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**In Search of Community: Dike  
Repair and Flood Control in  
Ming-Qing China**

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**1. Introduction**

The myth of peasant community dies hard. Since the nineteenth century, Western observers have claimed to find in the peasant villages of Asia institutions enforcing obligations to neighbors and the subordination of individual gain to the interests of the collectivity. For the most part, they viewed these communal institutions negatively, as ensuring stagnation, backwardness, and the repression of the individual. Marx's acid comments on Indian village communities merely summarized the prejudices of nineteenth century Europeans toward the East.<sup>1</sup> His model of the Asiatic mode of production described a society based on self-sufficient villages, where land was held in common and control of water formed the basis for despotic state power. Dynasties might rise and fall, but the forces of production would never develop without the brutal, but necessary, intervention of European imperialism. Only then did Asia have hope of progress.

<sup>1</sup> Perry Anderson, "Note B: The Asiatic Mode of Production", Lineages of the Absolutist State (London, 1974), p. 463-549.

Some recognized that China might be a case apart. Arthur Smith had noticed the highly competitive character of the Chinese peasantry.<sup>2</sup> But Max Weber, among others, expressed the common view that Confucian culture, emphasizing ritual codes which repressed self-interest and despised commerce, both fostered collective obligations and repressed the individualistic spirit necessary for the development of capitalism.<sup>3</sup>

Recently, the negative evaluation of community in China has been inverted. Proponents of the "moral economy" approach to peasant societies argue that peasant societies enforce rights to subsistence for their members, and that these norms define a distinct concept of economic activity, fearful of risk, hostile to the market, and protective of village tradition.<sup>4</sup> When this local tradition is undermined by colonial states and the world economy, peasants aim to restore the world they have lost. They may move "backwards toward revolution", supporting revolutionary movements not to produce a new society, but to restore the security they have lost in the old one. This model, originally elaborated for Southeast Asia by James Scott, has been applied to China by Ralph Thaxton and Edward Friedman who argue that the essential dynamic behind the Chinese revolutionary movement was not future-oriented class struggle but a search for the security of the past.<sup>5</sup> Such interpretations presuppose that in China

<sup>2</sup> Arthur Smith, Village Life in China

<sup>3</sup> Max Weber, The Religion of China.

<sup>4</sup> James Scott, The Moral Economy of the Peasant: Rebellion and Subsistence in Southeast Asia (New Haven, 1976).

<sup>5</sup> Friedman, Backward Toward Revolution; Ralph Thaxton, China Turned Rightside Up: Revolutionary Legitimacy in the Peasant World (New Haven, 1983).

there actually existed an integral peasant culture, based in village communities, before the coming of the West.

Oddly enough, most twentieth-century Chinese have found little appeal in the concept of a strong village community. Even though the Chinese revolutionary movement had many features analogous to the Russian populist movement, it conspicuously lacked one of the most basic elements of Russian populism: the belief that the village commune could provide the basis for a leap to a socialist stage, bypassing the need for capitalist exploitation.\* For one obvious reason: whereas the Russian village commune did enforce periodic redistribution of land holdings until the end of the nineteenth century, Chinese villages never asserted community control over land. Chinese analysts of rural society stressed the fragmented character of the peasantry and the desperate competition between families for the bare minimum needed to survive. In the twentieth century, there were nearly no subsistence guarantees and no common rights available to families in need of help. Nationalists concerned themselves with uniting the Chinese people, scattered like "grains of sand", into a strong nation, while Marxists expected the proletarianization of the peasantry to produce disciplined allies for the working class vanguard. Almost no Chinese Marxists accepted Marx's own characterization of China as becalmed in the stagnant Asiatic mode of production. They argued over whether traditional China was "capitalist" or "feudal", but they insisted

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\* Maurice Meisner, Li Ta-chao and the Origins of Chinese Marxism (New York, 1973), p. 80-89, points out similarities between early Chinese Marxism and Russian populism.

on fitting China into the universal pattern of history. Granting special status to the Chinese village community would, in their eyes, only condemn China to perpetual stagnation.<sup>7</sup>

Japanese observers, invaders, and scholars of China offered another perspective. Members of the South Manchurian Railroad research teams had unprecedented opportunities to interview North Chinese villagers about their communities. Often the Japanese investigators approached the villages with preconceived notions, searching for evidence in China of the kyōdōtai (共同体), or tightly knit village community, with which they were familiar in Japan. Yoshinami Kōji, for example, claimed to find in water control organizations a closely integrated organization regulating the supply of water on the village level.<sup>8</sup> While some had purely scholarly motivations, others went with ideological goals: to prove that "backward" China, burdened with stagnant, closed communities and unable to help herself, required the enlightened aid of Japan to bring her into the modern world.<sup>9</sup>

Postwar research has exploded many of the myths about Chinese villages. Japanese scholars have made the "stagnationist view of Chinese history", now viewed as a justification of imperialism, one of their primary targets. Hatada Takashi's careful reanalysis of the Mantetsu surveys denies the existence of strongly integrated, rigidly defined village communities in North China.<sup>10</sup> Recent work on mutual-aid groups has found little

<sup>7</sup> Arif Dirlik, Revolution and History

<sup>8</sup> "Nōgyō suiri ni okeru kōkenryoku to nōmin", Rekishigaku Kenkyū, vol. 271.

<sup>9</sup> Goi Naohiro, Kindai Nihon to Tōyōshigaku

<sup>10</sup> Hatada Takashi, Chūgoku sonraku to Kyōdōtai Riron (Tokyo, 1973)

evidence of village solidarity and no continuity at all between traditional forms of mutual aid and the "provoked cooperation" pushed by the Communist Party in the 1940s: "In traditional China, contrary to common belief, there were no large mutual aid groups at the village level functioning in a truly communal, disinterested manner, in which individual calculations yielded to the primacy of collective solidarity"<sup>11</sup> Other village organizations, like crop-watching societies and self-defense militia, also prove to have been either temporary responses to governmental weakness, or evidence of distrust rather than solidarity. Neither of them fits comfortably with revolutionary peasant mobilization.<sup>12</sup>

Are common rights in China, then, a complete chimera? Water control organizations seem to stand out as a notable exception. Since the regulation of water was so critical to agricultural production in China, villagers had to ensure stable supplies, resolve conflicts, and allocate water in times of scarcity. They also invested heavily in building and maintaining dikes, polders, and other public works. Ramon Myers has argued that there was both considerable cooperation and large-scale coordination of water supplies in the villages of North China in the twentieth

<sup>11</sup> Claude Aubert, Cheng Ying, Leung Kiche, "Entraide spontanée, entraide provoquée en Chine rurale: l'intervention Communiste (1943-44)", Annales 37.3 (Mai-Juin 1982), 407-33.

<sup>12</sup> Elizabeth Perry, Rebels and Revolutionaries in North China, 1845-1945 (Stanford, 1980)

century, independent of state control.<sup>13</sup> Does water control constitute an exception to the desperate atomized competition of Chinese peasants? Could they successfully regulate water supplies without state intervention, ensuring equal access to water for all members? How did the situation change from the sixteenth through the twentieth century?

I shall argue that organizations enforcing common rights to water did exist in late Imperial China, but they were by no means unchanging, well-integrated sources of a "moral economy". Two forces undermined the strength of water control organizations. First, the problem of free riders found in all collective goods always threatened to erode regulations which made one household work for the benefit of others. Secondly, the commercialization of the agrarian economy from the sixteenth century forward reduced the solidarity of agricultural producers, increased the economic significance of the market, and destroyed incentives to cooperate in water control projects. Water control organizations which seem powerful at one juncture look more fragile when viewed over a long time span.

The weakness of communal institutions in Ming-Qing China had implications for the relations of peasants to each other and for their relationship with the imperial state. Commercialization tended to cut the ties between landlord and tenant, replacing

<sup>13</sup> Ramon Myers, "Economic Organization and Cooperation in Modern China: Irrigation Management in Xing-tai County, Hobei Province", in Ko Muramatsu Yūjikyōju Tsuitō-Rombunshū: Chūgoku no seijito keizai (Tokyo, 1975); ~~Ramon Myers, "Cooperation in Traditional Agriculture and Its Implications for Team Farming in the People's Republic of China", in Dwight Perkins, ed., China's Modern Economy in Historical Perspective (Stanford, 1975), pp. 261-278.~~

paternalistic relations with obligations defined by contract. As individual households searched for profit, village leaders lost authority. At least ideologically, the state attempted to reinforce its paternalist conception of dependency between landlord and tenant, but in the tax system and legal definition of property rights it ultimately accommodated itself to individualistic trends in the economy.<sup>14</sup> The decline in village controls meant greater bureaucratic intervention in agriculture, at least for a while. In the eighteenth century, the state did intervene actively in production when necessary, but by the nineteenth century its declining resources made this impossible. Private organizations under gentry direction came to dominate water control, as they did militia and tax gathering.

## 2. Water Control and Common Rights

Rights to water in traditional China retained a much more communal character than did rights to land. On common rights to land there is not much to say. While nominally "all land in the empire belonged to the emperor", in practice since the Qin dynasty established private ownership of land in the third century B.C. most of the land in China was privately owned. Land contracts and an active land market developed during the Han dynasty. The state owned a small percentage of the land: in the Qing, state-owned land decreased from around twenty-five percent of the total registered land in the seventeenth century to

<sup>14</sup> Peter C. Perdue, "Population Growth, Agricultural Development, and Social Conflict in Hunan, 1500 - 1850", (Ph.D. dissertation, Harvard University, 1981), Chapter Five.

thirteen percent in 1887.<sup>18</sup> The well-field system remained a significant abstract ideal, but after the collapse of the equal field redistribution of land in the Tang few seriously tried to restore it. Eighteenth century writers openly recognized that, for all its virtues, the well-field system was impossible to implement. Still, customary land rights did not allow the owner full rights of alienability. Lineage relatives had at least nominal rights to approve land sales, and most land transactions were really mortgages or pawns rather than full sales. Except for small amounts of land donated as endowments for charitable granaries, ferries, orphanages, and subsidies for poor students, most land use in China was not controlled by village or state regulations.

Collective regulations did, on the other hand, circumscribe water rights. The interdependence of peasants using common water sources for irrigation of paddy fields required some cooperation to maintain stable supplies. In the South China lowlands, the main problem was not water shortage but surplus. Drainage of river and lake water to the sea was the major preoccupation of residents of the Lake Tai area, for example. The imperial state also played an important role in regulating water supplies, but, contrary to the "hydraulic theory" outlined by Marx and developed by Wittfogel, the state did not use control of water to reinforce its despotic power. Although the state did run some large-scale water conservancy projects, notably the Yellow River

<sup>18</sup> Li Wenzhi, ed., Zhongguo Jindai Nongyeshi Ziliao (Historical Materials on Modern China's Agriculture), (Beijing, 1957), vol. I, pp. 62-63, cited in Ramon Myers, The Chinese Economy: Past and Present (Belmont, CA, 1980), p. 14.



and Grand Canal, most control of irrigation was left up to semi-autonomous organizations of local producers. Ming-Qing policy encouraged local control of water supplies in order to spare the bureaucracy the burden of managing them itself. As Hunan governor Yang Xifu put it:

Each county has several tens of polders, and each polder covers several tens of li. How can one official supervise them all? ...In dike repairs people are defending their own land; we should let them do it themselves\*\*

Still, the hands-off policy could seldom be maintained for long. Time and again, local officials found themselves forced to intervene to prevent abuses in water control from producing serious floods. Water control in China is a story of continual oscillation between local community control and bureaucratic intervention.

Regional variations in topography, cropping systems, and population density, among other factors, strongly conditioned the forms of water control organizations. Here I shall only discuss the paddy rice regions of South China, focusing on two of the Yangtze river drainage basins: the lower Yangtze, covering parts of Jiangsu, Zhejiang, and Anhui province, and the middle Yangtze, including most of Jiangxi, Hunan and Hubei. Furthermore, I shall only discuss in detail the lowland cores of these regions, where drainage and containment of water were the principal concerns, in contrast to the focus on conservation found in the highlands and

\* Yang Xifu, Sizhitang wenji (Collected writings), 1805, cited in Peter C. Perdue, "Water Control in the Dongting Lake Region during the Ming and Qing Periods", Journal of Asian Studies, Vol. XLI, No. 4 (August 1982), p. 750.]

much of North China. Although water control was also significant in the mountainous peripheries, there is much less information about it.

Within these regions, there is still significant variation in water control organizations. The physical structure of the important waterworks -- dams, dikes, or polders -- strongly affected the nature of the social organizations connected with them. Three types of waterworks are particularly important:

- 1) Long dikes and seawalls;
- 2) Small dikes along creeks and lakes;
- 3) Polder lands enclosed by round dikes.

Long, straight dikes along the Yangtze River, or the large seawall along the Jiangsu-Zhejiang coast lent themselves to frequent official intervention, while polder building along Lake Taihu and Dongting was relatively more autonomous. In each of these cases, the degree of official control fluctuated over time. In the early Qing, the state actively intervened in clearance of new lands and construction of dike networks, while by the nineteenth century even the Zhejiang seawall privately managed. The cases below briefly illustrate the evolution from state to private control of water.

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#### *The Jiangnan Seawall*

The great seawall (haitang 海塘) of Jiangnan extends one hundred kilometers from Renhe county in Zhejiang to Jinshan county in Jiangsu. It was first built in the Han dynasty and

later expanded in the Tang and Song.<sup>17</sup> Its purpose was to drain coastal lands and keep salt water out of cultivated fields. Through the Song, most of the construction labor was done by soldiers. The Ming-Qing period saw another great period of expansion, but this time control oscillated between state and private works. The early Ming rulers appointed dike administrators (tangzhang 塘長) in each li of the lijia 里甲 system to manage dike works under official supervision. The lijia system organized autonomous units within the villages to provide tax income for the state. The head of the li (lizhang 里長), chosen by rotation from among the wealthiest land owners in the village, was held responsible for the tax payments of the one hundred ten households under his supervision. Similarly, the dike administrator was held responsible for mobilizing the members of his li unit to conduct dike repairs. The li heads had to make up for deficiencies in taxes or repairs. By giving control of tax collection and water conservancy to designated well-to-do households and holding them responsible for their work, the state avoided the excess burdens of intervening in the affairs of each village.

In its ideal form, the smooth operation of the lijia and tangzhang presupposed 1) The existence of a stratum of landlords resident in their communities and concerned about preserving community welfare; 2) A relatively self-sufficient agrarian economy, undisturbed by opportunities for commercial profit; 3)

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<sup>17</sup> This discussion relies on Morita Akira, "Kō-Setsu no ōkeru kaitō no suiri soshiki" (Water control organization in the Jiangsu-Zhejiang seawall), in Morita Akira, Shindai Suirishi Kenkyū (Tokyo, 1974), pp. 279-309.

An inactive land market, allowing easy registration of land and assigning of members to their li units; and 4) An immobile peasant population, contented to stay in their villages.

Significant developments in Ming society and economy, by undermining these essential premises, ultimately destroyed effective village control over taxation or water.<sup>10</sup> Briefly put, as commercialization grew from the sixteenth century on, more landlords became separated from the land and less interested in improving village production. Peasants grew more cash crops, and land parcels were bought and sold more frequently. The regular land and population surveys of the Ming became mere formalities, far removed from real land holdings. Many landowners succeeded in exempting themselves or concealing land from taxation and water dues, causing the fixed tax burdens to fall on a smaller population. The increased burdens of serving as lizhang or tangzhang bankrupted even prosperous households. In Zhejiang, private landlords gradually took over rights to seawall dikes. These "mudheads" (nitou 泥頭) charged fees on all users to repair each section of the dike they owned. By the late Ming "charitable households" (yihu 義戶), really large-scale landlords controlling several li units, had taken over large areas, including land, markets, dikes, tenants, and water rights.

<sup>10</sup> Discussions of the decay of the lijia system in English are found in Liang Fang-chung, The Single Whip Method of Taxation in China (Cambridge, MA, 1970); Ray Huang, Taxation and Governmental Finance in Sixteenth-Century Ming China, (Cambridge, England, 1974). In Japanese, see, for example, Shimizu Taiji, Min dai Tochi Seidoshi Kenkyū (Tokyo, 1968). On the tangzhang, see Hamashima Atsutoshi, "The Organization of Water Control in the Jiangnan Delta in the Ming Period", Acta Asiatica, 38 (1980), p. 69-92.

They in effect constituted independent authorities, collecting fees from the people in their jurisdictions while remitting only a fraction to the state.

This extreme privatization of control over land and water brought about the deterioration of the irrigation network in many places. Flooding, neglect of repairs, and abandonment of land characterized much of the lowland areas of the lower and middle Yangtze in the late sixteenth and early seventeenth century. The civil wars and uprisings of the Ming-Qing transition only aggravated the destruction. During the Kangxi reign (1661-1722), the new Qing rulers aimed to eliminate the abuses of the Ming by abolishing the tangzhang. The new system of "equalized land and labor" (juntian-junyi 均田均役) established annual repairs of the seawall under government supervision. Residents paid the officials a yearly surtax, based on the size of their landholdings, for the cost of dike repairs, while local officials hired laborers to do the work. The Qianlong emperor (1736-1795) further extended government supervision by appointing a special local official to investigate dike repairs.

The eighteenth century represented the peak of state intervention in water control, but even at this time much of the seawall was privately repaired. After the Qianlong period, shortage of state funds and neglect caused a progressive decline in maintenance. The Jiaqing and Daoguang reigns (1796-1840) saw a return to private repairs under gentry supervision. The state's deputies oversaw the entire project, but the gentry recruited and supervised the labor force. By the Tongzhi reign (1861-1874), silk

merchants had replaced local landowners as the major providers of funds for dike projects.

The Zhejiang seawall displays a cyclical alternation between official and private control. Because of its crucial location on the coast and the large scale of its construction, official interest in it was great. In the eighteenth century, provincial governors reported to the emperor in detail every month the amount of silting and need for repairs on the seawall. Nowhere else in South China did provincial officials pay such close attention to local waterworks. Yet here as elsewhere, the long-term trend was toward declining official influence and greater private control.

Private control is not necessarily community control and does not necessarily imply common rights to water. True community control of water only existed in the early Ming, when the lijia system functioned well. The "mudheads" of the Ming, who asserted private rights to water, bought and sold them like any other commodity. The gentry supervisors of the nineteenth century, on the other hand, do seem to have organized dike labor on a wider scale for a common interest. But it is not altogether clear whether they were acting merely in their own self-interest or whether they were asserting community claims to water as the state weakened. It is worth noting that, in both the early Ming and late Qing, effective community control over water rights required strong official backing. The nineteenth-century gentry supervisors still acted under the oversight of deputies sent by the provincial governor.

*Lake Lian*

The Lianhu in Jiangsu province at the southern end of the Grand Canal provides an interesting example of shared state and private interests in water. "Lake Lian" was constructed in the fourth century A.D. for both irrigation and transportation. Tang and Song officials struggled to preserve the waters of the lake against encroachment by powerful clans and monasteries. In the early Ming, the tangzhang regulated water use, but with the decay of the lijia system, private landowners took over control of the lake. By the late Ming, over nine thousand mou had been turned into cultivated land.

In the Qing, the lake had been divided into two parts, each with its own water control organization. On the upper lake, residents did repairs in rotation, while on the lower lake, revenue from a "lake tax" paid by all the residents hired laborers to work on the dikes. There was little cooperation between the peasants of the upper and lower lakes. When a dam broke on the upper lake in 1720, the lower lake people refused to aid in its repair. Villagers on the lower lake did select a "ditch guard" (hantou 涵頭) to regulate the allocation of water by rotation to each field and to organize cooperation between villages to do repairs.

From the state's point of view, the role of the Lianhu was to supply the Grand Canal with water. Officials concerned

<sup>19</sup> Morita Akira, "Kōso ni okeru kōsui no suiiri soshiki: Renko no baai" (Lake water organization in Jiangsu: the case of Lake Lian), Shindai Suirishi Kenkyū, p. 311-350.

themselves only with repairs of the sluice gates at the southern end of the lake. For the local people, the lake was an important source of irrigation water. Continual efforts by local peasants to clear land around the lake conflicted with the state's need to keep up the water level of the Grand Canal. Once again, the basic trend was toward the decline of state control and the predominance of privately-run cooperative efforts. In the long run, as the Grand Canal fell out of use in the nineteenth century, the irrigation function of the lake took primary importance and private funds became the main source of repairs for the entire lake.

*Lake Tai Polder Lands*

Lake Tai, on the other hand, always kept water control in private hands. Most important here was the maintenance of a network of small creeks to drain lake water to the sea, and the building of dikes to protect polder lands. Polder lands around Lake Tai and in the rest of Jiangnan illustrate most clearly class conflicts in the agrarian society focused on water control.<sup>20</sup> Most polder lands (yutian 圩田) in Jiangnan ranged from three to five hundred mou (twenty to thirty-five hectares) in size. They were large expanses of land surrounded by circular dikes. As the level of the land was lower than the lakes and rivers surrounding it, one break in a dike could inundate a vast area. Tenants lived within the polders and cultivated the land,

<sup>20</sup> Morita Akira, "Kōnan ni okeru uden no suirisoshiki", Shindai Suirishi Kenkyū, p. 351-382; Kawakatsu Mamoru, "Minmatsu Shinsho Kōnan no uchō ni tsuite", Tōyō Gakuhō 55.4 (1973);



while the landlords usually lived at a distance in market towns and cities. Under the system of "landlords provide food, tenants provide labor" (yeshi dianli 業食佃力), established in the Wanli reign of the Ming dynasty (1573-1615), tenants contributed labor at the rate of one man per twenty mou, while the landlords contributed their subsistence.<sup>21</sup> The yeshi dianli system was introduced by local officials connected with the reformist Donglin party in order to reduce antagonism between landlords and tenants and enforce equal participation in the burdens of dike repair under state supervision. By the late Ming, the absentee landlords had lost interest in maintaining irrigation works, while tenants had come to depend more on textile production than on agriculture. The tenants, now more economically independent than before, had the power to resist rent payments and win concessions from their landlords. They were granted the right to deduct the cost of food for repair work from their rent. The Yongzheng emperor (1723-1735) further increased tenant independence by commuting corvée labor for repair work into cash. Now tenants had to be paid in cash for the opportunity cost of sacrificing other income to work on dikes.

The state's role in polder areas was limited, but officials did stress the common interests of all members of the polder in conducting repairs:

<sup>21</sup> Hamashima Atsutoshi, "Yeshi-dianli kō", Tōyōshi Kenkyū 39.1 (1980), p. 118-155; "Minmatsu Shinsho Kōnan deruta no suiri kankō no saihei ni tsuite", Shakai Keizaishigaku, 40.2 (October, 1973), p. 23-42; Kawakatsu Mamoru, "Minmatsu Chōkō deruta chitai ni okeru suiri kankō", Shien, 111 (1974), p. 65-112.

If in a polder of one thousand mou and several tens of households the banks collapse on only one household, then all the well-maintained banks of the other households will become useless. Rich and poor must rely on each other...<sup>22</sup>

The goal of the late Ming reforms was to reduce landlord-tenant tension which led to the decay of irrigation works. Officials preached the necessity for tenant-landlord cooperation and intervened to settle disputes which endangered the water-control structure, but economic forces increasingly pushed tenants and landlords toward conflict. When tenant revolts broke out, they were organized around the polder units. Because residence within a polder obliged the members to cooperate, these dike structures contributed to the definition of local community.

Polder communities were forced to preserve a certain amount of cohesion for survival. Collective labor organizations persisted despite intensive commercialization, and the growth of the market did not fragment village society into competitive households. Recurrent debates over how to levy labor for dike repairs, on the other hand, suggest the fragility of these polder groups for organizing collective repairs.<sup>23</sup> Normally, only those holding land directly along a polder dike were responsible for its repair, contributing labor according to the amount of land they held bordering the dike. The others inside the polder were in effect freeriders, enjoying the collective good of protection against flood without paying for it. Levying labor according to

<sup>22</sup> Songjiang fuzhi (Jiaqing), cited in Morita, p. 364.

<sup>23</sup> Hamashima Atsutoshi, "Mindai Kōnan no suiri no ichi kōsatsu", Tōyō Bunka Kenkyūjo Kiyō 47.1 (February, 1969), p. 1-62.

total land held within the polder would have been more equitable, but landholders strongly resisted official efforts to enact reforms.

Late Ming officials recognized that the polder communities were not strong enough to overcome this classic problem of freeriders. They called for more intervention in dike repairs, because, they believed, landowners were neglecting dredging and canals were silting up. Several writers believed that people would not work together to repair dikes without official coercion. Jiangsu governor Zhou Kongqiao stated in the sixteenth century: "Poor and rich (within a polder) just look at each other and do nothing if there is no government leadership".<sup>24</sup> Others promoted the idea of dividing up the largest polders, which could be up to two to seven thousand mou in size, into sections of five hundred mou. They correctly perceived that collective solidarity would be greater in small units.<sup>25</sup> Again, contrary to the "Oriental despotism" theory, the state was not trying to eliminate non-bureaucratic organizations but to shore them up. Although the polders in Jiangnan remained significant community units, they were not always successful in organizing dike repairs. Only state intervention ensured that landlord and tenant would cooperate in maintaining a functioning dike network.

*Beyond Jiangnan*

<sup>24</sup> Hamashima, "Yeshi-dianli kō", p. 143.

<sup>25</sup> Cf. Mancur Olson, The Logic of Collective Action (Harvard, 1971) on the superior effectiveness of small groups.

Many scholars have taken Jiangnan as the model for the rest of China. This is only natural, because the lower Yangtze was the most advanced economic region of China, and its economic trends are better documented than anywhere else. To a certain extent, the middle Yangtze's evolution parallels, with a time lag, trends that began in the lower Yangtze, but it does have distinct features. In Hubei and Hunan, we can examine an entire cycle of development from frontier periphery to a highly commercialized region taking place from late Ming through the Qing dynasty.<sup>26</sup>

Four phases of agricultural settlement characterized the lowlands around Dongting lake and the Yangtze river: 1) Shifting settlement, with little dike construction and a livelihood consisting mainly of hunting and fishing; 2) Frontier settlement, marked by heavy government investment in large dikes, clearance of marshes and new land, followed by independent smallholder settlement; 3) Private settlement, with investment by private landlords, the building of smaller dikes, coinciding with the rise of a commercial grain market and the recruitment of tenants to work new polder lands; 4) Oversettlement: the beginning of emigration, overbuilding of dikes, excessive clearance of land and resistance to officials; conflicts between private landlord interests in land clearance and the state interest in wider scale water management, producing more frequent flooding; finally, the appearance of marginal tenants and uprooted smallholders along

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<sup>26</sup> This section is based on Peter C. Perdue, "Water Control in the Dongting Lake Region during the Ming and Qing Periods", and "Population Growth, Agricultural Development, and Social Conflict in Hunan, 1500 - 1850", (Ph.D. dissertation, Harvard University, 1981).

with general social insecurity. Dongting lake displays these phases most clearly, but other lowland lake regions may follow similar patterns.<sup>27</sup>

As in Jiangnan, the long, straight dikes along the Yangtze river differ from the smaller, more autonomous polder communities around the lake. After the major Hubei flood of 1788, officials focused their efforts on the Wancheng dike extending along the Yangtze river. Qing officials had not paid much attention to middle Yangtze water control until this disaster forced them to intervene. Their response was to issue more regulations, tighten up supervision over repairs, and require regular reporting from local officials. For the most part, the local inhabitants did not organize community repair organizations free of official direction, but as state finances deteriorated in the nineteenth century, private funds took an increasingly important role in financing repair projects.

The polder communities on Dongting lake, as in Jiangnan, remained relatively autonomous. Hunan, in fact, preserved the post of dike administrator well into the Qing dynasty, long after it had been abolished elsewhere. In Hunan landlords put up capital to construct polder lands, then recruited immigrant tenants to cultivate their fields. Conflict developed both between landlord and tenant and between landlords and the state. Local officials had prohibited any further dike building around the lake after 1744, but landowners, ignoring them, continued to

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<sup>27</sup> Cf. Pierre-Etienne Will, "Un Cycle Hydraulique en Chine: La Province du Hubei du XVI<sup>e</sup> au XIX<sup>e</sup> siècles", Bulletin de l'École Française d'Extrême-Orient, 68 (1980), p. 261-287.

build illegal dikes. These illegal dikes, by reducing the surface area of the lake, threatened to increase flood damage, but officials were unable to stop progressive encroachment on the lake.

At the same time, tenants struggled with landlords over the payment of rent deposits. As the productivity of land rose, landlords sought to replace old tenants with new ones paying higher deposits. Tenants resisted by "squatting on the land" and bringing suit before local magistrates. The flourishing export grain trade down the Yangtze river encouraged both landowners and tenants to compete for increased profits. During the eighteenth century, competitive conflict increasingly eroded the common interests of local officials, landowners, and tenants.

Tenant resistance to landlords may have been weaker than in Jiangnan, because Hunanese tenants still relied almost exclusively on rice crops until the nineteenth century, while their lower Yangtze brethren gained heavily from silk and cotton production. On the other hand, landlord resistance to state prohibitions on dike building may have been stronger in Hunan, precisely because landlords had a greater stake in grain production. The polder communities clearly persisted as significant social units: when local militia units were formed to resist the Taiping armies, they took their names from the polders where they were formed. There is, however, very little evidence of cooperation in dike repairs or of any stable institutions to enforce common rights to water. Abuse, corruption, and

exploitation of local power for private gain are far more conspicuous than cooperation for mutual benefit.

### 3. Conclusion: Competition and Cooperation in China

I have illustrated the competitive, fragmented nature of water control in China by discussing several important areas over a long stretch of time. I do not mean to imply that the Chinese were never capable of regulating water supplies. The vast Chinese subcontinent contained a great variety of water systems. Parts of the Chengdu plain of Sichuan had developed a complex network of dikes and canals since the second century B.C., including an elaborate hierarchy of dike administrator posts, whose members were chosen by election or by rotation from among large landholders.<sup>28</sup> In Guangdong, the large Sangyuanwei polder set up a multi-village network of water control officers.<sup>29</sup> Further study is needed to determine exactly what local geographical and historical conditions favor these large-scale water regulation networks.<sup>30</sup>

Despite some exceptions, I would argue in general that the sustained operation of large-scale cooperative organizations controlling water supply and dike repair was extremely difficult. Incentives for freeriders to evade their share of the burdens,

<sup>28</sup> Morita Akira, "Shisen ni okeru enku no suiri soshiki: Duijiangyan o chūshin to shite", Shindai Suirishi Kenkyū, p. 207 - 247.

<sup>29</sup> Morita Akira, "Kōtō ni okeru iki no suiri soshiki: Sangyuanwei o chūshin to shite", Shindai Suirishi Kenkyū, p. 139-170.

<sup>30</sup> Burton Pasternak, Kinship and Community in Two Chinese Villages, (Stanford, 1972), includes discussion of conditions in Taiwan favoring village level cooperation in irrigation.

combined with incentives for powerful local landowners to exploit private control of water rights, always tended to override impulses to cooperate.

The imperial state played an important role in supporting what cooperation did exist. Besides investing in large-scale waterworks, it combined exhortations for harmonious cooperation with detailed regulation and supervision when necessary. The officials used material, normative, and coercive sanctions to maintain stable water supplies. They did not aim for despotic control of all water rights, nor did they referee the free-for-all competition of private interests. It was the weakness of autonomous collective organizations for dike repair that induced the officials to step in; when dike repair organizations functioned well enough the officials left them alone. Conflict between landlords and tenants over the allocation of labor; neglect of agriculture for commercial profit; destruction of local ecology, producing greater flooding; a variety of causes of decline of effective water control could induce the state to intervene.

The eighteenth century stands out as a period of economic activism, when the Qing state promoted transport on the Grand Canal and established a nationwide granary system of unprecedented dimensions. Statecraft writers interested in practical administration discussed many projects for the improvement of agriculture and water conservancy. This was also a time of rapid growth of private economic activity. As the growth of national markets impelled people to seek commercial



profits, cooperative arrangements based on a self-sufficient agrarian economy began to break down. Growing populations intensified the competition for land, while market expansion offered new opportunities for profit. The state intervened in water control, not to eliminate competing power centers, but to restore an ideal of paternalist dependency. Nevertheless, the aggressive struggle for survival in the most commercialized, densely populated parts of South China left little room for altruistic cooperation. Only collective organizations which offered immediate benefits could function effectively.

Glossary

<u>haitang</u>	海塘
<u>hantou</u>	涵頭
<u>juntian-junyi</u>	均田均役
<u>kyodotai</u>	共同体
<u>lijia</u>	里甲
<u>lizhang</u>	里長
<u>nitou</u>	泥頭
<u>tangzhang</u>	塘長
<u>yeshi-dianli</u>	業食佃力
<u>yihu</u>	義戶
<u>yutian</u>	圩田