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**The Chinese Government's Role in Controlling the Yellow River
during the 19th Century**

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June 22, 2006

A short while, not even a day, is all that is necessary to destroy hundreds of villages, kill thousands of people, and cause great suffering for millions of others. Little effort is required of any single person in accomplishing such a harrowing feat. This is because such unintentional damage is largely due to natural forces, specifically floods.

One might get the impression from the introduction above that such drastic flooding occurs often. In fact, flooding is a prevalent occurrence throughout China's history. To the extent described above, however, there have been more than a few. This is not to say that the country has been completely at the mercy of nature throughout the centuries. Rather, China's central and local governments were responsible for numerous efforts that prevented or at least drastically diminished the damage of flooding. Still, the country's rivers have managed often to burst through their banks and cover great distances, at the same time, causing widespread suffering.

In practice, there is no perfect solution to prevent every flood, especially those of the Yellow River, which has often been referred to by such names as the "curse" of China, "China's sorrow," and even "China's Disgrace."¹ This has been the case undoubtedly since at least the reign of Emperor Yu over 4,000 years ago, when work to control flooding in some manner first began.² Of course there have been advancements in technology and strategy in dealing with the wild river since that time. Even so, the 19th century, albeit a hundred-year span in itself, did not accomplish much, if any progress, in the way of preventing more floods than in past centuries, or even preventing more towards the end of the century than near the beginning. In fact, in many ways, flood prevention became less effective as the century wore on. This was particularly the case after the course-changing floods of 1855 (which will be explained in more detail below). Of course, this one event had a great deal to do with the Qing government's lack of effectiveness in

¹ *The Chinese Times*, "Forestry and the Rivers of China," 19 February 1887; *The North-China Herald*, "The Yellow River Floods," 12, December 1898

² *The Chinese Times*, "The Yellow River," 29 October 1887.

the realm of flood control, but actually it was only one of several factors that influenced this flaw. Through discussing the various factors affecting the government's flood works in the 19th century, the reasons for this lack of progress and effective flood control should become apparent.

It is worth noting that as far as studying floods in China before the modern era, unless one is fluent in Chinese, descriptions of the disasters, government preventative and relief measures, and even statistics are quite limited to even the most savvy and dedicated researcher. Indeed, outside of the actual disasters themselves, such information (at least in English) is almost nonexistent. Fortunately, there are some newspapers from the latter part of the 1800s that are easily accessible. Therefore, the vast majority of the primary sources for this paper rely on *The Chinese Times* and *The North-China Herald*, though a few articles from *The Times* and *The New York Times* have proven useful as well. Through careful analysis of these many articles as well as several secondary sources, this paper offers a pieced-together perspective of largely the second half of the 19th century, for which little information is otherwise known in the English language.

Were this paper to be a fictional piece, the protagonist would be undoubtedly the inanimate yet very alive Yellow River, ever prevalent in the lives of those around it, providing them with their livelihoods, but also causing them great misery. However, the Yellow River and its role in the lives of the Chinese people who live along its length are undeniably real. As is its story, which begins far before even those most interested in it would care, or know to tell it. Still, the main concepts of its history are important to know in order to understand what the Chinese government did with regards to it.

In all its existence, the Yellow River has maintained a great deal of consistency in its behavior. In fact, it has been so predictable over the centuries that current information applies

nearly as well as centuries old data (though naturally, not completely).³ Of course the river changes within every single year, but it generally follows somewhat of a seasonal pattern. During the late autumn and winter, the climate of Northeast China is generally dry, often resulting in drought in the spring.⁴ At these times, the lower river in Shandong may be quite shallow (even so low that children can wade into the middle of it!), as farmers upstream utilize a great deal of water in irrigation. By the middle of summer, however, snow and ice from farther upstream that have melted into the river, and downpour (which comprise the vast majority of North China's annual rainfall of about 25-30 inches) over Shaanxi and Shanxi, unable to penetrate the hard, dry ground, become runoffs that contribute substantially to the river's size as well.⁵

The Yellow River clearly exhibits extremes within a single year, though much more besides merely melt and rain runoff is involved in its overflowing into the plains of Northeast China. In addition to the enormous amount of water the river gains, immense quantities of silt, namely loess (a brownish-colored, yellowish-brownish, or grayish soil deposit that lines much of the waterway, especially in Henan, Shaanxi, and Shanxi), break off from the banks and fall into the river.⁶ This erosive runoff may add up to as much as eleven percent of the river's volume, causing it to rise considerably.⁷ Therefore floods are a regular part of life along the river, mainly the lower part in the provinces of Hebei, Henan, and Shandong.⁸

³ Kevin Sinclair, *The Yellow River: A 5000 Year Journey Through China*, (London: Weidenfeld and Nicolson, 1987), 188; *The Chinese Times*, "The Yellow River," 29 October 1887; *The Chinese Times*, 2 June 1888; Fairbank, John K. (ed.), *The Cambridge History of China*, Vol. 10, 11, New York: Cambridge Univ. Press, 587.

⁴ Sinclair 188.

⁵ Ibid; Yao Shan-yu, "The Geographical Distribution of Floods and Droughts in Chinese History, 206BC-AD1911," *The Far Eastern Quarterly*, Vol. 2, No. 4, (Aug., 1943), pp. 357-378, <http://links.jstor.org/sici?sici=0363-6917%28194308%292%3A4%3C357%3ATGDOFA%3E2.0.CO%3B2-C364>; *The Chinese Times*, "The Yellow River," 29 October 1887; *The Chinese Times*, 17 December 1887; *The Chinese Times*, 2 June 1888.

⁶ James Dyer Ball, *Things Chinese Or, Notes Connected with China*, 5th ed. Shanghai: Kelly & Walsh, 1925 264-266; *The North-China Herald*, "The Yellow River," 15 May 1899.

⁷ Sinclair 106; Frederic Jr. Wakeman, *The Fall of Imperial China*, New York: The Free Press, 1975 11; *The Chinese Times*. "The Yellow River," 29 October 1887.

⁸ Yao 366; Fairbank 587.

Provincial official statistics of the Yellow River's flood history, though more incomplete the further from the present they were recorded, provide additional support for the river's relative consistency. One such statistic, based on an 83-year period, shows that the Yellow River overflows on average twice every three years.⁹ The greatest frequency of flooding over the last few dynasties occurred in the same provinces of northern and central China: Zhejiang, Jiangsu, Hebei, Henan, Shandong, Hubei, and Anhui.¹⁰ Northern and central China suffered by a considerable number the most floods in the Qing dynasty since the Northern Song dynasty.¹¹ The numbers between the dynasties jump around quite a bit, though Yao Shan-yu believes this is because those floods that were recorded occurred where there were settlements, so that those with the largest settlements, especially those of economic importance like in Zhejiang and Jiangsu of central China (which, with their drier climate seem unlikely to be so beleaguered with floods as compared to the rest of this region) received more attention.¹²

As should be quite clear, the Yellow River is fairly consistent, and even predictable in its behavior overall, yet Hu Ch'ang-tu still calls the "curse" of China "the most unruly in China."¹³ This is also true, as flooding is and has always been such a frequent occurrence. However it is unfair to lay all of the blame on the river itself for its wildness. Certainly over time, its flooding has caused millions of deaths and suffering for millions more, and a great deal of that is due to the large amounts of rain and melted snow runoff as well as erosion of silt.¹⁴ Still, people have

⁹ Sinclair 188.

¹⁰ Yao 360.

¹¹ Yao 368.

¹² Yao 365.

¹³ Hu Ch'ang-Tu, "The Yellow River Administration in the Ch'ing Dynasty," *The Far Eastern Quarterly*, Vol. 14, No. 4, Special Number on Chinese History and Society, (Aug., 1955), pp. 505-513.
<http://links.jstor.org/sici?sici=03636917%28195508%2914%3A4%3C505%3ATYRAIT%3E2.0.CO%3B2-Q> 505;
The Chinese Times, "Forestry and the Rivers of China," 19 February 1887.

¹⁴ *The Chinese Times*. "Flood in Shantung," 20 August 1887; *The Chinese Times*, "Flood at Tungchow," 20 August 1887; *The Chinese Times*, 15 October 1887; *The Chinese Times*, "The Yellow River," 29 October 1887; *The New York Times*, "Millions are Starving," 25 March 1899; *The Chinese Times*, 9 August 1890; Fairbank 587.

always been partially to blame. Of course they did not cause floods in order to destroy themselves, but they did settle close to the banks for the purpose of agriculture. With this move, they also put themselves in the way of the heavy summer water. Also, Yao Shan-yu suggests that people, most notably in the Southern Song dynasty, often claimed land to cultivate by draining riverbeds and lakes. These lake-bottoms and riverbeds were oftentimes lower than the nearby river, and thus highly subject to flooding.¹⁵

Perhaps the most significant factor of human assistance to flooding is one that has been prevalent not only here but also in many other parts of the world. This widespread action is deforestation.¹⁶ The loss of valuable trees and brush alongside the waterway means no protection for the land. Therefore the land becomes barren as well as greatly exposed to other forces like wind and the river's waves. The consequence is greater erosion, and thus much more silt into the river.¹⁷

Only recently, within the past century, has real effort been made in reforesting the banks of the Yellow River, though a great deal of advocacy for it occurred as early as the 1880s, as not only a means of preventing floods but also as a tool for "millions of prosperous agriculturalists, who will be able without fear to till their fertile fields."¹⁸ These individuals for "aforestation" certainly had several examples to support their theories (though some warned against believing every conjecture or theory that showed up published in a newspaper, due to their often contradicting multiple concurring officials' reports), such as those once lush and now sterile lands of India, Russia, France, ancient Greece and Egypt, and those successfully maintained

¹⁵ Yao 364, 365.

¹⁶ Ball 264; Yao 372; *The Chinese Times*, "Forestry and the Rivers of China," 19 February 1887; *The Chinese Times*, "The Yellow River," 29 October 1887.

¹⁷ *The Chinese Times*, "The Yellow River," 29 October 1887; Fairbank 153-154.

¹⁸ *Ibid.*

prosperous woods of France's Alpine provinces.¹⁹ Still, it seems that afforestation and turfing (another effective implanting method against erosion) projects were not executed to any significant degree, as a civil engineer called for the dire necessity for both procedures in a report as late as January 1899.²⁰

Although afforestation rarely occurred before the Qing Dynasty came to an end (and even then it was an infrequently used technique), many flood prevention efforts did transpire. One such method consisted of dredging waterways. A stronger and more widely employed method, however, was that of a system of canals and ditches to channel water along several separate paths, thus averting the higher water of the main waterway. The first person known to design this system was Li Ping over two thousand years ago in Szechwan, to whom the province can attribute its incidence of bearing the second lightest floods within the north, central, and south China regions.²¹ It is from this system that the dikes made of clay or sandy silt continued their existence even up through 1949 in regions like Shandong that had little better materials.²²

Throughout China's history, there has been an agency within or under the central government that has been in charge of flood prevention and control. According to Mark Giordano and others, up until the 20th century, such an organization was partitioned into important positions with not only related but also intertwining matter, like planning and labor mobilization and construction, but with no central authority to oversee that everything fit together.²³ Such bureaucracy has thus consistently been a problem in handling flood issues, harming greatly its efficiency in such matters.

¹⁹ Ibid; *The Chinese Times*, "Tientsin and Literary Dictating Society," 11 January 1890.

²⁰ ; *The North-China Herald*, "The Yellow River," 29 May 1899; *The North-China Herald*, "The Yellow River," 5 June 1899.

²¹ Yao 365.

²² Sinclair 172.

²³ Mark Giordano, "Water Management in the Yellow River Basin,"

<http://www.iwmi.cgiar.org/Assessment/files/pdf/publications/ResearchReports/CARR3.pdf> 12.

At the beginning of the Qing dynasty, though consistent with the agency description above, the central government for the first time created a separate agency, the Yellow River Administration, or Yellow River Conservancy depending on the source, which while independent of the government, was directly beneath it. This agency came about because shortly before the end of the previous dynasty, for the first time ever, the Grand Canal and the Yellow River were connected through an elaborate system of dikes, dams, and canals, for the purpose of shipping grain from south to north. Although this system and administration continued to persist as the management over the Yellow River until 1901, when grain transportation effectively ended and the position of Director-General of the Yellow River Conservancy was abolished, the administration was much more organized and efficient in its earlier decades.²⁴ By the late 18th century, the agency was already deteriorating, and thus its officials and methods became less consistent in their operation.

On the topic of the Yellow River Administration's ability to effectively manage floods, there is a great deal of controversy. Many historians, like Jonathan D. Spence, believe that there was much corruption, as officials would appoint friends and family to positions of no real obligation, and they would spend allotted government funds on private expenses.²⁵ In discussing the corruption that followed due to rigidity in rule and extensive red tape, Hu Ch'ang-tu quotes: "To administer river control according to the rules is to fatten the purses of the river officials, thereby squandering state funds and endangering water conservancy."²⁶

On the other side of the corruption/effectiveness debate is Randall A. Dodgen, who asserts that corruption, while certainly existing to some degree, was not nearly as widespread as other historians make it seem. In fact, he comments on the exact same issue as Hu Ch'ang-tu,

²⁴ Fairbank 391.

²⁵ Jonathan D. Spence, *The Search for Modern China*, 2nd ed. New York: W.W. Norton & Company, 1999 167.

²⁶ Hu 511.

except he explains that the detailed rules and red tape caused the average bureaucrat to become a “timid timeserver whose primary goal was avoiding mistakes.”²⁷ Furthermore, to both Spence’s argument and Hu’s claim that dikes were “deliberately neglected so that they would rot faster, decay faster, and be carried away faster, thereby justifying the request for more appropriations,” he states that to the extent that “self-enrichment” did indeed occur, it was more or less expected among officials, as long as they remained effective in their positions.²⁸ As the emperor was directly connected to the administration, Dodgen believes that fear of letting him down, loss of rank or job, impoverishment, or even exile were strong enough deterrents to prevent officials from taking too great advantage of their positions. Also, there were the moral and ethical values of individuals that kept many of these “Confucian engineers,” as Dodgen calls them, in line.

It is extremely likely that some corruption existed, though greater ethics of the majority is also probable. Certainly, in the aftermath of the 1898 floods, there was an investigation of Shandong governor Zhang Rumei, who, in hosting Grand Secretary Li Hongzhang in a rather extravagant manner, was accused of “being an adept in flattery and currying favour [sic] with his superiors, and therefore fond also of being flattered and bribed, etc. in turn by his subordinates.”²⁹ Still, there were far more acknowledgments of officials’ efforts to ameliorate the 1898 flood situation than there were of their distracting from it.³⁰ Thus, even as the government only faced more issues and greater chaos as the 1800s wore on rather than less, it still managed to have effective work completed even in the last decades of the century.³¹ It is very possible that

²⁷ Randall A. Dodgen, *Controlling the Dragon: Confucian Engineers and the Yellow River in Late Imperial China*, Honolulu: University of Hawai’i Press, 2001 155.

²⁸ Dodgen 151. Hu 512, 513.

²⁹ *The North-China Herald*, “The Yellow River,” 6 March 1899.

³⁰ *The North-China Herald*, “An Appeal on Behalf of Sufferers from Yellow River Floods,” 21 November 1898; *The North-China Herald*, 5 June 1899.

³¹ *The Chinese Times*, “Grand Canal. Preparations Made,” 18 February 1888; *The Chinese Times*, “The Director of the Yellow River Works,” 10 January 1891; *The Chinese Times*, “Yellow River Works in Shantung,” 7 February 1891.

the supervisors and managers, who were noted most in newspaper articles, were diligent in their inspections and observations of their subordinates, so that less trouble could occur.³² Also, it is plausible that those in office during the articles' publications were effective leaders whereas others before and/or after them were not as effectual.

Dodgen notes several reasons for the inability of the Yellow River Administration to prepare effectively for the flood of 1855, which was one of the most devastating disasters of the century, causing the Yellow River to leave its current riverbed and return to its old one from 300 years before. One major reason involves the strong shift toward using money during a fiscal crisis.³³ Oftentimes, workers were fed as part of their wages, but as money became the sole means of payment, expenses rose. Furthermore, prices in general were rising during this period, thus making it difficult to afford such expensive projects as dike repairs, especially in a time when local communities could not afford them or were not willing to pay. Another factor was that hydraulic engineering work was split into military and civil officials work, with military holding the engineering positions and civil officials standing in charge of administrations and funding.³⁴ Although this was supposed to function as a system to check each side and keep both in line, the separation acted more as a barrier between the two, making it difficult to collaborate on projects effectively.

One other dynamic cause for the administration's breakdown was its growing bureaucracy, which enabled more jobs for a growing populace, but inevitably provided them to less qualified people. This continued up until the Conservancy's demise, as an article in *The Chinese Times* makes evident, through the Director-General's firm request that no more expectant officials be sent down to "swell the ranks of the service under his control for some

³²*The Chinese Times*, 7 February 1891.

³³ Dodgen 153.

³⁴ Dodgen 150.

years to come” and thus be provided with only odd jobs when available (and therefore incredibly meager pay).³⁵

Along similar lines to the mass-hiring of less qualified people, in the 1830s and 1840s, Emperor Daoguang felt safer appointing people he felt he could trust to river official posts, rather than people who had engineering skills.³⁶ He was not the only one who preferred what he knew over what would have been best for the whole of the administration, as well as those living near or in the floodplains. He and other officials often shot down innovative suggestions, fearing that they might be too dangerous if tried.³⁷ Unfortunately, controversy surrounded most ideas for change that could possibly have benefited both those working within the Conservancy and those living along the riverbanks.

Due to an increasingly large and disorganized bureaucracy, as well as greater effort to limit funds and overly cautious execution of newer, more effective methods (among other factors as described above), great difficulty and even inability in preventing and stemming the floods of the 1840s and 1850s were inevitable. The more-than-distracting Opium War, which ended in 1842, did not help to focus the government’s attention on flood prevention either.³⁸ The devastating 1841 Xiangfu flood resulted in high damage mainly in Henan and Anhui, which together had nine heavily damaged counties, ten moderately damaged counties, and four lightly damaged counties.³⁹ Only two counties escaped harm completely. Thus the government acted in a second mode of flood work: relief. At this point, relief measures included rations and work relief, for which officials in the region requested to be the only type of relief for flood victims in

³⁵ *The Chinese Times*, “Plethora of Expectant Officials,” 19 March 1887.

³⁶ Dodgen 156, 157.

³⁷ Dodgen 157.

³⁸ Dodgen 69.

³⁹ Dodgen 69, 88.

Anhui, Henan, and Jiangsu, as it cut work costs and provided workers with food.⁴⁰ Such relief efforts seem to have gained greater support from various groups towards the end of the century, as will be explained in more detail below.⁴¹

With the occasion of flooding, government works demonstrated yet a third side of their efforts: repair. Breach repairs of dikes and the realignment of the Yellow River were still being carried out when on August 22, 1842, the Yellow River breached a dike in Taoyuan County in northern Jiangsu.⁴² This flood was not so damaging as the Xiangfu flood, as few people lived in the area. Still, the river's path changed, and it would be expensive to move it back, but decidedly less so than to leave it and figure out a new route to transport grain. Various costs, hardships in finding laborers and materials, plan approvals, and stormy weather conditions all contributed to the slow progress with which all repairs and river projects were being executed, a problem that certainly did not improve much as decades passed.⁴³ Frustrations mounted from a flood in 1851 and a repaired dike's partial collapse just two years later.⁴⁴ Fortunately, attempts to transport grain by sea were in effect by the time the Yellow River broke through its northern dike in June 1855 in Lanying, Henan.⁴⁵ During this flood, the river pushed eastward through the Shandong peninsula, taking out the Grand Canal as it did so.

The change in course of the Yellow River in 1855 was one of a multitude of such occurrences, as this happened every time the Yellow River breached its dikes.⁴⁶ Usually the river officials worked to return the river to its course, but this time they decided it was not worth it, especially as a major purpose for its previous route was its connection to the Grand Canal for

⁴⁰ Dodgen 88.

⁴¹ *The Chinese Times*, "Flood in Shantung," 20 August 1887; *The Chinese Times*, 15 October 1887.

⁴² Dodgen 108.

⁴³ *The Chinese Times*, 2 June 1888.

⁴⁴ Dodgen 144.

⁴⁵ *Ibid*; Hu 512.

⁴⁶ Dodgen 146., Wakeman 11.

grain transport, before this last flood wiped it out. Thus, for the first time in three hundred years, the river followed a different path.⁴⁷

The Grand Canal become operable again in 1865, but by this time, the system of the Yellow River Administration to transport grain was no longer necessary. The administration itself continued to exist, but without its economic purpose of ensuring grain transport, it only provided its own workers and officials with jobs, as well as continued to attempt to prevent and control flooding for the sake of those who lived in danger of such disasters. This is not to belittle such an important function, as civilians knew, or at least could guess whether a flood was preventable or not, and were likely to direct their anger at the local authorities if they deemed them to be at fault.⁴⁸ As the Yellow River overflowed frequently, often affecting as many as one million people, many of those desperate for survival turned to secret societies and banditry.⁴⁹ It was often the case that when natural disasters such as floods swept across the plains, peasants joined rebel movements and followed the leaders (generally professional bandits) across provinces until either the floodwaters receded or a new dynasty promising relief and protection was under way.⁵⁰ Only then did most peasants return to their land. Hu agrees with this cause and effect, claiming that China's economy depended on water regulation for irrigation (which means minimal to no droughts), intensive farming, and flood prevention; thus the bureaucracy and dynasty's success or failure depended on these factors.⁵¹

As it was in the government's best interests to continue to prevent and control floods, the Yellow River Administration maintained its projects and efforts in much the same fashion as it

⁴⁷ Hu 512.

⁴⁸ Paul A. Cohen, *History in Three Keys: The Boxers as Event, Experience, and Myth*, New York: Columbia University Press, 1997 73; *The Chinese Times*, 17 December 1887.

⁴⁹ Chester C. Tan, *The Boxer Catastrophe*, New York: Octagon Books, Inc., 196745, 46.

⁵⁰ Wakeman 11.

⁵¹ Hu 505.

had before the 1855 flood. Maintenance of projects, however, consisted mainly of repairing slowly the same dikes that had been in existence since that flood, if not before (a method that a highly controversial essayist mentioned in the novel *The Travels of Lao Ts'an* considers to be the worst possible solution), rather than replacing them with newer, stronger embankments.⁵²

Armand Rouffart, a French civil engineer investigating the river and its defense works in Jinan after the disastrous flooding in August 1898, wrote in a report quite critically of the old embankments and canals, as did Liu Tiejun in his novel *The Travels of Lao Ts'an*.⁵³ Both discussed that there were two sets of embankments: small dikes built by the people somewhat close to the river (less than one mile), and large dikes built by the government at a much farther distance from the water (up to three miles). Although Liu explains that the people maintained their small embankments and the government sustained their large ones, Rouffart states that the government was in charge of sustaining both. This seems to matter little, however, as both types were in dilapidated conditions due to lack of attention, insufficient protection at the bases of the embankments, poor quality building materials (such as millet straw, which soaked up water and rotted), and all-around inconsistencies in their sizes, shapes and locations relative to the river and to each other.⁵⁴ Furthermore, the tops of the dikes were used as roads and foundations for buildings, therefore breaking down the defense structures all the more effectively.

It is undoubtedly the case that the Chinese government should have done more to protect people, especially those whose homes were situated between the river and the large, government dikes. Even so, government officials did a great deal for collecting and providing relief to the victims. After the August 15, 1887, flood in Shandong, victims fled to the capital to beseech help

⁵² *The North-China Herald*, 5 June 1899; Liu T'ieh-yün 262.

⁵³ *Ibid*; *The North-China Herald*, "The Yellow River," 8 May 1899; *The North-China Herald*, 15 May 1899; Liu T'ieh-yün, *The Travels of Lao Ts'an*, trans. Harold Shadick, (New York: Columbia University Press, 1990), 262.

⁵⁴ *The North-China Herald*, 8 May 1899.

from their Governor Chang Yao.⁵⁵ He then sent them to the southern suburbs, where his subordinates provided alms to each individual, 1,000 cash (copper, brass, or iron coins called wen in Chinese) per adult and 500 per child. Of course it is likely that this was exaggerated in an effort to propagandize the good will of the government in helping its citizens so that they would not rebel. Other examples include public appeals to better-off citizens to provide aid for those suffering from flooding, and the imposition of special taxes for deposit into a relief fund.⁵⁶

Certainly, the Chinese government had more on which to focus during the second half of the 19th century than merely flooding. A great deal of local and foreign disturbances occurred, such as the Taiping Rebellion and the second Opium War. Further distractions requiring the government's more immediate attention included the increasing numbers of foreigners, both for business and religious purposes (i.e. missionary work), as well as the skirmishes between the foreigners and the Chinese.⁵⁷ *The Travels of Lao Ts'an* alludes to this distress at the turn of the 19th century through a dream the main character has at the beginning of the novel, filled with metaphors representing various aspects of the foreigner issue, including Shandong's situation under increasing German and British influence.⁵⁸ The central government's attention to these more immediate concerns detracted somewhat from the Yellow River Administration and its flood control efforts, thus decreasing supervision over an increasingly larger bureaucracy.⁵⁹

In decreasing its attention on the bureaucracy, the Qing government also reduced its inspection of the river itself. According to an article in *The Chinese Times*, only one specialist was sent in December 1887 to survey the Yellow River, whereas critics, especially foreigners,

⁵⁵ *The Chinese Times*, "Flood in Shantung," 20 August 1887.

⁵⁶ *The Chinese Times*, "Flood at Tungchow," 20 August 1887.

⁵⁷ Alfred Henry Baynes, "Flood in Shan-Tung," *The Times* 9 Nov. 1898.

⁵⁸ Liu Tieyun 7, 239n16.

⁵⁹ Dodgen 151.

asserted that, “100 would not be too many.”⁶⁰ They also claimed that one such person, even with his high acclaim, could not alone measure all the factors (i.e. its gradients, its banks, etc.) that were necessary to get an accurate perspective of the river’s condition. In fact, they argued that until a thorough survey was executed, all measures for improvement or repair “will be empirical, futile, and – as sad experience shows – dangerous.”⁶¹ Apparently the government did not heed such advice at this time, as similar calls for a thorough survey of the relevant stretch of river and its various factors again emerged in memorials, reports, and letters in newspapers following the August 1898 floods.⁶²

The Qing government’s lack of attention to flood control is even more obvious in its decreasing the numbers of patrols for the Yellow River and Grand Canal around the time of the Sino-Japanese War.⁶³ More soldiers were needed to fight during the war, and after it was over, there were too many. As much as the patrols were crucial in flood prevention and dike repair, however, in 1897 the total number of Shandong internal and coastal defense forces was about 30,000, and a further proposal by Governor Li Bingheng to cut this number in half within the next five years was on the table.⁶⁴ This process was sped up, as Li’s successor, Governor Zhang Rumei, reported the dismissal of 30 percent of the troops in 1898. However, the realization of potential massive flooding of the Yellow River in that year caused the last 20 percent to stay in service for a while longer. Even so, the remaining river patrols were not enough to be very effective when the devastating flood in August of 1898 actually hit.⁶⁵

⁶⁰ *The Chinese Times*, 17 December 1887.

⁶¹ *Ibid.*

⁶² *The North-China Herald*, “The Great Flood,” 7 November 1898; *The North-China Herald*, “The Yellow River,” 22 May, 1899; *The North-China Herald*, 5 June 1899.

⁶³ Joseph W. Escherick, *The Origins of the Boxer Uprising*, Berkeley: University of California, 1987 172, 173.

⁶⁴ Escherick 172.

⁶⁵ Escherick 173; Fairbank 117.

Certainly a great deal of conflict and turmoil was taking place in the last few years of the 19th century leading up to the Boxer Rebellion in 1900, yet some officials still managed to focus greatly on flood control, whereas others did not. This inconsistency is clear through discussing three governors of Shandong. In 1891, Governor Chang Yao visited the riverbanks and personally superintended the river officials and workers there, dividing among them the length of the 300 miles of river that passed through Shandong so that all of it would be carefully monitored.⁶⁶ He also made sure that all the subordinates worked efficiently and used the proper amount of materials. Governor Li Bingheng was very careful in his attention to the Yellow River and its likelihood of flooding the province as well.⁶⁷ He not only exercised much energy and political power in preparing for each summer's gains in water and in removing those officials who proved to be ineffective, but he himself spent six months of each year on flood control. In this way, Li was able to avoid a major flood occurrence during his governorship.

Governor Zhang Rumei, who took over in 1898, was much more concerned with the foreign threat, namely the Germans who were in the province, as well as the social instability brought on by the dismissal of so many (of which most were likely unemployed) soldiers.⁶⁸ Of course, as mentioned above, there is also the likelihood that Zhang was more interested in gratifying his superiors than fulfilling his duties to his province. Yet whatever his reasons may have been, instead of looking at dikes and spending time alongside the river (in fact he never visited the embankments), Zhang toured the province and checked in on local militia.

On August 8, 1898, after the usual immense amounts of rain, the large flood finally broke through the dikes in Shouzhong, flooding 400 villages, breaking banks at both Jinan and Dong'e, and covering Chiping as it extended across northwest Shandong over about 3,000 square miles

⁶⁶ *The Chinese Times*, "Yellow River Works in Shantung," 7 February 1891.

⁶⁷ Escherick 179.

⁶⁸ *Ibid.*

(other estimates include at least 2,500 square miles and even 5,000 square miles) of farmland and then into the sea.⁶⁹ In all, 34 counties were flooded, an area that was estimated to be home to some 1-1.5 million people.⁷⁰

On November 7, 1898, the Yellow River again swept over Shandong, covering 2,000 square miles of land, destroying hundreds of villages and countless cattle and grain.⁷¹ The flood likely caused a million people to suffer, most of who had to brave the approaching winter, while subsisting on “willow leaves, wheat gleanings, cottonseed mixed with chaff and pits.”⁷²

Other floods outside of the two mentioned above occurred in Shandong and neighboring provinces during the fall, winter, and early spring of 1898/99. All of these contributed to the great misery among the victims, as well as to the inability for quick relief, as the water receded so slowly that vast numbers of refugees crowded into the northwestern part of Shandong. Such slowly retreating water further prevented farmers from being able to sow seeds in the spring south of the river, especially as the heavily sand-laden waters ruined the soil (whereas most rivers’ flood water, such as that of the Nile and Yangtze, deposited soil-enriching sediments).⁷³

The widespread misery and suffering of the victims and refugees led to the tendency to join in outbursts and social actions that the government generally tried to prevent, such as a local uprising in Henan during the winter of 1898/99.⁷⁴ The Society of Right and Harmonious Fists (Yihequan, and later Yihetuan, or Righteous and Harmonious Militia) did well in gaining recruits during this period.⁷⁵ As was often the case with such floods, the blame was first directed toward the local government, but by the middle of 1899, the Righteous and Harmonious Militia gained

⁶⁹ Cohen 31; Escherick 177; Tan 34; Wakeman 216.

⁷⁰ Escherick 177; Tan 34.

⁷¹ *The Times* Nov. 9, 1898; *The North-China Herald*, “The Yellow River Floods,” 24 December 1898.

⁷² *Ibid*; Cohen 69, 70; *The North-China Herald*, 21 November, 1898; *The North-China Herald*, 12 December 1898.

⁷³ Cohen 69, 70, 306n9; Escherick 179; Tan 34; *The Chinese Times*, “The Yellow River,” 29 October 1887.

⁷⁴ Escherick 174.

⁷⁵ Ranbir Vohra, *China’s Path to Modernization: A Historical Review from 1800 to the Present*, 3rd ed. New Jersey: Prentice-Hall, Inc., 2000 89.

support from anti-foreign officials and local conservatives, and thus changed its slogan to “Protect the Qing, destroy the Foreigners.”⁷⁶

The Righteous and Harmonious Militia was actually a Spirit Boxer group that gained recruits rather quickly from the flood’s aftermath, although it was active in the Shandong region at least one year earlier.⁷⁷ Existing in Changqing and Southeastern parts of Chiping, these Spirit Boxers took advantage of the flooding by curing disease (as this was one of their most important practices) and accepting the masses of people such as farmers and other workers who were afflicted by the disaster (as is common for such people to fall into popular movements and beliefs in order for relief and an escape from the situation.)⁷⁸

Even as anti-foreign sentiments were rising (though historian Paul A. Cohen does not attribute much of this to the floods), various foreign missionary groups were working to help the Chinese government in providing relief for the flood victims. It is doubtful their actual motivation was to help the government rather than those who were suffering, but their efforts to raise money, clothing, and food donations were valuable to those whom the donations helped, and thus good for the government to have fewer people to take care of on their own. The question remains regarding the overall amount of monetary and other donations that the missionaries were able to produce, yet they were certainly long-term. For example, an appeal to Britain from a British missionary was published after the November 1898 flood, and the appeal to Americans from an American missionary was published after a flood in March 1899.⁷⁹ Still a clearer illustration is that of the Yellow River Floods Relief Fund, managed by the Hongkong and Shanghai Bank, which collected donations from November 24, 1898, if not earlier, until at

⁷⁶ Cohen 73; Tan 45, 46; Vohra 89; Wakeman 11.

⁷⁷ Cohen 31, 32, 34. Escherick 216.

⁷⁸ Escherick 223, 224; Spence 230.

⁷⁹ *The New York Times*, 9 November 1898, 25 March 1899.

least April 24, 1899, at which point the total contributed was \$42,303.74.⁸⁰ Most of the donations came from missionaries, churches, individuals, other banks, and western trading companies, with the vast majority of these donors being American or British.

Clearly, foreign assistance was helpful, as one reverend involved with the Yellow River floods relief wrote on March 20, 1899, that he had “arranged for 1,300 men to engage in road-making” so that he could dispense the 3,000 taels allotted to him “in the form of wages paid for work without resorting to the system of doles.” Still, many Chinese people helped with the cause as well.⁸¹ In work programs like the one mentioned above, it was not expected that raised funds would be used for the buying of building materials. Rather, if they needed to be purchased, members of the gentry would do so. Other Chinese Christians and gentry provided relief in the form of money as well as other necessities.⁸²

The Qing government also did its part in appropriating money for various relief purposes as well as shipping food to those areas in greatest need.⁸³ Still, corruption and inefficiency among local authorities handling the relief existed. Even once the government had large amounts of funds in its possession, there was skepticism (at least among the westerners who wrote the related articles in *The New-China Herald*) that the money would not be distributed completely and fairly, and if it were, it would not be done quickly.⁸⁴ It was often the case that those living only short distances from the capital received hardly any aid whereas those far away obtained much more. As certain areas received more money and food than others, mass migration of refugees swamped Henan, as this was one such location.⁸⁵

⁸⁰ *The North-China Herald*, “The Yellow River Relief Fund,” 28 November 1898; *The North-China Herald*, “The Yellow River Floods Relief Fund,” 24 April 1899.

⁸¹ *The New York Times*, 25 March 1899.

⁸² *The North-China Herald*, 21 November 1898; *The North-China Herald*, 28 November 1898.

⁸³ Tan 34.

⁸⁴ *The North-China Herald*, 5 December 1898; *The North-China Herald*, 24 December 1898.

⁸⁵ *Ibid.*

The government most certainly played a role in the aftermath of the floods, much like it had decades and even centuries earlier, but in the winter of 1898 the Empress Dowager sent statesman Li Hongzhang to survey the situation and decide with the viceroy of Shandong what possible options existed in remedying the situation. In great difference from what would have come as a suggestion before the 1850s, Li Hongzhang reported back that while the cheapest, quickest strategy would be the Chinese method that would only be temporary, the best approach for the flood control project would be the European method that would be both more expensive (approximately £4,000,000 sterling) and lengthy in time (about five years), but would be permanent.⁸⁶ Before the 1850s, when foreigners first began to open China, any idea that was not Chinese would not even be considered. Yet only short of two years before the Boxer Rebellion took place, Li Hongzhang proposed a plan that, while not specified in the Reuter's Agency article in *The Times*, was probably very similar to that which French civil engineer Armand Rouffart laid out in a report to the Chinese emperor, consisting of the short-term strengthening of current dams and banks and the long-term erecting of more stable defense works and an outlet for the river.⁸⁷ Still, in the growing anti-foreign sentiments as well as the immediate drastic situation of the time, the nine presidents of the boards to which Li presented his proposal decided that the Chinese method would be best.

The last years of the 19th century clearly marked a situation of massive Yellow River floods and a decrease in government effectiveness in not only prevention, but also relief and repair. It should not be forgotten, however, that the Yellow River's flooding had always been a rather consistent problem, and that this decline in effectiveness gained momentum around the middle of the 19th century and only continued as it did because of the many aspects related to the

⁸⁶ *The Times*, 1 April 1899.

⁸⁷ *The North-China Herald*, 5 June 1899.

issue of flood control. Clearly, the Yellow River Administration had difficulties appropriating qualified job placements, in addition to maintaining the defense works (of which few were made of strong, albeit more expensive, materials), but problems with corruption and both bureaucratic and project inefficiency existed to some extent as well.

Certainly there were strong efforts made even during the last several years of the century, especially by such people as Governor Li Bingheng and numerous missionaries in the region, but by this time, such effective attention to the river works was more the exception than the norm. It seems the Chinese government was more concerned with retaining as much authority as it could in the face of foreign presence (including the helpful missionaries) within its borders as well as in the face of modernization in changing times. Although Yellow River floods were still as dangerous, and even on such occasions as August 9, 1898, more dangerous than almost any other potential situation confronting over one million Chinese people, increasingly over the second half of the 19th century, flood-related work just had too much with which it had to compete .

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