Shahe River entered the Wanfugou Valley, and finally flowed into the Shahe River. A small amount of the floodwater turned to the Shahe River through the Cihe River. After the canal of the Muzhugang River was built, the water flowed into the Feihe River via the Muzhugang River, but was still not enough because of the insufficient waterflow in the Cihe River during the flood season. However, after the canal of the Jihe River as well as the Zhaojia dam were built, a demonstrable effect began to be present in the flood season. At that time, the main stream of the floodwater ran through the Shahe River, and exceeded its capacity. It caused three ruptures on the north bank of the river in the area of Taihe. Then a breach to east in a place of the lower reaches of the Cihe River close to Fuyang was made. In the Shahe River, people also dug a breach to the north, but the river still burst its banks, resulting in another two ruptures. Since then, most of the floodwater along the areas north of the Shahe River mingled in the Jihe River, and finally via the Zhaojia dam flowed into the Feihe River. As a result, the south bank of the Shahe River in Fuyang and north and south banks of the Shahe River in Yingshang were made safe, a direct result of diverting the waterflow through the Jihe River.[77]

The inspection mission's plan to force the floodwaters to flow eastwards was not realized as expected.[78] In fact, since the banks in Rongcun were breached in May 1943, the expectations of the military had been lowered, seeking to make the floodwaters flow into the original flood zone, and thus to strengthen national defense.[79] Also, the dike at the south bank of the Shahe River could be preserved since the north bank of the river breached. The Nationalist authority's original plan had been to vouchsafe the safety of the south bank at the price of sacrificing the towns of Jieshou and Zaomiao. The Yellow River Conservancy Commission urged to reconsider this plan as a last resort.[80] The military authority maintained its decision to sacrifice the areas north of the Shahe River, although the actual site of the breach differed from the original plan.

Conclusion

Since the start of China's national resistance against Japanese aggression, the Nationalist government hastily established its administrative system of flood control of the Yellow River, which was not a highly centralized and independently operated, but was affiliated with two government bodies, all three being closely related. Formally, the Yellow River Conservancy Commission was under the dual leadership of both the Ministry of Economic Affairs and the First War Zone Command. This system reflected the wartime coordination between the water management and military departments, but in practice the military, financial, and personnel management branches worked separately, and

[77]"Huangweihui zhi xingzhengyuan shuili weiyuanhui dian" [A Message of the Yellow River Conservancy Commission to the Water Conservancy Commission of the Executive Yuan], October 21, 1943, Documents of the Ministry of Economic Affairs, file no. 25-22-135-02.

[78]The effect of the project to deal with the floodwater of the Dongcai River, see "Huanghe shuili weiyuanhui henan xiufangchu xiuzhu dongcaihe jungong wancheng gongcheng baogaoshu" [Report on the Completion of the Military Construction of the Dongcaihe River by the Repair Work Office in Henan Province of the Yellow River Conservancy Commission], September 1943, Documents of the Military of Water Resources, file no. 377–860.

[79]"Dishiwu jituanjun zongbu canmouchu bian: Xiuzheng huangfan gongcheng zongchu zongbaogaoshu" [*A Report of the General Office of the Yellow River Flood Control Project*, Compiled by the Staff Office of the 15th Army Headquarters], 1943, Documents of the Yellow River Flood Control in the Republican Period, file no. MG 4.1-219.

[80]"Shuili weiyuanhui zhi xingzhengyuan mishuchu han" [Message of the Water Conservancy Commission to the Executive Yuan], September 25, 1943, Document of the Executive Yuan, file no. 2(1)-8218.

there was a lack of clarity in the responsibility of the three parties. It made the water management in the flooded area riddled with difficulties and errors.

The flood control project in the flood zone of the Yellow River from 1938 to 1943 can generally be divided into two stages. During the first stage, the interested parties did not reach a united and clear awareness regarding the significance and objectives of controlling the floods of the Yellow River. At the level of the central government, the Military Affairs Commission, as well as the Executive Yuan did not take this seriously, turning Yellow River flood control to a pawn of all parties in their infighting. Since the 1938 Yellow River flood, the Military Affairs Commission aimed to promote the cooperation of military defense and people's livelihood, and the First War Zone Command thus ordered to build the New Embankments. The First War Zone Command, however, was only in control of the armed forces and could not interfere in financial matters. Thus it had to it win the financial support of the Executive Yuan in the name of the people's livelihood. After completing the construction of the embankment in Zhengxian, which meant the safety of its garrison had been protected, it would no longer lead any construction efforts on the New Embankments. The Yellow River Conservancy Commission was not able to deal with military and financial affairs and, under public pressure, had to change its project plan several times. The Commission finally asked the government of Henan Province to recruit laborers and collect money to hastily complete the project.

Meanwhile, the Yellow River Conservancy Commission attempted to act responsibly, jump-starting non-military river defense projects, which, however, were repeatedly obstructed by the Ministry of Economic Affairs and the local garrison. The Guotong Project project at Huayuankou was questioned or even refused by the Ministry of Economic Affairs, and the completed facilities were damaged by the local garrison. Finally, the results of the project had to be abandoned under the primacy of national defense over the river defenses, and relevant remedial measures to force the water to flow into the mainstream of the Yellow River were mothballed because of concealed opposition by the military. Similarly, when the Chunxiang Project of 1940 was in process, the late appropriation by the Ministry of Economic Affairs caused the construction period to be delayed and the river thus burst its embankments.

As for the second stage, since 1941 the Nationalist armies gradually strengthened the overall planning of the Yellow River flood control. The military significance of the flood zones became increasingly prominent, but the work was habitually riddled by the tension between military and water management agencies. In February 1941, the Military Affairs Commission gave the highest directive to maintain the status quo of the flooded areas of the Yellow River, but it was difficult to adapt to the natural changes of the inundations, partly because of the nature of the Nationalist flood control system of the Yellow River, but also due to administrative constraints. In 1941, the Yellow River Conservancy Commission designed several plans of military construction according to the intentions of the Nationalist armies, but most of them failed to be implemented or achieve good actual results due to technological and environmental factors. In 1943, the General Headquarters of the eastern military border region presided over the renovation of constructions in the flooded areas of the Yellow River. It adopted a military-based management mode, but the work relied on the large-scale recruitment of laborers. Finally, the goal of the project was not achieved. The Nationalist authorities

preserved the areas north of the Shahe River during the construction of flood defenses aimed at ensuring the safety of the south bank.

The Nationalist wartime flood control system of the Yellow River, in sum, was characterized by a lack of mutual support and coordination. The Nationalist government swayed precariously between national defense and flood control, military affairs and people's livelihood, and central and local governments. The military, government, and agencies for flood control of the Yellow River were difficult to coordinate, or even interact with each other. As a result, it caused the flood control of the Yellow River to be implemented ineffectively, and eventually sacrificed both river defenses and the people's livelihood. In a word, the flood control of the Yellow River, as an important symbol of national governance, was affected by many factors in wartime: environmental, military and financial. It also exposed serious defects in the highly centralized wartime system of the Nationalist government, affecting its functioning, values, and administrative capacity.

(translated by WANG Yi)

Disclosure statement

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Glossary

Anhuisheng huaiyu gongzhen weiyuanhui	安徽省淮域工赈委员会
Batou	坝头
Canggou	苍沟
Chaohe	潮河
Cheng Qian	程潜
Cihe	茨河
Dongcaihe	东蔡河
fangfan xindi	防泛新堤
Feihe	淝河
Fugou	扶沟
Fuyang	阜阳

Guohe	涡河
Henansheng xuxiu huanghe fangfan xindi gongzhen weiyuanhui	河南省续修黄河防泛新堤工赈委员会
Henan zhenwu weiyuanhui	河南赈务委员会
Huanghe fangfan gongzhen weiyuanhui	黄河防泛工赈委员会
Huayuankou juedi	花园口决堤
Jialuhe	贾鲁河
Jiangcun	江村
Jiangzhuangzhai	姜庄寨
Jieshou	界首
Jihe	济河
Junlingbu	军令部
Kaifeng	开封
Kong Xiangrong	孔祥榕
Linquan	临泉
Linying	临颍
Li Peiji	李培基
Liushi	柳石
Liu Zongpei	刘宗沛
Luohe	漯河
Lu-Su-Yu-Wan	鲁苏豫皖
Minnian	民埝
Muzhugang	母猪港
Nanbazhanghe	南八丈河
Shahe	沙河
Shaungjihe	双洎河
Shilipu	十里铺
Siqianzhang	寺前张
Taihe	太和
Taikang	太康
Tang Enbo	汤恩伯
Tianshui xingying	天水行营
Tiaoshuiba	挑水坝
Wangfugou	万福沟
Wang Yujun	王郁骏
Wangpan	王盘
Wei Lihuang	卫立煌
Weishi	尉氏
Xihua	西华
Xingzhengyuan zhenji weiyuanhui	行政院赈济委员会
Xue Dubi	薛笃弼
Xu Fuling	徐福龄
Xunmukou	逊母口
Yancheng	郾城
Yinghe	颍河
YuWan huangfan chakantuan	豫皖黄泛查勘团
Zaomiao	皂庙
Zhang Hanying	张含英
Zhaokou	赵口
Zhengxian	郑县
Zhoukou	周口
Zhuxianzhen	朱仙镇

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Water conservancy, politics, and local society: a case study on the construction of the Yuanyangchi Reservoir during the Republican period*

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ABSTRACT

The Yuanyangchi Reservoir, located in Jinta County of Gansu Province and inaugurated in 1947, was the first large-scale modern earthen dam in China. Aimed at addressing regional social crises resulting from irrigation-related disputes, proponents of the Yuanyangchi Reservoir project went through a tumultuous process to get this project endorsed by the relevant authorities. This project was ultimately endorsed thanks to the Nationalist government's preferential policies in favour of China's Northwest and frontier regions and its obsession of "maintaining the unity in the rear regions" during the Second World War. During the implementation of the project, the local gentry proactively mobilized resources by means of their social authority and thus engendered a unique scenario, in which traditional social mobilization methods were evoked to promote a modern water conservancy project. It sheds light on China's transition from a traditional approach to water conservancy to the modern one. To facilitate the implementation of the project, engineers helped introducing intra-basin deliberation mechanisms and measures to ensure the humanistic management of construction sites. All these efforts left a lasting influence on local society beyond irrigation and played a subtle role in the local modernization drive.

KEYWORDS

Water conservancy; politics; social mobilization; Republic of China; Yuanyangchi Reservoir

I. Introduction

Water conservancy projects, in particular large-scale ones, provide an invaluable perspective through which researchers can analyze relevant social problems in successive Chinese dynastic eras. With the introduction of western hydraulic engineering since the late Qing period, a list of modern water conservancy projects was completed in China.[1] Compared with their

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[1]In the field of hydraulic engineering today, "modernization of water conservancy" is a term with specific standards, see Gu Hao, *Zhongguo shuili xiandaihua yanjiu*. According to these standards, many projects from the late 19th century to the mid-20th century can no longer be considered "modern." Having said that, it is obvious that planners of these projects largely adhered to the basic principles of modern hydraulic engineering, which essentially distinguished them from traditional water conservancy projects. Based on empirical studies, historians generally tend to refer to all 20th-century China's water conservancy as "modern." See Hou Yuting and Sheng Zhizhong, "Jindai Zhongguo shuili shiye jianzhihua yanjiu."

traditional predecessor, modern water conservancy projects are more applicable, reliable and efficacious although they generally involve complex technologies, considerable investment and a long project life cycle. New water conservancy projects appeared in China during the tumultuous years between late Qing and the early period of the Republic of China. Noteworthy examples include the state-sponsored Yellow River Management Project, the Huai River Diversion plan initiated by Zhang Jian and water conservancy projects in the central Shaanxi plain advocated by Li Yizhi. Researchers are especially enthusiastic about the complex political jockeying and diverse social processes these projects involved.[2] Today, two topics dominate the study of water conservancy history during late Qing and the early Republican era. One is the various political and social factors that may have impacted the decision-making process related to a specific water conservancy project, including project planning, fundraising, and the choice of technical solutions. These factors make their influences felt usually before a specific project is started. The second topic concerns the efficacy of these projects, including their impacts on the local environment, society and economy. The focus here is on the changes a specific project brings about after its completion. By comparison, few researchers have ever dug deep into the implementation process of modern water conservancy projects during the Republican era.[3]

In pre-modern China, rulers tended to pay more attention to the maintenance of established water conservancy projects and shy away from constructing new water facilities due to the low level of productive forces. This situation fundamentally changed during the last century. Construction of large-scale water conservancy projects became the "new normal" across China. Under such circumstances, the implementation of water conservancy projects became something that was inextricably linked to local politics and society at large. In traditional China, the social nature of water conservancy activities mainly manifested itself in the daily maintenance of specific water facilities. Historians hence tend to discuss issues such as the social organization of water communities, relative tax burdens and access to water and mediation mechanisms for water access disputes.[4] In contrast, the management of modern water facilities is largely the responsibility of professional technicians and falls within the realm of professional organizations. Thus, it generally involves narrower social relations than the traditional way. Nevertheless, the construction of modern water conservancy projects tends to focus on social relations, considering the fact that China's transition to the application of modern water conservancy projects took more than one century, involving not only the upgrading of technologies and equipment but also complex changes in power relations, social mobilization, construction site management, and similar.[5] The

[2]For other relevant publications, see Jia Guojing, *Huanghe Tongwaxiang juekou gaidao yu wan Qing zhengju*; Hu Zhongsheng, *Guomin zhengfu huanghe shuili weiyuanhui yanjiu*; Zhuang Anzheng, "Zhang Jian dao Huai shimo shulüe"; Ma Junya, *Bei xisheng de "jubu"*; and Zhou Ya, "Minguo shiqi Guanzhong chuantong shuili de jiyu yu zhuanxing."

[3]The case study was undertaken to research the implementation process of modern water conservancy projects during the Republican era, for example, Zheng Bixian's *Zhengzeyan*, and Liu Yanwen's *Gongdi shehui*. Although the latter focuses the period after 1949, it provides some insights into the study of water conservancy history during the late Qing and early Republic.

[4]See Zhang Junfeng, "Ming Qing Zhongguo shuili shehuishi yanjiu de lilun shiye," 97–107.

[5]Kawai Satoru, a Japanese scholar studies the cooperation between O. J. Todd and Li Yizhi and points out that the modern Western technologies were combined with Chinese manual labor in some projects in Shaanxi. See Kawai Satoru, "Tade he Li Yizhi." However, Kawai Satoru only delivered an opinion, and did not go any further to elaborate how the "combination" of the two elements was materialized.

construction process of water conservancy projects can shed important light on the social history of water conservancy during the late Qing and early Republican era. By focusing on the construction process of water conservancy projects, researchers can unravel the interactions among various social forces in the implementation of water conservancy projects and the mechanisms involved and lay bare the social impact of modern engineering projects that were quite different from those engendered by traditional water conservancy projects. Such a perspective is conducive to deepening our understanding both on the trajectory of water conservancy history during the late Qing and early Republican era and on the role played by water conservancy projects in society.

Modern water conservancy projects first appeared in China during the late Qing era and their construction gained momentum during the Republican period. However remarkable as historic achievements they may have been, traditional water conservancy projects could not realize large-scale water diversion and water storage. Construction of modern large and medium-sized reservoirs is an important indicator of the modernization of water conservancy in China. Large and medium-sized reservoirs were rare during the Republican era due to lack of capital and advanced technology. Yuanyangchi Reservoir, located in Jinta County of Gansu Province, is a typical example of reservoirs constructed during this period.

Based on modern water conservancy engineering science, we can divide the construction of Yuanyangchi Reservoir into two stages: the planning stage and the construction stage. There is no comprehensive study on the planning and construction of the Yuanyangchi Reservoir so far. The only available material is provided by Mr. Gu Ganchen, a participant and technician of the project, who briefly introduced the related construction process in his retrospective article.[6] In an article discussing the six hundred-year water conservancy history of the Taolai River in the Hexi Corridor, the author only tentatively discussed the background and social benefits of Yuanyangchi Reservoir in a few hundred words, leaving relevant planning and implementation processes unaddressed.[7] This article will revisit the planning and construction processes of Yuanyangchi Reservoir in a comprehensive manner. Specifically, it will discuss the following three questions from both political and social perspectives: What resources made the political process involving the planning stage of the project possible? How did local society support the construction of the project? And what are the legacies of the construction process of this project?

II. Retaining unity in the rear areas: the politics of planning the Yuanyangchi Reservoir project

Located between Suzhou District and Jinta County of Jiuquan City, Gansu Province, the Yuanyangchi Reservoir was named after a seasonal lake in the Taolai River Basin in Jinta County. Known as Suzhou between 1368 and 1911, Suzhou District is located in the middle of the Hexi Corridor, adjacent to Jiayuguan, an important garrison at the westernmost point of the Great Wall built during the Ming era. Situated over seven

[6]Gu Ganchen, "Yanyangchi shuiku chujianshi," 109–117.
[7]Zhang Jingping, and Wang Zhongjing, "Ganhanqu jindai shuili weiji zhong de jishu," 156–174.

hundred kilometers to Lanzhou in the west and over twelve hundred kilometers to Urumchi in the west, Suzhou has been a strategic outpost in Northwestern China since the late 14th century. It was renamed as Jiuquan county after the 1911 Revolution. Situated 50 kilometers to the northeastern part of the Suzhou District of Jiuquan city, Jinta county is an important bridgehead linking the Hexi Corridor with Ejina in west Inner Mongolia, Juyanhai and the western part of the Mongolian Republic. Once abandoned by the Ming government, the Jinta area received its first peasant migrants during the Kangxi reign period (1661–1722) and a town called Wangzizhuang appeared during the Yongzheng reign (1723–1739). Jinta county received its current name in 1913. Between the 1930s and 1940s, both Jiuquan and Jinta counties were under the jurisdiction of the Seventh Administrative Inspection District (hereinafter as "the Seventh District") of Gansu Province and Jiuquan was the headquarters of the General Administrative Inspector.

The local climate of Jiuquan and Jinta counties is extremely arid, almost desert-like: annual rainfall is less than 50 mm while the amount of evaporation exceeds 1000 mm per year on average. Largely a desert landscape, this area was dotted with oases fed by irrigation water, which was the bloodline of the local agriculture. Jiuquan county and Jinta county share the same water source, namely the Taolai River, an inland river originating from the Qilian Mountain. Located at the upper reaches of the Taolai River, Jiuquan county was known for its irrigation facilities, substantial population and prosperity. In contrast, Jinta county was in the lower reaches of the Taolai River and had long been plagued by the problem of insufficient irrigation water. Jinta county depended on the water underutilized by Jiuquan county for its agriculture in the 18th and 19th centuries, so it was less populated and prosperous than Jiuquan county.[8] Jiuquan county started to dam the river in the late 19th century and all the river runoff was kept in the upper reaches during the irrigation season. Consequently, Jinta county in the lower reaches could not find sufficient water to supply its irrigation in the early 20th century.[9] Moreover, the trade route from Suzhou to Hovd and Uliastai via Ejina was abandoned due to political upheavals in Outer Mongolia in the 1920s.[10] This forced most peasants of Jinta county back to subsistence agriculture, which put extra strain on the already insufficient irrigation water.

Sympathetic to Jinta county for its water shortage problem, the Gansu provincial government issued a directive in 1936 after a fact-finding mission, urging Jiuquan county to share water with Jinta county during the irrigation season.[11] This directive triggered backlashes in Jiuquan and fierce conflicts for the control of irrigation water between Jiuquan and Jinta counties. These conflicts took a huge toll on the local population and could easily have slid into an all-out social crisis.

To prevent the situation from getting out of hand, Zhao Zongjin and Ling Ziwei, respectively the governor of Jinta county and Jiuquan county, in 1938 jointly proposed to construct a reservoir in the border area straddling the two counties. They argued that the real reason why Jinta county lacked water for irrigation was not the poor water flow of the local river but the failure to harness it during the non-irrigation season. The

[8]See Zhang Jingping et al., Hexi *zoulang shuilishi wenxian leibian*, vii–xxi.
[9]"Xing Yutong fangtan cailiao," 908–909.
[10]See Zhou Zhizheng's "Gansu Jintaxian gaikuang," 59–67.
[11]"Gansusheng zhengfu guanyu Jiu Jin shuili jiufen'an," 181–183.

solution, accordingly, was to construct a reservoir. The proposed reservoir would provide much-needed irrigation water for areas in the lower reaches during the irrigation season and areas in the upper reaches would not have to share irrigation water with areas in the lower reaches. Conflict about control of irrigation water would naturally dissipate once for all.[12] At the time, local governments had exhausted negotiated settlements to deal with the intensifying conflicts over water. Building a reservoir would not only provide much-needed water source for Jinta county but also exempt local governments from the administrative burden of allocating irrigation water between the two counties. Both sides insisted that higher authorities should bankroll the construction of this reservoir. In a joint letter in February 1939 to Zhu Shaoliang, then the governor of Gansu Province, the governors of Jiuquan and Jinta counties and the General Administrative Inspector of the Seventh District posited the following argument:

> Undoubtedly, construction of a reservoir is the only solution to the endemic local social conflicts. However, such a project would will be unimaginable without enormous investment in the first place, which is just beyond the means of local governments. Since the outbreak of the Resistance War against Japanese Aggression, local governments have lost their vigor and vitality. Without your personal support, such a project will be doomed to fail.[13]

The provincial government of Gansu reacted positively to this proposal and agreed that it should take the responsibility of bankrolling this project. Meanwhile, it ordered the Provincial Construction Bureau to continue relevant surveys and Yuanyangchi in Southern Jinta county was finally selected for the site of the proposed reservoir. The name Yuanyangchi Reservoir started to appear in various government documents afterwards. After the project entered the planning stage, the provincial government of Gansu was confronted with an outstanding problem, i.e. it did not have the necessary financial and human resources to implement this project. Cao Qiwen, then the General Administrative Inspector of the Seventh District, was quite pessimistic about the prospects for this project. In a document that urged the Jiuquan residents to obey the provincial government's directive about sharing water with Jinta county in 1936, Cao claimed that the construction of the proposed reservoir would probably not start until the final victory in the Resistance War. As he argued, the central government was preoccupied with the Resistance War, and not at all in a position to devote much attention to Jiuquan.[14]

Nevertheless, the project started earlier than Cao had anticipated. In 1941, Bank of China and the provincial government of Gansu jointly established the Gansu Water Conservancy, Forestry and Herding Company (hereinafter the "Company" in short), with 70% and 30% of shares respectively. T.V. Soong, then the de facto head of the Bank of China, was appointed as chairman of the Company board. As an "investment-construction" consortium supported by state-supplied capital, the Company was mainly tasked with planning and constructing water conservancy projects in Gansu, with

[12]Ning Ren, "Yuanyangchi xushuku gongcheng."
[13]"Cheng wei suban xushuiku yi an difang you" [The Reasons for Constructing a Reservoir to Resolve the Local Social Conflicts], February 27, 1939, Lishi dang'an, file no. 1, 1/203.
[14]"Wei ling jinzun xunling anqi junshui bude zaiqi shiduan you" [To Obey the Provincial Government's Instruction about Sharing Water and Not Causing Trouble Again], April 16, 1937, Lishi dang'an, file no. 1, 1/104.

projects in the Hexi Corridor being the priority. After Chiang Kai-shek inspected Jiuquan in 1942, the Executive Yuan decided to earmark 10 million yuan annually for the water conservancy projects in the Hexi Corridor Area.[15] In 1944, the 12th Plenary Session of the Fifth KMT Central Committee made "developing agricultural irrigation in the Hexi Corridor Area" a national priority.[16] Consequently, water conservancy projects in the Hexi Corridor Area received substantial policy support. Shen Yi, the former architect of the "Mega-Shanghai" project, managed to persuade a group of world-class hydro engineers to work for Gansu through his personal prestige and by means of providing handsome salaries.[17]

As far as water conservancy projects in the Hexi Corridor were concerned, the financial and human resources constraints they once faced were substantially alleviated in just a couple of years. The underlying reason for this positive change was the increasing strategic status of the Hexi Corridor during the war years. Specifically, the Hexi Corridor was an important transportation route through which international aid could enter China in the early days of the Resistance War. Furthermore, it also harbored the Yumen Oil Field, the only modern oil production base in China at the time. After eastern China fell into the hands of the Japanese, authorities placed high expectations in the agricultural potential of these economic oases in the Hexi Corridor. To tap into this agricultural potential, however, the government needed to build necessary water conservancy projects in the first place. In a nutshell, changes in the macro-political circumstances galvanized the implementation of the Yuanyangchi Reservoir project.

Having said this, a large number of modern water conservancy projects could not be built at once in the sprawling Hexi Corridor simply because they were too expensive. After the Company had just been inaugurated, Shen Yi insisted that the newly founded company should pool its resources to "finish a giant project."[18] After intensive discussion, Shen Yi selected the Jiuquan Area as the site for the proposed "giant project." The so-call Jiuquan Area referred to the Seventh District of Gansu Province, with Jiuquan being the center, harboring the Yumen Oil Field. According to Shen, to build a water conservancy project in the Jiuquan Area could facilitate the development of the Yumen Oil Field. Moreover, Shen argued that such a project would be of considerable "political significance", since the Seventh District was adjacent to Xinjiang.[19]

Shen did not indicate what he meant with "political significance." Considering the political situation at the time, however, we can securely infer that this must be related to the strategies of the Nationalist government on Xinjiang. After the Soviet-German war broke out in June 1941, the Sheng Shicai regime shifted its loyalty from the Soviet Union to the Nationalist government. Chiang Kai-shek believed that he faced a window of opportunity to resolve the Xinjiang issue. As a result, he ordered the Central Army to station in Jiuquan, a military preparation for the objective of ultimately controlling

[15]"Yewu zhiyao."
[16]"Zhongyang xuanbu kaifa hexi nongtian shuili wei guojia shiye."
[17]Shen Yi, *Shen Yi zishu*, 271–299.
[18]"Gansu shuili linmu gongsi huiyi jilu disanfen" [The Meeting Minutes of the Gansu Water Conservancy, Forestry and Herding Company, no. 3], September 1941, Gansu shuili linmu gongsi dang'an, file no. 1/21.
[19]"Gansu shuili linmu gongsi huiyi jilu diliufen" [The Meeting Minutes of the Gansu Water Conservancy, Forestry and Herding Company, no. 6], November, 1941, Gansu shuili linmu gongsi dang'an, file no. 1/21.

Xinjiang.[20] It is no surprise that Shen Yi insisted that the proposed water conservancy project should be located in the Seventh District, since Jiuquan fell under its jurisdiction. Nevertheless, political reckoning per se could not explain why the Yuanyangchi Reservoir project was finally chosen. For instance, building a water conservancy project in the Changma River basin stretching from Yumen to Anxi (today's Guazhou county) would be more conducive to realizing the strategies of the Nationalist government on Xinjiang than the Yuanyangchi Reservoir project, both due to its proximity to Xinjiang and its vast virgin land resources. Moreover, local governments and residents of Yumen and Anxi were adamant about building a water conservancy project in their localities.[21] Thus, factors other than the political circumstance must have played a role in the final selection of the Yuanyangchi Reservoir project rather than an irrigation project in the Changma River basin.

Shen Yi wrote to Zhang Xinyi, then the chief of the Gansu Provincial Construction Bureau, in late 1941, in which he solicited the latter's opinion on whether the proposed large-scale water conservancy project should be located in the Changma River basin or at Yuanyangchi. Zhang preferred Yuanyangchi. In his reply letter to Shen, Zhang wrote:

> My field survey at Yuanyangchi convinced me that a reservoir should be urgently built there. Both Jiuquan and Jinta are places with strategic significance. However, the endemic disputes between them calls for swift actions. Without building the proposed reservoir, such disputes would never abate. Under the circumstance of urgent military situation in the front-line, people in the rear area must show solidarity. Governor Zhao of Jinta county even argued that the unity of the people in the rear area hinged on the completion of the Yuanyangchi project. I think he just told the truth……Building a water conservancy project in the Changma River basin would bring more benefits both in terms of the economy and national defence, but such a project should take a back seat considering the urgency of the Yuanyangchi project. We must be cautious when deciding which project should be prioritized.[22]

Thus, Zhang admitted the significance of building a water conservancy project in the Changma River basin for governing Xinjiang. But he still insisted that the Yuanyangchi project should be prioritized since it could better support the Resistance War efforts and ensure the solidarity of the rear area. It seemed that Zhang's letter significantly influenced Shen's decision. Shortly after, the Company established the Preparatory Office of the Sufengqu project in Jiuquan (later renamed to "the Sufengqu Project Engineering Office"), with Yuan Suxin, a water engineering professor at National Central University, as its chief. The Sufengqu Project Engineering Office was based in its project planning on the work that had been conducted by the Gansu Provincial Construction Bureau. The Company set up a branch at Jiuquan in 1943, which was responsible for managing water conservancy issues in the Hexi Corridor area. Yuan Suxin was appointed as the chief and the deputy chief engineer of this branch.[23] The so-called Sufengqu project aimed to modernize the irrigation facilities in Jinta county, with

[20]Yan Tianling, "1941–1942 nian Hexi zoulang zhujun dahuanfang kaoshi," 57–61.
[21]"Ershiqi nian Hexi gexian nijian guangai gongcheng fuhe baogao" [An Investigation Report about the Localities of Irrigation Projects in Several Counties in Hexi Area], January 2, 1939, Gansusheng jiansheting dang'an, file no. 4–3340.
[22]"Zhang Xinyi zhi Shen Yi xinhan" [A Letter from Zhang Xinyi to Shen Yi], January 6, 1942, Gansu shuili linmu gongsi dang'an, file no. 1/12.
[23]"Sufengqu choubeichu gaishe gongchengchu de zhiling" [A Directive on Renaming Preparatory Office of Sufengqu Project as Project Engineering Office], May 3, 1943, Gansu shuili linmu gongsi dang'an, file no. 1/97.

the Yuanyangchi Reservoir being the most important part. The Yuanyangchi Reservoir project entered the implementation stage in June 1943, and it was the only large-scale water conservancy project ever to be implemented by the Company.[24]

Most irrigation projects during the Republican era were constructed for economic purposes. In contrast, the Yuanyangchi project aimed to mediate endemic social conflicts and thus maintain the basic order of regional society. Therefore, the final project programme stressed that the proposed reservoir was "conducive to maintaining social stability in the rear area and to keeping solidarity among the local people when the whole country is fighting a resistance war."[25] In their respective congratulatory letters to inauguration of the Yuanyangchi project, the Seventh District, Jinta county and Jiuquan county all lauded the role of the proposed reservoir in maintaining "social unity in the rear area."[26] Against the background of the Resistance War against Japanese Aggression, the Yuanyangchi project finally received the support of the Company thanks to its anticipated benefits for local society.

III. Traditional mobilization mechanisms in the construction of the Yuanyangchi Reservoir

The construction of the Yuanyangchi Reservoir started in 1943. Under the meticulous direction of such engineers like Yuan Suxin, workers first finished the small-scale construction tasks on the banks. However, the project encountered outstanding difficulties in the stage of dam-building, including the long distance of transporting the excavated earth, as well as specific technical challenges. Without a professional construction workforce and with only a limited amount of modern construction equipment, this modern project had to be implemented through "pre-modern" ways, calling for a mass mobilization of human labor.

In the history of Jinta county, the labor force mobilized for the construction of the Yuanyangchi Reservoir was unprecedented. First, in terms of the geographic scope of labor force mobilization, which was conducted by the county government in the entire county of Jinta.[27] Second, in terms of time-span, starting in June 1943 and being completed in May 1947: the labor force mobilization was uninterrupted during the four years of the existence of this project. Third the Yuanyangchi project was unprecedented as far as its complexity was concerned. At least one thousand workers were employed at the construction site at any time during the implementation of the project. The construction work was subdivided into 11 sub-types and each of them needed to be managed according to different procedures.[28] Compared with traditional water conservancy projects, this project was unrivalled in the complexity involved.

The Jinta county government depended on the township and neighborhood systems, which had become increasingly bureaucratized since the new county government

[24]"Yuanyangchi shuiku jihua genggai" [The Basic Outline of Project Plan of Yuanyangchi Reservoir], June 17, 1943, Gansu shuili linmu gongsi dang'an, file no. 1/98.
[25]"Yuanyangchi shuiku gongcheng jihuashu" [Project Plan for Yuanyangchi Reservoir], January 5, 1943, Lishi dang'an, file no. 5, 2–1319.
[26]"Wei paiyuan canjia Yuanyangchi shuiku kaigong yidian you" [To Send Officials to Attend the Inauguration Ceremony of Yuanyangchi Reservoir], March 28, 1943, Lishi dang'an, file no. 1–219.
[27]"Feng Mingyi fangtan cailiao," 909–912.
[28]"Gansusheng diqiqu xingzheng ducha zhuanyuan," 246–247.

system was introduced. Although it devised sophisticated mechanisms for peasant labor conscription, their performance was unsatisfactory in practice. Jinta county was a sparsely populated area, and the local people were confronted by an onerous military conscription burden. This was why they were generally loath to be conscripted for the construction of the reservoir.[29] Furthermore, Jinta county had a vast expanse of land. Villages in the northern part of the county were 20 to 30 kilometers away from the construction site in the south of the county. Local peasants had to walk or take ox carts for the journey between their villages and the construction site, a very hard journey indeed. Since it was a protracted construction project, local peasants usually faced the dilemma between working at the construction site or farming back in their village. As a result, the project faced a shortfall of work force between 20 to 60 percent.[30] Construction of the dam was thus far behind the schedule.

The poor performance of the Jinta county government in mobilizing a labor force for the Yuanyangchi project was largely due to its weak capability, a problem also prevalent for other counties in the Hexi Corridor area. The Ma Bufang group dominated the Hexi Corridor area for one decade during the 1930s. Although the Gansu provincial government could appoint civilian officials to the area, Ma Bufang's troops were responsible for collecting taxes and maintaining security in the Hexi Corridor. Consequently, local governments of this area were weak, and officials generally lacked authority. Ma Bufang's troop retreated to Qinghai in the 1940s, but the problem of weak county governments in the Hexi Corridor persisted, so were problems of social decay and governance deficiency.[31]

While the Jinta county government was often clueless in terms of labor conscription, local gentries lent it a hand. Zhao Jishou, the putative leader of the gentry class in Jinta county and the primary organizer of a water right campaign in Jinta county, was directly involved in the decision-making process regarding the implementation of the Yuanyangchi Reservoir project.[32] First and foremost, gentries like Zhao Jishou tried to adjust the principle for labor conscription. The Jinta county government previously allocated labor conscription quotas according to how much irrigation benefits the peasants would enjoy after the completion of the project,[33] which was questioned by local gentries. In their opinion, since Jinta was a sparsely populated area and local residents were largely free to reclaim new farmland, it was hard, if not impossible, to distinguish between fallow farmland and abandoned farmland. In addition, local peasants tented to conceal the information on the farmland that they actually cultivated in a bid to pay less tax to the state. The government had never surveyed how much farmland was actually cultivated in Jinta country during the Republican era. Therefore, they argued that it was unfair to allocate labor conscription quotas according to the acreage of cultivated farmland. If labor conscription quotas were allocated according to the amount of agricultural tax every neighborhood should pay, they argued, the local peasants would have no complaint. Since the reservoir was located in the upper reaches

[29]Ibid., 243.
[30]Zhang Jingping et al., *Hexi zoulang shuilishi wenxian leibian*, 243–289.
[31]Liu Jin, *Zhongxin yu bianyuan*, 172–185.
[32]Zhang Jingping, "Tuntian yuxu zhong de jinshi bianjiang shehui shanbian," 186–201.
[33]"Yuanyangchi shuiku ershisi nian gongzuo jihua" [The 24-year Plan for Yuanyangchi Reservoir], December 18, 1944, Lishi dang'an, file no. 3, 1/505.

of the river, they argued that villages closer to the reservoir should contribute more labor considering they would enjoy predictable benefits from the reservoir. Correspondingly, villages at the lower reaches of the river should contribute less labor.[34] All these suggestions were finally adopted.[35]

Allocating labor conscription quotas according to the supposed benefits one could derive from the project has been a prevalent principle for labor conscription for water conservancy projects in modern China. With reference to traditional water conservancy experiences in the Hexi Corridor, local gentries argued for allocating labor conscription quotas according to "agricultural yields." This is because water rights were more important than land rights in the sparsely populated and arid Hexi Corridor area. Local agricultural tax was levied according to water right. Similarly, it was more reasonable to allocate labor conscription quotas according to the agricultural tax peasants paid rather than the acreage of the farmland they cultivated.[36] In addition, traditional irrigation facilities tended to result in considerable water loss due to canal leaks. Correspondingly, the upper reach areas would grant more water rights to the lower reach areas to compensate for the water loss. Therefore, the suggestion that the upper reach areas contributed more labor than the lower reach areas was consistent with traditional practice.

Nevertheless, merely adjusting the labor conscription principle could not guarantee the necessary workforce for the project. Some local gentries decided to substantially intervene in the labor conscription process and established the Labor Force Mobilizer System (LFMS), under which every neighborhood appointed a gentry or a clan member to the Mobilizer, whose responsibility it was to meet the labor force conscription target of his neighborhood. Some Mobilizers might do their job in a civilized manner. However, most of them used coercive measures to force the peasants to work on construction sites. Those who resisted would be punished.[37] The violent aspect of LFMS was consistent with the tradition in the Hexi Corridor, namely that leaders of water conservancy activities enjoyed definitive privileges.

The local gentry also managed to change the food subsidy policy for peasant workers. The Sufengqu Project Engineering Office was responsible for covering the food expenses of peasant workers conscripted into the Yuanyangchi project.[38] Since Jinta county was suffering from a shortage of supplies, the Sufengqu Project Engineering Office would inadvertently elevate cereal prices if it directly purchased produce from the market. To avoid such a scenario, it was decided that the Sufengqu Project Engineering Office were to fund food stuff to the Jinta county government on a monthly basis. According to the quota of labor conscription, the county government would allocate a fund to every neighborhood correspondingly. Neighborhood chiefs were then responsible for purchasing flour, which would be processed by the makeshift canteen.[39] However, such a system

[34]"Cheng wei yuanjin xuanshu zhiqi fenhe daoli zhuo gaigong shangshi" [A Suggestion on Allocating Labor Conscription Quota Based on a Place's Proximity to the Reservoir], July, 1945, Lishi dang'an, file no. 4, 1/1821.
[35]"Diqiqu shichayuan Liu Han guanyu qianwang Jinta," 248; and "Disanci xianwu huiyi jilu," July 7, 1945, file no. 4, 1/1830.
[36]Wang Peihua, "Qingdai Hexi zoulang de shuiziyuan fenpei zhidu," 91–98.
[37]See *Jiuquan diqu diwei renyuan ziliao*, vol. 1, 44–72.
[38]See "Guanyu checha Jinta xianzhang tanwu qingxing," 346–347.
[39]"Jintaxian zhengfu guanyu qinghuangbujie shiqi," 300.

was soon plagued with problems. Gentry members like Zhao Jishou suggested that the money should be directly sent to peasants, who were expected to purchase food on their own.[40] It should be noted that centralized food supply was a widely accepted practice during the implementation of modern water conservancy projects while workers for traditional water conservancy projects usually had to organize the food themselves. Nevertheless, supported by the Sufengqu Project Engineering Office, the aforementioned suggestion by local gentries was adopted by the county government.[41]

During the implementation of the Yuanyangchi Reservoir project, engineers worked closely with the local gentries. As Yuan Suxin put it, "we can only rely on the understanding of local residents and the prestige of local elites to ensure the project's scheduled completion."[42] However, it is doubtful whether the local elites really obtained the understanding from the local people. According to materials based on oral history or the *Hexi zhi (History of Hexi)* compiled by the government, most local peasants had very negative attitudes to labor conscription to report.[43] With the support of local gentries instead of local officials, the labor conscription problem was largely resolved. Thanks to this positive development, the earthen dam was finally erected in May 1947. It vividly demonstrated how a "modern" project was implemented by taking advantage of those "pre-modern" labor mobilization and organization measures. During the implementation of the Yuanyangchi Reservoir project, local gentries facilitated the large-scale mobilization of peasant workers by resorting to traditional resources. In contrast, the burgeoning grassroots government system that the Guomindang regime put in place failed to play a substantial role. Instead, it left a considerable amount of official documents that existed only on paper.

IV. Social legacies of the construction of the Yuanyangchi Reservoir

Social disputes over water right between Jiuquan and Jinta counties finally came to an end in 1947 after the completion of the Yuanyangchi Reservoir. Jinta county ended its history of no irrigation facilities the same year. Nevertheless, the construction of the Yuanyangchi Reservoir left more legacies to local society. Ma Yuan'e, the last Nationalist governor of Jinta county, once said that "Every government employee of the county government was inspired by the construction of the Yuanyangchi Reservoir. We acquired a scientific spirit and new work ethic in order to improve our performance."[44] In his view, the "spin-off" of the Yuanyangchi Reservoir project was equally important.

As mentioned above, local gentries played an important role in labor conscription during the implementation of the Yanyangchi Reservoir project. This fact inspired the local authorities in Jinta county. Under the circumstance of intensifying civil war between the Nationalists and Communists, the Hexi Corridor area had to meet

[40]"Disici xianwu huiyi jilu" [The Minutes of the Fourth Meeting of the County], April 7, 1946, Lishi dang'an, file no. 4, 1/1831.
[41]"Jintaxian zhengfu guanyu qinghuangbujie shiqi," 300–301.
[42]"Gansu shuili linmu gongsi huiyi jilu di ershiwu fen" [The Meeting Minutes of the Gansu Water Conservancy, Forestry and Herding Company, no. 25], June, 1945, Gansu shuili linmu gongsi dang'an, file no. 1/22.
[43]"Ge Shengnian fangtan cailiao," 922; and Zhangye zhuanqu wenhuaju, *Hexi zhi*, 63.
[44]Ma Yuan'e, "Jintaxian gaodeng xiaoxuexiao qianzhi zhici."

increasingly excruciating military conscription quotas thanks to its geographical location far from the major battle fields. Some local officials believed that the local gentries could play a mobilizing role for military conscription similar to what they had achieved in labor mobilization during the implementation of the Yuanyangchi project. In March 1948, the president of Jinta County Senate proposed to establish a "Military Conscription Committee" (MCC), specifically calling for the active involvement of local gentries. He even suggested that the allocation of labor conscription quotas made by the Sufengqu Project Engineering Office in July 1946 should become the basis for military conscription since "it is impossible to conduct another census." Some local gentries were actively involved in the MCC and became the targets of local grievances due to their unscrupulous behavior.[45] A positive development was the fact that the gentry-dominated mobilization approach was included in the Expansion Plan of the Yuanyangchi Reservoir by the Jinta county government. According to the Expansion Plan, a project committee was to be established to take the overall responsibility of labor conscription mobilization, with the county governor as the chairman and local gentries as members. It further specified that townships and neighborhoods should only play an auxiliary role in labor conscription mobilization.[46]

The construction of the Yuanyangchi Reservoir unexpectedly strengthened the social mobilization capability of local county governments on the one hand and put in place a list of coordination and consultation mechanisms on water conservancy on the other. Since the start of the Yuanyangchi project, the Sufengqu Project Engineering Office had organized irregular meetings and invited the governors of the two counties and the general inspector the Seventh District to attend. They discussed issues like labor conscription and purchasing construction materials. Later they discussed water conservancy issues on such meetings, which were agreed to be held twice a year. Therefore, a deliberation mechanism on the basin-wide water conservancy issues emerged. Such a mechanism was maintained even after the inauguration of the Yuanyangchi Reservoir. It morphed into the Basin Committee after 1949, providing an institutional platform for resolving outstanding water conservancy problems.

Ironically, when the local officials attempted to keep the governance legacies left by the Yuanyangchi project without changing the existing administrative framework, engineers and technicians tended to view the various difficulties during the implementation of this project as hard-earned lessons. As Yuan Suxin remarked:

> The Sufengqu Project Engineering Office was unattached to local society, without any administrative power. Consequently, it had to be painfully coordinated with local actors whenever something needed to be done. We spent too much of our energy on the coordination work. Local bureaucrats were narrow-minded for the most part. They procrastinated even on very trivial issues and some greedy ones even tried their luck in corrupt practices. Although we can finish this project by doing our best, the grand objective of developing the Hexi Corridor area would become impossible without changing the established company system (i.e. Gansu Water Conservancy, Forestry and Herding Company). We should learn from the TVA model and ensure the faithful implementation of rules and orders by relying on administrative power and the military

[45] *Jiuquan diqu diwei renyuan ziliao*, vol. 1, 53–54.
[46] "Sufengqu kuoxiu ying wei gongcheng weiyuanhui jiandu you" [A Project Committee Should Be Established to Supervise the Expansion Work of Sufengqu Project], March 20, 1948, file no. 4, 1/1210.

> force stationed on the ground. Only through empowering the Project Engineering Office to take initiatives could we translate our technological prowess into swift action. The state-allocated project budget would be immune from corruption as well. If all these conditions were met, we would leave an ever-lasting legacy in the history of developing the Hexi Corridor area.[47]

The TVA that Yuan Suxin mentioned above was the acronym of the Tennessee Valley Authority, a quasi-government agency responsible for developing river basins in an integrated manner. Chinese engineers like Yuan Suxin were deeply impressed by the TVA Model, which featured technological prowess, professionalism and independence from local governments. With the core objective of "realizing powerful mobilization," the TVA Model was meant to realize the intentions of engineers and the efficient use of the project budget.

Another reason why the engineers preferred the TVA model was that it could help advance the governance legacies left by large-scale water conservancy projects. Engineers were not merely preoccupied with the completion of the reservoir project. They also hoped to leave some governance legacies to local society. First and foremost, such governance legacies were expected to facilitate the implementation of projects in the future. In an interview, Yuan Suxin believed that Jiuquan and the Hexi Corridor area as a whole would build more reservoirs in the future. He suggested that the Yuanyangchi project should leave two invaluable legacies for the implementation of future projects: one was the construction site management system and the other was the training of management staff and skilled workers.[48] Compared with traditional water conservancy projects, the Yuanyangchi project has shown some trappings of a "modern construction site." Inspectors wore a standard badge and the Sufengqu Project Engineering Office banned physical punishment of any kind in its regulation.[49] As far as training and technical specialization were concerned, the construction site became a appropriate training ground for determined talents. Former chiefs of Jinta's Water Conservancy Bureau were after 1949 involved in the construction of the Yuanyangchi Reservoir. When the Lanzhou-Xinjiang Railway project started in the 1950s, authorities were keen to recruit stone-cutting workers and carpenters from Jinta county thanks to the skills they had learned from their involvement in the Yuanyangchi project. Many of them could understand simple engineering drawings while such talents were a rarity in other places of the Hexi Corridor area.[50]

Construction site management system and the training of talents would have far-reaching impacts on local society even after the completion of the reservoir project. Such achievements, however, were tenuous at best, frequently challenged by local actors, including the local gentry group. To pick up the pace of the project, local gentries, by working with the Water Conservancy Committee, replaced tolerant chiefs of the peasant labor force with persons known for the harsh treatment of workers. As

[47]"Gansu shuili linmu gongsi huiyi jilu di ershiwu fen" [The Meeting Minutes of the Gansu Water Conservancy, Forestry and Herding Company, no. 25], June, 1945, Gansu shuili linmu gongsi dang'an, file no. 1/22.
[48]"Zhijing Yuan Suxin xiansheng."
[49]"Gansu shuili linmu gongsi Sufengqu gongchengchu," 342–343.
[50]"Lan-Xin Tielu jianshezhong xiezhu zhaomu yanxian jishu gongren de han" [A Letter about Recruiting Technical Personnel from the Adjacent Area for Constructing Lanzhou-Xinjiang Railway], April 2, 1955, Gansusheng renmin zhengfu dang'an, file no. 1/302.

a supervisor later said: "Since a peasant worker did not dig up the earth as required, I physically punished him. People from the Project Engineering Office asked me to stop. However, a gentry, who was identified as a villainous landlord after 1949, gave me a hammer and asked me to hit the poor worker harder."[51] The behavior of local gentries were in contravention of the efforts of the Project Engineering Office to manage the construction site in an professional and civilized manner.

To counter the misbehavior of the local society in general and the local gentry group in particular, some progressives became determined to protect the social legacies left by the Yuanyangchi project. In 1946, Zhang Xinyi suggested to the provincial government that the Water Conservancy, Forestry and Herding Company had to be restructured. As he argued,

> Construction in Gansu is still in an embryonic stage, and it can disappear at any time. Today, most talents have returned to east China. I am afraid that such a development would not only frustrate our construction efforts but also hold back the progress of our local society. Thus, I suggest that we should build institutions to facilitate our construction efforts while the erstwhile company system has proven its inaptness. . .. . .In the U.S, similar organizations are government agencies in and of themselves. We should definitely learn from the U.S. example.[52]

As a step towards an institution for construction, the Hexi Branch of the Gansu Water Conservancy, Forestry and Herding Company was reorganized as the Hexi Water Conservancy Engineering Team. Huang Wanli, a famous water conservancy expert and the brother-in-law of Zhang Xinyi, was named as the chief of the Water Conservancy Engineering Team and Gansu Water Conservancy Bureau.[53] Thanks to his painstaking efforts in the late 1940s, Huang Wanli managed to maintain the momentum of water conservancy construction in the Hexi Corridor area. However, whether he had successfully maintained the social progress made during the Yuanyangchi project is an open question.[54] At the end of the day, we should not expect such a vast water conservancy project arduously managed by only a couple of engineers to leave long-lasting legacies to local society.

V. Conclusion

Chinese society was about to embrace modernity when modern water conservancy projects were first introduced into China. China's society during the Republican era had retained many traditional legacies and it had to adapt to the implementation of modern water conservancy projects. As the planning and implementation of the Yuanyangchi Reservoir project demonstrate, a modern water conservancy project always involved political and social changes during its implementation.

The most outstanding problem during the planning of the Yuanyangchi project was the budget. During the Republican era, the local communities in Jiuquan and Jinta were plagued by an irrigation water shortage crisis due to environmental constraints. Both

[51] *Jiuquan diqu diwei renyuan ziliao*, vol. 3, 15.
[52] "Gaizu Gansu shuili linmu gongsi jianyishu" [Reorganization Proposal of Gansu Water Conservancy, Forestry and Herding Company], January 5, 1946, Gansusheng jiansheting dang'an, file no. 4/4012.
[53] "Hexi shuili gongcheng zongdui," 421.
[54] Zhao Cheng, *Changhe gulü.*

the local authorities and the local people agreed that constructing a modern water conservancy project was the final solution. Both the project planning documentation and the subsequent publicity campaign demonstrated the enthusiasm of local society in supporting and adapting to national strategies, which facilitated the launch of the Yuanyangchi project. Modern water conservancy projects are capital projects. In the political process of aspiring to a water conservancy project, the local communities must take full advantage of the opportunities offered by the circumstances.

At the project implementation stage, labor conscription became a thorny issue that could not be circumvented. Modern water conservancy projects in China during the Republican era could match their European and American counterparts both in terms of designing and performance. However, the Chinese engineers had to rely on a large labor force in the project implementation due to the low industrialization level of China at the time. Consequently, water conservancy projects during the Republican era had to be implemented in a traditional manner and involved a large part of the local population.

Thanks to the painstaking efforts of engineers and technicians, the Yuanyangchi Reservoir project left rich legacies to the local communities. Local officials viewed these legacies as something that could improve the functioning of the established system. Engineers and technicians on the ground, however, detected the inaptness of the established system to manage modern large-scale projects. To keep the social legacies left by the Yuanyangchi project, they called for the establishment of a brand-new project management system.

Modern water conservancy projects are planned and implemented to realize concrete objectives. Actors can resort to various political narratives for the purpose of realizing those objectives. The seeming "backward" tradition can also be revitalized during the process. As far as the implementation of these projects is concerned, the involved resources and methods and their repercussions cannot be anticipated and planned beforehand. Studies on water conservancy history have increasingly concentrated on grassroots society in recent years. Such a development compelled some water conservancy historians to call for "bringing the state back in."[55] As a matter of fact, the state has never been under the radar of water conservancy history researchers. The problem is a dissonance between the state-centric and the society-centric approaches. Researchers following the former stress the mechanisms of state power, while their counterparts following the latter focus on the mechanisms of social autonomy. Construction of modern water conservancy projects during the Republican era always involved both the state and the cooperating local society. In this sense, an approach that dynamically links state and society is more useful. Such an approach will neither overstate the top-down influences of technocrats nor exaggerate the self-governing capability of local society. Beneath the surface of the "hard" technological requirements of modern water conservancy projects, we can always detect that delicate, yet substantive state-society interactions are at play.

(translated by JIA Yajuan)

[55]Ling Zhang, *The River, the Plain, and the State*, 280–290.

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Glossary

Anxi	安西
Cao Qiwen	曹启文
Changma	昌马
Ejina	额济纳
Gansu	甘肃
Gu Ganchen	顾淦臣
Guazhou	瓜州
Hexi zhi	《河西志》
Hexi	河西
Huang Wanli	黄万里
Jiayuguan	嘉峪关
Jinta	金塔
Jiuquan	酒泉
Juyanhai	居延海
Kangxi	康熙
Lanzhou	兰州
Li Yizhi	李仪祉
Ling Ziwei	凌子惟
Ma Bufang	马步芳
Ma Yuan'e	马元鹗
Qilian	祁连
Qinghai	青海
Shen Yi	沈怡
Sheng Shicai	盛世才
Sufengqu	肃丰渠
Sufengqu	肃丰渠
Suzhou	肃州
Taolai	讨赖河
Wangzizhuang	王子庄
Xinjiang	新疆
Yuan Suxin	原素欣
Yuanyangchi	鸳鸯池
Yumen	玉门
Zhang Jian	张謇
Zhang Xinyi	张心一
Zhao Jishou	赵积寿

Zhao Zongjin 赵宗晋
Zhu Shaoliang 朱绍良

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Development and ecological management of flood lands in Western Hebei from the perspective of environmental history (1937-1949)

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ABSTRACT

Previous studies of environmental history in North China have focused too much on ecological degradation and neglected human dynamism in response to environmental change. Since the fifth year of the Yongzheng era (1727), the government and the people created large-scale agrarian flood lands on both sides of the West Hebei River. However, since the mid-Qing era, the ecological degradation of the watershed has continued to hinder the development of the flood lands, and the flood lands continued to shrink due to frequent flooding. Between 1937 and 1949, initiated by all levels of the CCP-controlled regional governments, the people of western Hebei showed great initiative in managing the ecological environment of the watershed, and the flood lands in western Hebei were gradually restored and has therefore survived. It is thus clear that the regional population has not always been passive and helpless under the pressure of increasing ecological degradation in northern China since the Qing era. After 1937, the renewal of political forces and adjustments of socio-economic policies, as well as conceptual and practical environmental management and a governance of the watershed territories based on ecological principles, encouraged the regional population to adapt to the challenges posed by ecological degradation and to proactively maintain the land as a source of food and clothing.

KEYWORDS

Western Hebei; development of flood lands; ecological degradation; environmental management

There is a widely known key concept in the study of environmental history, namely degradation.[1] Scholars in China and internationally have regarded the environmental problems in northern China as a lamentable example of degradation, and there appears to be a consensus that the problem has been getting progressively worse. Kenneth Pomeranz has pointed out that the North China Plain, which had been the strategic center of the Chinese empire from the latter half of the 19th to the 20th century, was afflicted by economic, demographic, and environmental deterioration.[2] Lillian M. Li argues that the ecological degradation in North China, represented by the Haihe River basin, is not only a cyclical process, but also the cumulative result of environmental

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[1]Beinart, *Environment and History*, 3.

[2]Pomeranz, *The Making of a Hinterland*, 44, 244.

degradation over several centuries.[3] Wang Jiange also believes that the ecosystem of North China was already extremely fragile during the Qing era and that it was even harder to withstand natural disasters from the 1920s to the 1940s.[4] However, did the structural ecological degradation in North China stabilize or constrain the dynamism of regional populations to cope with environmental change? Taking the high-yielding and intensive agricultural development and environmental management practices in the flood lands in western Hebei between 1937 and 1949 as an example, this paper explores the dynamics of human responses to environmental change, as well as environmental management and governance in agricultural production in the North Chinese interior. In terms of ecological degradation this study thus contributes a different perspective of North China's environmental history.

I. Creation, production, and environmental degradation of the flood lands of West Hebei before 1937

The formation of the flood lands of western Hebei is the result of the artificial transformation of the river flood plain on both banks of the Tang, Dasha, Ci and Hutuo rivers as well as their tributaries. But not all flood plains can be turned into arable land. The "secret" about the creation of the flood lands of western Hebei is that these rivers are rich in mud, and the water quality is more turbid during the flooding period than during the shallow water period. In the literature of the Qing era, this was referred to as "turbid water and fertile mud." In the upper reaches of the rivers in western Hebei, the Shanxi plateau and the mountainous area at the junction of Shanxi-Chahar, a long period of land reclamation and logging was followed by serious deforestation, and the release of a large amount of shallow soil and humus in the mountains and plateaux. When flowing downstream in the rainy season, the water quality of the river gradually changes from clear to turbid, resembling "yellowish-brown porridge, most fertile for irrigating rice fields."[5] Clearly obvious since the Qing era, the autumn leaves and weeds from the mountains of western Hebei were preserved in the cold air, becoming a good feed for livestock, which in turn produced excrement which became the main source of fertility in the spring.[6]

It is generally believed that the water conservancy and farmland irrigation of Beijing in the Qing Yongzheng period initiated the development of the flood lands in western Hebei. In 1727, the court set up the bureau of farmlands irrigation, officials and private fields of Pingshan in the Hutuo River basin of western Hebei, Jingxing and other counties under the administration of the Beijing South Bureau. Officials and private fields in Tang County of Tang River basin, Xingtang and other counties are under that of the Beijing West Bureau. The *Jifu tongzhi* ("Integrated Gazetteer for the Capital and its Environs") published during the Yongzheng period summarized the techniques and methods of agrarian methods on flood lands, namelyby opening canals, laying stones to contain silt (mud) and building weirs.[7] The opening of canals and the laying of stones

[3]Li Mingzhu, *Huabei de jihuang*, 1, 27.
[4]Wang Jiange, *Ecology and Society in Northern China at the End of Traditional Society*, 4.
[5]*Wanxian xizhi*, vol. 2, 232.
[6]Zhang Yuke, "Hutuo he shangyou shuidao," 5–8.
[7]*Jifu tongzhi*, vol. 47; and *Yingyin wenyuan siku quanshu*, vol. 505, 88–89.

to contain silt were for irrigation and siltation of fields to create land, while the building of weirs was to prevent floods from destroying the flood lands. Among them, the most characteristic was the laying of stones to restrain silt, by opening a border on the riverbank and stacking the ridge with stones, so that the mud would be stored and stopped by the ridge after the water was diverted into the ground by opening a canal, thus gradually forming a field.

The water conservancy and farmland irrigation made "the rice very luxuriant" in the flood lands of western Hebei, but due to the turbidity of the river, rice fields would soon be highly silted and water in the canal could not flow inland. As a result, a cultivation method of rice and dry land crop rotation was developed in the flood lands. Initially, the flood land was converted to dry land and then planted with crops such as sorghum and millet. From the Qianlong period onwards, wheat, sorghum, corn, beans, tobacco, cloth dyes, inter alia, gradually increased in quantity. By 1911, the main crops on the flood lands were rice, wheat and corn, with wheat becoming the most extensive, while others such as millet, cotton, sorghum and a variety of vegetables and beans playing a minor role.

Irrigation of flood lands developed into two systems: shallow irrigation and flood irrigation. During the shallow period, the river was stable, and the central government ordered canals to be opened on both sides of the river so that the canal water could flow into the flood lands for siltation, fertilization and irrigation. In the flood period the canal was used for flood irrigation, resulting in rising river levels, increasing the mud and debris content of the water, and thus enhancing fertility compared to the shallow water period. Regular dredging and protection were required to prevent the river from washing away the bed and estuary of the canal. During the Republican period, between 1911 and 1949, the water level of the western Hebei River steadily decreased, so the people of the flood lands built barrages to divert water into the flood lands during the shallow water period.[8] The role of such barrages was provisionally limited to periods of low water levels. The development of the irrigation system in the shallow water period had become more advanced by the twentieth century, but due to the differences in location as well as socio-cultural factors relating to the owners of flood lands, disputes over water use in the flood lands in western Hebei before 1937 occurred frequently, becoming more serious in dry years.

As far as the management system was concerned, the Qing administration appointed one chief of the drains for each flood land, and the whole work of ditching, dredging and desilting of the drains in flood lands was under his control. Between 1911 and 1937, the management of flood lands in western Hebei generally implemented the workroom system.[9] The workroom was composed of a certain number of field heads (i.e. managers and heads of shares) elected by each flood land village. It was similar to that of a management committee, and some flood lands were also called account rooms or public offices, which were the general authorities of the flood lands. The head of the field was the actual manager, rotating on an annual basis.[10] All the services in the flood lands, such as reclamation, drainage, water distribution, environmental protection, and

[8]"Shahe liang'an," 324.
[9]Liu Xitong, "Pingshan xian shuili shiye tiaocha baogao," 72.
[10]Lu Sheng, "Pingshan xian shuili shiye," 4.

similar were under their management and organization. Apart from the field head, there were also water heads, secretaries, accountants, dam heads and support staff. The number of field heads varied, generally two to four people, some flood lands and drains such as the South Drain of Xigang in Pingshan County counting up to 6 people. The larger the area of flood lands were occupied by water-intensive households, who were more likely to be elected as head of the field. Farmers owning six, eight or fifteen *mu* of flood lands in the Hutuo River could be elected as the field heads, while fifty mu was required to qualify for the headship over the fields in the Shijiwan flood lands of the Pingshanye river. These heads were partly landowners, partly local elites, whose task it was to hire a permanent or casual work force to reclaim the flood lands. Only loosely organized, disputes over flood lands occurred constantly, the protection project was never achieved, and the flood land often destroyed by rising water.[11]

The instability of natural rivers has a continuous impact on the production of flood lands, which could rise and fall with the river levels. The fertile mud in the water of the rivers in western Hebei provides the flood lands with their soil, but it is a "by-product" of the long-term irrational land use in the mountainous and plateau areas further upstream. In more modern times, famine, war and social upheavals have further induced people in the lower reaches to venture into the mountains for land reclamation and logging, resulting in serious damage to the vegetation in the upper reaches of the rivers and continued degradation of the ecological environment. In Wanxian (now Shunping), for example, at the end of the Qing era, many people were refugees, and those who moved to the mountains to engage in logging and planting increased year by year. As a result, within a few years, the mountain forests in the upper reaches of the Tang River had been deforested, and in the event of heavy rains, "water and mud plunged down, and all streams gathered into one."[12] In 1936, Japanese investigators also pointed out that the mountains in the upper reaches of the Tang River and other rivers were unsuitable for water conservation, because of the absence of trees, which caused repeated disasters during the rainy season.[13] Whenever the flood lands were flooded, the people in the flood lands would choose to go upstream to the mountains for land reclamation and logging, thus further increasing the risk of flooding, forming a vicious ecological cycle.

The counties in western Hebei are on the eastern windward slope of the Taihang Mountains at the junction of mountains and plains and are one of the major rainstorm areas in northern China. Coupled with the increasing soil erosion in the upstream areas of the rivers, inundations in the flood lands have occurred frequently since the Qing era. Zhu Kezhen's research in 1927 showed that the number of floods in Hebei had increased significantly in the last three centuries, and that "the place where the mountains and plains meet" was one of the places with the most floods.[14] After the flood in western Hebei in 1887, the flood lands were almost every other year "flushed by water and squashed by sand." Especially in 1917, 1920, 1924, and 1929, the floods were so huge that the flood lands became a recurrent disaster area. Since then, with the degradation of the watershed ecology and increased social turbulence, as well as given

[11]Li Zhilin, and Sun Mai, "Shahe liang'an de renmen," 2.
[12]*Wanxian xinzhi*, vol. 2, 232.
[13]"Hebei sheng nongye diaocha baogao (II)," 11.
[14]Zhu Kezhen, "Zhili dili de huanjing he shuizang," 111, 114.

the constraints of outmoded economic methods, the situation of the flood lands had become increasingly alarming. The flood lands of western Hebei had gradually shrunk, both in terms of water and dry land. Since the end of the Qianlong era, the flood lands in Pingshan County had been repeatedly eroded, and only two or three out of ten had survived by 1931.[15] Fuping County had been flooded frequently since the late Qing, and its flood lands eroded.[16] The reasons for this were, firstly, that the frequent floods made the reclaiming and protection of flood lands increasingly difficult and laborious, and the general public did not have the authority to reclaim the flood lands.[17] Secondly, although the owners of the flood lands were fully in charge of the flood lands' upkeep, they reclaimed them in an uncoordinated way. Not only was it impossible to build a continuous stretch of flood land, but disputes over land and water rights abounded. The proverb "If you want to file a lawsuit, plant a rice field" was popular in the flood lands.

II. Methodological, technical, and institutional changes in the development and governance of flood lands

In general, persistent ecological degradation triggers increased poverty, and Huang Zongzhi argues that poverty exacerbated by frequent disasters, including floods, is one of the major ecological factors shaping the socio-political and economic structure of the Hebei – Northwest Shandong Plain.[18] However, since 1937, the Shanxi-Chahar-Hebei Border Area government encouraged the flood land population to gradually develop into one of the most affluent areas, by means of policy reforms, as well as investment in technology and financial and human resources. Changes to the management system continuously strengthened the environmental management and treatment of the flood lands.

Reclamation and protection of flood lands: restoration and management of flood lands

Since 1937, government policies such as rent and interest reductions and uniform progressive taxation were gradually implemented, resulting in clear changes in class relations and in the status of land rights in western Hebei. On the one hand, both the number of landowning households and the amount of land held were on the decline. On the other hand, before 1937, most new landowners were middle and poor farmers, while after 1937, the opposite was true.[19] Furthermore, on September 17, 1939, the Shanxi-Chahar-Hebei Border Area government promulgated the "Measures for Reclamation and Flood Lands Construction in the Shanxi-Chahar-Hebei Border Area," which not only clarified the ownership, usage rights and the lease lengths of flood lands, but also took care of the interests of tenant farmers and other poor peasants. The government thus assisted the poor farmers to gradually take control of

[15]*Pingshan xian zhiliao*, vol. 2, 11.
[16]"Hebei sheng fuping xian difang," 123.
[17]Zhou Diao, "Fuping tandi yingxiong Li Zhiqing," December 30, 1945.
[18]Huang Zongzhi, *Huabei de xiaonong jingji*, 60.
[19]"Zhonggong tudi zhengce zai jinchaji," 1.

the flood lands. Some of the poor farmers and hired farmers who reclaimed the flood lands became shareholders, while some became directors of the flood lands. Given this situation, the flood lands of western Hebei derived help from three sources in reclamation efforts: from the government, the military, and by means of voluntary helpers.

The flood lands of western Hebei do not require fertilization, are not endangered by drought and flooding and yield abundant harvests, but the flood lands are often destroyed due to inundations. In 1939, a major flood occurred in the Haihe river basin, where most of the flood lands in the four major basins of western Hebei were washed away. In 1940, a large-scale reclamation campaign of flood lands was carried out in the Shanxi-Chahar-Hebei Border Area, with government support or military help, at times carried out simultaneously by both. The government strongly advocated the reclamation of flood lands through policy incentives, financial support, technical teaching and practical instruction, and supported the restoration and management of flood lands; the army not only directly helped the villagers to reclaim the flood lands and prepare the land,[20] but also distributed the food crops thus rescued to the people who reclaimed the flood lands. The Border Area had reclaimed 139,495 *mu* of flood lands, of which the army helped reclaim 110,000 *mu*.[21] In 1945, during the Great Production Campaign, the Shanxi-Chahar-Hebei Border Region government stipulated the reclaiming of flood lands within nine years without progressive tax and no additional burden. At the same time they provided loans and food aid to solve the problem of capital flow difficulties in the construction of water conservancy projects.[22] In November, the Central Bureau of the Border Area investigated the rural situation at the close of the War, holding meetings with the leaders of the sub-districts to discuss the restoration of flood lands in the reclamation of the flood lands, maintenance of dams and drains and other required work, as well as the provision of loans and administrative organization.[23] After the establishment of the People's Republic in 1949, the government of the Border Area gradually improved flood land rights and farmers' burdens and continued to provide water conservancy loans to promote the construction of flood lands in western Hebei. Some local governments also declared that no rent would be payable for 15 years after the flood lands had been reclaimed. Payment of this rent would grant them the right of perpetual tenancy. If the flood lands were eroded and reclaimed more than three times, the land rights would then be given to the reclaimers of flood lands, thus also improving social cohesion in the countryside.[24]

Cooperative reclamation of flood lands is divided into two types, firstly the reclamation of flood lands in jointly managed land, by village cooperatives. Here the income from the reclaimed flood lands was distributed to the cooperatives for infrastructural work and dividends. Secondly, by temporary cooperatives formed by villagers to reclaim the flood lands, by means of collective labor, in order to alleviate the lack of food production. Such cooperative reclamation work started as early as in 1939, and in more sophisticated shape after 1940. The main task of reclaiming flood lands in cooperatives was to organize the members into shares, leading the members to work

[20]Li Gongpu, *Hubei qihou*, 102.
[21]Song Shaowen, "Jinchiji bianqu de jingji jianshe," January 1943, 261.
[22]"Seventy-eight Thousand Acres of Drainage and Reclamation," 2.
[23]"Jijin, Jicha liangqu yu kangzhan shengli," 754.
[24]"Fangfeng fangshui yudi hudi," *Renmin ribao*, August 13, 1948, 2.

in partnership or collectively to reclaim the flood lands. The second was to provide loans or advance funds for reclaiming flood lands. The cooperative was both the organizer and operator of the flood lands and the largest shareholder of the flood lands. The construction of the flood lands was organized by the cooperatives, the flood lands belonging to the community, and for the village community to organize the collective agricultural production in perpetuity. Hereby important is the voluntary and temporary nature. Generally, the villagers collected shares first, each held by farmers and each share representing an obligation to cooperate, the harvest being distributed according to the farmers' shares. The shareholding method of reclamation cooperation of flood lands varies from place to place, with some flood lands taking shares in labor and specific tasks during the reclamation of flood lands, and others taking shares in kind (food, farm equipment, etc.). In short, with the support of the government, the shareholders of the flood lands represented the peasantry who contributed to the reclamation of the flood lands. Electing their own leaders, they formed a unified command structure and controlled both labor and food by alloted shares. This new type of cooperative production and collective labor maximized the efforts of all parties in the restoration of flood lands with limited funds and labor during the war. And it has remained popular in western Hebei ever since 1937.

When it came to reclaiming flood lands, the government paid more attention to the protection of flood lands after the inundations of 1939. The Production Committee of the Shanxi-Chahar-Hebei Border Region required local production committees to report each production stage in the protection of flood lands as a basis for strengthening their administrative infrastructure.[25] Engineering combined with environmental protection of flood lands was intended to continuously enhance the management of the environment of the flood lands, a far greater challenge than for previous generations.

Protection through engineering refers to the construction of water retention structures on the periphery of the flood lands and both sides of the river through man-made constructions, relying on earthwork, stonework, etc., in order to consolidate dikes and water retention. Various types existed, depending on water conditions and individual circumstances. Most centered on repairing stone walls adjacent to the river bed. In some flood lands, the outer weir was made of stones and the inner weir consisted of sand and straw, called the inner dike.[26] In some flood lands, stone stacks were added to the outside of the stone walls, and wooden pegs were nailed outside the stone stacks for further solidification. Such protection projects were immensely labor-intensive, and required material as well as administrative and financial coordination.

Environmental protection of flood lands refers to the planting of trees, shrubs and grassland plants with well-developed root systems along the outer edge of the flood lands for the purpose of dike stabilization, fixation of flood lands, flood control and erosion resistance. The flood lands were mainly planted with reeds, willows and wattle. The reeds could effectively reduce the wave energy reaching the shore, so planting reeds not only strengthened the dike to prevent flooding but also reduced the sediment carried away by the river and increase the volume of flood lands. Woody plants such

[25]"Shengchan weiyuanhui zhishi," March 10, 1946, 234–235.
[26]"Pingshan Hutuo he baozhang," *Jinchaji ribao*, August 13, 1944, 2.

as willows and wattle planted on the flood lands were generally welcomed as protective forests and were most common. Protective plants were generally planted on the outside of dams or as stone walls, on both sides of the flood land ridge. The water evacuating from the drains or flood control dams were prone to collapse during floods and became a source of threat to the flood lands, so people also tried to reinforce them by planting protective forests. The scale of these forests was immense, and the planting usually took place in the shape of shareholding cooperations. People could take shares in the form of seedlings, tree seeds and farming tools, and then share the proceeds when the flood lands become a future forest.[27]

Colmatage: maturation of irrigation systems and environmental management during floods

In recent times, a combined planting pattern of rice with wheat, wheat with rice and corn, and corn with bean crops has gradually emerged in the flood lands of western Hebei. This highly intensive land use can improve the utilization of land and energy, and increase the crop cultivation yield in flood lands. Of course, the implementation of any planting system must be based on the premise of enduring soil fertility, which is particularly important in the flood lands of western Hebei, where farmers resorted to solving this problem by colmatage during the flooding period.

From the perspective of modern water conservancy, colmatage refers to the introducing of river (flood) water containing a large amount of sediment into wasteland, depressions, saline land or other agricultural lands to improve the soil by increasing its natural base. The flood season of big rivers in western Hebei is usually from July to September, and the colmatage season is mainly in this period. However, before 1937, the management and maintenance of the flood lands in western Hebei were separate, and the social conditions limited the effective implementation of colmatage in flood lands, so that the method was not widespread. Because of the increased debris and water rapidity during the flooding period, colmatage was subject to strict time limitations and technical requirements. Lack of organization and of unified leadership thus led to flooding, silting of the irrigation channels and the destruction of flood lands. After 1937, encouraged and organized by the government, colmatage during flood periods in western Hebei was generally accomplished.

In colmatage, not only should the flood channel be dug in advance when desilting, but also the river mud volume needs to be observed in order to accurately calculate the timing to desilt. Flood canals are generally dug in the winter, when the flood water enters the canal from the inlet and then diffuses into the silt release area of the flood lands. The latter is blocked by the ridge of the flood lands and gradually stops siltation, and the remaining water is released into the river from the outlet of the silt release area. The outlet should be at least 15 to 30 centimeters higher than the inlet, so as to facilitate desilting. Colmatage in flooding periods not only helps improve the soil for winter wheat planting but also the planting of rice. If colmatage is effective, beans and other crops can be planted, all depending on the yield of fluvial mud. The flood period of the

[27]"Cihe zhishu," 1.

Tang river is generally two days, that of the Sha river one day, after which time even if flooding occurs, the amount of mud is greatly reduced, preventing the release of silt.

Colmatage being a collective project for the production of flood lands, the input of government organizations was essential for the effective supervision and administration of colmatage in all flood lands during the flood season. Colmatage required government action at all levels, just as the production committee demanded unified leadership, supervision and guidance for the implementation of engineering decisions at every level. In terms of organization and leadership, the production committee of the Shanxi-Chahar-Hebei Border Area required production committees at all levels to lead the colmatage work individually, according to the size of rivers in each district, county-administrations being in charge for big rivers and district-administrations for the smaller ones. In order to prevent disputes over water when desilting, the general production committee placed great emphasis on the fair and equal sharing of management duties as well as of benefits are in desilting, to avoid disputes over water.[28] Great importance was also attached to flood control, in a graded system of supervision and inspection. In conclusion, technological and administrative experience of colmatage in western Hebei assured the effective management and utilization of the river environment during the flooding period. This not only had the effect of added protection, irrigation, fertilization, land creation and soil improvement in flood lands, but also "regulated flooding, reduced sediment discharge and facilitated downstream river management,"[29] which had positive ecological benefits.

Democratization and collectivization of governance in flood lands: changes in management systems and cultivation practices

Before 1939, individual flood lands in western Hebei had been continuing the old form of organization and administration, the flood lands being farmed separately and plagued with malpractices. After the great flood in 1939, the government of Shanxi-Chahar-Hebei Border Area actively promoted changes in the management system of flood lands, resulting in a system of flood land administration under the leadership of the management committee of flood lands, with unified management and collective cultivation.[30]

Specifically, each flood land was meant to establish a management committee (referred to as the Flood Lands Committee), with genuine governance capabilities. The management committee of flood lands was responsible for establishing a reclamation plan of flood lands before reclaiming any lands, thus evaluating the usefulness of the flood lands, and administering the reclamation effort. Following reclamation, it was responsible for organizing production on the flood lands.[31] Each management committee for the larger scale flood lands had a director and a deputy director, while the smaller flood land committees only had one director. The directors and deputy directors of the committees were responsible for planning, leading and promoting all production matters for the entire flood land. The members of the flood lands were organized into groups, and each group was equipped with a team leader, as well as with heads and officers for the

[28]"Dui jinnian fanghong fangyu," 1.
[29]"Liyong dongxian xingjian shuili," 1.
[30]Shen Tingxiu, and Guo Jiahe, "Fuping xian de chentan hezuo huzhu," 21.
[31]"Jinchaji bianqu kengxiu tanghuang banfa," September 17, 1939, 249.

departments of general affairs, public works, water management and education. The Public Work Unit was responsible for managing the workers in flood lands in the field and in assigned projects. The General Affairs Unit was responsible for keeping accounts, collecting firewood and timber, distributing food, etc. The Water Unit was responsible for water pressure in dams, irrigation, colmatage, and similar. The Education Unit was responsible for educating flood lands committee members, as well as for investigations, statistics and reports. In conjunction with the management committee of flood lands, the flood lands also established a reporting system in order to maximize the democratic rights of all members of flood lands and to promote the development of flood lands. The system envisaged general meetings for all members, committee meetings, group meetings and production surveys. The General Assembly of all members of the flood lands was the highest authority, electing and dismissing the members of the Committee of Flood Lands, deciding on the annual production plan of flood lands and other work, generally held three times a year. Committee meetings of flood lands were held once every half month, mainly to strengthen the management of production in flood lands. The Group meetings were held once a week, mainly to review, criticize, convey and exchange opinions. Production reports discussed surveys on special conditions, such as pests or diseases, and their impact on production measures.

As mentioned earlier, the frequent flooding of the rivers in western Hebei in recent history gradually increased the difficulties of managing the flood lands, and the traditional individual labor and cultivation methods for the flood lands could no longer adapt to this ecological situation. The management committee of flood lands was democratically elected by all members, was cooperative and collectivist in nature, and greatly advanced the way in which flood lands were cultivated. Thus, after the great flood in 1939, three types of cultivation methods gradually prevailed in the flood lands of western Hebei: firstly, the large-scale collective cultivation method; secondly, collective farming and group cultivation; thirdly, collective cultivation and sub-family cultivation. The latter two methods are also known as "large collective" and the "small collective cultivation" methods, respectively.

The large collective cultivation method implied that all the flood land shareholders participating in the reclaiming of flood lands plowed and harvested collectively, with work collected and food distributed according to individual shares. All harvests from the flood lands were fully owned by the members of flood lands, and all labor and expenses shared by the members of flood lands according to the size of their shares. The tools of production, except for shovels and small hoes, were publicly owned. The main reason for practicing these new methods was that the newly formed flood lands required continuous renovation and protection.[32] Since they were classified as "public flood lands," administered by committees from all groups allocated to operate the flood lands, the main purpose for establishing public flood land was to compensate for material loss in case of flooding. If years when there was no flooding, the proceeds were distributed according to the amount of work performed. Large collective cultivation also had obvious disadvantages: collective production was not as emotionally motivated as individual production, and there could be great waste of manpower. Collective production is not conducive to deep plowing and fertilization, resulting in

[32]When barren flood lands were reclaimed, this was referred to as the formation of flood lands.

yield losses on the flood land. In collective cultivation, women, children and other semi-skilled laborers could often not play a full role. So, in order to improve the productivity of flood land shareholders, the management committee for flood lands combined collective cultivation in production groups as well as collective cultivation in sub-family units, two types of cultivation methods that combined large and small group production methods. The collective cultivation and group cultivation methods divided all the flood lands into two parts, one part pertaining to collective cultivation, the other private and all plowing, harvesting, work entry, grain distribution, in the flood lands, allocated in the same way as for the large collective cultivation method. One part was allotted into shares and the land distributed to each group, the land being fully managed by each group in terms of cultivation, harvesting, work allocation and food distribution. However, the collective cultivation of land could not be less than one-third of the entire flood lands, and the number of shares in each group not less than ten. This very widespread type of cultivation could go hand in hand with individual cultivation methods, also dividing the flood land into two parts: one part allocated to collective cultivation, the other part being left to the free use of each farming household, who organize the cultivating and harvesting freely. However, the government stipulated that land thus distributed between the collective and the households could only be freely decided upon when it came to crop cultivation and harvests. All projects related to the interests of the whole flood lands, such as projects relating to reclamations, protection, ditch building, water distribution and colmatage, were still under the centralized leadership of the management committee. When laborers were required, each group was allocated workers; ditto for materials such as wood, toon wood, firewood, which was allocated according to each allotment. Here, individual interests were subordinated to collective interests, and the cultivation of group and household land were subordinated to the cultivation of the collective. But regardless of collective or individual, all members of the flood lands were responsible for reclamation, for better or for worse.[33]

In brief, since 1937, the old workhouse system was replaced by a democratized and collective production and management system for the flood lands with the Flood Land Committee as its core. This not only expanded the democratic rights of the general public in the flood lands, but also stimulated the responsibility and enthusiasm of the general population to build water conservancy projects. The change in the cultivation of the flood lands also promoted a boom in the restoration and management of the flood lands. This management system and the cultivation methods under its influence were adaptive measures to cope with the environmental degradation of the flood lands, changing the previous production methods of individual labor and individual organization in the flood lands, and facilitating the management and maintenance of drainage and protection projects.[34]

III. Ecological reflection and watershed environmental management in the development of flood lands

The formation and establishment of new techniques, methods and systems during the development of the flood lands in western Hebei were a response to the ecological changes

[33]"Fuping tandi de gengzhong fangshi," 2.
[34]"Beiyuequ de huangtan fuyuan," December 25, 1942.

of the river and a result of the interaction between people and the river. However, the continuous use of land and unchanged environmental awareness implied, even with adaptable production techniques and methods, that the ecological degradation of the flood lands could not be stopped, eventually affecting the survival of the flood lands themselves. Since 1937, the government has been heightening the ecological awareness of the agrarian population, in view of the causes of the repeated erosion of the flood lands. The local population thus needed to take decisions concerning environmental practices for the watershed, to ensure that the flood lands in western Hebei could develop sustainably.

Ecological reflection

The fluvial flood lands of western Hebei are the result of the long-term interaction of rivers and people of the territory. The fate of flood lands societies has been closely linked to the flood lands themselves, and that of the fluvial ecosystem, which in turn depends on the ecological health of the upstream mountains and plateau environment. As early as in the late Qing era, local officials had pointed out that the people of western Hebei had a voracious appetite when it came to flood lands, extracting ever more land from the water, thus expanding the flood lands into the river body. This manmade measure compressed the scope for natural fluvial flow, causing flood waters to be released as violent inundations.[35] Since 1911, modern intellectuals also argued that the destruction of mountain vegetation exacerbated the frequency and consequences of flooding in the flood lands of western Hebei.[36] However, these understandings lacked a holistic and systematic consideration of environmental management in the watershed region, and did not improve the volatile situation.

By today's measures, the prevention of frequent flooding in the flood lands would be considered within the environmental context of the entire watershed, not limited to the flood lands in the lower reaches of the river, but rather paying close attention to soil and water conservation in the upper reaches. Both efforts were to be carried out with ecological reflection, lest scientific environmental management be rendered impossible. After 1937, the excessive reclamation of mountains and plateaus in the upper reaches of rivers in the Shanxi-Chahar-Hebei Border Area further aggravated the destruction of vegetation and soil erosion, and inundations of the flood lands still occurred from time to time after 1939. Initially, the Border Area administration was limited to the local environment of the river basin of western Hebei, not the ecological management of the entire basin in a holistic manner.[37]

Since 1944, officials began to reflect on the human factors that caused destruction due to frequent floods, and gradually understood the ecological link between the reclamation of flood lands and river management, as well as between rivers and mountains. First of all, the Border Area government believed that the reclaiming of flood lands was subordinate to river management, and thus did not enforce the reclamation of flood lands at the expense of the riverbed.[38] Secondly, the management of flood lands was to be combined with the adjustment of the comprehensive management of land use in the mountains.

[35]"Fuping xian yeling sigao bingcha," 8.
[36]Li Xiaomin, "Fuping xian nongcun sumiao," 89.
[37]"Zhuyi fanghong yimian pingpo liangguang," 1.
[38]"Fuping zhunbei dajian shuili," December 28, 1944.

This meant that the ecological link between mountains and plains was acknowledged. The Industrial Section of Shanxi-Chahar-Hebei Border District government pointed out that in the process of opening up much land in Border areas had led to deforestation. The massive clearing of mountainous land was bound to wash away the slopes and greatly affect flood prevention. Therefore, the development of the mountains and that of the plains were seen as inseparable.[39] On the other hand, the government recognized that mountains, water, forests and flood lands belonged to the same ecosystem, providing a basis for future decisions on the comprehensive environmental management of the watershed in western Hebei. In September 1945, another major flood occurred in the Border Area, in some counties even surpassing that of 1939. Instead of attributing the cause of the flooding to a short-term surge in precipitation, the Border Area government reflected on long-standing human factors that had existed upstream and downstream of the basin. It was recognized that the "opening up the land and excavating the slopes" policy had led to the erosion of the mountain soil in the rainy season. Secondly, since 1937, the population had more immediate concerns, cutting down trees without restriction in order to obtain timber and fuel. Thirdly, the opening up of mountain land do not pay attention to the maintenance of terraces, resulting in floods on the slopes of the arable land. Fourthly, the blind and unplanned reclamation of flood lands resulted in the encroachment of the river. Finally, not enough attention had been paid to the protection projects of the flood lands, and delays in protection projects in flood lands led to case of negligent inspection.[40]

It should be noted that since 1945, the government's understanding of the interrelationship between agricultural development in the mountainous areas of North China and the productive life in the rivers and plains has gradually become clearer. Successive governments have hence been able to provide conceptual guidance for environmental management in the entire North China watershed. On August 25, 1945, Chen Fengtong, who was the director of the Bureau of Agriculture, Forestry and Animal Husbandry in the Shanxi-Chahar-Hebei Border Region, published "Forestation and forest protection is a hundred-year plan to prevent flood and drought disasters" in *Liberation Daily*. In the article, it pointed out that after the victory of the war, the mountainous areas of North China "should basically be transformed from agricultural areas into forests, orchards and pastures. This will, on the one hand, maintain water and soil throughout North China, regulate the climate, and on the other produce enough timber, fruit and meat to supply the needs of the plains and large cities. It is a centennial plan that benefits the income of people in hilly and highland areas, and also protects farmland and villages in the plain areas downstream of the river from flooding."[41] This idea of ecological management is not a single opinion that came out of nowhere, but a deep-felt experience based on reflections on production practices and their ecological effects in the mountainous regions of North China, and there was a consensus which found widespread support. In January 1949, the Vice Minister of Agriculture of the North China People's Government, Zhang Chong, emphasized at the North China Agriculture and Forestry Conference that agricultural production in

[39]"Guangfan kaizhan zhishu zaoshu," April 3, 1945.
[40]"Fuping zaoshou yanzhong shuizang," September 30, 1945.
[41]Chen Fengtong, "Zaolin fanghu shi fangzhi," August 25, 1945.

North China used to lack a long-term construction perspective and holistic thinking, and thus caused many errors. The agrarian utilization of the mountains, for instance, increased income, but also led to frequent floods downstream, washing away entire fields, with serious effects on the agricultural production elsewhere. Long-term vision and holistic territorial perceptions, thus needed to overcome a shortsighted outlook on planning.[42]

Practice of environmental management in watersheds

For the sake of improved ecological reflection, protection of the environment and the guaranteed safety of the flood lands, the government of the Shanxi-Chahar-Hebei Border Area gradually emphasized a more comprehensive environmental approach, which took account of the entire watershed region and incorporating mountains, water, forests and flood lands. Specifically, this consisted of three main initiatives, namely the prohibition to open up land on slopes steeper than 30 degrees in mountainous areas and to build terraces instead, the protection of flood lands on riverbanks, as well as the reforestation of mountains and flood lands.

In the Shanxi-Chahar-Hebei Border Area, reclaiming land on steep slopes surpassing 30 degrees could generally only be cultivated for 30 years, after which "the slope became barren stone" and green hills became bald mountains. Consequently, people had to migrate, leaving behind a virtual no man's land.[43] On January 31, 1946, Song Shaowen emphasized at a financial conference in the Border Area, that in places with barren hills, flood lands, river banks and the riverside, trees should be planted through mass afforestation, and that the existing forests be especially protected. Slope lands steeper than 30 degrees were strictly excluded from reclamation, and the population was to be rewarded for efforts at reforestation, terracing and reclamation.[44] On March 7, 1946, the Administrative Committee of the Shanxi-Chahar-Hebei Border Area issued the "Interim Measures for the Reclamation of Barren Mountains and Barren Flood Lands in Shanxi-Chahar-Hebei Border Area", stipulating a decree that regardless of their public or private ownership, in slopes above 30 degrees only afforestation was allowed, and cereal cultivation was prohibited. Poor farmers who could not make a living other than by cultivating steep slopes had to obtain the permission of the local district office and were compelled to build terraced fields within three years. Existing farm land had to be turned into terraces or planted with trees within three years.[45]

Since 1945, in order to improve the ecological environment, extensive afforestation and forest protection campaigns have been carried out throughout the Shanxi-Chahar-Hebei Border Area. As early as in 1939, the Border Area government had promulgated two regulations, namely the "Measures for the Protection of Public and Private Forests in the Shanxi-Chahar-Hebei Border Area" (September 29, 1939) and "Measures for the Prohibition of Mountain Afforestation in the Shanxi-Chahar-Hebei Border Area" (October 2, 1939). This led to an increase in afforestation and to further forest protection regulations and ordinances, such as the "Regulations on Forest Protection in the Shanxi-Chahar-Hebei Border Area" (March 7, 1946), "Measures for Rewarding Tree

[42]"Zhang fu buzhang zai huabei," 1022.
[43]Cheng Zihua, "Canjia qunyinghui de ganbu," January 5, 1945.
[44]"Song Shaowen zai bianqu caijing huiyi," 11.
[45]"Huangshan huangdi huangtan kenzhi," March 7, 1946, 765.

Planting in the Shanxi-Chahar-Hebei Border Area" (March 7, 1946), or the "Measures for Rewarding Forest Protection and Tree Planting in the Beiyue District" (March 30, 1948). By means of these "first efforts", the relationship between forests and water conservation, drought prevention and the positive effect on people's income was made known to the public. This not only improved environmental management, but also helped to raise the awareness of environmental protection among Party cadres and the public. But how were these environmental management policies to be implemented in a war environment? On the one hand, by means of general education to raise the level of literacy, political awareness and government policies and their implementation. Since 1937, the Communist-controlled base areas in northern China had carried out a wide range of flexible and diverse peasant education campaigns, such as winter schools, literacy classes, political classes, newspaper reading and discussion groups, across villages and small towns.

The main educational aim was to improve literacy, as well as political awareness. This relied to no small degree on voluntary effort by the management committee members. The slogan of "newspapers to the flood lands," with organized educational and newspaper reading groups, became widespread during the pre-harvest period.[46] The end of the war and continued land reforms meant that environmental management policies could be implemented. We can take the example of Fuping County in the Dasha River Basin. Here, since 1945, the district administration had decided to restrict agrarian land use, emphasizing the preservation of slope lands, afforestation and terraces.

Before the Great Production Campaign in 1948, the county government focused on strengthening the comprehensive environmental management of the watershed territory, prioritizing long-term interests over immediate benefits, which included flood land construction for the sake of preventing inundations, drought, silting and other disasters, as well as protecting the existing forest through reforestation. The main task was to protect existing forests in the mountainous areas, as well as to create protective forests in flood lands. Furthermore, to reclaim flood lands to protect the river, strictly limit new agrarian land on steep slopes and to renovate the mountain terraces to prevent soil erosion. In the same year, according to the statistics of 162 villages in the county, a total of 170,792 trees were planted and 105,558 trees protected, at a recuperation rate of about 62%, the number of protected mountain forests having reached 564, totaling 10,701 *mu*.[47] In 1949, the county government again emphasized that reforestation was the most important component of the long-term construction of Fuping, emphasizing that the future prosperity of Fuping was at stake. Tree planting was proclaimed a political "mass movement," the planting of trees promoted on barren hills and continuous afforestation promoted alongside the construction of terraces.[48] The annual planting target was 300,000 trees, and by May 1949, according to incomplete statistics, a total of 356,822 trees had been planted in the county.

[46]Xu Shiping, "Qingnian de zeren zai xuexi," 30, 41.

[47]"Fuping xian zhengfu guanyu 1948 nian da shengchan de zongjie" (November 27, 1948), Fuping xian dang'anguan cang geming lishi dang'an [Revolutionary History Archives in the Fuping County Archives], file no. 60-1–27.

[48]"Fuping xianzhengfu guanyu 1949 nian dashengchan yundong de gongzuo buzhi" (February 1949), Fuping xian dang'anguan cang geming lishi dang'an [Revolutionary History Archives in the Fuping County Archives], file no. 60-1–63.

IV. Conclusion

Historians have hitherto not paid much attention to the variations of ecological degradation in North China since the end of the imperial era, on the active human involvement and its manifestations. Western scholars have realized that if environmental historians exclusively focus on the notion of degradation as a consequence of predatory behaviour, it becomes difficult to conceptualize the reconstruction or re-stabilization of nature under different circumstances."[49] Environmental change in the river basin in western Hebei is part of the overall ecological degradation of North China, for which historical structures become apparent. Since the middle of the Qing era, the continued development of flood lands in western Hebei encompassed areas which in more recent years were abandoned. A major change occurred since 1937, when newly appointed administrators encouraged western Hebei to engage with the ecology of the watershed and its changes. In managing the ecological environment of the watershed, the flood lands in western Hebei have been able to recover, adapt and survive the extant ecological degradation. It is thus clear that the regional population has not always been passive and inactive faced with the pressure of increasing ecological degradation in northern China. The renewal of political forces after 1937 and the ensuing adjustments of socio-economic policy, as well as the implementation of environmental management and governance in the watershed based on ecological science, have pushed the regional population to adapt to the challenges posed by ecological degradation and to take active measures to continue land development. Therefore, structured ecological degradation should not always be seen as an obstacle that shackles the exercise of human agency in regional development.

(translated by WANG Yingzi)

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No potential conflict of interest was reported by the author(s).

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[49]Beinart, *Environment and History*, 66–67.

Glossary

Chen Fengtong	陈凤桐
fangyu	放淤
Jifu tongzhi	《畿辅通志》
shishui dihu	使水地户
shuili yingtian	水利营田
Song Shaowen	宋绍文
Zhang Chong	张冲
Zhu Kezhen	竺可桢

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The transformation and ecological impacts of drainage systems in modern Tianjin

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ABSTRACT

Drainage systems are important facilities for the maintenance of a city's normal operation. Whilst they directly affect the internal urban environment, they are also a key link between a city and the world outside. The traditional drainage mode of Chinese cities was challenged by modern technologies that changed the relationship between cities and nature. Tianjin had developed rapidly into an important port in northern China, from a basis constructed during its days as a treaty port. The old drainage system changed significantly due to urban expansion and the appearance of modern health facilities such as sewer pipes. This reduced the commercial flow of sewage and ditch mud as rural fertilizers, gradually weakening the connection between the city and the surrounding environment. However, although the creation of a modern drainage system improved the urban landscape and people's living conditions, it also affected the traditional urban wastewater disposal and sewage recycling. The resulting reduction in material exchange with the countryside caused metabolism rift, as discussed by Karl Marx. The ecological consequences and lasting influence of this change are worth our attention.

KEYWORDS

Modernity; Tianjin; municipal drainage; metabolism rift

Water and drainage systems are indispensable to a city. The unique drainage measures of ancient Chinese cities have long attracted the attention of architectural circles,[1] and historians also have scrutinized the drainage conditions in Chinese cities from the perspective of sanitation,[2] as well as paying attention to technical management aspects such as drainage transformation,[3] environmental changes,[4] and pollution control,[5] mainly focusing on intra-urban problems. However, as an important part of urban structures, city drainage facilities constituted an important connection with the surrounding nature, affecting the urban environment and altering the relationship between

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[1]Pan Mingjuan, "Gu Luoma yu Han Chang'ancheng," 76–85.

[2]Yu Xinzhong, "Qingdai chengshi shuihuanjing wenti tanxi," 71–85; Yu Gengzhe, "Zhongguo zhonggu shiqi chengshi weisheng," 65–75; and Feng Bing, "Sui Tang shiqi chengshi paishui," 66-71.

[3]Guo Shiqiang, and Li Lingfu, "Minguo Xi'an xiashuidao jiangou," 100-106; Shi Hongshuai, "Minguo Xi'an chengshi shuili jianshe," 29–36; He Jiangli, "Minguo qianqi Beijing de gonggong," 127–134; and Jiang Xianbin, and Peng Shanmin, "Gonggong weisheng yu chengshi xiandaixing," 97-101.

[4]Li Yuxiang, "Qingdai Minguo shiqi Suzhou chengshi," 171–180, 192; Liu Anbing, "Jindai Shanghai chengshi huanjing weisheng," 85–92, 127; and Liao Dawei, and Luo Hong, "Cong Huajie laji zhili," 24–33, 188.

[5]Wu Junfan, "Xuanxie yu jinghua," 105–115.

the city and the external environment. More specifically, the modernization of the urban drainage system also reflected the ecological changes which occurred during the process of China's urban modernization.[6]

Since the 1970s, when human interference with nature markedly increased, cities, as archetypal artificial environments, have increasingly attracted the attention of researchers belonging to various disciplines. The study of medical and sanitary history has explored the comprehensive impact of the modern urban environmental health reforms,[7] reflecting the rising academic attention to urban health problems. Urban ecology research has analyzed the city as an ecosystem, and the corresponding environmental and social phenomena.[8] Urban environmental historians, on the other hand, explore the specific impact of human activities on the urban environment from historical perspectives,[9] all such efforts demonstrating the need to "put the city back into the extended history of its vast ecosystem."[10] As artificial ecosystems, cities are part of natural ecosystems with countless links and interactions, and one of the core problems is the material exchange between them. Therefore, the materialist ecological analysis of urban and rural material flows is of great reference value for the study of environmental history. Marx believed that there is an evolving material relationship between humanity and nature,[11] while the development of capitalism made "those parts of the countryside consumed for food and clothing impossible to return to the land,"[12] resulting in a structural gap, which "under the pressure of widespread and rapid industrialization, is becoming wider and deeper."[13]

From this perspective, the reform of the urban drainage system in modern China is an important factor for studying the change in the relationship of material flow between urban and rural areas, which can be used as "the main indicator of the evolution of the relationship between man and nature in modern times."[14] Tianjin is the north Chinese archetype of a modernized urban port, its drainage problems corresponding with its natural geographical condition. Its technological transformation can provide a classic case for research into modern urban drainage systems. This paper will hence investigate the development, evolution and common problems of the urban drainage system in modern Tianjin. It will try to analyze the influence of wastewater disposal changes on the exchange of urban and rural substances, so as to indicate the ecological significance of urban drainage systems.

[6]For the significance of China's modernization process from the perspective of ecological change, see Xia Mingfang, *Wenming de "shuangxiang"*, 42–44.

[7]Yu Xinzhong has made an innovative contributions to modern sanitary and environmental history, publishing "Qingdai Jiangnan de weisheng guannian yu xingwei ji qi jindai bianqian chutan," "Weishengshi yu huanjingshi," and similar Some other scholars also have studied urban sewage clearing in Beijing and Guangzhou, among them Du Lihong ("1930 niandai de Beiping chengshi wuwu guanli gaige"), Pan Shuhua ("Minguo shiqi Guangzhou de fenhui chuli yu chengshi shenghuo"), Zhu Yueqin ("Minguo Nanjing huanwei shouyun guanli wenti yanjiu), and Zhu Huiying ("Minguo shiqi Tianjin huanjing weisheng guanli).

[8]McDonnell, "The History of Urban Ecology," 5–14.

[9]Typical representatives are Melosi, *The Sanitary City*; and Cronon, *Nature's Metropolis*.

[10]Hou Shen, *Wu qiang zhi cheng*, 34.

[11]Forster, *Marx's Ecology*, 13.

[12]Marx, *Ziben lun*, vol. 1, 579.

[13]Moore, *The Transformation of the Earth*, 55.

[14]Wang Lihua, "Guanyu Zhongguo jindai huanjingshi yanjiu," 7.

I. The drainage problem of waterlocked Tianjin

Tianjin city is inextricably linked with water, and this intricate relation can be traced back to the Holocene when the global rising sea levels pushed the coastline of the Bohai Sea westward, engulfing the vast coastal regions. Tianjin was now under the Bohai Sea, and the low plains did not shape until the coastline retreated about 8,000 years ago, leaving behind several shell dams.

Tianjin Plain is flat and very low in altitude. Mount Yanshan to the north and Mount Taihang to the west cause an inclination from north to south, highest in the northwest and lowest in the southeast, not unlike an inclined dustpan. Therefore, when the warm and wet monsoon blows from the ocean to the land, the clouds are lifted into the Yanshan-Taihang mountains causing precipitation, thus enriching the forest water storage system and forming surface runoffs in all sizes. Different sources of water converged in the mainstream of the Haihe River, producing an abundant water body that often overflowed in the rainy season.

Tianjin city is located on the southwest bank of the starting point of the mainstream of the Haihe River. Many big and small rivers, as well as many roads converge here at this "Celestial Ford," which is the literal meaning of the city's name, and this geographical advantage soon made it an important port for grain transport to Beijing, as well as a garrison city. By the Qing era (1644–1911) it was a busy commercial port[15] where thousands of ships loading with various kinds of goods came and left every day.[16] But the low-lying natural environment with an overabundance of water caused the city's drainage problems. Modern data shows that the highest point of northwestern Tianjin is about 6 meters above sea level, while the southeast is above 2 meters, a difference in altitude of 4 meters. The total length of city is 12 kilometers, the general ground elevation is about 2–3 meters, and the ground slope is less than 3%.[17] The city's low and flat elevation, combined with the presence of the sea and many rivers, cause it to be easily flooded. In the rainy season people face severe problems of containing oversaturation of water and discharging floods both inside and outside the city. Some of ancient waterlog spots can be traced in dialects and place names.[18] Tianjin's natural environment is formed by low-level water circulation in the lower reaches of the Haihe River. The *Illustrated Tianjin Districts* records that there were many depressions in the city,[19] connected to the moats around the city wall that served as military defenses but also could be used for water diversion and drainage. However, due to the gentle gradient of the river, the wastewater could flow into the Haihe River from the east but could also enter the waters outside the city from the west.

The moat was connected with the vast depressions in the southwest corner of the old city, while the water in the south flowed into surface runoffs all the way to the wasteland in the southern suburbs. The lower terrain outside of the old city wall in the southwest was often hit by floods, regularly inundated up to the 24th brick layer of

[15]Kangxi, *Tianjinwei zhi*, 6.
[16]"Tianjin," 6.
[17]Jia Xiuqian, "Tianjin paishui wenti tantao," 50.
[18]Research shows that there are more water-related places names in Tianjin than in other cities. See Tan Ruwei, *Tianjin fangyan wenhua yanjiu*, 99–100; and "Tianjin qinshui diming kao," 67–76, 82.
[19]"Xiancheng nei tu shuo diyi."

the wall at the turn of the seventeenth century,[20] causing the scattered ponds to become one large expanse, thus functioning both as water storage and flood control.[21] At the same time, the waterways overflowing into the depressions in the south were gradually reinforced and expanded in the process of suburban agricultural development. For a long time, the inundations of Tianjin Plain caused soil salinization so serious that most areas could not be used for agriculture. Therefore, it was recorded that "after it was flooded the land is barren,"[22] therefore "most people engaged in trade for living."[23] Promoting agriculture on stagnant watered and saline-alkali soil required building water conservancy projects, so local officials of the Ming and Qing dynasties dug ditches and channels in parts of Tianjin City to wash away the alkalized soil in order to enable rice planting.[24] Though these water conservancy projects were constructed for agriculture, they also enlarged outside river networks further to the south. For instance, during the Kangxi reign (1662–1722), a diversion canal some 2,500 meters away from the city was constructed to connect the Weijin and Haihe rivers.[25] Canals were excavated and river branches extended for agricultural reclamation in the Haiguang Temple area for irrigation in the arid season and for discharging water in the flooding season.[26] At the end of the 19th century, the moat (later: Wall River) was dug by Sengge Rinchen (1811–1865)to solidify the connection of the Weijin River with the Haihe River near the Haiguang Temple.

In general, due to natural and geographical conditions, Tianjin has been endowed with rich water resources, which could constitute a double-edged sword. A large number of rivers around the city made for convenient water transport, aiding its development and shaping this unique water city, but it also caused problems of drainage. In order to adapt to these special natural conditions, Tianjin gradually developed a water network with a moat connecting the inner and outer water systems so that "big rivers around the northeast, small rivers around the southwest, the big rivers and small river branches forming a water network to make the city beautiful."[27] This network however, still could not completely solve the problem of water discharge.

II. Development of a modern urban drainage system

Urban sewage is a mixture of domestic water, including wastewater, food residues, kitchen waste, also excrement and other solid organic substances. In the pre-modern discharging process, part of the sediments was recycled, while other parts flowed into the natural water bodies outside the city to complete microbial degradation. When cities were still moderate in scale and natural waters sufficient, the volume and purification of water bodies could support the metabolic demand of urban wastewater,

[20]"Di'an," 18–19.
[21]According to Wu Qingzhou, lakes in the ancient cities of China were part of their drainage systems. Lakes in cities could store water to reduce waterlogging, and lakes outside cities could adjust inundations and retain water. See Wu Qingzhou, *Zhongguo gudai chengshi fanghong yanjiu*, 173.
[22]*Tianjin fu zhi*, vol. 5, 2.
[23]Ibid., 1.
[24]For the development of Tianjin water conservancy for farming, see Jiang Chao, "Ming Qing shiqi Tianjin de shuili yingtian," 234–239, 244; and "Ming Qing shiqi Tianjin de shuili yingtian (xu)," 223–226.
[25]"Guanji er," 71.
[26]"Fu shuili yingtian," 14.
[27]"Yudi wu," 71.

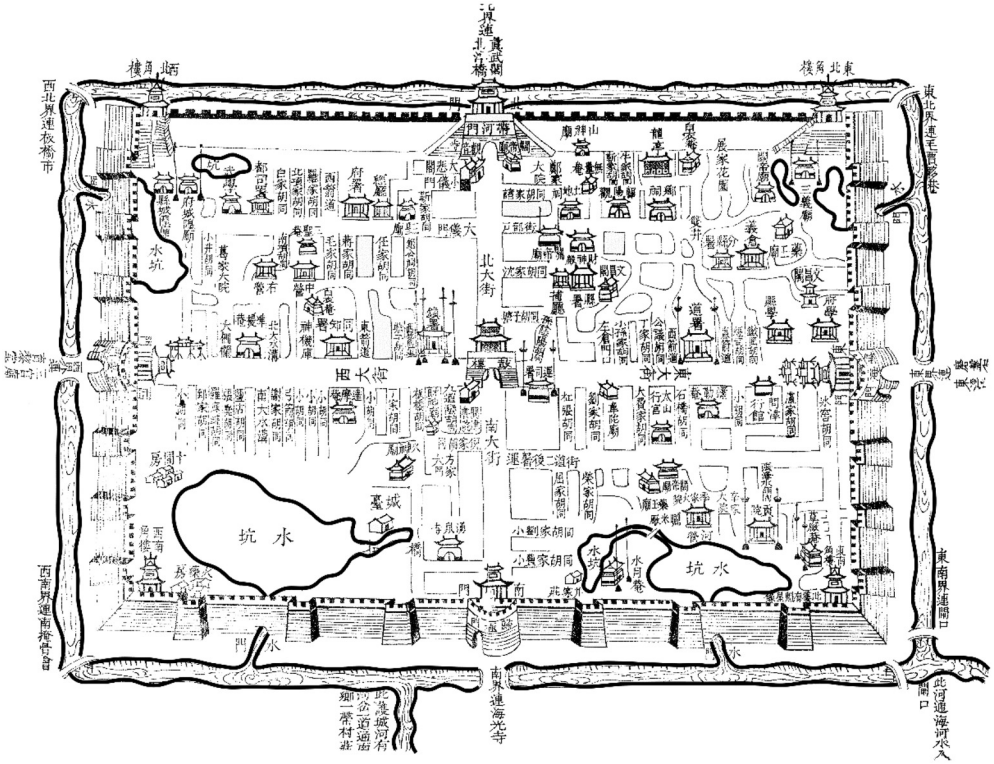

Figure 1. Map of Tianjin city.

Source: The map is based on *Map of Tianjin City* (*Illustrated Tianjin Districts*, vol. 1, 1846).

forming a dynamic balance between urban development and natural environment to a sufficient extent so as to maintain the livability of the city. However, with the onset of modern urbanization, the large increase of wastewater exerted pressure on the urban sanitation environment, challenging the existing drainage systems.

When Tianjin became a seaport, it underwent modernization, urban and demographic expansion, and with it a change in its drainage system. This implied that on the one hand, the transportation and treatment of wastewater needed to meet the needs of modern urban development with due attention to new efficacy and norms. On the other, the city still tried to maintain the connection with the countryside by transforming sewage into fertilizer. In terms of material flow, the transportation of sewage in modern Tianjin can be subdivided into four categories: human transportation; ditch, river and channel network; fixed sewage discharge sites and sewage recovery.

Human transportation of night soil was part of modern urban drainage that cannot be ignored. In the process of urban development, the population continued to grow, expanding into low-lying areas or areas lacking drainage ditches. This directly caused an increase in human labour and in the consumption of time and energy. In addition to discarding sewage themselves, hired hands referred to as "sewage men" helped dumping sewage. According to the statistics of the Tianjin Municipal Public Security Bureau in

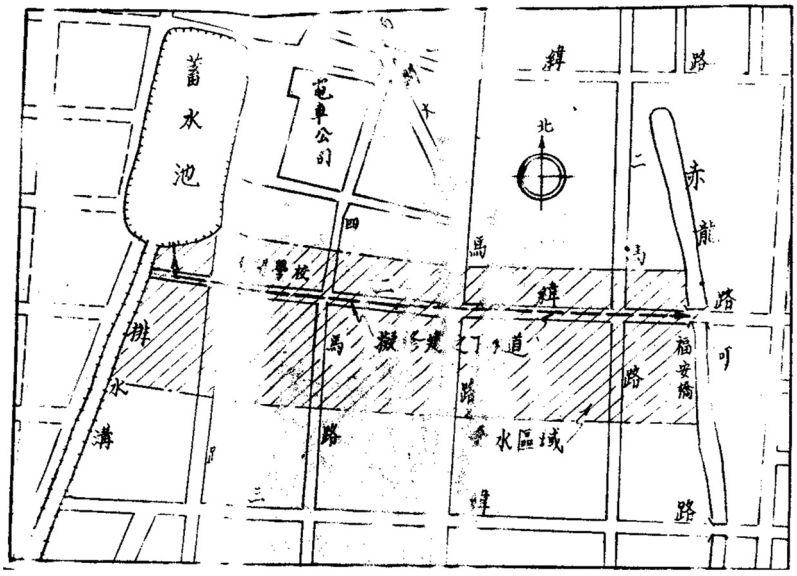

Figure 2. Schematic diagram of Nankai Reservoir and Chilong River.

Source: General Plan and Profile: Er-Wei Rd Combined Sewer (January 1948), Tianjin Municipal Archives Collection, Tianjin Municipal Public Affairs Bureau, file no. j0090-1-000606-007.

1936, an impressive 591 sewage men operated in Tianjin.[28] The sewage industry in modern Tianjin developed and became a powerful factor in people's daily life, practitioners establishing guilds for greater influence. In 1937, rumors that the cleaning cooperative would monopolize the city's sewage transportation caused general panic, concerning the fees charged for collecting sewage.[29] Furthermore, sewage men often randomly discarded sewage, blocking ditches and rivers, which the police only resolved through admonitions. Sewage men were habitually slack in their work and demanded excessive payment, which often caused delays in drainage processing and other problems, and sometimes the residential homes were "as dirty as pigsties, with excrement and urine exuding evil effusions everywhere in the streets."[30]

The discharge into the ditches and rivers was only the first step of sewage transportation, which as surface drainage channels constituted the city's chief drainage system. These ditches and channels in old Tianjin changed significantly after Yuan Shikai took over the city in 1902. Yuan solved the drainage problem in the old city by linking an officially administered cross city ditch using bricks from the old city walls with the ditch in the city's southeast on the right bank of the Haihe River. The water would then empty itself from the ditch end (*huluguan*) in the south into a reservoir (*sifangkeng*) farther west. The gradient of this brick ditch was very gentle, draining into the Haihe

[28]"Gaishan qingjie shiye," *Yishi bao*, November 26, 1936.

[29]"San qu Qibaohe bei dongxingli yidai huishui layun" [Three Districts and Seven Bao in Dongxing Li, Hebei Province], April 11, 1946, Tianjin shizhengfu weisheng gongchengchu dang'an [The Health Engineering Office of Tianjin Municipal Government], file no. j0091-1-000079.

[30]"Tebie yiqu gonggong ertiao hutong shuidao shutong" [Dredging of Two Hutong Waterway in Special First District], March 11, 1946, Tianjin shizhengfu weisheng gongchengchu dang'an [The Health Engineering Office of Tianjin Municipal Government], file no. j0091-1-000077.

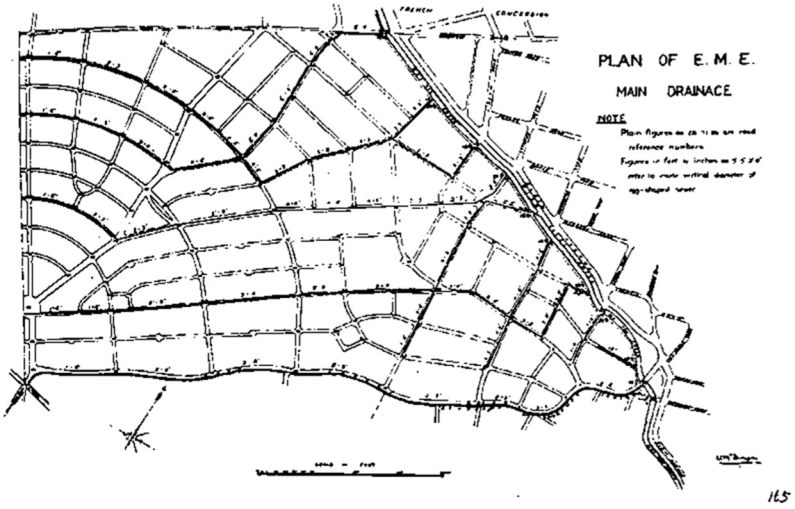

Figure 3. Planning plane graph of the extended boundary of the British concession.

Source: British Municipal Council Tientsin, Report of the Council for the year ended December 31, 1919. And Budget for the year ending December 31, 1920. Tientsin: Tientsin Press Limited, 1920.

River and, during the rainy season, also water and sewage into the reservoir.[31] In the 1930s, the urban area expanded south towards Haiguang Temple,[32] and because of the increased drainage demand in more intensely populated areas, two main drainage channels were formed. Firstly, the Chilong River to the south of the old city, which absorbed a large amount of domestic sewage from the densely populated area of Nanshi. It was named Red Dragon because of the red and brown sewage in it. The second was the southwestern Nankai Reservoir, which not only collected the wastewater from the surrounding residential areas, but also constituted the end of the old city sewage system.[33] Due to poor drainage, the reservoir became purple and often silted up, its stench palpable over many miles. By the late Republic, it had become a big smelly water pit covering an area of more than 130 mu.[34]

The establishment of foreign concessions in the southeast of the old city changed Wall River into an important drainage channel. In particular, the eastern section between the Weijin and Haihe rivers became enclosed by the expanding concessions and completely became an internal river, followed by the main sewer. The authorities of the concessions installed sluices at both ends of the river, to be opened and closed with the tide of the Haihe River to clean up the sewage and separated the concessions from the Chinese area on the side of the Haiguang Temple. Although this division of water was beneficial to public health in the concessions, it affected the water discharge in the

[31]Wang Huatang, *Tianjin*, 105.

[32]*Evolution of Tianjin Political Customs* records that "after the Boxer Uprising the foreign concessions expanded to the southeast corner of the city, … from the southeast corner to the south gate," and "every year narrow city roads were enlarged and then the old villages were connected to the city and became city streets." The area between south gate to the Sea Light Temple area was also included into the markets and streets, which showed the general trend of urban expansion. See *Tianjin xian xin zhi*, 12.

[33]The continuous development of the sewage system in the old city further guided the Nanyawa puddle water into the Guangrentang Reservoir. "Tianjin nan shi ge shang shang gong weishengju bing gao," *Dagong bao*, August 29, 1909, 2.

[34]Dong Kunjing, *Tianjin tonglan*, 75.

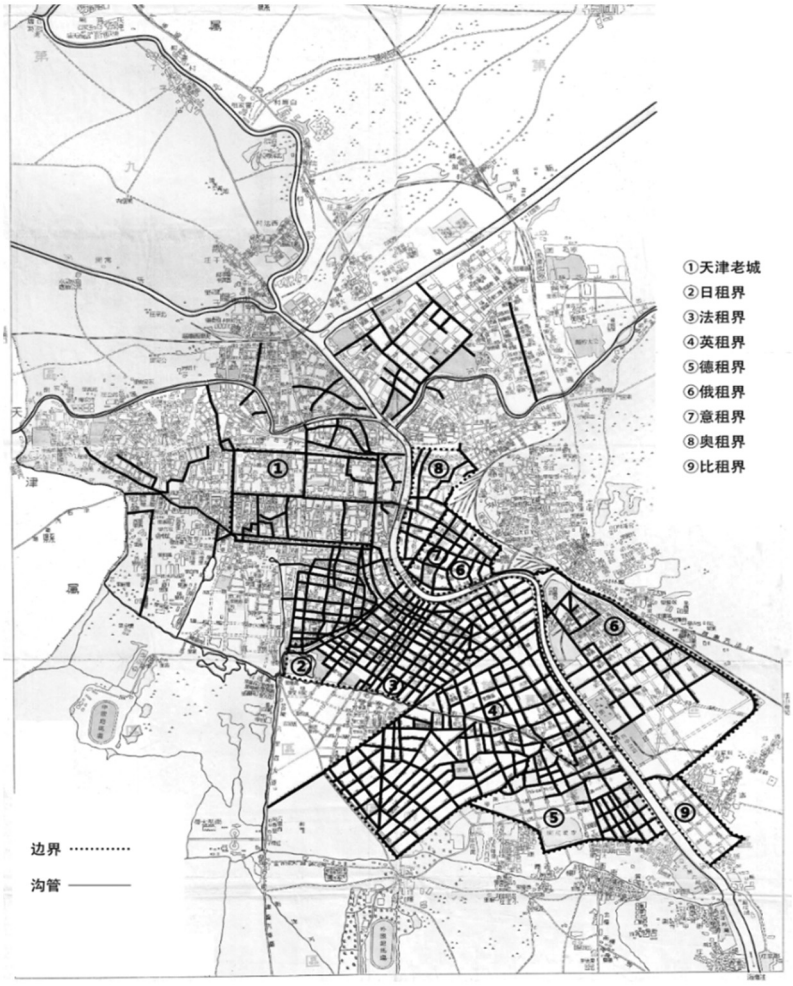

Figure 4. Distribution of ditches and channels in Tianjin in 1946.

Source: The author made the map based on *The Latest Tianjin City Street Map* (compiled by Shao Yuezong, published by Times Book Society in 1946) and the information in *Map of Tianjin Ditch and Channel System* (February 1946, Tianjin Health Engineering Agency, Tianjin Archives, file no. j0090-1-002874-003).

old city and the smooth flow of the southern river. It also impacted farmland irrigation in the South Wall River area and the commercial traffic between villages and the city, a source of discontent from the Chinese residents.[35]

In addition to the city's expansion in the south, a new development also started in the northeastern area of Sancha Pass: a new sewage channel along Jinzhong River, which ran through Hebei New District, the new city center designed by Yuan Shikai in view of modern urban planning in the early 20th century. The population in the surrounding areas gradually increased, but except for a few sections that laid modern

[35]For the disputes caused by the sewage transformation of Wall River, see Cao Mu, "Ziyuan, huanjing yu quanyi," 275–288.

trench pipes, the channel used open brick trench drainage, the sewage of the main roads such as Dajing Road flowing into Jinzhong River.[36]

The Chilong River, Nankai Reservoir, Qiangzi River, and Jinzhong River constituted the main network of urban wastewater discharge in modern Tianjin. These sewage ditches were far away from the main rivers (South Canal and Ziya River), heavily used for domestic usage and meeting the requirements of modern public health. They also provided a special material exchange channel between the urban and rural areas. Especially the Sea Light Temple area, where the Red Dragon River, City Wall River, and Weijin River met in the south of the old city, gradually became important traffic channels, by which grain, fruits, vegetables and kiln bricks and so on were transported into the city from the south, and urban night soil to the countryside from the north. It was as important and prosperous as *Sanchakou*, the grain transporting canal in the northeast of the city, so the local people called it "Smelly *Sanchakou*," which became a feature of modern Tianjin's sewage network.

In order to cooperate with this drainage network, fixed sewage sites and supporting infrastructure appeared in modern Tianjin. Disorderly sewage dumping would destroy the whole embankment and be harmful to public health, so for the sake of implementing modern sanitation and environmental management, Tianjin began to gradually standardize the habits and sites of sewage dumping. The concessions were the first areas where fixed sewage dumping sites appeared. The modern Tianjin administration also set up fixed sewage dumping sites with special sewage wharfs and sewage outlets, installing sewage dustpans, sewage pools and other facilities that could contain sewage to protect the embankment and provide auxiliary drainage.

Sewage dustpans were common drainage facilities, they were named because of their dustpan shape. They were simple devices made of wood, iron or lead, and generally were built on the riverbanks with the opening side facing the river to discard wastewater and to avoid direct damage to the soil embankment. Furthermore, certain unofficial sewage ditches and utilities were forced to become sewage sites as the city developed. The ditches leading from residential areas to the main channels also became important sewage dumping sites, such as the ditch behind Jia Bridge, which had become a dumping site and thus was very dirty and smelly.[37] Residents also dumped sewage into public toilets because of their drainage function.

Urban wastewater entering the water network through fixed sites was not the main focus of the drainage system. Cleaning up the easily blocked ditches and transporting the mud was the most indispensable final task of the urban drainage system. Modern urban wastewater contained large amounts of solid substances, which seriously silted up the gentle slopes and the sewage outlets and were difficult to be cleansed away by natural force. For maintaining public hygiene, it was important that they were regularly cleaned by human labor. The work of removal and cleaning was cumbersome,

[36]"Tianjinshi shang xia shuidao gongcheng" [Tianjin Sewer Project], December 31, 1947, Weisheng gongcheng chu shangxia shuidao gongcheng juan [Sewer Project of the Health Engineering Office], file no. j0090-1-003950.

[37]"Jiajia daqiao paichusuo houheyan liushuigou xiuli shi" [Repair of Ditches Along the Back River Behind Jiajiaqiao Police Station], June 3, 1939, Tianjin tebie shi gongshu weishengju dang'an [Archives of Health Bureau of Tianjin Special Municipal Office], file no. j0115-1-000923.

therefore, after 1945, the municipal authorities installed 50 gallon (circa 190 liters)-gasoline-barrels on handcarts.[38]

Part of the silt cleared from the ditches and channels was used to fill urban land. The concessions had long used the river mud to fill the land, and, in order to prevent the silt from being transported out of the concession, the British concession once prohibited using the concessions' mud to fill the potholes and hollows in the places outside the concession.[39] In 1946, when Nankai University resumed its construction, Zhang Boling sent a special letter to the Health Engineering Department[40] requesting the use of river mud to fill the school site in Balitai.

Another part of the cleared river mud was transported to the countryside to be used on farmland as fertilizer – the other end of urban wastewater. Although wastewater had fertilizer value, it was not fertile enough and was difficult to be transported, so few people directly recycled wastewater. But sediment in the ditches and channels contained fine soil and organic matter, aquatic animal and plant remains, as well as excrement and decayed materials of decomposition.[41] These were fertile, almost solid and suitable for transportation, so they were appreciated by the urban night soil industry, which excavated the ditch mud and transported it to factories.

The transport contractors for ditch mud would generally choose the river sections of the sewage dustpan or other fixed dumping sites and paid annual fees to the government to carry the cleared ditch mud to the surrounding villages, to be sold as fertilizer to farmers. However, although the contractors' income for ditch mud seemed guaranteed, there were substantial risks since both natural and man-made disasters could seriously affect the income of the practitioners. For instance, after the repair of the river sewage ditch outlets in 1938, the outlets no longer produced silt, and the city government had to return the money received from the boatmen.[42]

In addition to the contractors, there were scattered night soil merchants or farmers who came from the countryside to buy ditch mud. Particularly when fertilizer was scarce, urban wastewater would be used directly as fertilizer. For example, in the 1920s, the Kaiyuan Reclamation Company near Junliang town reached an agreement with the Tianjin police department to collect urban wastewater and urine for farms as fertilizer. Because it was inconvenient to transport wastewater, the farm finally decided the method of "carrying urine and night soil instead of sewage."[43] The police charged the

[38]"Xiang jingchaju suoyao yuanbaoche" [Asking for Handcarts from the Police Station], December 8,1945, Tianjinshi zhengfu weisheng gongchengchu dang'an [Archives of Health Engineering Office of Tianjin Municipal Government], file no. j0091-1-000073.

[39]"Handbook of Tianjin Old British Concession" stipulated that for health reasons, soil collection from Wanzi River, Haihe River beach and soil collection pits was not allowed from May 1 to September 30 each year, and should be prohibited unless specially approved by the Health Bureau. Mining soil in water pits was to be completely prohibited. "Tianjin jiu Ying zujie zhangcheng shouce" [Handbook of Tianjin Old British Concession] (1924), Waiwen dang'an [Foreign Language Archives], file no. w53-1-1196.

[40]"Nankai daxue liyong qiangzi heni chui dian Balitai xiaozhi" [Nankai University Uses the Wall River Mud to Fill Balitai Site], February 25, 1946, file no. j0091-1-000124.

[41]Yang Zhifu, et al., *Feiliao shiyong erbai ti*, 96.

[42]The references in this paragraph are from "Guanyu chengyun ge hean huishuikou zangshuigouni ji guapi caiye deng xiang" [Transport of Ditch Mud and Vegetable Leaves of the River Bank], 1938, Tianjin tebie shi gongshu weishengju dang'an [Archives of Health Bureau of Tianjin Special Municipal Office], file no. j0115-1-000545.

[43]"Yu jingting heban feiliaochang shi" [Joint Fertilizer Plant Work with Police Department], January 11, 1923, Chengfu xintuo gongsi jingli kaiyuan kenye gufen youxian gongsi dang'an [Archives of Chengfu Trust Company, Kaiyuan Reclamation Co., Ltd.], file no. j0188-1-000160.

total weight of solid and liquid, and the collected sewage was transported to the agricultural areas south of the city.

The archives reveal that it was common for merchants not to spare any effort to collect fertilizer. In 1942, Wu Xueshi, a fertilizer merchant, on his way to the south, discovered that a river was silted up and shallow, so he applied to pay an official fee to dig and transport the silt. Meng Qingchen, whose business was transporting night soil to Nanxiang, also payed a fee to clear Chilong River silt.[44] In 1946, He Fenglai, a businessman, applied to excavate the silt in the Chilong River for spring ploughing.[45] His request was rejected, but it clearly reflects the value of river mud as fertilizer.

In the process of modernization, Tianjin City expanded rapidly, and the urban ditch drainage system changed accordingly, however retaining its role of natural material exchange connecting city and countryside. On the one hand, the original form of city drainage changed drastically, with drainage systems appearing in the newly developed areas in the south and northeast, while the old sewage channels were transformed in the concessions. On the other hand, the expanded modern ditch drainage system still maintained the close connection between the city and villages, as in the past. The wastewater produced silt in ditch and river networks, becoming fertilizer after being collected by contractors and transported to the countryside. Kiln bricks, grain, fruits and vegetables travelled the other way, from the southern suburbs as material goods from the countryside to the city. The two movement thus formed an intuitive metabolic relationship between the city and the countryside.

III. Construction of modern urban pipeline drainage systems

Pipeline drainage systems are built as underground pipes to discharge city wastewater. Modern pipeline-laying technology was generally regarded as a new technology originating from the West, proliferating as part and parcel of European imperialism. In fact, many ancient civilizations had used underground drainage pipelines. In China, for example, the 3000-year old archaeological site of Yanshi Erlitou, an ancient palace in Henan, indicates that it had underground drainage made of wood, stone and pottery.[46] But because these kinds of sewage facilities were expensive, they were not commonly used.

The expansion of cities required various kinds of energy supply, as well as quick discharge of harmful wastewater. By controlling the gradient and pipe size, underground pipes not only discharged wastewater but could also overcome the unfavorable terrain conditions, by adjusting sewage discharge and flow rate. For Tianjin, the pipeline sewage discharge method could solve the problems of seepage and siltation, as well as to keep pace with its demographic expansion.

[44]"Wu Xueshi, Meng Qingchen gou huitu wa gouni shi" [Wu Xueshi and Meng Qingchen's Purchase of River Silt and Digging Ditch Mud], January 28, 1942, Tianjin tebie shi gongshu weishengju dang'an [Archives of Health Bureau of Tianjin Special Municipal Office], file no. j0115-1-000545.

[45]"Chilong he yuni zuo feiliao" [Chilong River Silt as Fertilizer], February 1, 1946, Tianjinshi zhengfu weisheng gongchengchu dang'an [Archives of Health Engineering Office of Tianjin Municipal Government], file no. j0091-1-000077.

[46]For specific examples of urban drainage in ancient China, see Xu Hong, "Gudai duyi paishui xitong de liubian," *Zhongguo wenhua bao*, February 18, 2014, 8.

Most of the pipes laid by the municipal administration belonged to Tianjin's main sewage system, accomplishing the most important sewage drainage purposes. Modern municipal sewer construction first appeared in Tianjin in its concessions, which constituted the earliest urban sewer network. The British Concession completed the ditches on both sides of the roads at the beginning of the project and issued *Regulations of the Region under the Jurisdiction of the Industry Bureau in Tianjin's British Concession*, strictly regulating the building of sewage devices in building, and stipulating that no building without "appropriate toilet with sewage discharge device, and other health facilities" would be approved for construction.[47]

In the sewer construction of the extended British Concession, the experience and lessons from the old concession were discarded. In order to accelerate the flow rate, the Industry Bureau laid the main sewage pipe from the farthest end of the Haiguang Temple, the diameter of which gradually increased from 12 inches (c. 30 cm) to 5 or 6 feet (c. 150–180 cm) at the outlet of the Wall River, effectively reducing the drainage difficulty. These sewer facilities took water from septic tanks, ditches and rainwater, discharging it into the Wall River. Because of the good drainage facilities, the extended area outside the Wall River became "one of the most suitable residential areas in North China."[48]

The French Concession, being one of the first two concessions, was one of the earliest concessions to construct sewers with perfect design. The sewage pipe network in the French Concession was constructed before 1914, regarded as a "extensive drainage system for discharging flood and sewage,"[49] allowing heavy rainwater and sewage to quickly flow out of the river dam into the Haihe River. Pipes were laid from the edge of the concession to the river dam, and the diameters of the pipes were gradually increased to 180 cm at the Wall River.

The Japanese concession was established in 1895 and expanded around 1900, an area marked by sinkholes and bad ground conditions, so the authority paid great importance to drainage problems. The concession began to lay sewer pipes at the beginning of the construction, using concrete water pipes. The cross sections used for the small pipes were round, and due to financial constraints, the large pipes consisted of square cross sections. A modern concrete sewer network was constructed from the start. Due to the sinkholes, pumps were used for drainage in lower-lying areas.[50] Due to economic and political factors, the construction of the Russian Concession was relatively slow, and only part of the designated network was developed within its existence.[51] Even so, the concession still designed a comprehensive sewer pipeline plan. According to *The Growth of Tientsin* by O. D. Rasmussen, published in 1924, more than 6,000 meters of new concrete sewer pipes were laid in the Russian Concession. The sewage system in the Russian Concession was connected with the drainage ditches on the road, with

[47]Tianjinshi dang'anguan, *Tianjin Ying zujie gongbuju shiliao xuanbian*, 99.
[48]Rasmussen, *Tianjin zujie shi (Chatu ben)*, 289.
[49]Ricketts, *Tumu gongchengshi biaozhun shouce*, 1287.
[50]"Tianjinshi xiashuidao xianzhuang" [Current Status of Sewers in Tianjin], November 15, 1945, Tianjinshi zhengfu weisheng gongchengchu dang'an [Archives of the Health Engineering Office of Tianjin Municipal Government], file no. j0090-1-002874.
[51]In July 1919, the Soviet revolutionary government declared that it would abandon all the privileges acquired in China during Russia's imperial era. In 1924, the Chinese government formally took over the Russian concession. See Yao Shixin, "Tianjin E zujie gaikuang," 176–177.

septic tanks that could discharge sewage and flood. Residents were not allowed to discharge sewage themselves.[52]

Other concessions constructed sewer facilities which could be less perfect. Due to a shortage of funds, the Italian Concession only constructed a combined drainage system using circular or oval concrete ditch pipes, and sewage was discharged into the Haihe River. In some low-lying areas, pumping stations for additional drainage were built. Although there were septic tanks on lanes, they were not as perfect as those in the British Concession, and only used rainwater and sewage diversion facilities.[53]

By contrast, the municipal projects of the Austrian and Belgian concessions were not satisfactory, with almost no sewer facilities. The Austrian concession only existed for 17 years. In 1919, when the concession was taken over by the Chinese government there were no new buildings except for the Belgian Consulate, and all military offices occupied civilian facilities.[54] The Austrian concession was small with poor infrastructure, and there were many sinkholes when it was returned to the Chinese government, and only a few roads in the south.[55] Except for three drains on the main road,[56] there was no septic tank, and the ditches did not connect with ditches in other concessions, wastewater and sewage being directly discharged into the Haihe River.[57]

The Belgian Concession situated in Dazhigu district was relatively remote and sparsely populated, and the concession authority was in debt by a large amount of money due to bad management. In 1927 the Belgian government offered to return the concession to the Chinese government under the condition that the Chinese government repay all the money it owed.[58] According to news reports, before the handover the concession was a wasteland with few houses, and there was a clear lack of sewer facilities.[59]

There were many types of sewage ditches in Tianjin, and most of the cost-intensive concrete ditches were mainly in the concessions (see Figure 5). The municipal pipeline system outside the concessions also developed under the influence of the concessions. After Yuan Shikai took over Tianjin, he constructed many officially managed sewage ditches with modern engineering design in the city center. Furthermore, Yuan followed the Tientsin provisional government system to establish the Engineering Administration. A German engineer was employed to promote the improvement of ground and underground ditches and channels in Tianjin, forming a *sifang* drainage ditch system centered in Gulou. With this design, some of the sewage ditches in the streets of the old city, such as in Dongxing, Shenyi, and Rongye streets, were connected with the Chilong River, and the wastewater from other areas was channelled into the

[52]Ricketts, *Tumu gongchengshi biaozhun shouce*, 310–311.
[53]"Tianjinshi xiashuidao xianzhuang diaocha baogao ji xiufu jihuashu" [Investigation Report of Tianjin Sewer Conditions and Restoration Plan], February 21, 1946, Tianjinshi zhengfu weisheng gongchengchu dang'an [Archives of Health Engineering Office of Tianjin Municipal Government], file no. j0090-1-002874.
[54]Ao zujie shiliao zhuanti xiaozu, "Tianjin Ao zujie neimu jishi," 131.
[55]"Fa Jing lu zhuanshi dian," July 15, 1919, 197.
[56]Nankai daxue zhengzhi xuehui, *Tianjin zujie ji tequ*, 9.
[57]"Tianjinshi xiashuidao xianzhuang diaocha baogao ji xiufu jihuashu" [Investigation Report of Tianjin Sewer Conditions and Restoration Plan], February 21, 1946, Tianjinshi zhengfu weisheng gongchengchu dang'an [Archives of Health Engineering Office of Tianjin Municipal Government], file no. j0090-1-002874.
[58]"Jieshou Tianjin Bi zujie jiyao," 11.
[59]Jing Cheng, "Xingjiang shouhui zhi Tianjin Bi zujie," 6.

Figure 5. Distribution range of concrete drainage pipes in 1945.

Source: Map produced by author based on *The Latest Tianjin City Street Map* and *Map of Tianjin Ditch and Channel System*.

Nankai Reservoir through public ditches and channels, discharged into the Wall River by pumping stations. Pump houses were also built to control the flow of sewage.

In addition to government-led construction, as part of urban development, citizens also constructed sewers themselves, especially in those areas where the development of modern urban projects was delayed. The sewers constructed by residents with their own funds extended the length of the main drainage pipe, thus expanding the scope of the sewer system. The Japanese Concession once promoted the popularization of sewers in the whole concession by encouraging residents to construct their own sewers, requiring land owners and tenants near the public sewers to "quickly construct private ditches, that is, sewers,"[60] so that in 1928, the number of indoor sewer facilities reached 3,289 households, which left only 865 households without sewer facilities.[61] The residents in the Chinese district were completely dependent on themselves to build sewers. They often raised funds by means of community consultation to construct a drainage network covering the whole area. For the sake of quality control, the municipal

[60]"Zhu Ri zujie zhe zhuyi," *Dagong bao*, November 9, 1921, 2.
[61]"Zhaohe san nian (1928 nian) mintuan," 158.

administration issued supporting regulations, such as the *Temporary Regulations of Tianjin Special City Concerning Citizens' Constructing Sewers* issued in 1944, stipulating that citizens needed to first apply, submit schematic diagrams to be examined by government officials and only then start the project following approval.[62] Even with such strict formalities there was no shortage of applicants.[63]

Septic-tanks were an important part of modern sewage system, related to the utilization of sewage. The sewage in septic-tanks in the concessions was cleared and transported away into the suburbs. For example, the British Concession transported the sewage to two-night soil storage yards at Zhangzhuang Bridge and No. 22 Road. Transports were regularly received by the suburbs, sometimes temporarily stored in major pumping houses.[64] After the concessions were taken over in 1945, the sewage in septic-tanks was purchased by competing manure merchants as fertilizer. The sewage in septic-tanks was digested anaerobic silt and excrement, in which the organic matter degraded into inorganic matter with low moisture content, suitable for use as farm fertilizer. After the Tianjin municipal government took over septic-tanks in the concessions, sewage accumulated due to insufficient transport possibilities.[65] In order to timely deal with the sewage problem, the government had to sell the mud to Tianjin night soil merchants. For instance, in 1946, night soil stored in the old Italian Concession of the ninth district was sold to night soil merchant Xie Xihong, who had put in an offer of 400 yuan per cart. When Xie had paid the full amount on the spot, he swiftly transported the night soil mud away.[66]

Although sewage in septic-tanks could be converted into fertilizer by means of modern urban manure merchants, the modern drainage facilities greatly reduced the contact between people and wastewater, allowing more wastewater to directly enter rivers. This reduced the possibility of sewage being reused in the city and on farmland as in the traditional drainage system. For example, in 1947, Li Zhiqing, a manure contractor in the old Japanese concession, asked the Tianjin police twice to reduce fees, lest he abandon his trade. The reason cited was that the toilets in the old concession now had flushing water tanks, so there was not sufficient sewage to cover the cost of collecting the night soil.[67]

Modern sewage facilities served rapidly growing industries, dense populations in growing cities, and effectively disposed of discharge urban sewage. From the perspective of public health, cities have strengthened the isolating function of sewer systems,

[62]"Tianjin tebieshi shimin jiexiu xieshui gouguan zanxing guize" [Interim Rules for Tianjin Special City Citizens], 1944, Tianjinshi zhengfu weisheng gongchengchu dang'an [Archives of Health Engineering Office of Tianjin Municipal Government], file no. j0090-1-002882.

[63]"Geren shenqing anzhuang xiashuidao shebei" [Personal Application for Installation of Sewer Equipment], April 3, 1946, Tianjin shizhengfu weisheng gongchengchu dang'an [The Health Engineering Office of Tianjin Municipal Government], file no. j0091-1-000081.

[64]"Tianjin shizhengfu weisheng gongchengchu xiashuidao gongwusuo jieshou gongwuju yijiao ge choushuifang jubao" [The Sewer Works Office of the Tianjin Municipal Government's Health Engineering Department Accepts the Handover of the Detailed Reports of Pumping Houses by the Works Bureau], January 17, 1946, Tianjin shizhengfu weisheng gongchengchu dang'an [The Health Engineering Department of Tianjin Municipal Government], file no. j0091-1-000043.

[65]Meng Zhaoe, "Tianjinshi xiashuidao xiufu yu yanghu," 42.

[66]The citation in this paragraph is from "Benshi shimin taowa huafenjing ji jiaokuan" [Citizens of This City Dug Sewage in Septic-Tanks and Took Payment], August 1947, Tianjinshi gongwuju dang'an [Archives of Tianjin Municipal Bureau of Public Works], file no. j0090-1-000624.

[67]"Mianchu yiqu (ji jiu Ri zujie) yunchu fenbian Zeren" [Exemption from Collecting Sewage in the First District (the old Japanese Concession)], Tianjin jingchaju dang'an [Archives of the Tianjin Police Department], file no. j0219-3-030590.

separating life and death with cemeteries, as well as clean water and wastewater with sewers. This innovation, however, not only changed the urban landscape and living environment, but it also inadvertently cut natural material exchange between the city and the outside world. This "destroyed the material transformation between people and the soil, disrupting the cycle of the food and clothing brought forth by the soil so that it cannot be returned to the countryside, thus eradicating the eternal natural conditions of lasting fertility."[68] Precisely, this caused the metabolic rift which Karl Marx had observed.

IV. Conclusion

The development of the drainage system in Tianjin during its transition to modernity shows the multiple impact of modernization on China's urban landscape, population and living environments, as well as on the material exchange between urban and rural areas. For a long time, the pipeline sewage discharge system has been studied because of the significant improvement it brought to urban sanitation and as a promoting force of modernization in diverse aspects of economic and social life. However, while bringing about great progress, its hidden and far-reaching impact in terms of ecological relations both within and beyond the city limits has been neglected.

The change of drainage systems first affected the internal ecology of cities. Under the stimulus of urban development, the traditional ditch and channel drainage system experienced expansion and transformation. Water in depressions, lakes and pools was discharged and then used by settlers along river valleys. Walled cities gradually reduced their dependance on naturally flowing water in order to become equipped with sewage facilities. Demographic change put further pressure on the wastewater disposal in urban areas, thus causing ecological pressure within urban environments.

The modern sewage discharge system also impacted the ecological connection between cities and their external environment. Sewers quietly changed the original mode of urban and rural material exchange, allowing more and more urban wastewater to flow into natural waters through pipelines. In the meantime, the components in wastewater that could be converted into fertilizer decreased, negatively affecting contracted ditch mud transportation and the sewage recycling industry. The return passage of urban sewage to the countryside was hence blocked. Simultaneously, as the countryside began to lack natural fertilizer, the promotion and increased use of modern artificial fertilizer further weakened the material exchanges between the traditional Chinese cities with their surrounding environment.[69] The consequences of the resulting loss of local fertilizers and the import of foreign industrial products, which in turn signified a more profound regional ecological transformation and environmental problems, can be felt until today. It is thus evident that the change of the drainage systems, especially the emergence of the sewer systems, had an obvious impact on internal

[68]Marx, *Ziben lun*, 579.

[69]For example, in 1924, when Kaiyuan Reclamation Company lacked fertilizer, as well as transporting sewage as fertilizer from the city, it also tried to buy artificial fertilizer as supplement, since imported artificial fertilizers had begun to occupy a share in the fertilizer market. See "Huibao linsuan huaxue feiliao zhi youdian" [The Advantages of Phosphoric Acid Chemical Fertilizer], March 14, 1924, Chengfu xintuo gongsi jingli kaiyuan kenye gufen youxian gongsi dang'an [Archives of Chengfu Trust Company, Kaiyuan Reclamation Co., Ltd.], file no. j0188-1-000155.

environmental change and on external material exchange in modern China. This urban ecological change brought about by human activities and technological development was particularly remarkable, providing us with highly relevant experiences and lessons.

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Glossary

Balitai	八里台
Chilong	赤龙
Dutong yamen	都统衙门
Erlitou	二里头
Haiguang	海光
Haihe	海河
He Fenglai	何凤来
Huluguan	葫芦罐
Jinzhong	金钟
Li Zhiqing	李芝青
Meng Qingchen	孟庆臣
Qiangzi	墙子
Sanchakou	三岔口
Sengge Rinchen	僧格林沁
Sifangkeng	四方坑
Taihang	太行
Weijin	卫津
Wu Xueshi	吴学诗
Xie Xihong	谢西鸿

Yanshan	燕山
Yanshi	偃师
Yuan Shikai	袁世凯
Ziya	子牙

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Managing the Fengtian national forest during the Republican era: affirmation and disputes over usage rights

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ABSTRACT

During the late Qing and early Republican periods, the Beijing government implemented a national forest system that challenged customary forest rights in Northeast China. Under the old system in the Qing era, forest rights were considered as a whole, incorporating both forestland and timber on the ground. Private forest rights were usually evidenced by land deeds and tax certificates for forest products. However, the new national forest system subdivided the previously integrated forest rights. This meant that timber from natural forests and non-owner-planted woods had to be nationalized and issued with a standardized state forest license by the Forestry Bureau. Consequently, the separation and nationalization of natural forest tree ownership deprived people of their ownership and usage rights of forest trees on private woodlands and public mountain farms, leading to disputes over forest rights. In Fengtian Province, where there were many natural forests, the extension of national forest rights to private and public mountain forests led to numerous forest disputes and lawsuits, gradually reshaping the local property rights order.

KEYWORDS

National forest; forest tree rights; forestland rights; forest disputes; Fengtian

As the largest natural forest area in modern China, the forest rights of Northeast China can be considered one of the cardinal issues in the land rights evolution of modern China. The separation, transfer, reconfiguration, and competition of forest rights are not only directly related to land rights and business practices change in Northeast China. They are also closely related to the transformation of state finance and frontier governance in the late Qing and Republican eras. Previous studies on forests in southern China have focused on the rich facets of property and land rights in traditional societies and their modern entanglements.[1] However, when it comes to Northeast China's land and forestry history, scholars have mainly concentrated on the evolution of land rights in the plains, with comparatively little discussion about the nationalization of Northeast China's forests and the tenure subdivision of forestland and forest trees.[2]

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[1]Zhang Yingqiang, *Mucai zhi liudong*; Du Zhengzhen, "Wanqing minguo shanlin suoyouquan de huode yu zhengming," 78–91; Du Zhengzhen, *Jindai shanqu shehui de xiguan, qiyue he quanli*; and Zheng Zhenman, "Mingqing shiqi de linye jingji yu shanqu shehui," 148–158.

[2]Kong Jingwei, "Qingchao tongzhi shiqi Dongbei guandi qidi de jingying he Xiang mindi zhuanhua," 68–73; Yi Baozhong, "Chijin fanghuang yu Dongbei diqu ziben zhuyi de chansheng," 32–36; James, "Land Use and Society in Manchuria and Inner Mongolia during the Qing Dynasty," 503–530; and Isett, "Village Regulation of Property and the Social Basis for the Transformation of Qing Manchuria," 124–186.

In fact, since the second half of the 19th century, a substantial number of immigrants from inside the Great Wall at Shanhaiguan migrated to Northeast China to make a living. This led to the development of mountain farms, also known as *shanchang*, where adjacent mountains and forests connected with cultivated lands became bases for a local household forest economy. Some farmers engaged in activities such as ginseng picking, logging, and sericulture, which gradually altered the land and forest tenure relations in the region.[3] Following the establishment of the Republic of China in 1912, the Beijing government introduced numerous laws and policies to implement a national forest system in Northeast China. Among them were the "Rules for the Issuance of National Forests in the Three Eastern Provinces" (*Dongsansheng guoyoulin fafang guize*), which designated unclaimed wildlands and natural forests as state-owned property, thereby separating the natural forest trees from the customary woodland rights, nationalizing them, and forming unique "national forests." These policies led to significant changes in the tenure structure of northeast China's forests and thus redefined the forestland ownership structure.

The evolution of forest tenure relations in Fengtian is a crucial academic topic. Situated on the boundary of the three major flora systems of Changbai, North China, and Mongolia and being abundant in forest resources, Fengtian was also a major area of activity for the Feng warlords. With the extension of national forest rights within traditional land rights in the province's natural forest areas, the boundaries of forests became increasingly blurred. It led to numerous conflicts and lawsuits over private mountain forest ownership, public mountain forest usage rights, as well as inter-generational and inter-regional forest reporting claims. Drawing on archives from the Fengtian Provincial Office and the Fengtian Forestry Bureau in the Liaoning Provincial Archives, this article examines how state forest rights were separated from traditional land rights, transferred and disputed. Forest rights gradually reshaped the nature of local property rights by scrutinizing the transmutation and disputes over forest rights in Fengtian during multiple rounds of land and forest system reforms. The present study may help us gain deeper insights into the frontier governance and modernization process of Northeast China in modern history.

I. Forest rights transformation in Fengtian during the late Qing and early Republican era

During the late Qing era, the forest resources of Fengtian were primarily situated in the area south of Longgang Mountain, a branch of the Changbai mountain range, north of the Yalu River, and east of the Willow Palisade (*Liutiaobian*). This region encompasses the eastern part of present-day Liaoning Province and southeast Jilin Province, with mountains and hills as the primary terrain and small plains interspersed between them. In the early Qing period, the Qing government established imperial hunting grounds, paddocks, and patrol areas outside the Willow Palisade (historically referred to as the "Outside the Eastern Border," *Dongbianwai*). They strictly prohibited the Chinese and Korean residents from felling trees and reclaiming land.[4] As a result, the forest

[3]Chen Fuzeng, "Fusong xian yuanshen zaipei shilue," 44; and Dandong shi minzu shiwu weiyuanhui minzu zhi bianzuan bangongshi, *Dandong manzu zhi*, 74–79.
[4]Huang Jiayuan, *Changbai shanqu kaifa shigao*, 14–18.

vegetation in the eastern part of Fengtian was well-preserved, forming an artificial "natural" forest landscape and a rich reserve of forest resources.[5] The statistics of the Republican era reveal that the remaining forests in the Changbai Mountain area covered four and a half million hectares, with a storage volume of one billion cubic meters. There were many different kinds of forests, including red pine, larch, Quercus serrata, water willow, and other rare species.[6] However, since the 1860s and 1870s, the original forest order in the region could no longer be maintained due to a large influx of migrants. Subsequently, in 1877, the Qing government set up a civil administration in the area and established a "Sub-patrol of Military Defense for Eastern Fengtian Province" (*Fenxun Fengtian sheng dongbian bingbei dao*, abbreviated as *Dongbiandao*). This sub-patrol area encompassed 23 counties, including Andong, Fengcheng, Kuandian, Huanren, Xingjing, Benxi, Tonghua, Ji'an, Linjiang, Fusong, Liuhe, Hailong, Huinan, and Antu. The forest management order in the eastern part of Fengtian began to embark on a process of reorganization.

With the implementation of the reclamation policy and the establishment of new management agencies, forest ownership and tenure in the eastern part of Fengtian was also re-regulated along with the change of land ownership. *Dongbianwai*, which was once an eight-banners ginseng mountain farm restricted to the military during the early Qing era, was in an unclear legal position. In 1874, the Qing court opened all forest zones east of the Willow Palisade, allowing exiles to reclaim wildlands.[7] As a result, part of the Eastern Fengtian forest was gradually classified as wasteland in the civil register. During the Guangxu period (1871–1908), the Qing government established the Bureau of Reclamation (*Kenwuju*) in Eastern Fengtian, which sold the eight banners' paddocks, mountain farms, and other official lands to civilians. Based on the degree of land fertility and topographic conditions, the Bureau of Reclamation generally classified the wasteland into four categories: "land of high quality" (*zhengduandi*), "mountainous and barren land" (*shanhuangdi*), "forestland with streams" (*shuchuandi*), and "meadow land" (*caodiandi*).[8] Among them, "mountainous and barren land" and "forestland with streams" were forests found to be challenging to cultivate but with potential for being claimed from the Bureau of Reclamation and taxed after five years. Throughout this process, many mountainous areas and forests were sold to civilians, along with the land privatization program. Between 1863 and 1908, approximately 2,100,917 *mu* of land were released to civil people in the *Dongbiandao* area, much of which was forested land, according to statistics.[9]

Following the founding of the Republic of China, the Beijing government introduced another round of official land investigation and surveying (*guandi qingzhang*) in Northeast China. The previously unprivatized princely estates (*wangzhuang*) and official lands continued to be resold. In December 1912, the Beijing government enacted the "Trial Provisions for Investigating and Surveying Estates" (*Qingcha zhuangdi shiban*

[5]Jonathan Schlesinger argues that the Qing court deliberately constructed artificial "nature" in the forests of Northeast China and Mongolia to preserve the material and identity privileges of the Manchus and Mongols by prohibiting immigrants from entering the mountains to cultivate them. See Schlesinger, *A World Trimmed with Fur*, 168–170.
[6]Jilinsheng difangzhi bianzuan weiyuanhui, *Jilin shengzhi linye zhi*, 22.
[7]Xu Jingwen, *Donggou Xianzhi*, 1040.
[8]Wang Gesheng, *Qingdai dongbei tudi zhidu shi*, 90.
[9]Minami Manshū Tetsudō Kabushiki Kaisha Sōmubu Jimukyoku Chōsaka, *Manshū Kyūkan Chōsa Hōkokusho Zenpen no Uchi Ippan Minchi*, 136.

zhangcheng) to target the Imperial Household Department's (Neiwufu) estates in Shengjing. The banner headman (*zhuangtou*) was given priority for first refusal. As a result, official lands such as the Imperial Household Department's estates flowed into the hands of private headmen in tight succession.

In 1914, the Beijing government enacted the "Regulations on the Contracting and Reclamation of State-owned Wasteland" (*Guoyou Huangdi chengken tiaoli*), classifying wasteland into three types and five grades, namely "land of rivers, seas, lakes, streams, and sandbars" (*jiang he hu hai tutan di)*, "grassland" (*caodi*), and "woodland" (*shulindi*). The price of reclamation decreased in turn, with forests falling under the third grade of wasteland, priced at 0.7 *yuan* per *mu*. This was slightly higher than the fourth grade of "fragmented land of either high or low altitudes, in either dry or wet conditions" (g*aodi ganshi bucheng pianduan zhe*) (0.5 *yuan* per *mu*), and the fifth grade of "unproductive grassland with brine and moraine" (*chilu shazi wei chancao zhidi*) (0.3 *yuan* per *mu*), but notably lower than the first-grade "those that produce grass abundantly" (*chancao fengsheng zhe*) (1.3 yuan per *mu*), and the second-grade "those that produce sparse and short grass" (*chancao xiduan zhe*) (1 *yuan* per *mu*).[10] In 1915, the Bureau of Official Land Investigation and Surveys of Fengtian Province (*Fengtian quansheng guandi qingzhang ju*) was established to measure and release uncultivated official wasteland (*guanhuang*), residual wasteland (*yuhuang*), and Mongolian wasteland (*menghuang*) in the province. The bureau mobilized people to claim uncultivated wasteland, while forests continued to be sold or contracted to individuals as uncultivated land.

After several rounds of land privatization, a private forest property rights mechanism based on the private land system gradually emerged in Fengtian Province. In general, farmers could obtain a land deed (*dizhao*) after contracting their forestland to the Bureau of Reclamation and paying their grain tax on time. According to traditional Chinese land rights customs, land deeds were considered certificates of land ownership. All trees and properties within the four boundaries (*sizhi*) of the land deed belonged to the landowner. To claim private forest rights in Fengtian during the late Qing dynasty, all forests on ancestral land or claimed governmental wasteland could be given a land deed as a certificate of forest property rights within the four boundaries. This became one of the most prevalent ways for farmers to claim private forest rights in Fengtian. In 1921, Fengcheng County farmer Sun Huanzhang requested private property rights in a forest in Lishu Dianzi. He claimed that he had contracted this piece of forestland to the Bureau of Reclamation in 1876 and received the land deed in 1880. He cultivated the arable land within the four boundaries to grow grains and cultivated forests in the mountains. As the holder of the land deed, the forest fell "within the property," so it should be his private forest.[11]

Although there were no clear legal regulations stipulating how to determine forest ownership through land certificates, the actual division of forest ownership in Fengtian forests often relied on other factors, such as civil customs. For instance, if the forests were adjacent to cultivated land and were actually occupied by farmers, the villagers in

[10]*Zhang Jian quanji* bianzuan weiyuanhui, *Zhang Jian quanji*, vol. 1, 313.
[11]"Sun Huanzhang, Wang Weiling cheng" [Submissions by Sun Huanzhang and Wang Weiling], April 17, 1921, Minguo dang'an [Archives of Republican China], file no. JC010-01-27952.

Fengtian would use their certificate of forest product tax as evidence of private forest ownership. Ginseng harvesting, logging, and sericulture were major economic activities in eastern Fengtian. The local prefects not only levied land taxes but also issued licenses for silkworm farms and ginseng farms and imposed taxes on cocoons and ginseng. They also issued axe licenses (*fuzhao*) to those who entered the mountains to cut wood and levied donations such as axe donations (*futou juan*), ox head donations (*niutou juan)*, and security group fees (*baowei tuan fei*).[12] For mountain farms where taxes were levied, local people used both land deeds, cocoon licenses and other certificates related to forest products tax donations as proof of private ownership of the mountain farms. In 1920, Qiao Wanfu, the *baozhang* of Kuandian County, claimed that a certain mountain farm they occupied had been issued with a cocoon license, and argued that "there is no doubt that the forest within its boundary should be owned by him."[13]

In addition, private households used forestation certificates issued by government agencies at all levels of the Qing era, such as "wood tickets" (*mupiao*) and "tree cultivation licenses" (*yangshu zhizhao*), as a basis for claiming private forestry rights. For example, in 1918, Deng Xianglin, a former scholar official (Yougongsheng) under the Qing, claimed ownership of the forest in Donglu Tanggou, Benxi County, citing a wood ticket received by his great-grandfather Deng Peng from the Ministry of Public Works (Gongbu) in Shengjing during the Daoguang period. He argued that his ancestors were responsible for "securing the mountain and raising trees" in Donglu Tanggou and that "those who did not have timber would not be felled, and would continue to be managed, which lasted for three generations." Although the Ministry of Public Works in Shengjing had been abolished and the wood ticket canceled, he believed that his great-grandfather had planted the forest there and therefore deserved ownership of the trees planted by his ancestors.

Similarly, in 1919, Ji Xuecheng, a member of the Chinese Bordered Blue Banner, declared to the Forestry Bureau that his ancestor had obtained a "tree farming license" for a wasteland during the Guangxu period. The forest was located outside the four boundaries of his land and belonged to "excess land occupation" (*fuduo*). In his opinion, his ancestors had planted trees on barren land ever since receiving the license. Even if the forested area had grown beyond the original land license boundary, it would still be owned by the planters and their descendants. These forestation certificates generally did not clearly indicate land rights, making it difficult to confirm the specific circumstances due to their age. As a result, they were rarely supported by the Forestry Bureau in Fengtian. However, these incidents suggest that forest ownership had become an issue of rights independent of traditional land property rights in Fengtian.

In summary, in the late Qing and early Republican eras, new forest ownership relationships began to emerge in Fengtian Province due to special natural conditions and land privatization reforms. Through the official promotion of wasteland reclamation and registration, forests as one or several types of wastelands began to attract the attention of both the government and the people of Fengtian. Since the Guangxu period, private households could apply directly to the Bureau of Reclamation to

[12]Dandong shi minzu shiwu weiyuanhui minzuzhi bianzuan bangongshi, *Dandong manzu zhi*, 76.

[13]"Qiao Wanfu, Huang Baoshan, Tang Naifu, Yin Shixiu, Bi Xude cheng" [Submissions by Qiao Wanfu, Huang Baoshan, Tang Naifu, Yin Shixiu, and Bi Xude], September 11, 1920, Minguo dang'an [Archives of Republican China], file no. JC010-01-7789.

purchase forests. The land price was lower than plain land. Meanwhile, forest property rights were gradually separated from the traditional land property rights system. Forest product tax certificates, such as cocoon licenses, became critical documents for the private sector seeking to claim forest rights. However, the perception of forest property rights among the people of Fengtian remained within the scope of the forest right of combining both forestland and forest trees as a whole. Public forests, including those belonging to temples and ancestral halls, were also reserved under the traditional land property rights system. This constituted an important economic and social context for implementing the national forest system in Fengtian.

II. The reshaping of forest rights in Fengtian under the national forest system during the early Republican era

Prior to the late Qing period, the Chinese government did not have clear legal regulations on forest property rights. Forest, timber, and woodland property rights were mostly scattered among land and housing laws and deeds or governed by civil customs. The basic principle was that "forests within the four boundaries belonged to private landowners."[14] However, with the intensification of the border crisis and the introduction of Western concepts of forest rights during the late Qing period, forest property rights in Northeast China and other regions began to attract greater attention from the Chinese government. Following the establishment of the Sino-Japanese Yalu River Logging Company, forests within 60 Chinese miles (*huali*) of the right bank of the Yalu River became the exclusive logging area of the company. By controlling the exclusive forestry area, Japan monopolized the logging, transportation, and sale of many forests in Fengtian, which severely infringed upon China's forest rights. As a result, the Chinese government began prioritizing forest resource protection and implementing measures to safeguard forest rights.[15]

Following the establishment of the Beijing government of Republican China, the central government began to strengthen its control over the forests of Northeast China, and on December 11, 1912, Chen Zhenxian, the chief of the Ministry of Agriculture and Forestry, promulgated the "Provisional Rules for the Issuance of National Forests in the Three Eastern Provinces" (*Dongsansheng guoyoulin fafang zanxing guize*, referred to as the "Provisional Rules"), and in 1914, the "Rules for the Issuance of National Forests in the Three Eastern Provinces" (referred to as the "Issuance Rules"), which brought the nationalization of forests in the Manchurian Provinces to a concrete expression.

The Issuance Rules consisted of 20 articles, which initially regulated the definition of national forests, the issuance process, and the collection of fees. Among them, it was stipulated that all unowned wasteland and native forestland in northeastern China were classified as "national forests," managed by the Jilin Forestry Bureau directly under the Ministry of Agriculture and Forestry (Nonglinbu). Private logging was strictly prohibited; except for the forestry bureau's own forests, the rest of the national forests being offered to the people, their issue "limited to forest trees." Furthermore, "all the logged

[14]In the Qing era, the land and house transactions related to forests were generally written on deeds with clauses such as "all trees and plants of small and large sizes are included." See Long Denggao, *Zhongguo chuantong diquan zhidu jiqi bianqian*, 24.

[15]"Ōryokukō shinrin kōshō," 37–38.

forest land, unless the government department considers that it cannot be reclaimed, the recipient who wishes to reclaim, in accordance with the National Wasteland Reclamation Regulations, is to be submitted to the Bureau of Reclamation for approval."[16] In this way, the forest ownership structure in the three northeastern provinces was redefined.

Based on the Issuance Rules, "forest trees" within natural forests and unowned wastelands were to be separately nationalized and managed or issued by the Forestry Bureau, which was under the direct authority of the central government. Therefore, it is important to note that "national forest" in this context specifically refers to the ownership of "forest trees" rather than a combination of forestland and forest trees. It should also be noted that since then, forest tenure in the Northeast region had been divided into "forestland tenure" and "forest tree tenure" from the previous integral forest tenure system.

The Issuance Rules also changed the standards for forest tree ownership. Forest trees were usually governed by land ownership under China's traditional land contract arrangement. If the land was privately owned, forest trees within the "four boundaries" fell under private property rights. On non-owned wastelands and natural forest land, however, the Issuance Rules nationalized forest trees. This creates a new criterion for identifying who owned forest trees, replacing "within the four boundaries" with "whether the owner had planted the trees in person." Based on this rule, forest trees on private land could be both private and national. The ownership of forest trees was then basically separated from the ownership of land.

Furthermore, Northeast China was home to an abundance of natural forests, which led to some privately owned lands being brought under the jurisdiction of national forests due to the presence of natural forests within their boundaries as a result of the "land privatization movement" that began in the late Qing era. The natural forests in Northeast China were then divided into two main types: national forests on national land and national forests on private land, which contrasted with the national forest systems in the United States and Japan, where "national forestland and national forest trees" were combined. These two types of forests were managed and distributed by the Forestry Bureau, resulting in a unique "national forest" form in which state and private property rights coexisted in Northeast China. As a consequence, local farmers and foresters found themselves embroiled in legal disputes and conflicts.

In 1917, the authority to issue state forests was delegated to the provincial forestry bureaux. Fengtian Province also enacted a number of decrees to promote national forests issuing in the province. In 1918, the Fengtian Military Governor's Office issued the "Rules for the Collection of National Forest Management Fee" (*Zhengshou guoyoulin guanli fei guize*), which announced the imposition of "National Forest Management Fee" at eight percent of the market price of the forest trees, strengthening the financial basis of national forest management. In October 1919, the Fengtian Provincial Governor's Office promulgated the "Regulations for the Clearance of National Forests in Fengtian" (*Qingli Fengtian guoyoulin jianzhang*), which refined the meaning of "national forests" based on the 1914 Issuance Rules. It was pointed out in the regulation that the content of national forests should include people who acquired ownership of

[16]Wang Changfu, *Dongbei jindai linye jingjishi*, 126.

forest land after the growth of forest trees, who were considered to be in possession of a group or an individual according to the custom without any evidence of ownership of forest trees, and who resold the forest trees based on the first two cases. As a result, the scope of national forests was greatly broadened; as long as the forest trees were not planted by private people or could not be proved to be planted by the owner, they could be considered as "national forests" and nationalized. Later, the Fengtian Provincial Governor's Office promulgated the "Rules for the Protection of National Forests in Fengtian Province" (*Fengsheng baohu guoyou senlin guize*) and other laws for the protection of national forests, prohibiting the felling of trees with a growth period of fewer than 10 years in order to promote reforestation.[17] Consequently, a system of national forest tenure was gradually established in Fengtian Province, including issuance, claiming, felling, management, maintenance, and afforestation.

The "Regulations on the Clearance of National Forests in Fengtian" included a provision for land-deed holders to claim natural forests within their land boundaries within three months of the enactment of the regulations. After this time period, other individuals may claim the national forests on a first-come, first-served basis.[18] While this practice may appear unfair to some, it was helpful in maintaining local social order. Previously, the Bureau of Reclamation often prioritized selling state-owned wastelands to the actual land controller or neighboring village households.[19] However, since the dissemination of these regulations takes time, there is room for debate about whether the three-month period for land deed holders is appropriate. Furthermore, many people in Fengtian were already accustomed to receiving forestland and forest trees directly from the Bureau of Reclamation after claiming and contracting the land rather than having to go through the Bureau of Forestry. As a result, they were less interested and even more resistant to claiming the natural forests within their land boundaries from the Bureau of Forestry. As it happened, many land deed holders failed to claim their forests within the three-month priority period, which led to conflicts over forest rights.

III. Resolving forest rights disputes and lawsuits in Fengtian

Compared to the official level, the Fengtian civilians' recognition and acceptance of the national forest system was gradual and uneven. In view of the overall number of households in Fengtian, only a small number of people actively participated in the national forest system. Many individuals and groups opposed the reformed forest system. In addition, certain unscrupulous individuals took advantage of the national forest issuance for their own profit, which gradually led to disputes and lawsuits over forest land and forest property rights, ever since the implementation of the national forest system in Fengtian. According to our data, Fengtian Province forestry officials recorded about 51 forestry disputes between 1915 and 1928 (see Table 1). Most of these

[17]"Guoyoulin zhangcheng" [National Forest Regulations], June 1, 1928, Minguo dang'an [Archives of Republican China], file no. JC010-01-004,559.

[18]"Qingli Fengtian guoyoulin jianzhang" [Regulations for the Clearance of National Forests in Fengtian], February 27, 1919, Minguo dang'an [Archives of Republican China], file no. JC010-01-7789.

[19]"Zhao Zansan cheng" [Submission by Zhao Zansen], December 15, 1927, Minguo dang'an [Archives of Republican China], file no. JC010-01-004,583. Some scholars have pointed out that the practice of the Bureau of Reclamation was positive for maintaining the social order of the region. See Yoshiki Enatsu, "Establishment of the Modern Land System," 101–102.

Table 1. Types of National Forest Disputes and Lawsuits in Fengtian.

Types / Regions	Timber Ownership Disputes in Mountain Farms	Usage Rights Disputes over Public Mountains and Forests	Covering Claims	Illegal Logging of National Forests		Other[20]	Total
				Chinese	Japanese		
Benxi	1	6	1	2	2	2	14
Xingjing	1	2	3	4	3		13
Huanren	1	6		1		1	9
Fengcheng			2	1	1		4
Liuhe		1	1				2
Fusong	2						2
Kuandian	1						1
Ji'an					1		1
Linjiang						1	1
Huinan			1				1
Xifeng					1		1
Tieling					1		1
Hailong					1		1
Total	6	15	8	9	9	4	51

Sources: Minguo dang'an [Archives of Republican China], Liaoning sheng dang'anguan [Liaoning Provincial Archives], file no. JC010-01-1313, 2276, 4579, 4596, 4582, 4583, 7713, 7716, 7827, 7029, 7730, 7765, 7748, 7771, 7775, 7748, 7789, 7894, 8306, 27952, 27273.

conflicts were resolved under the investigation and mediation of the Forestry Bureau (after 1919, the Forestry Bureau was restructured as the Industrial Department, *Shiye ting*), but 10 cases still entered legal proceedings.

Table 1 shows that "covering claims" (*baotao baoling*) was one of the more frequent forest rights disputes in this period. The term "covering" (*baotao*) refers to the contractor who covered other people's forests under their own national forest claims. This included both spatial and intergenerational claims. In the early stage of state forestry implementation, as most Fengtian residents were not inclined to claim and contract national forests, most of the claims came from non-local businessmen, and local households basically became their victims. Later, after some local households became accustomed to and familiar with the national forest claiming process, they attempted to use their own land deeds to claim thousands of *mu* of national forest around their own tens and hundreds of *mu* of land, based on the fact that eastern Fengtian was vast, and the timber trade was profitable. When the Forestry Bureau refused such claimants, they sued and obstructed others from contracting the forests around their land in the name of "covering," which was regarded as "intentionally entangled litigation" (*chansong*) by the forest officials.

In addition to "covering claims," another type of forest rights dispute that was more frequent during this period was "illegal logging." According to the official regulations of Fengtian, the logging right of the national forest had to be registered, surveyed, reported, and licensed by the Forestry Bureau before it could take effect, which usually took a few months to a year. Theoretically, before the national forest license was issued, the forest still belonged to the state. Any logging by the claimant and other people would be considered "illegal logging of the national forest." However, many people were used to cutting wood for themselves in public forests and did not know where

[20]"Other" in this context includes extortion, malicious prosecution by hired loggers, and business rumors in the timber trade.

public mountains were registered as national forests. Therefore, when they enter the mountains to harvest according to their usual habits, it is very likely that they will interfere with the government's rights or others. They will be reported to the government as "private logging" or "illegal logging."

Furthermore, according to the 1914 Issuance Rules and the Forestry Law (*Senlinfa*), only Chinese citizens could claim and exploit national forests. However, in order to obtain the timber needed for railroad construction and mining, Japanese merchants in Fengtian often secretly made agreements with private households to claim the national forests and then pass on the felled trees to themselves. Such transactions were generally rather secretive, but sometimes they were denounced due to uneven distribution of benefits or because peers were jealous of the proceeds and competed to be suppliers to Japanese merchants. Ultimately, the people involved could be prosecuted for "illegal logging." The occurrence of these disputes and lawsuits does not end with the conclusion of similar cases but has continuity in time, thus profoundly affecting forest property rights and social order in Fengtian. In this section, I will discuss the basic aspects of forest rights disputes in Fengtian during this period, focusing on typical cases such as disputes over the ownership of natural forest trees, disputes over the use of public mountain farms, inter-generational and inter-regional claims of national forests, illegal logging of national forests by owners, and illegal sales of national forests to Japanese businessmen.

"Separation of forestland and forest trees" and disputes over timber ownership in mountain farms

As mentioned above, Fengtian Province's forests were mainly concentrated in the eastern area of the province. The terrain was mostly mountainous and unsuitable for farming, so local households opened mountain farms around their fields and engaged in sericulture and ginseng farming. Under the traditional land rights custom, farmers could obtain private property rights of mountain forests by obtaining land deeds and tax certificates of non-timber forest products. However, according to national forest regulations in the early Republican era, most of the forests in the mountain farms were natural products. They were not entirely planted by the owners themselves. Between 1919 and 1921, three rounds of petitions were filed by the headmen of the bailiffs and by the Farmers' Association (*nonghui*) of Ji'an, Kuandian, Benxi, Xingjing, and Huanren counties to the Department of Industry of Fengtian Province, highlighting this conflict.

According to the available source materials, the petition conflict started when the residents of Kuandian County refused to pay the national forest management fee demanded by the Forestry Bureau, and in October 1919, Zhao Demao, an official of the Fengtian Forestry Bureau, went to collect the forestry fee from eight bao in Kuandian County, including Bahetan Bao and Sipingjie Bao and was resisted by the *bao* leader (*baozhang*). The headmen argued that the local villagers had paid the grain and cocoon tax and should enjoy ownership of the forest; in other words, the local mountain farms were private forests rather than national forests, and the villagers were not obliged to contribute to the national forest management fee. Local residents, such as Qiao Wanfu, Huang Baoshan, and Tang Naifu, also jointly complained to the Industrial

Department. They said that the villagers should own the forest "without any doubt" since they received the land deed and engaged in sericulture.[21] The county magistrate of Ji'an County, Cheng Youshan, also replied to the Forestry Bureau, saying that the surrounding mountains and forests were "mostly adjacent to the reclaimed land, and the villagers thought that they were taxed and should be their own, and it was a custom to do so," affirming the ownership of the local farmers to the forests around their land.[22]

However, Zhao Demao was not convinced by the Kuangdian county headmen's argument. He pointed out that the forest in Dongbiandao already existed before the arrival of local immigrants, and according to the government's regulations on national forests, the forest there should be owned by the state, and private households should pay the management fees for national forests. Moreover, he demanded that all households in Kuandian "should go to the Forestry Bureau as soon as possible to claim the national forest; if they failed" to complete the registration within three months, the Forestry Bureau would open the forest in the mountain farm for others to claim. This move aroused the discontent of the village headmen of Kuandian, and they soon joined hands with the Farmers' Association representatives of neighboring Huanren County, Benxi County and Xingjing County, to petition the Industrial Department, demanding the extension of the first-refusal period of the privately-owned mountain farms and the exemption of the management fee of the privately-owned forests.

Following the disputes and petitions in Kuandian and other counties, the Fengtian Provincial Assembly proposed the "Amendment to the National Forest Policy" (*Guoyoulin zhengce xiuzheng an*), which included recognizing private ownership of forests in mountainous areas and waiving private forest management fees. Despite this, Tan Guohuan, the director of Fengtian Provincial Industrial Department, remained firm in his stance regarding the "separation of forestland and forest trees" (*lin di fenli*). He responded to the baozhang of Kuandian County, stating that owning a land deed does not equate to obtaining both "forest rights" and "land rights." Zhang Zuolin, then military and civil governor of the Fengtian Province, directly terminated the discussion on the "Amendment to the National Forest Policy" in the Fengtian Provincial Council. He issued a special statement on forest rights independence. He stated that the relationship between the "forest on the ground" and the "land under the ground" was distinct and unrelated; the acquisition of ownership of land and forest was separate matters. He emphasized that this distinction was widely accepted as legally and factually sound. He challenged those who advocated for the amalgamation of "forestland and forest tree as one," arguing that if they assert that claiming land includes claiming the forest, then why should land and mineral deposits be divided into two distinct entities?[23] Zhang Zuolin also reiterated Tan Guohuan's position on the validity and importance of separating forestland rights and forest tree rights.

[21] "Qiao Wanfu, Huang Baoshan, Tang Naifu, Yin Shixiu, Bi Xude cheng" [Submissions by Qiao Wanfu, Huang Baoshan, Tang Naifu, Yin Shixiu, and Bi Xude Minguo dang'an], September 11, 1920, Minguo dang'an [Archives of Republican China], file no. JC010-01-7789.

[22] "Tan Guohuan cheng" [Submission by Tan Guohuan], October 3, 1919, Minguo dang'an [Archives of Republican China], file no. JC010-01-7789.

[23] "Dongsansheng xunyueshi Fengtian dujun jian shengzhang Zhangshuai huifu" [Reply from Zhang Shuai, Inspector of the Three Eastern Provinces, Military Governor of Fengtian and Provincial Governor of Fengtian], December 24, 1920, Minguo dang'an [Archives of Republican China], file no. JC010-01-7789.

In November 1921, the Fengtian provincial government issued a directive clearly stating that land claims and state forest claims were "incompatible" with each other.[24] This proclamation completely disregarded the tradition and custom of claiming land rights that had been established in Northeast China since the early Qing era. It instead endorsed Fengtian Province's policy of state forestry based on independent forestry rights. Essentially, this meant that from an administrative standpoint, Fengtian no longer recognized private property rights of the forest "within the property zone." Although the Industrial Department of Fengtian Province granted villagers in Dongbiandao a six-month window for claiming national forests in response to a village petition, the state forestry policy remained irreversible. However, forcibly nationalizing natural forest trees located on private land owned by villagers through administrative orders lacked sufficient public support. The practice of implementing state forestry was accompanied by a prolonged series of disputes between villagers and the Forestry Bureau over forest tree control.

Public mountains and forest rents: disputes over the right to utilize public mountains and forests

In traditional societies, villagers typically had the right to utilize public mountains and forests without any form of compensation. Unemployed villagers could earn a living by cultivating land, making charcoal, or collecting non-timber forest products from public mountains.[25] However, with the introduction of national forest registration requirements, public forests were often designated as "unowned forests," leaving them open for anyone to claim. Once an individual or group registered a public mountain as a national forest through the Forestry Bureau, it would no longer provide forest products to villagers without proper compensation. This shift has greatly impacted the livelihoods of many jobless villagers who previously relied on the public mountains for sustenance, as demonstrated by the dispute over forest rents centered on the Zhenxing Forestry Company (*Zhenxing linye gongsi*) in Huanren County.

Huanren County is located near Longgang Mountain in the Changbai Mountain range. This county's terrain is mountainous, with dense forests and very few flat areas. Local people were mostly engaged in ginseng planting and logging. In 1918, the agricultural, commercial, and academic elites in Huanren County pooled 18,000 yuan, in the name of Huanren County magistrate and judicial assistant Gao Sutang, from the Forestry Bureau to claim an area of 190 *fangli* of national forests in Changle Bao, Xule Bao, Yanle Bao, and the Daya River basin, to establish the Zhenxing Forestry Company. According to the regulations, once the scope of the claimed national forests had been surveyed and confirmed by the Forestry Bureau, the original public forests would begin to restrict access to the forest areas and require paid logging. After the Zhenxing Forestry Company was established, villagers who entered the Company's claimed national forest areas and utilized the national forests were required to pay a corresponding "forest rent." The forest rent targeted firewood collection, logging, and any wood cutting for toolmaking.[26]

[24]"Shiye ting, quansheng qingzhangju, gexian zhishi wei shenming baoling senlin Huangdi banfa an" [The Department of Industry, the Provincial Investigation and Survey Bureau, and the Magistrates of Each Counties Explaining the Method of Claiming Forested Wasteland], Minguo dang'an [Archives of Republican China], file no. JC010-01-7789.
[25]Yoshiyuki Aihara, "Forests as Commons in Early Modern China," 283–284.
[26]"Yin Shixiu cheng" [Submission by Yin Shixiu], May 19, 1920, Minguo dang'an [Archives of Republican China], file no. JC010-01-001313.

As the villagers who once depended on the public mountains for their livelihood lost access to the forests without compensation, some sought help from the county office and industrial department. Local villagers, including Wang Dechun, Li Degui, Zhao Yutian, and Huang Delu, individually voiced their concerns to the Huanren County Office and the Fengtian Provincial Department of Industry. They claimed that Gao Sutang and others had colluded to take control of the Huanren County forests illegally. However, members of Zhenxing Forestry Company, Xin Youshan, the president of the Huanren County Agricultural Association; Yuan Sicheng, the Commercial Association President; Cheng Sihan, *Baozhang*; Gao Congwen, *Jiazhang*, and Meng Fanglin, a scholar-literatus, took the initiative to provide evidence to the Department of Industry. They confirmed that "the forest was being claimed by all sectors to prevent outsiders from coveting it for the sake of local public interest." In addition, they accused Zhao Yutian, Li Degui, and others of being "jobless vagrants" who had been engaging in activities such as burning forests, planting poppies, collaborating with outsiders, and burning charcoal in public forests. They also claimed that the forestry company had prevented them from growing opium for profit, leading to false accusations against the company.[27] Ultimately, the Forestry Company received the support of the Forestry Bureau, allowing it to continue its business. Li Degui and the other villagers withdrew their lawsuit.

National forest regulations allow large areas of unowned forests to be incorporated by local forestry companies. However, in practice, this privilege was often exploited by wealthy local officials and businessmen who took advantage of the information gap to claim large, forested areas at the Forestry Bureau. As a result, they monopolized the mountains and forests and collected profits from villagers engaged in logging activities, which caused an imbalance in benefit distribution. Tong Baoquan, a scholar-literatus from Huanren County, noticed this issue and advocated for public welfare. He pointed out that private ownership of such a large national forest area would significantly impact nearby residents' livelihoods since they rely on trees for firewood and their livelihoods. If all forests were privately owned, people would have no right to take them. Even within the four boundaries of the land, individuals could not freely cut down trees. This scenario would ultimately lead to the depletion of resources, affecting the livelihoods of the poorest villagers in the long run. Therefore, Tong Baoquan argued that claiming large areas of forests under the pretext of exploiting them and grasping the right to profit has undermined the public's right to use these forests, interrupting the role of public forests in maintaining community stability, and ultimately affecting villagers' livelihoods at the root.[28]

Inter-generational forestry claim dispute: a case of temple forest dispute

The concept and practice of national forests posed challenges not only to the traditional property rights of privately and publicly owned forests but also created opportunities for crafty opportunists in villages and towns to claim private forests on other people's

[27]"Meng Fanglin cheng" [Submission by Meng Fanglin], July 17, 1920, Minguo dang'an [Archives of Republican China], file no. JC010-01-001313.
[28]"Tong Baoquan cheng" [Submission by Tong Baoquan], August 12, 1920, Minguo dang'an [Archives of Republican China], file no. JC010-01-001313.

land. The loopholes in the system of national forestry rights were highlighted in the case of Hao Jiaofang's forest rights dispute with E Quanyin in Benxi County, which occurred during the implementation of this new policy. In this case, the national forest claim became a tool for the villagers, E Quanyin and E Guisen, to take over others' private forests. However, the Taoist priest Hao Jiaofang won the lawsuit by using the principle of "owner-planted trees are private property" to reclaim his own temple forests. This case illustrates the importance of clarifying ownership rights and preventing abuse of the national forestry system.

Hao Jiaofang, a Taoist priest, became a monk in 1895 and embraced Taoism at Guiwang Temple, located in Fengcheng County. Later on, he was given a preceptorship at Baiyunguan in Beijing before being appointed as abbot of Sanguan Temple in 1908. This temple was subordinate to Guiwang Temple in Fengcheng. During his tenure as abbot, Hao Jiaofang was involved in forestry disputes with two local villagers, E Quan Yin, and E Guisen. The land in question was a forest located in Benxi Huangyaoyu, which had been donated to the Taoist temple by E's ancestors. According to Hao Jiaofang, the gifted land had a long history of ownership by Taoist followers. In 1804, two believers, Daoling E, and Mulong E, each donated 30 *mu* of land to the Guiwang Temple, totaling 60 *mu*, as evidence of their faith. In 1827, the Guiwang Temple allocated 60 *mu* of woodland to Sanguan Temple as its property. Hao Jiaofang further claimed that successive abbots of the Sanguan temple invested a significant amount of money and time in planting forests on the gifted land. As a result, income from logging in this woodland became a major economic source for the temple. According to Hao, "All the temple's expenses depend on this forest, and every year we paid taxes, as evidenced by grain payment certificates."[29]

In September 1919, Hao Jiaofang encountered a problem when attempting to register 30 mu of national forest with the Forestry Bureau. The forestry official informed him that two descendants of the E family – E Quanyin and E Guisen – had already claimed the same piece of woodland under the pretext of "ancestral heritage." It transpired that in 1914, the Fengtian Administration had issued the "New Deed Paper of the Republic of China," obliging households to replace their old land deeds with newly issued ones. Seizing this opportunity, E Quan Yin included the forested area donated by his ancestors to the Taoist temple in the new land deed paper in 1914, quietly expanding his property to four areas. Since the land tax officials were unaware of the donation made by the E's ancestors beforehand, they approved the revised land deed of E Quan Yin. Consequently, the E descendants obtained ownership of the Sanguan Temple forest land illicitly through legal manipulation.

Upon learning of the situation, Hao Jiaofang promptly lodged a complaint with the Industrial Department. In response, E Quanyin and E Guisen invoked the "separation of forestland and forest trees" principle to defend themselves against Hao's accusations. They contended that although their ancestors had donated the land to the temple, they had not given away the forest growing on it. As such, according to the regulations under the Fengtian national forest, E Quanyin and E Guisen, as descendants of the E family holding the land deed, retained priority rights over the forest.[30] In the face of

[29]"Hao Jiaofang cheng" [Submission by Hao Jiaofang], September 15, 1928, Minguo dang'an [Archives of Republican China], file no. JC010-01-12654.
[30]"Hao Jiaofang cheng" [Submission by Hao Jiaofang], August 10, 1928, Minguo dang'an [Archives of Republican China], file no. JC010-01-12654.

pressure from the E descendants' demands, Hao Jiaofang retorted by citing the definition of national forests. He argued that the successive abbots of the temple, including himself, had planted forests on the land gifted by the E family. According to the Rules for the Issuance of National Forests in the Three Eastern Provinces and the Forestry Law, owner-planted trees should be private instead of national property. Therefore, despite E's descendants owning the land, the forest growing on it remained the private property of the Taoist temple. After two years of litigation and investigation, in 1929, Liu Heling, the director of the Department of Agriculture and Mining (*Nongkuang ting*), ruled that "this forest belonged to Hao Jiaofang," thus affirming his right to the temple-owned forest.[31]

Inter-regional forestry claim disputes

Disputes often arise over claims for national forests across different regions. In the case of cross-regional claims, local governors tend to prioritize protecting the private property and forestry rights of local farmers while attempting to avoid potential conflicts. One such example occurred in 1927 when Zhao Zansan, a resident of Shenyang, registered with the Industrial Department to claim almost 1,150 mu of forest in the upper and lower Wolonggou of Benxi County, which partially overlapped with the 105 acres of barren hills reported by Liu Hai and Liu Yong of Benxi in 1926. According to the regulations, Zhao Zansan had the right to claim the remaining 1,045 acres of forest. However, the county magistrate of Benxi, Bai Shangchun, immediately revoked Zhao Zansan's application. Instead, Bai Shangchun invited the owners of the forest surrounding the barren mountain, Liu Hai, Liu Yong, and Xu Yongsan, to renew their applications. Zhao Zansan was not convinced and repeatedly complained to the Benxi County Office. Bai Shangchun's response was that "Zhao Zansan is a native of Shenyang County and lives in a different county, so he is too far away from Benxi County and has no right to claim the two barren hills in the upper and lower Wolonggou." As for the national forest claims, Bai Shangchun believed that "even if there are extra lands, they should be renewed by Xu and Liu themselves in order to show fairness." In the end, the Benxi Liu brothers claimed the forest area, of which Liu Hai claimed the barren mountains (150 *mu*), Liu Qing claimed 350 *mu*, and Liu Yong claimed 245 *mu*.[32]

In fact, the "Rules for the Issuance of National Forests in the Three Eastern Provinces" did not impose household registration restrictions, and all citizens of the Republic of China were free to contract any unowned national forest. Only the actual occupants of the forest land had priority to claim within three months. However, the Liu brothers did not occupy the 1,000 *mu* of forest that Zhao Zansan attempted to contract. They did not claim the forest around the barren mountain they had already claimed. Instead, the magistrate of Benxi County, Bai Shangchun, took the initiative to

[31]"Cheng wei jubao E Guisen chengsu Hao Jiaofang, E Quanyin wei Benxi xian Huangxiangyu linchang jiuge" [Submission to Report E Guisen and E Wuanyin Suing Hao Jiaofang over the Huangxiangyu Forest Entanglement of Benxi County], February 19, 1929, Minguo dang'an [Archives of Republican China], file no. JC010-01-12654.

[32]"Shuli Benxi xian zhishi Bai Shangchun chengwei jufu Zhao Zansan jianbao shangxia Wolonggou dengchu huangshan" [Acting Benxi County Magistrate Bai Shangchun's Submission as a Reply to Zhao Zansan Who Claimed the Upper and Lower Wolonggou Wasteland Mountains], January 6, 1928, Minguo dang'an [Archives of Republican China], file no. JC010-01-004583.

withdraw Zhao Zansan's application and invited the indigenous owners, Liu and Xu, to reclaim it. It could be said that Bai Shangchun's actions in this forest claim case displayed some "local protectionism." However, to some extent, his actions maintained local farmers' property rights and the stability of local order.

In most cases, conflicts regarding national forests crossing regional boundaries spurred resistance from local populations who, on occasion, resorted to violence. One such example occurred when Tian Zhiye rallied his followers to the village of Dabeigou in Xingjing County to exploit the state forest he had contracted. In 1918, Tian Zhiye and Liu Panlin, businesspersons from out-of-town, submitted an application to claim 62 *fangli* of national forest located in Dabeigou, Xingjing, to the Fengtian Forestry Bureau. The following year, the villagers of Dabeigou appointed Wu Wenqi, a representative of the local guild, to claim the same woodland on behalf of their community.

After conducting their investigations, the Forestry Bureau discovered that Wu Wenqi, as a villager and holder of the corresponding land deed, could receive 20 *fangli* of the forest claimed by Tian Zhiye on a priority basis. Consequently, Wu Wenqi obtained 20 *fangli* while the remaining 42 *fangli* were granted to Tian Zhiye. The Forestry Bureau issued Tian Zhino a new forest permit in 1924. However, Wu Wenqi maintained that as a resident of Dabeigou Village, he possessed the right to claim all land within the village and its surrounding forests. He requested that the Forestry Bureau grant the other 42 *fangli* to the village. The Forestry Bureau denied the request. The then-director, Zhang Zhihan, asserted that residents could not claim "tens of *fangli* in forests" on the grounds of "thousands of *mu* in land." Additionally, Tian Zhiye had already claimed the remaining 42 *fangli* of the national forest before him.[33]

In early 1926, Tian Zhiye journeyed to the Dabeigou forest to prepare for logging but was confronted by locals who prevented him from entering the mountain. On February 22 of that same year, Li Xingzhou, Tian Zhiye's manager, accompanied by the local police, ventured into the mountain once again. Consequently, the villagers of Dabeigou gathered over four hundred people, kidnapped Li Xingzhou, beat him up, and held him in custody. The villagers also demanded a ransom of 10,000 yuan from Tian Zhiye, threatening that Li Xingzhou's life would not be saved if the ransom was not given. Tian Zhiye requested aid from the magistrate of Xingjing County, but Li Xingzhou eventually perished in the area.[34]

Following Li Xingzhou's death, Tian Zhiye submitted a complaint to the Forestry Bureau demanding justice. Zhang Zhihan, the director of the Department of Industry, sent a letter to Xingjing County requesting that the magistrate carry out a thorough investigation into the matter and severely punish the responsible villagers. Zhang also urged the magistrate to continue protecting Tian Zhinye's rights to enter the mountains for mining and to purge the forestry administration.[35] However, Su Xianyang, the

[33]"Zhang Zhihan chengwei zunling heyi Xingjing xian zhuan ju Wu Wenqi baoling Dabeigou senlin yi an" [Zhang Zhihan's Submission for Compliance with the Order to Investigate the Xingjing County's Forest Dispute of Wu Wenqi, Who Claimed the Dabeigou Forest], May 15, 1925, Minguo dang'an [Archives of Republican China], file no. JC010-01-7771.

[34]"Tian Zhiye cheng" [Submission by Tian Zhiye], Minguo dang'an [Archives of Republican China], file no. JC010-01-7771.

[35]"Zhang Zhihan cheng" [Submission by Zhang Zhihan], August 3, 1926, Minguo dang'an [Archives of Republican China], file no. JC010-01-7771.

magistrate of Xingjing County, appeared hesitant to "thoroughly investigate the chief troublemaker" and repeatedly claimed that "it was difficult to identify the leader" and that "at the time, the group rose up without any leadership or hierarchy, it was purely a group acting on courage, and so on." It is worth noting that from the outset, Magistrate Su Xianyang had sought to protect the local farmers' forest rights in Dabeigou. Thus, he prohibited Tian Zhiye and other outsiders from claiming lands across the district. However, the Department of Industry insisted on the "first come, first served" principle, granting 42 *fangli* of Dabeigou national forest to Tian Zhiye and his partners, which ultimately led to a violent conflict between local villagers and non-resident businessmen. Although Magistrate Su Xianyang did not punish any of the villagers, he stated he would in future order the police to protect merchants entering the mountain for logging.[36]

The Dabeigou case in Xingjing County illustrates that local villagers have long been accustomed to utilizing "tax-free forests" outside of their registered land without any payments. When non-local businesspeople claimed a national forest within the area, established checkpoints within the forest, and employed woodcutters for large-scale logging, villagers frequently viewed these actions as "arbitrary deception" and deemed them intolerable. When conflicts escalate and intensify, mass incidents tend to break out. In this case, local villagers killed a non-resident businessman. In reality, the Beijing government's national forest regulations sparked conflict between the two parties. While the villagers were typically the weaker party, the power of "social movements" should not be underestimated. Initially, Su Xianyang, the magistrate of Xingjing County, attempted to obstruct Tian Zhiye's claim but was overruled by the Forestry Bureau. Later, after a violent conflict, Su stopped holding the villagers responsible and pledged to "dispatch police to protect the merchants." While this approach appears somewhat "random," it did, in fact, stabilize the local social order to some extent.

Conclusion

Overall, the implementation of the national forest system in Fengtian under the Republican Beijing government transformed the region's social, economic, and environmental order, with forests being the main focus of management. Private land ownership in Northeast China has undergone several changes since the late Qing era, including the "privatization of wasteland and government land." As a type of wasteland, many woodlands were privatized by farmers who claimed or purchased them from the Bureau of Reclamation, and the ownership of woods was naturally included in the ownership of woodlands. The land deed or cocoon license could be used as proof of forest rights. However, the regulations on national forests enacted under the Beijing government dismantled the mechanism of "forestland and forest trees as one unit" and nationalized the ownership of natural forest trees separately from the overall forest property rights, forming new "national forest rights." This allowed the Fengtian government to exclusively manage forest resources, representing a unique feature and an essential pathway for forestry transformation in modern China.

[36]"Xingjing xian zhixian Su Xianyang cheng" [Submission by Su Xianyang, Magistrate of Xingjing County], Minguo dang'an [Archives of Republican China], file no. JC010-01-7771.

From a national perspective, the nationalization of the northeastern forests represented an important effort by the Beijing government to curb power spillover, reassert central authority, and reinforce frontier control as the Japanese and other powers continued to encroach on resources in the region. During this period, the Sino-Japanese Yalu River Wood Picking Company already controlled the right bank of the Yalu River, the wealthiest forest area in Fengtian. Moreover, the Manchurian Railway and the Kwantung Office had control over the forests along the South Manchurian Railway and "Kwantung Prefecture," respectively. In response to growing pressure from the Japanese colonial power, both the Beijing and Fengtian governments designed the national forest system to fit the natural characteristics of the rich natural forest reserve in the northeast and replace the previous situation of forest management on the frontier with a dual structure of forest management and land management in parallel. This effectively strengthened their control over the forests in Fengtian and became a new border defense strategy.

Through implementing two systems of "forest registration" and "wasteland registration," the central and local governments increased their financial revenues and enhanced their ability to develop themselves. The state forest regulations further stipulated that only nationals of the Republic of China could claim state forests, limiting Japan's commercial penetration into northeastern China and slowing down profit spillover. Furthermore, the Beijing government's implementation of the national forestry system in the Northeast aimed to establish centralized management at the national level. Although Beijing's central authority and sphere of influence did not fully cover the three eastern provinces, the name and system of state forestry were retained and perpetuated as the basic local forestry administration. As part of modern state-building, the Beijing government fortified state power by intervening in Fengtian's local development by establishing modern forestry institutions, conducting forest surveys, training foresters, and issuing state forests in the northeast. With the introduction of state-owned forests, the Beijing government and the Fengtian Administrative Office also bolstered their control and comprehension of frontier forest areas.

However, viewed from the perspective of the general public, the registration and issuance of national forests promoted by the central government and Fengtian represents more of a state-imposed creation of subdivisions of forest rights and deprivation of forest ownership, which infringed upon their immediate rights and interests. Through examining the forestry disputes in Fengtian, it becomes apparent that owing to the extensive distribution of natural forests in eastern Fengtian, land previously owned by the local general public actually included forestland. Previously, people in the area acquired forest property rights by simply claiming and paying grain taxes at the Bureau of Reclamation. However, the new national forest system required those who owned natural woodland to make another claim to the Forestry Bureau in addition to the Bureau of Reclamation. The "second claim" of national forests deprived local residents of the ownership and use of private forests, which they had enjoyed since the late Qing era. This increased their economic burden and amounted to a disguised tax increase.

The reconfiguration of national forestry rights created new types of logging crime. Previously, forest property rights, whether natural or self-grown, were included in land ownership. Ownership of forest land equated to ownership of forest property rights

over the land. However, the new state forestry laws separated and nationalized natural forest trees, leading to the loss of tree property rights on private land by the state, and resulting in numerous disputes where individuals sued the government. In response, the Fengtian Administration Office and the Forestry Bureau issued decrees, repeatedly stressing the separation of "wasteland ownership" and "forest tree ownership" and introducing new charges of "illegal logging of state forests" to compel acceptance and payments. Some villagers had been accustomed to woodcutting in public forests for years and were unaware that a public mountain had been registered as a state forest. Due to national forest regulations, any cutting of natural forests without the approval of the Forestry Bureau was considered "illegal logging of national forests." When these villagers went to harvest in the mountains as usual, they were reported to the police and subsequently accused of "illegal logging"; this led to disputes. Moreover, although the nationality restriction in the state forest regulations was initially intended to reduce the infiltration of Japanese businessmen, many people continued to profit from their timber business with the Japanese, supplying them with timber at the risk of being found guilty of "illegal logging." Consequently, the number of logging cases increased.

For the general public, the creation and codification of state forest rights (i.e. state property rights over natural forest trees) eliminated the possibility of diversified forest property rights such as "public mountains" and "commons" in traditional societies. Under new nationalization, "public mountains and forests" were often viewed as "unowned mountains and wastelands" and subsequently nationalized by the Forestry Bureau, allowing others to claim them. This destroyed the social relief and buffer function of "unowned mountain forests" in traditional Chinese society, disrupted the original property rights and social order, and seriously impacted the livelihoods of lower-class individuals. The loopholes in the system of state forest claims, such as the "first come, first served" principle, also led to violent conflicts between locals and foreigners, exacerbating tensions between forestry officials and local governors.

Additionally, during the Second Industrial Revolution, forests became more valuable than ever due to the unprecedented demand for timber in the mining, railroad, and construction industries. This resulted in a shift in the value ratio between forest products and non-timber forest products and indirectly contributed to large-scale deforestation and destruction. During this period, the value of trees in Fengtian began to exceed that of traditional forest products like ginseng, mushrooms, and medicinal herbs, attracting numerous individuals to cut down forests without authorization. By the 1930s, valuable native natural forests such as red pine and fish scale pine in the eastern part of Fengtian were depleted, leaving only secondary forests and planted forests such as poplar birch and mixed woods.[37] However, large-scale logging destroyed the forest environment necessary for the growth of ginseng and medicinal herbs, causing many ginseng and medicinal farmers to alter their land management practices and resulting in a systematic change in the forest ecological environment.

In discussions of environmental history regarding forests in North America and Southeast Asia, the founding parties of national forestry systems are typically foreign powers such as Europe, America, and Japan. They reclassified and redefined aboriginal peoples and their forest environments on aboriginal lands through scientific forest

[37] *Liaoning senlin* bianji weiyuanhui, *Liaoning senlin*, 58, 60.

management techniques such as surveying, mapping, and inventory-taking, and thus integrated them into their colonial state forestry policies. In these studies, the creation of national forests, despite being a product of the colonial system, was often rationalized as domination, disregarding the agency of native peoples and those who were subjugated.

The development and implementation of the national forestry system in Fengtian differed considerably from the situations described above. During the late Qing and early Republican eras, Fengtian established a relatively stable body of Han Chinese immigrants through policies such as "moving people to strengthen the border area" (*yimin shibian*). The reclamation of wasteland initiatives from the late Qing laid the groundwork for private land ownership in Fengtian. For the Beijing government during the Republican period, the implementation of the national forest system was both a forestry strategy intended to counteract foreign colonial pressure and a top-down effort to build a modern state.

On the other hand, Japan's forced nationalization of forests in its colonies aimed to deprive local populations of forest ownership to achieve imperial expansion. This was done by emphasizing the "nationalization" of forest land and trees.[38] In the United States, the "national forest" system was created to take all forest land and trees outside Indian lands into federal ownership. However, the national forest system in Fengtian was implemented by subdividing forest rights and categorizing the natural "trees" in the barren land, natural forest land, and other woodlands into "national forests."[39] In this way, the ownership and management of forests were modified while preserving the initial land ownership system. This undoubtedly provides a new perspective on understanding global environmental history.

(translated by Zhou Haijian)

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[38]See Toshio Hagino, *Chōsen Manshū Taiwan Ringyō Hattatsu Shiron*, 136; and Fedman, *Seeds of Control*.
[39]The national forests of the United States are located on lands once used by Indian tribes for seasonal hunting and gathering. See Catton, *American Indians and National Forests*.

Glossary

Andong	安东
Antu	安图
Bahetan Bao	八河滩保
Bai Shangchun	白尚纯
Baiyuguan	白云观
baotao baoling	包套报领
baotao	包套
Baowei tuanfei	保卫团费
Benxi	本溪
caodiandi	草甸地
caodi	草地
chan cao fengsheng zhe	产草丰盛者
chan cao xiduan zhe	产草稀短者
Changle Bao	昌乐保
chansong	缠讼
Chen Zhenxian	陈振先
Cheng Sihan	成思汉
Cheng Youshan	成友善
chilu shazi wei chan cao zhi di	斥卤砂碛未产草之地
Dabeigou	大北
Deng Peng	邓鹏
Deng Xianglin	邓祥麟
dizhao	地照
Dongbiandao	东边道
Dongbianwai	东边外
Donglu tanggou	东路汤沟
Dongsansheng guoyoulin fafang guize	《东三省国有林发放规则》
Dongsansheng guoyoulin fafang zanxing guize	《东三省国有林发放暂行规则
E Guisen	鄂桂森
E Quanyin	鄂全印
Fengcheng	凤城
Fengsheng baohu guoyou senlin guize	《奉省保护国有森林规则
Fengtian quansheng guandi qingzhang ju	奉天全省官地清丈局
Fengtian	奉天
Fenxun Fengtian sheng dongbian bingbei dao	分巡奉天省东边兵备道
Fusong	抚松
futou juan	斧头捐
fuzhao	斧照
Gao Congwen	高从文
Gao Sutang	高素堂
gaodi ganshi bucheng pianduan zhe	高低干湿不成片段者
gongbu	工部
guandi qingzhang	官地清丈
guanhuang	官荒
Guiwang	鬼王
Guoyou huangdi chengken tiaoli	《国有荒地承垦条例》
Guoyoulin zhengce xiuzheng an	国有林政策修正案
Hailong	海龙
Hao Jiaofang	郝教芳
Huang Baoshan	黄宝山
Huang Delu	黄德禄
Huangyaoyu	黄药峪

Huanren	桓仁
Huinan	辉南
Ji Xuecheng	纪学成
Ji'an	集安
Jiang hai he hu tutan di	江海河湖涂滩地
jianzhao	剪照
kenwuju	垦务局
Kuandian	宽甸
Li Degui	李德贵
Li Xingzhou	李兴周
lindi fenli	林地分离
Linjiang	临江
Lishu Dianzi Liu Hai	刘海
Liu Heling	刘鹤龄
Liu Panlin	刘泮林
Liu Qing	刘青
Liu Yong	刘永
Liuhe	柳河
Liutiaobian	柳条边
Longgang	龙岗
Meng Fanglin	孟芳邻
menghuang	蒙荒
Mulong E	木龙阿
mupiao	木票
Neiwufu	内务府
niutou juan	牛头捐
Nonnglinbu	农林部
nonghui	农会
Nongkuang ting	农矿厅
Qiao Wanfu	乔万富
Qingcha zhuangdi shiban zhangcheng	《清查庄地试办章程》
Senlin fa	森林法
shanchang	山场
shanhuangdi	山荒地
Sheshu	捨书
Shiye ting	实业厅
shuchuandi	树川地
shulindi	树林地
Sipingjie Bao	四平街保
sizhi	四至
Su Xianyang	苏显扬
Sun Huanzhang	孙焕章
Tan Guohuan	谈国桓
Tang Naifu	唐乃福
Tian Zhiye	田治野
Tong Baoquan	佟宝泉
Tonghua	通化
Wang Dechun	汪德春
Wangzhuang	王庄
Wolonggou	卧龙沟
Xin Youshan	辛友山 （辛酉山）
Xingjing	兴京
Xule Bao	胥乐保
Yaling E	牙令阿

yangshu zhizhao	养树执照
Yanle Bao	衍乐保
yiming shibian	移民实边
you gongsheng	优贡生
Yuan Sicheng	袁思诚
yuhuang	余荒
Zhang Zhihan	张之汉
Zhang Zuolin	张作霖
Zhao Demao	赵德懋
Zhao Yutian	赵余田
Zhao Zansan	赵赞三
Zhengshou guoyoulin guanlifei guize	《征收国有林管理费规则
Zhenxing linye gongsi	振兴林业公司
zhuangtou	庄头

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BOOK REVIEWS

The United States and late Qing China (1894-1911), by CUI Zhihai, Beijing, Social Sciences Academic Press, 2022, ISBN 978-7-5228-0055-4

《美国与晚清中国（1894-1911）》，崔志海著，北京: 社会科学文献出版社，2022年。

In the history of modern Sino-American relations, the late 19th and early 20th centuries marked a turning point in the U.S. policy toward China. In this period, the United States changed its policy toward China from following the European powers to becoming the world's top power. During this time, it pursued an independent policy toward China in an attempt to dominate the policies of other powers. Unlike previous works that focus on foreign policy, Cui Zhihai's new book focuses on the relationship between the U.S. government and the internal affairs of late Qing China during the period 1894–1911 and covers the U.S. government's observations of, responses to, and impact on the Sino-Japanese War, the Hundred Days Reform, the Boxer Rebellion, the 1911 Revolution, changes in the dynastic and power structure of the late Qing, and the New Policies reforms. These contents cover many fields such as politics, military, education, economy, finance and economics, intellectual property protection, anti-smoking movement, and the interaction between Chinese and American officials in the late Qing era, as well as greatly enriching and deepening the study of Sino-American relations in the late Qing dynasty and the history of domestic affairs during that period.

Chapter 1 examines the U.S. attitude and reaction to the Sino-Japanese War and its causes. The author points out that in this war, the United States ostensibly claimed to remain neutral but actually took sides with Japan. The United States did so because, first, it hoped to use Japan's hand to abolish Sino-Korean suzerainty and further open China's doors; second, it used Japan to weaken the influence of Britain, Russia, and other powers in East Asia; U.S. public opinion and prejudice were also significant factors in this decision. Chapter 2 examines the observations and reactions of U.S. ambassadors to China and the U.S. government to the Hundred Days Reform of the Qing, showing how the U.S. government approaches domestic political reform in China in a manner that reflects a tension between ideology, values, and national rationality.

Chapter 3 examines the U.S. government's response to the Boxer Rebellion. Despite the fact that this was a war and peace event, the United States consistently restricted its military operations to relieving embassies and restoring order, advocating the preservation of China's administrative and territorial integrity. Its attitude toward China was relatively friendly. The author explains why this is the case. Chapter 4 examines President Roosevelt's attitudes and reactions to the Qing government's New Deal reforms after 1900 during his administration, including the activities of the U.S. government and their impact in promoting relations between Chinese and American officials, fostering reformist forces within the Qing court, and combating conservative forces.

Chapter 5 re-examines and evaluates the Sino-American Treaty of Commerce negotiations of 1902–1903, revealing the differences and compromises between China and the United States in terms of tax increases and exemptions, the opening of ports of commerce, intellectual property protection, mining charters, the diplomatic system and customs reform. In spite of

the Sino-American Treaty of Commerce being an unequal treaty, the author argues that its contents were not entirely negative at the time but also had positive elements. Chapter 6 provides a specific examination and analysis of the background, program, process, and reasons for the failure of the American monetary expert Jeremiah Whipple Jenks (Jing Qi), whom the Qing government invited to China in 1903–1904 to help with the monetary reform. According to the author, while the Qing government did not accept Jenks' American monetary reform proposal, his visit to China stimulated discussion on the topic of China's modern monetary standard and was still of great significance. It reflects the special relationship between China and the United States.

Chapter 7 examines the U.S. Roosevelt administration's attitude and response to the Qing court's preparatory constitutional political reforms after the Russo-Japanese War, the changes in the Qing's political power structure, and the movement to reclaim the right of profit, as well as the U.S.-China negotiations on the implementation of the opening of ports of commerce, the protection of intellectual property rights, and the formulation of mining charters. By examining the two brief visits to China by Secretary of War William Howard Taft and the visit by the Great White Fleet to Xiamen, the author illustrates the significance of China to the Roosevelt administration. Chapter 8 re-examines and analyzes the origins and history of the Roosevelt administration's refund of the Boxer Indemnities for the establishment of schools in China, correcting some previous misconceptions and opinions and pointing out that the refund for the establishment of schools was not the initiative of Liang Cheng, the Qing Minister to the United States, or the idea of the Qing government, but the decision of the United States to support the reform movement in China at that time. Hence, the Boxer Indemnities' refund became an important symbol of Sino-American friendship and the modern Sino-American relationship.

Chapter 9 examines and analyzes the background, reasons, and history of the United States' initiation of the International Opium Conference in support of the late Qing anti-smoking movement. The author argues that U.S. support gave a strong impetus to the Chinese and international anti-smoking movement, which was both a successful example of China's participation in multilateral international diplomacy in the late Qing era and an indication of the special relationship between China and the United States. Chapter 10 examines the attitudes and reactions of the Taft administration to the dynastic and power changes during Regent Zai Feng's reign, including the death of the Empress Dowagers, Zai Feng's expulsion of Yuan Shikai, and constitutional reforms, as well as Sino-American cooperation in the economic and military spheres. According to the author, Sino-American relations strengthened significantly during the last three years of the Qing dynasty under Taft's dollar diplomacy.

Chapter 11 provides a special case study of a naval cooperation program during the Taft administration. The author argues that although the naval cooperation program between China and the United States was eventually not implemented due to the outbreak of the 1911 Revolution, the Taft administration's dollar policy toward China expanded beyond economic fields like railroads and finance to include military affairs as well. It also indicated that, with the change in the international situation in East Asia, the Qing government began to change its previous military policy of relying on Europe and Japan and opened the door for Sino-American military cooperation.

Chapter 12 examines the U.S. government's attitudes and reactions to the 1911 Revolution and the overthrow of the Qing court and the reasons for them. The author points out that although U.S. diplomats in China disagreed on how to treat the various domestic political forces in China after the outbreak of the Wuchang Uprising in 1911, the U.S. government did not collude with the Qing government or Yuan Shikai's political forces, but always pursued a policy of neutrality, opposing interference in China's internal affairs by the countries concerned and seeking recognition of a legitimate government that

represented the will of the Chinese people and had the authority to do so. There were both national interests to protect U.S. national interests as well as ideological and values-based reasons for the U.S. government's neutrality in China.

In addition, in the Preface and the Conclusion, the book also gives a macroscopic exposition and analysis of whether the special relationship between China and the United States in the late Qing era was a myth or a fact and how to understand the special relationship between China and the United States and its connotation. The author points out that the special relationship between China and the United States in the late Qing period was mainly reflected in the fact that the United States, on the one hand, insisted on the system of unequal treaties between China and foreign countries, but on the other hand, implemented a relatively friendly policy toward China compared with other powers.

According to the U.S. side, a relatively prosperous and strong China was conducive to an open-door policy. In contrast, the Chinese side was more "pro-American" and regarded the United States as a provider of foreign aid, and the United States and China had more common interests. The special relationship between the two countries is shaped and determined by many factors such as the history, culture, geography, politics, economy, and international geopolitics of the two countries, and it has different connotations at different times, which still affects the relationship between the two countries. As we enter the 21st century, to avoid falling into the Thucydides trap between rising and defending powers and for world peace and development, China and the United States need to create a new vision of common strategic interests based on a review and reflection of their historically special relationship.

In short, this is a work about Sino-American relations that combines a deep sense of history with a sense of reality. The book is both historically factual and analytical; it is a combination of history and theory, and it is well evidence-based. The book was written over more than 20 years, and the author has extensively researched and used Sino-American diplomatic archives and various documentary materials, with informative content and in-depth research on the topic. Within three months of publication, *The United States and Late Qing China (1894–1911)* was sold out and reprinted. Furthermore, the book was included in the "Library of the Chinese Academy of Social Sciences" series and received a publication grant, which was widely recognized by the Chinese academic community.

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France and late Qing China (1840-1911), by GE Fuping, Beijing, China Social Sciences Press, 2022, ISBN 978-7-5227-0181-3

《法国与晚清中国（1840-1911）》，葛夫平著，北京: 中国社会科学出版社，2022年。

The Opium War, which erupted in 1840, changed the course of Chinese history. After that, China was forced into the capitalist system by the Western powers and was reduced from a feudal society to a semi-colonial and semi-feudal society, and its stature internationally

collapsed. During the late Qing period, France was a major Western power that had relations with China. In the book of *France and Late Qing China (1840–1911)*, the multilingual documents are fully examined, especially the French archives, and the role of France in the two Opium Wars, the Sino-Japanese War, the division among Western powers of China's sphere of influence, the expansion of the French concession, the invasion of China by the Eight-Power Allied Forces, and the garrisoning and withdrawal of troops in Shanghai during the Boxer Rebellion are reproduced. This book analyzes French observations and reactions to the political situation during the last decade of the late Qing dynasty and provides an in-depth analysis of French cooperation and competition. It also offers a clear overview of French policies toward China during the Late Qing period (1840–1911) while also highlighting the differences and similarities between France and the Great Powers. In addition to demonstrating the book's global historical perspective and its research characteristics in the history of international relations, it also clarifies the individuality of French policies toward China and their causes. Readers will gain a better understanding of the complex relationship between the Western powers and China during the 19th century after reading the book.

The book consists of eight chapters. The first chapter deals with the establishment of unequal relations between France and China before and after the Opium War and covers the "impostor" diplomacy of the French King's envoy Dubois de Jancigny, the Admiralty's Captain Cécille of the Erigone, and the new French consul in Guangzhou, Ratti-Menton, as well as the Théodose de Lagrené's mission to China and the signing of the Sino-French Treaty of Whampoa. Ratti-Menton and others, as well as the Théodose de Lagrené mission to China and the signing of the Sino-French Treaty of Whampoa. The author briefly traces the early Sino-French relations, pointing out that although Cécille, Dubois de Jancigny, and Ratti-Menton were at odds with each other, and their activities in China were different, and beyond the mandate of the French government, some of their policies and ideas in China were later adopted by the French government.

In addition, their activities also prepared the Qing officials for the treaty between China and France. This lays the foundation for the smooth signing of the Treaty of Whampoa in the near future. Further, the visit of Théodose de Lagrené's mission to China, the signing of the Treaty of Whampoa, and the negotiations on religious affairs marked the change of French policy towards China from "prying eyes" to "joining the invasion of China." Besides giving France the same privileges as Britain and the United States in China, the Treaty of Whampoa also gave France the right to protect religion, establishing the status and influence of France in modern China. This resulted in unequal relations between China and France in modern times, profoundly impacting France's policy toward China.

Chapter Two examines why France joined Britain in the Second Opium War, the role France played in the war, as well as the relationship between France and Britain. The author points out that the "incident of Auguste Chapdelaine" was only a pretext for France's participation in the Second Opium War. The reasons for France's participation in the war were manifold, both domestic and international, including political motives, economic considerations, and the continuity of its own foreign policy. In the Anglo-French alliance of 1856–1860, France's military participation in the first phase (1857–1858) was limited, while its actual participation in the second phase (1860) was almost equal to that of Britain. However, in both the first and second phases, the French forces gave strong support to the British.

Diplomatically, however, France competed fiercely with Britain while cooperating to compensate for its military disadvantage compared to Britain. As a means of maintaining control over Britain, France drew in Russia and the United States. Although France and Britain had some contradictions and differences, the "joint invasion of China" was still the keynote of French policy towards China in this period. The participation of France also made it difficult for the Qing government to realize its diplomatic strategy of "using

foreigners to subdue foreigners" (*yiyi zhiyi*). The Anglo-French alliance set a terrible precedent for the powers' future open armed invasion of China.

Chapter Three examines France's attitude and reaction to the Sino-Japanese War and analyzes its motives. The author points out that although France repeatedly claimed before and after the outbreak of the Sino-Japanese War that they had no direct interest in the Korean issue and ostensibly took a wait-and-see attitude, in fact, however, from the beginning, France saw the Sino-Japanese War as a godsend opportunity to consolidate the Franco-Russian alliance and further invade China's southwestern frontier, and was happy to see China and Japan go to war; and always maintained a consistent position with Russia and resisted the leading role of Britain in mediation.

As the war's outcome became clear and Japan revealed its ambition to invade China, France moved from watching to intervening and actively participated in the interventions to safeguard the overall European interests and consolidate the Franco-Russian alliance and prevent Japan from replacing Europe in dominating China. France persuaded Russia and relevant European countries to be alert to the serious consequences of Japan's occupation of Taiwan and the Penghu Islands while asking for rewards from China. In the process of joint intervention by the three countries to return the Liaodong Peninsula, France gave up its conflicts to Germany. It also tried its efforts to reconcile the differences between Germany and Russia. France also actively sought the support of Britain, Spain, and other countries. It advocated satisfying Japan and Russia's demands at China's expense to solve the Liaodong issue as soon as possible.

Chapter Four examines the evolution of French policy toward China after the Sino-Japanese War. Scholars have long considered the Open-Door policy of the late 19th century to be the policy pursued by the United Kingdom, the United States, and especially the United States, towards China. At the time, the powers commonly used the Open-Door policy and "division of spheres of influence" (*guafen shili fanwei*) as policy options. Although there were three different views on these two policies within France, they were not completely opposed and contradictory to each other. The French government's reaction and positive attitude toward the three U.S. Open-Door diplomatic notes indicated that it eventually adopted a policy of supporting and embracing the Open-Door policy while maintaining its own sphere of influence.

France's support for the Open-Door policy was motivated, on the one hand, by the fact that France failed to gain a dominant position in the competition among the powers to divide up China's sphere of influence but was not satisfied with its vested rights and interests, so it sought to expand French interests in China through the Open-Door policy. On the other hand, France also wanted to facilitate the joint efforts of the powers to suppress the Boxer Rebellion. This was to prevent other powers from taking advantage of the opportunity to acquire Chinese territory. In the French government's view, the "division of spheres of influence" and the Open-Door policy were two different forms of invading China, which did not contradict each other, but each had its purposes.

Chapter Five examines the background and history of the Second Case of Siming Gongsuo (*di'er ci Siming Gongsuo an*) in Shanghai, the Sino-French negotiations, the contradictions and compromises between Britain and France, and the expansion of the French Concession in Shanghai from the perspective of the history of modern Sino-foreign relations. The author points out that the Second Case of Siming Gongsuo was not a contradiction between modernized municipal construction and backward national consciousness and customs. Instead, it was a part of the division of China's sphere of influence initiated by the powers at that time.

During the negotiation process, the Qing government used "local diplomacy" (*defang waijiao*) and the strategy of "using foreigners to subdue foreigners" to reduce the pressure on the central government and resist some of the French aggression so that the French

government finally gave up its plans to expand the border in Pudong and southward. However, the role of "local diplomacy" and the strategy of "using foreigners to subdue foreigners" was limited, and it not only failed to fulfill the wishes of the Qing government, but it also lost ground through its diplomacy and ultimately was conspired against by foreigners, and the loss was not worth it. Although the British and French powers had contradictory and conflicting interests in the process of dividing China's sphere of influence, they would eventually compromise at the expense of China's interests.

Chapter Six examines French policy toward China during the Boxer Rebellion (1899–1901) and its role in military and diplomatic affairs. According to the author, France, as the country with the greatest missionary power in China, played a major role in initially bringing the imperialist powers together to suppress the Boxer Rebellion. During the joint military operations of the Eight-Power Allied Forces in their attack on Tianjin and Beijing in June-August 1900, France was militarily aligned with the other powers, sending troops to participate in every military operation of the Allied Forces and was responsible for suppressing the Boxer Rebellion and launching the armed invasion.

In diplomacy, France played an even more prominent role. Between the powers, France tried to coordinate the positions of all parties and contributed to the invasion of China. France was the first to suggest that the Powers impose an arms embargo on China in order to fundamentally weaken the Qing government's resistance. Although France was in an alliance with Russia during the Boxer Rebellion and agreed on some issues with Russia, its policy toward China was not entirely dictated by this alliance. France always gave the highest priority to maintaining the alliance of the Great Powers in its diplomacy with China.

Chapter 7 provides an in-depth examination of the garrisoning of the Great Powers in Shanghai during the Boxer Rebellion, especially the withdrawal of their troops, and analyzes the intense rivalry among the Powers in the Yangtze River basin and its profound impact on their policies and relations with each other in China. According to the author, Shanghai's garrisoning and its withdrawal were negotiated between the powers during the Boxer Rebellion. On the one hand, this reveals the importance of Shanghai, and on the other, it reveals the conflicts between the powers. Garrisoning and withdrawal of troops in Shanghai was a continuation of the struggle for spheres of influence between the Powers at the end of the 19th century.

Britain was the first to raise the issue of the Shanghai garrison. Clearly, Britain regarded itself as the master of Shanghai and the Yangtze River basin, but German, French, Japanese, and other powers demanded garrisoning and withdrawal, and other powers reacted in a way that undoubtedly denied Britain its special status in Shanghai and the Yangtze River basin. This also confirmed that Shanghai was the common "paradise" (*leyuan*) of the powers. Thus, the issue of the garrison and the withdrawal of troops in Shanghai was a failure of British policy towards China during the Boxer Rebellion. This showed that the British Empire was losing its dominant position as the German, French, Japanese, Russian, and American powers expanded their power in China. Britain was not the only master of Shanghai and the Yangtze River valley.

Chapter 8 explores the French response to the political situation in China during the last decade of the Qing dynasty. The author points out that the revolutionaries, led by Sun Yat-sen, operated in the French sphere of influence and in the French colony of Vietnam, which led to early contact with the revolutionaries. However, the French government ultimately chose to cooperate with the Qing government and outlaw the revolutionary activities of the revolutionaries in French Indochina mainly out of its own interests but also out of fear that the activities of the revolutionaries would provoke a revolt of Vietnamese people against French colonial rule. Despite seeing Chinese society as in crisis, French diplomats and government officials were hostile to nationalist movements and popular uprisings. This was from the French

standpoint, not realizing and not wanting to see the destruction of the Qing government in the coming Xinhai Revolution. Therefore, after the outbreak of the Wuchang Uprising, France, although holding a policy of neutrality in the fighting between the revolutionary army and the Qing army, was also unwilling to see the revolutionaries seize power and establish a democratic republic. As a result, according to France's position, the old regime and the old forces were favored, and Yuan Shikai's government at Beiyang was supported.

The preface also summarizes and explains the characteristics of French policy toward China. According to the author, France played a crucial role in the invasion of China by the powers during the late Qing period. It also embodied its own characteristics. As the "eldest daughter of the Church" (*jiaohui de zhangnü*), France paid special attention to seeking and maintaining Catholic interests and privileges in China during its invasion of China and obtained the right to protect the Church in China through the Sino-French Treaty of Whampoa and the Treaty of Tianjin during the two Opium Wars.

In addition, France closely integrated its China policy with its Indochina colonial expansion strategy. In order to match and realize its grand strategy for Indochina, France not only ventured to launch the Sino-French War alone but also took it as an important consideration in its policy toward China in the later Sino-Japanese War, the division of China's sphere of influence among the powers and its reaction to the political situation in the late Qing dynasty.

Finally, the French embraced Eurocentrism in their policy toward China. Despite France and other powers having contradictory and conflicting interests, they always prioritized maintaining unity among the powers when invading China. Eurocentric ideas were especially concerned with European interests and solidarity and sacrificed China's interests to do so. This was evident in the two Opium Wars, the Sino-Japanese War and the Eight-Power Allied War against China. In a nutshell, the book greatly enriches and deepens the study of the history of modern Sino-foreign relations.

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A study of constitution-making in the late Qing dynasty: from imperial order, negotiated agreement, to civil agreement, by PENG Jian, Beijing, Beijing Normal University Press, 2021, ISBN 9787303263967

《钦定、协定与民定——清季制宪研究》，彭剑著，北京: 北京师范大学出版社，2021年。

PENG Jian's new book, *Qinding, xieding, yu minding: Qingji zhixian yanjiu* (A Study of Constitution-Making in the Late Qing Dynasty: From Imperial Order, Negotiated Agreement, to Civil Agreement), was published in 2021. It contains 21 chapters that analyze the origin and transmutation of constitutional power in the late Qing dynasty. The author begins by introducing the issue with the experience of finding the original archives of the Constitution of the Great Qing Empire *(Daqing diguo xianfa)* and then devotes 18

chapters to discussing the text, jurisprudential issues, and the relevant current political context of the *Qinding* (lit. by imperial order) Constitution. Three other chapters outline the rapid changes in the making process of Qing's Constitution from "qinding" to "xieding" (by negotiated agreement) and then to "minding" (by civil agreement) amid the changing time. However, these changes were still unable to prevent Qing's collapse. As a treatise on modern history, the book is generally based on a chronological thread while taking into account the logic of the argumentation of the core thesis. Chapters on the style innovations of the Principles of the Constitution (*Qinding xianfa dagang*), people's constitutional ideas, and the authority of the constitution-making ministers are interspersed throughout. In general, the book has the following features in discussing the historical issue of constitution-making in the late Qing period.

First, the historical material is solid. The book's main text is about 240,000 words, with more than 750 footnotes, and the references listed at the end of the book are 32 kinds of historical materials, 26 kinds of newspapers and journals, and 48 kinds of treatises and essays. Supported by sufficient historical materials, the author provides a more convincing reconstruction of some previously unclarified historical details. Who drafted the original Principles of the Constitution, for example? How many chapters were there in the main text? What was its relationship to the Outline of Parliamentary Regulations *(Yiyuanfa yaoling*) and the Outline of Election Regulations (*Xuanjufa yaoling*)? Where did the constitution-making take place? How did Zhang Jian's private opinions reach the inner court? The answers to all of these questions have been clarified in the book. Furthermore, the author provides detailed references to the research results and opinions of other scholars, citing and commenting on them in nearly a full page, demonstrating his rigorous and honest academic approach.

Second, it emphasizes historical details. Through the examination and exploration of details, the book makes the main narrative line detailed and rich, contrary to the grand narrative of modern political history. As an example, the author shows how the spirit of the Japanese Constitution influenced the constitution-making of the late Qing dynasty through the interpretation and analysis of the report on the examination of the Japanese Constitution by Zaize and Dashou in chapters one, two and five. In chapters 15 to 18, the author uses the diary entries of Wang Rongbao as the main line and combines them with political newspapers and other materials to provide a detailed restoration of the drafting process of the Constitution of the Great Qing Empire. An in-depth analysis of Wang Rongbao and Li Jiaju fleshes out the previously monolithic historical narrative by digging deep into their hearts and minds. Further, by grasping the word "fu" (appended) in front of the chapter title of the Principles of the Constitution, the author is able to analyze the structure of the body of the Principles of the Constitution and the scope of the Constitution. The interplay of diary materials and newspaper documents gives the historical facts a three-dimensional appearance.

Third, the book is both a work of literature and a work of history. The first chapter is not called "introduction" but "xiezi" (prologue), which is a literary narrative technique. There are also fine divisions between the chapters in the book, and sub-chapter headings are a final touch, both relatively independent and closely focused on the exposition's logic and theme. After reading long historical treatises, it is refreshing to read these short narrative pieces. As a result of historical textual research and literary writing, the characters and the details are vivid, making reading Peng's book an enjoyable experience. However, it is possible that some readers may find this writing style to be not serious.

There are many merits to the book, but it also has some shortcomings. Some of the shortcomings are due to objective conditions. For example, among the key documents in the book is the Constitution of the Great Qing Empire, drafted by Wang Rongbao and Li Jiaju, but the original has not yet been found; in the discussion of the constitution-making details,

except for the Diaries of Wang Rongbao (*Wang Rongbao riji*), there are no other records of participants for some time to come. These shortcomings cannot be resolved in the short term.

Further, the book contains many quotations from important documents such as the constitutional study report, the Meiji Constitution of Japan, and the Principles of the Constitution, but they are quoted in a rather discrete manner, so finding them individually is not convenient. Besides, in order to study the constitution-making of the late Qing period, the author has transcribed many original archives in China's No.1 Archives, and readers would like to get a glimpse of them in the book. However, only three notes from China's No.1 archives are cited in the book, which is obviously not enough. In addition, the book's target audience should be those with a certain knowledge of modern history. Therefore, some historical issues are unnecessarily detailed, and some chapter titles are either too playful (e.g. "The Prince Calls" in Chapter 10, Section 2) or inaccurate (e.g. "The Question of Territorial Change" in Chapter 15, Section 1 should be "Discussion of the Question of Territorial Change"). It is possible to eliminate these flaws completely.

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The study, re-translation, and proofreading of Zhang Taiyan's translation of *Herbert Spencer's collected works*, by PENG Chunling, Shanghai, Shanghai People's Publishing House, 2021, ISBN 978-7-208-16911-1

《章太炎译〈斯宾塞尔文集〉研究、重译及校注》，彭春凌著，上海: 上海人民出版社，2021年。

In the 19th century, Spencer was an important thinker who influenced modern thought worldwide. The Collected Works of Spencer, which contain the essence of Spencer's philosophical ideas and political and social views, are also inextricably linked to modern Chinese thought. There has been a large gap in research regarding the translation and dissemination of Spencer's works in China, as well as the reproduction process. Furthermore, previous studies have focused more on the translation practices of Yan Fu and others, while less attention has been paid to Zhang Taiyan's acceptance and response to Spencer and Social Darwinism. Taking the important document, Spencer's Collected Works, translated by Zhang Taiyan, and interpreting it in the context of the history of ideas and the context of the time not only does it help to promote the study of the two great thinkers of modern China and the West, but it is also valuable in examining the global flow of ideas, concepts, and knowledge.

By analyzing the translation of Spencer's Collected Works by Zhang Taiyan, Peng Chunlin first clarifies the differences and similarities among the various editions of Spencer's Collected Works. She obtains some core evidence by comparing the original canon with the translation sentence by sentence. She deduces that the original base text of Spencer's Collected Works, translated by Zhang Taiyan, is the first volume of the 1868 lead-printed edition of *Essays: Scientific, Political, and Speculative. T*his important discovery contributes to the study of Zhang Taiyan and the history of Qing thought in the late Qing Dynasty in greater detail by correcting the earlier error of using the 1891 edition, or

the first edition of Spencer's *Essays on Education, and Kindred Subjects* in 1911, as the base text. The sources of many of Zhang Taiyan's ideas have also been clarified as a result of the clarification of the literature. From this, it can be observed that Zhang Taiyan's early ideas of Spencer formed a clear historical dislocation from Spencer's later transformations. An understanding of asynchrony in the development of ideas from a global historical perspective can be gained by examining this critical intellectual tension.

The second and third parts of this book arrange the original English text of Spencer's "On Progress: Its Law and Causes" "Manners and Fashion," and other pieces, as well as the original English text of them and the translation by Zhang Taiyan, along with the author's retranslation, and annotate the original work and the translation to make it clear which conceptual symbols exist widely in both. Peng attempts to use this as a clue to construct the cultural context behind the text. While this basic work is time-consuming and labor-intensive, it is indispensable to the study of ideas in history. To a large extent, it provides a solid theoretical and documentary foundation for the restoration of the dialogue between Chinese and Western thought during the late 19th and early 20th centuries. The extensive use of exegesis in the book also contributes to revealing the significance of the correlation between discourse and history from a methodological standpoint. To borrow Hannah Arendt's description, this work is an exercise in "drilling" into the "depths of thought."

In her study, the author attempts to uncover new paths in the study of the history of global thought by using this study as an entry point. At the intersection of English, Chinese, and Japanese linguistic spheres, Zhang Taiyan's translation of Spenser's Collected Works provides a rare sample for studies of cross-linguistic thought history. The author carefully compares the differences in the meaning of Spencer's thought in the three different linguistic strands, as well as the different forms of ideological mentality projected in the writings of readers at different times. These are equally important for understanding the interaction and intersection between the three cultural circles, as well as for examining the dialogue, consumption, and production of ideas.

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Robert Hart and the late Qing diplomacy, by ZHANG Zhiyong, Beijing, Zhonghua Bookstore, 2021, ISBN 978-7-1011-5126-8

《赫德与晚清外交》，张志勇著，北京: 中华书局，2021年。

The Chinese Maritime Customs Service was founded in 1854, originally known as the Imperial Maritime Customs Service (IMCS). It was part of the Qing government led by foreigners. In the late nineteenth and early twentieth century, the agency collected customs revenue for the Qing government, purchased ships for the Beiyang Fleet, and developed a modern postal service. More importantly, it played an essential role in modern Chinese diplomacy.

Robert Hart, the Chief Inspector-General of the Chinese Maritime Customs Service, was one of the most influential figures in Chinese diplomacy during the modern era. He became Chief Inspector-General of IMCS in 1863, a position he held until his death in 1911. Furthermore, he

exerted a profound influence on modern China through his involvement in Chinese politics, economics, culture, diplomacy, and education. Zhang Zhiyong's book focuses on the relationship between Robert Hart and the diplomacy of the Late Qing period, along with a detailed account of Hart's influence on modernizing the diplomacy of the Late Qing, as well as Sino-Portuguese, Sino-French, Sino-Japanese, and Sino-German relations, offering systematic and detailed research on the Chinese diplomacy during the late Qing period.

In addition to collecting archives and official documents related to the diplomacy of the late Qing dynasty, the author extensively quotes letters and diaries of the people of the time, many of which have never been examined previously. To locate the Robert Hart Diaries, the author traveled exclusively to Queen's University Belfast, England. Due to limited publication and Hart's illegible handwriting, the Robert Hart Diaries have been little used by scholars in the past. As a result of these materials, the author not only traces Hart's influence on the establishment of late Qing embassies abroad, the internationalization of late Qing diplomacy, and the training of late Qing diplomatic interpreters but also discusses in detail Hart's role in the Sino-Portuguese negotiations in Macau, the Sino-French treaty revision negotiations, the Sino-French negotiations on Vietnam, and the Sino-Japanese negotiations during the Sino-Japanese War, and so on.

The book offers unique insights and corrects several errors in existing studies. For example, the author points out that previous research on Sino-French War has focused more on the conflicts between Hart, Zeng Jize, and Li Hongzhang during the Sino-French negotiations in Vietnam but neglected their mutual connections and support during the negotiations. Also, the previous studies are biased in stating that Hart was on France's side when he went to Shanghai to mediate during the Sino-French War, intimidating and threatening the Qing government and forcing it to pay reparations. The author argues that Hart's mediation in Shanghai did support France's demand for reparations. It should be noted, however, that at that time, the most urgent problem the Qing government had to solve was how to extend the ultimatum period. Hart's mediation resulted in France extending the ultimatum period, which benefited China in some sense. Second, Hart also asked the French to withdraw the demand for reparations, but they refused. Because of China's and France's refusal to compromise on reparations, Hart finally lost the space to meditate and returned unsuccessfully.

As a diplomat during the late Qing period, Hart served as both a representative and diplomatic advisor for the Chinese side as well as an accomplice to the foreign invasion of China. According to the author, Hart's interests in late Qing diplomacy were multidirectional, and he had to balance the interests of China, foreign nations, and himself. Hart's diplomatic strategy was very flexible in late Qing diplomacy, including coercion and enticement, the upper line, secret negotiations, and horse-riding tactics. In order to determine the direction of his persuasion efforts, he constantly adjusted his strategy according to the demands and attitudes of the Chinese and foreign sides, and he would constantly alter or even abandon his original proposal based on the demands of the Chinese and foreign sides. Some of Hart's proposals and activities still contributed to modernizing Qing's diplomacy.

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Kanji Ishihara and Japan's war of aggression against China, by MA Xiaojuan, Nanjing, Jiangsu People's Publishing House, 2021, ISBN 9787214259530

《石原莞尔与侵华战争》，马晓娟著，南京: 江苏人民出版社，2021年版。

In the history of Japan's invasion of China, Kanji Ishihara is an extremely influential figure. As a typical "elite" figure in the Japanese Army, Ishihara provides a glimpse of the Japanese Army's inflated invasion mentality in the 1920s and 1930s and reveals the differences in invasion strategies within the Japanese Army after the start of the all-around war of aggression against China. Japan's invasion policy, from germination to formation to war practice, cannot be studied without mentioning Ishihara. Ishihara was born in the late Meiji period and received his education during the "Westernization" of the Japanese Army education system. During his youth, he experienced Japan's transition from the "glorious Meiji" to the "democratic Taisho" and then to the "dark Showa." An individual of such a life experience shares this experience with his contemporaries in the Japanese Army, a group the author refers to as the "middle class." Either directly or indirectly, they were involved in general warfare during the First World War. Most of the studies on this group in Chinese, Japanese, British, and American academia have focused on major figures such as Ishihara Kanji or Nagata Tetsuzan Nagata. But even so, as the author states in his book, the research on Ishihara in Chinese and Japanese academia differs greatly. In addition, the narrative of Ishihara in Japanese academia deviates even more from the original history.

How to evaluate Japan's expansionist policy in East Asia from the 1920s to the end of the Second World War is inseparable from a study of Ishihara's *Sekai Saishū Senron* (*On World Final War*) and from a discussion of the image of the "middle class" of the Japanese army. Taking the perspective of "the history of the Great War of Resistance" (*da kangzhan shi*) and taking into account the research methods of the discipline of international relations, the author examines precisely the evolution of the Japanese Army's middle class policy toward China through the lens of Ishihara.

The author discusses Ishihara's "World Final War Theory" and the East Asian Alliance. Both aimed to occupy China and use its territory to dominate East Asia and then compete with the United States. An analysis of this theory of aggression based on "one body, two wings" is provided in the book.

Meanwhile, the author unearths another parallel to Ishihara's East Asian strategic doctrine, namely the fervent promotion of "total war" within the army. However, the strategy of how to practice "total war" led to a complicated factional and personnel struggle within the army. This struggle led to Ishihara's eventual withdrawal from the Army's core leadership and Japan's accelerated invasion of the Chinese mainland.

The book analyzes the above three levels layer by layer and reveals in a more comprehensive way the ambition of the "middle class" officers cultivated under the "elite" education system of the modern Japanese Army to invade China, as well as the inevitable outbreak of Japan's all-around war against China.

The book is based on a variety of primary sources, including not only the official archives of the National Diet Library, old army sources from the Asian Historical Resource Center, and personal diaries of Japanese soldiers but also documentary sources from China and Britain. In addition, the author makes flexible use of a variety of news and press. This meets the requirements of transnational historical research in terms of language and the use of historical materials.

The book also focuses on translating the biographies of major figures and related primary sources into Chinese, which greatly facilitates later scholars. In terms of content, the book meticulously analyzes the Japanese Army establishment and personnel training, the

systematization of military school education and the inculcation of imperial ideology, the entanglement of the Kwantung Army with the Zhang Zuolin in Northeast China, and the disagreement between Ishihara and the Army's internal opinions (understanding of China). The author extends beyond the mere historical facts of Japan's invasion of China. Instead, he analyzes the nature of Japan's expansion into China since the Meiji Restoration, which was influenced by both internal and external factors. As a work of both military and political history, it provides a research model and reference for other Japanese military and political figures studies.

As the author argues, by reviewing the "middle class" strategy of the Japanese Army toward China, represented by Ishihara, the war between China and Japan ought not to be viewed only from the perspective of bilateral relations but should also take into consideration the Soviet Union and the United States, which had close relations with both countries. The Soviet Union was the number one imaginary enemy in the Japanese Army's operational objectives. It was also closely related to the formulation of Japan's invasion policy and objectives in China. Whether confronting the Soviet Union on land or competing with the United States at sea, the "total war" strategy that Ishihara and others believed in was based on the East Asian alliance theory, which was not contradictory to the debate between the so-called "expansionists" and "non-expansionists" within the Army. In this sense, the thesis of Japanese academia that the military and political figures were "dictatorial," "gekokujo" (the lower rules the higher), and "elites misguided the country" is untenable. The refutation of these arguments reflects the author's original intention in writing this book, which also attempts to correct the erroneous "historical view of the invasion of China" in Japan.

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