

Water as a Source of Conflict and Instability in China

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Abstract

China's focus on high economic growth over the last decade and 'economy first' principle have put serious strain on its water resources. China has only 7 per cent of the world's total water resources but more than 20 per cent of the global population. It increasingly faces acute challenges regarding water distribution, supply, and quality, and there are clear signs that unless the state takes urgent corrective measures serious water-related conflicts and political instability may occur. For now it appears China's water problems will get worse before conditions change to the point that would allow them to get better.

Introduction

According to Pan Yue, Deputy Head of China's State Environmental Protection Organization (SEPA), China's environmental problems have now reached crisis levels and even threaten the nation's economic performance.¹ China has laid waste to its environment across the spectrum and water, in particular, "is an increasingly prevalent problem."² Indeed the *Beijing Science Times* has warned, "Disaster begins from water."³

Even a casual look at China's current situation illuminates the great challenges China faces regarding water distribution, supply, and quality. The country's water distribution woes begin with geography and are aggravated by human impact. China's southern regions receive plenty of water, often times too much, with disastrous recurrent flooding throughout its history. In contrast, most of China's north and west are dry and increasingly the victim of drought, desertification, and erosion.

Water demand has skyrocketed growing at 10.1 per cent annually for cities, 5.4 per cent for industry nationally and even higher for specific places.⁴ Thus while China ranks high in terms of total freshwater resources,

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it is in per capita terms one of the world's most water deficient states with both surface and groundwater reserves being rapidly depleted.⁵ Furthermore, inadequate investment in basic water supply and treatment infrastructure has resulted in widespread water pollution.⁶

As discussed in earlier chapters there is growing agreement and evidence that environmental factors impact security and can contribute (if not directly at least indirectly) to instability and conflict. Therefore it is important to ask whether or not China's tremendous water problems are a possible source of conflict or instability for China? This article looks at this question through several key components. First, what are the specifics and scope of China's water problems? Second, what might the effects of these problems be on China's domestic stability and potential for conflict? Third, what is China doing to mitigate these problems, is it effective, and what does this mean for the future?

Water Supply, Distribution and Quality in China

China's battles with nature over water are nothing new. Throughout China's history, flooding has extracted a terrible toll on its people and China first began regulating rivers of its northern plain 4,000 years ago, a process that has continued to the present. For instance, in mass mobilization projects that began in 1949, Chinese peasants dug nearly 100 large drainage canals, strengthened thousands of kilometres of protective dikes, and sunk more than a million wells to transform and harness the environment.⁷ Communist China in its first three decades consciously disregarded the pending clash between its massive population and arable and environmental resources.⁸ Generally its modern leaders have shown an interest in understanding nature primarily to overcome it in order to utilize it for man's benefit.⁹ Elizabeth Economy, "China's Go West Campaign: Ecological Construction or Ecological Exploitation", Environmental protection has thus been ignored in favour of large-scale infrastructure projects and to increase grain production (which has almost completely deforested the country). China has also failed to prevent massive pollution in pursuit of economic development. The consequent impacts on China's environment and its available fresh water supply have been devastating.

Distribution and Supply

Water distribution and water supply are major challenges for China

that are worsening with time. In general, the majority of China's precipitation falls in the southeast (1,800mm per year)¹⁰, an area prone to flooding; whereas China's north and west are much drier (200 mm per year)¹¹ and getting worse. Increasing water demands for domestic use, transportation, industry, and other development activity compound the problem of water availability imbalance and extreme weather conditions.¹² Shortages have been compounded by droughts throughout the region (in 2000 one of the worst in fifty years struck).

China has per capita water resources of less than 2,300 cubic meters, only one-fourth the world average¹³ and according to China's Ministry of Water Resources a serious water crisis will descend by 2030.¹⁴ Throughout China approximately 60 million people, predominantly in rural areas, have difficulty getting enough water for their daily needs¹⁵ and 25 per cent of the total population is without access to drinking water.¹⁶ Almost half of China's farmland is irrigated¹⁷ with agriculture consuming 69 percent of China's water supply.¹⁸

Meanwhile, decreased rainfall and decades of expanding cultivation has left more than half of China's cities facing serious water shortages.¹⁹ Power production has also been impacted. In January of 2001 the *People's Daily* reported that falling water levels had caused power outages at hydroelectric plants that did not have enough water to continue operating.²⁰

To make up for the shortfall of surface water, China increasingly taps into ground water reserves especially for intensive irrigation in drought prone areas.²¹ Consequently, ground water sources are being seriously depleted. For example, ground water near northern cities fell between ten and thirty meters in the 1980s while groundwater levels across the North China Plain have dropped 1.5 meters a year over the last few years.²²

Northern and western areas are particularly affected. Average annual rainfall in north and west China has decreased by one-third from the 1950s to the 1980s.²³ In addition to urban shortages and industrial losses, rural residents and the agricultural sector have been particularly hard hit. For instance, the summer 2000 drought in northern China destroyed 35 million acres of crops and left over 6 million people without access to water. Precipitation and ground water resources no longer meet demands in the Huai and the Yellow River Basins, which include some of China's most fertile wheat-growing areas.²⁴ Indeed, northern China's water shortages are so severe that the overdrawn Yellow River no longer reaches the sea

almost 200 days a year.²⁵ In the first seven months of 2002 water flow into the river's mainstream was estimated to be 5.5 billion square meters less than in 1997 (when the river had its worst drought) and the lowest since 1950.²⁶

Due to the uneven distribution of precipitation in China, some areas actually suffer from acute water surpluses. Thus flooding is another major challenge for China, especially in its southern areas. In 1998, flooding of the Yangtse River led to thousands of deaths and caused US \$20 billion in damage.²⁷ Pamela Baldinger and Jennifer L Turner, no. 15, p. 16

In May of 2001, Beijing's *China Daily* reported that it had been raining in Hunan Province for 36 days, all monitoring points along the Xiangjiang River had crossed the "alert" level, and the water was still rising about a foot a day. More than 47,000 meters of lake dams were destroyed and many residents were displaced.²⁸

Quality

China's water supply problems are exacerbated by massive industrial and domestic pollution. As an example of the scale of pollution, today "China produces more organic waste than Japan, India, and the U.S. combined".²⁹ Over half the Chinese population consumes drinking water contaminated with levels of animal and human waste that do not meet minimum national drinking water standards.³⁰ In 2004 only 38 per cent of the population had access to sanitation.³¹

In the late 1990's of China's twenty-seven largest cities, only six supplied drinking water that met government standards.³² The situation appears little better in 2004 when an analysis of 47 cities showed all failing to meet national pollution standards.³³ According to the State Environmental Protection Administration (SEPA) 62.3 per cent of monitored sections in the country's seven major river basins were Grade IV (unfit for human consumption) or worse in terms of water quality.³⁴

Water, Instability and Conflict in China?

From the earliest days of Chinese history water, governance, and stability have been interlinked. Amongst the earliest folk heroes is Shun who ruled in China r. 2255-2205 B.C. His reign was plagued by great floods, until Yu, an official appointed by Shun, managed to tame the floods through

initiating various waterworks projects. Shun then named Yu his co-ruler; Yu's son ultimately the ruler of China's first great dynasty the Hsia.³⁵ According to Hucker, one of the basic continuities of Chinese life has been the struggle to maintain political unity; when conditions of life changed more rapidly than governmental institutions or policies could adapt and respond fragmentation would follow.³⁶

Today this history is important to remember as China's degraded water supply and inadequate distribution of fresh water are compounded by the government's inadequate responses. The inadequacy of China's response is largely the result of an evolving government system whose fundamental characteristics make it difficult to solve those problems and avert conditions that could lead to conflict. Devolution of power, unclear lines of authority, conflicts of interest, funding problems, and growing parochialism combine to provide disincentives for cooperation on these issues. A number of forces at work in China today are increasing its vulnerability to conflict and instability driven in part by water issues.

The first such force is poor economic performance in areas suffering water scarcity. Resource demands and economic expectation are beginning to outstrip the government's capabilities to ameliorate them. According to Gunther Baechler, the probability for conflict escalation is high when there is a major contradiction between economic expectations and/or demand for resources on one hand and limited economic prospects, degraded resources, and poor state performance on the other.³⁷ Although China has experienced consistently strong economic growth, signs of such contradictions are evident. Rural incomes and productivity have stagnated and contributed to unrelieved poverty in rural areas. These areas are still home to 70 per cent of China's population, but produce only 30 per cent of the GDP. Issues of water supply, distribution, and quality appear to be exacerbating these contradictions especially since rural agriculture still constitutes 80 per cent of China's water use. This leaves poor rural farmers disproportionately vulnerable to water scarcity. There are some indications that these contradictions and unmet water demands are leading to unrest. In fact, the Chinese Communist Party has singled out "rural unrest as the biggest threat to its rule"³⁸ and Jiang Zemin has set boosting agricultural production, increasing farmers' incomes, and maintaining stability in the villages as priorities. These initiatives, however, are under-funded by the centre, and local governments in poor areas have very limited ability generate funds to pursue these goals.

Previous research indicates that environmental scarcity problems are complex, subject to competing interests, and often entrenched along sensitive ethnic, religious, or social class divisions. Unequal access to water resources, regardless of aggregate availability, can cause water scarcity for certain portions of the population thereby exacerbating interclass or interstate tension, and create new tensions where previously there were none.³⁹ Since reforms began in China about twenty years ago, social stratification has been re-emerging. The geography of China's water distribution shows that areas hardest hit by water scarcity also contain a large number of minority groups and rural poor.

Economic disparity has increased as the economies of the urban east far outpace rural western areas. Western China (the country's most water scarce region) also contains many of China's poorest and minority peoples. Ninety percent of those Chinese estimated to live in poverty reside in western China. The region also has the highest proportion of non-Han minorities in the country, including 20 million Muslims.⁴⁰ The west is already an area of occasional minority unrest. The worsening water scarcity could add further to minority discontent if the minorities view the distribution as unfair and the government's ability to rectify the scarcity as inadequate.

China's northeast region has a much larger population of Han Chinese (majority ethnic group in China), but also faces a critical water shortage. Here the problem is rural vs. urban competition for scarce resources that deepens class division and disaffection. The northeast is China's grain growing region, which is heavily dependent on the irrigation that still consumes most of the country's fresh water. Because of this, water shortages and the government's inability to solve the problems disproportionately affects the rural poor in this area.

Large-scale infrastructure developments, such as major dams and diversion projects, designed to alleviate water shortages disadvantage and dislocate certain groups while benefiting others. Many of these projects involve the relocation (often forced) of millions of people such as in Chongqing municipality. Where, according to official statistics, more than one million people, 29 million square meters of homes, 200,000 hectares of farmland, and 1,378 companies will be displaced due to the Three Gorges Dam.⁴¹

Previous research on environment and conflict indicate that relocating people generates turmoil amongst those displaced and can lead to clashes with local groups in resettlement areas. People affected are often minorities or social groups outside the power hierarchy of their society. The result can be rebellion by the groups and repression by the state.⁴² In China the large-scale protests have occurred in Wanzhou, downriver of the Three Gorges Dam by people refusing to move or seeking increased compensation.⁴³

Upstream-downstream debates and conflicts over culpability and vulnerability to water related problems such as floods and dam construction have also emerged along ethnic and socioeconomic lines. Rural peasants and minorities in the Upper Yangtze Watershed have been blamed for downstream problems (though scientists differ on the actual causes) victimizing places such as Shanghai.⁴⁴

Proponents of the three Gorges Dam, for instance, see upstream environmental degradation as a threat to the dam (and hence the hoped for downstream benefits of navigability, electricity, flood control, etc.). One result has been logging bans and the resettlement of upland farmers that has been interpreted by some as “a continuation and amplification of control over the inhabitants of these [minority] regions.”⁴⁵

Additionally, a number of analysts, such as Homer-Dixon and Baechler, contend that internal migration can be a source of internal or ethnic conflict.⁴⁶ In China, environmental degradation, combined with a loosening of China’s household registration system has helped unleash large-scale migration where, since the 1980s, 150 million agricultural workers have left farming and migrated to urban sectors. This trend will likely continue in China if the rural/urban disparity grows and China’s eliminates its household registration system.⁴⁷ By the mid 1990s, China already had 120 million internal migrants; at least six million of which are “environmental refugees.”⁴⁸ Some of whom have been directly affected by water issues like displacement by large dam projects or drought.

The overwhelming majority of migrants are moving to China’s east coast urban areas and Special Economic Zones. For instance, in addition to its 17 million residents, Shanghai has 3 million migrants living in shantytowns, overcrowded dorms, and public places, especially railroad stations.⁴⁹ These migrants have difficulty finding jobs and are not entitled

to any social services as illegal urban residents. A strong social system can often mitigate the stresses of migration. However, one of China's great vulnerabilities as it transitions away from a communism is the weakening of its social system. There is no unemployment insurance and China no longer provides universal employment, retirement, or healthcare.

Because they are outside the formal social network of the urban area they have migrated to, migrants often band together for mutual support forming "gangs" of migrants from the same hometowns. Consequently, if people's expectations of the government's ability to deal with these issues are not met, the chance of conflict rises.⁵⁰ Examples of this process are emerging in China such as in the case of the Three Gorges Dam where government's failure to live up to promises made to people forced to relocate. Wei Yi (pseudonym) a Chinese sociologist and resettlement specialist said,

"This is not a government that truly serves the people. Officials serve their superiors and themselves. They don't feel responsible for those below them, so they don't solve problems, only suppress them."⁵¹

In summary, as water problems worsen and certain segments of the Chinese population lack adequate access to clean water, group identity is strengthening, parochialism is increasing, and migration is growing. Demographically and socio-economically water access issues seem to be breaking down along lines of rural vs. urban, rich vs. poor, and minority vs. majority, as well as, locale vs. locale competition. This combined with other social pressures pits one social group against another, setting the stage for conflict and instability.

Indeed, water problems in China have already contributed to conflict and social unrest. Environmental disputes in rural areas (many over water) from the 1970s to the 1990s numbered 278, of those 47 led to protests, petitions, sabotage, or riots.⁵² Some more recent examples are:

- Kunming, Yunnan, 2001 - hundreds of farmers protest against Dadong Industries for poisoning crops.⁵³
- Shandong Province, 2000 - one policeman died and 100 people were injured in during a two-day clash in which farmers were defending their illegal water diversions.⁵⁴
- Puning, Guangdong residents reportedly use explosives to protect water needed by areas rice producing industry.⁵⁵

- Inner Mongolia, approximately 1100 police injured between 1993 and 1998 by facai grass harvesting gangs (Hui minorities fleeing desertification in Ningxia) plus 100 large-scale confrontations between Hui migrants and local Mongolians.⁵⁶

Furthermore, water shortages and pollution are negatively impacting industrial and agricultural production. Pollution is also increasing the nation's health burden and detracting from labour productivity. In fact, China's environmental degradation has become so significant that it is seriously affecting the economy as a whole. This places additional stresses on domestic stability and national power while compounding the aforementioned impacts of water-related problems. Annually, China's economic losses due to environmental degradation equal 382.61 billion yuan, representing 18.9 percent of China's total national income.⁵⁷ Regarding water in particular, the Chinese Academy of Sciences estimated economic losses from water shortages in urban areas in northern China to be as high as U.S. \$24 billion in 1997, which equals 3 per cent of China's GDP.⁵⁸

Meanwhile, between 1999 and 2000 water pollution cost a loss in seafood fish output of approximately \$370 million.⁵⁹

Examples of water pollution read like a litany of horrors: villagers in Shangdong suffering from cracking bones; near the Baiyangdian marshes, liver and oesophageal cancers at rate three times higher than surrounding areas; mercury build up in rice, kidney problems from cadmium contaminated rice and shellfish; 17 per cent of pregnancies in Zhenzhe Township resulting in abnormal outcomes, etc.⁶⁰ In addition to the human suffering and social and economic costs of such public health impacts, they are also among the prime causes of environmental protests and related violence in China.⁶¹ According to one estimate, the combination of higher incidence of disease, decreasing in farm yields, impacts on industry, livestock and fisheries production related to pollution accounted for an estimated loss in 1992 of 36.1 billion yuan.⁶²

What is China Doing Now?

China's water problems have the attention of the government, which has begun adopting measures to balance water supply and demand.⁶³ Government investment in environmental protection has increased to 1.3 per cent of GDP from virtually nothing in 1970.⁶⁴

China has dedicated funds, undertaken major infrastructure projects to redistribute water, and has laws and penalties in place to protect its fresh water supply. Despite this effort, the outcomes produced generally have had little concrete effect⁶⁵ as illustrated by the worsening environmental. China's governing system is the core of China's ineffectiveness in dealing with this issue. Devolution of authority, sources of funding, local parochialism, and local authorities' conflict of interest all mire the progress of environmental reform.

The Chinese government continues to invest in gargantuan infrastructure projects to mitigate water distribution problems. The Three Gorges Dam Project, the largest in the world, is under construction to help control flooding in the Lower Yangtse River, provide hydroelectric power, and open the interior to cargo shipping.⁶⁶ The Three Gorges Dam is proceeding on time, but it is over budget and plagued with allegations of corruption. Plus there are still disturbing questions about the quality of construction and continuing problems with the resettlement of 1,200,000 people.

Another large project, the Water Diversion Project (estimated cost of US\$ 602 million) will be the largest of its kind in Chinese history. The plan is to divert water from the Yangtse River in the south to the Yellow River in the north through three very long tunnels. Wang Shucheng, the Minister of Water Resources touts it "will rectify the uneven distribution of water resources in the country – a chronic bottleneck for the sustainable development of the economy."⁶⁷ These claims are the subject of dispute and controversy both on environmental and economic grounds.

A feasibility study by the Chinese Academy of Engineering claims investment and management problems, citing the coefficient of return on fixed assets investment has been on the decline.⁶⁸ Officials and researchers from Henan and Hebei fear their provinces will suffer from the project. They have cited studies suggesting the diversion will reduce the annual flow of the Han River by one-third as well as worsen water quality in its lower reaches. On the other hand, many from these provinces are angered that another project (the Shaanxi) has faltered "because of the need to protect the Han headwaters".⁶⁹

Meanwhile China's existing water infrastructure is deteriorating. There are not enough funds available for improvement and the existing pricing

schedule does not encourage water conservation. Matters are further complicated because China does not have a well-developed taxation system. Instead, local governments extract extra-budgetary fees and taxes from local residents. But fees collected for services such as water and sewage are grossly inadequate. China's current (10th) Five Year Plan (FYP) (2001-2005) carries an estimated budget of \$85 billion, approximately 1.3 per cent of GDP to cover projects such as construction of urban sewage treatment facilities, control of industrial liquid waste, control of air pollution, and construction of solid and hazardous waste disposal facilities. Of the \$85 billion targeted for environmental objectives in the new FYP, the central government is expected to provide only 11 per cent of this investment, local and provincial governments 35 per cent, foreign governments and institutions 5 per cent, and the rest (almost 50 per cent) from private enterprises in China.⁷⁰ This funding scheme is burdensome on local governments, especially in poor areas that lack funds to implement the policies and regulations.⁷¹

Environmental compliance and implementation are also hampered by poor enforcement due to lack of information, resources, and authority. Compared to other developing countries, China actually has a robust set of laws and regulations in place to protect its water supply, but has no national requirement for them to be centrally published or compiled. Lack of information leads local governments to misinterpret the laws and regulations, while control of the media and public speech, has prevented public comment on the implementation of environmental laws.⁷²

Information and funding limits are compounded by an under-trained, not-yet-independent judiciary as well as a State Environmental Protection Agency (SEPA) which lacks enforcement capacity. Manpower is very limited; a few years ago the agency's staff had only 200 people, compared with the 17,000 people in the U.S. EPA.⁷³ In the first nine months of 2002, some 16,000 enterprises across the country were punished for severely polluting the environment, mostly in central and western China. Although many were ordered shutdown they resumed production once inspectors left. Local government environmental protection and law enforcement authorities also have limited enforcement ability or will. As Tian Weiyong, a division chief at the State Environmental Protection Administration has admitted, "Some local governments refused to cooperate in punishing those factories, which made our work very difficult."⁷⁴

Another underlying difficulty China has with enforcement is that it lacks clear inter-agency lines of communication. Each local administrator communicates with the next highest level but there is a significant lack of communication between local agencies and sometimes competition for resources. For example according to Beach, "Within a county government it is not uncommon for the water bureau to be unaware of the water quality work being done by the county EPB."⁷⁵

Furthermore, lines of authority are complicated. Government agencies of the same rank cannot issue binding orders to each other. Thus a national ministry cannot issue a binding order to a provincial governor. Authority is channelled by function (horizontal) and rank (vertical). As a result, one head often has two masters. For example, the Hunan Provincial EPA serves both the Hunan Provincial Government (horizontal) and the National EPA (vertical). Clearly there is potential for conflict between the vertical and horizontal lines of authority. This is particularly true amongst resource management and environmental protection agencies.⁷⁶

Wu Jisong, Director of Water Resources Department under the Ministry of Resources, acknowledged this saying, "none of the agencies are capable of making an overall regional plan and take all water-related factors into consideration due to lack of authorities and effective cooperation."⁷⁷ The problem is that water distribution is a wide-ranging problem that crosses city, county and provincial boundaries, especially in China's long river basins. This competition between local governments contributes to the problems of water distribution and is worsening the issue overall. Also, since the 1970s, provincial and local governments have become generally stronger, while national level functional groups, like ministries, have become somewhat less so. This is partly the result of economic reforms. As China has shifted from a command economy to a market economy, provinces have been given greater leeway to pursue economic development. The "national economic deal" is that "each level of government will grant the level just below it sufficient flexibility to enable the lower level to grow its economy rapidly enough to maintain social and political stability."⁷⁸ This has produced enormous incentives for key local officials to become entrepreneurial. Decentralization of power combined with entrepreneurial incentives has helped produce rapid economic growth, but offers fewer rewards for local governments to invest in environmental protection.

The Pollution Levy System (PLS) is an example that provides insight

into decision-making and implementation of environmental policy at the local level. Since beginning of reforms in 1978 local production units and industries, not state agencies, have been responsible for controlling emissions. The same officials that oversee emissions control also promote economic and industrial development. Under PLS, industries pay fines for emissions to the local Environmental Protection Bureaus (EPBs). Most of the funds are supposed to be recycled back to the industry as capital for installing pollution control equipment and some funds are retained by the local EPBs. Consequently, local ESBs have a financial incentive to allow local industry to keep polluting because continued pollution ensures continuing revenue.⁷⁹

Another result of devolution has been an increase in parochialism; various localities tend to become inward looking and regard each other as competitors.⁸⁰ This presents a challenge because environmental problems do not respect political boundaries. This divisiveness impedes cooperation in resolving resource distribution issues and exacerbates environmental issues, especially in cases where environmental policies does not support local economic growth. This can pit one locale against another in a zero sum game. Lack of horizontal linkages (between locales) for conflict resolution or cooperation also engenders conflict between local governments. Indeed, there is already some evidence in China of purposeful activity to benefit one locality at the cost of a neighbour's. According to a *Xinhua News* article, ". . . river management, under which the functions of the rivers are not clearly defined, [are] leading to competition among different regions or different sectors over water use."⁸¹

What of the Future?

Does the Chinese government have the capacity to prevent these pressures from turning into wider instability and conflict? Elizabeth Economy writes that there is a circular relationship between political and economic reforms that are shaping China's environment and the environmental problems. These problems are undercutting economic productivity and public health, spawning migrants, and engendering social unrest and political discontent, while at the same time adding energy to environmental protection efforts. This has the effect of making "assessing China's environmental future and its broader implications . . . no easy task."⁸²

Analysts have suggested a number of scenarios that could occur from dramatic greening to muddling through to environmental collapse and chaos. It is also unclear to what degree water related conflicts and unrest pose a challenge to China's overall stability. Miller, like Economy, argues that given the dynamism of contemporary China it is difficult to determine whether many specific trends are ultimately stabilising or destabilising but also that change should be expected and government will not be passive in response.⁸³

Presently, given the structure of China's governing system and its economy, the outlook does not appear encouraging. Environmental degradation may, in fact, worsen because of increasing competition among locales, such as provincial competition in shared river basins. Overall water supply, distribution, and quality problems will likely increase pressure on a government already stressed by wide-ranging social, economic, and political demands. This could help lead to civil strife or conflict, especially in rural areas experiencing water scarcity and urban areas receiving large influxes of migrants.

However, Lieberthal concludes that China's central government can generally obtain high levels of reasonably disciplined compliance when three conditions are met: all top leaders agree on an issue, all top leaders are willing to give the issue priority, and the degree of compliance of lower levels is measurable. For now, economic development is clearly the priority while most environmental policy, including water distribution, is too complex, long term, and deeply entangled with competing economic interests to be applied effectively.

When water distribution begins to seriously harm the economy, or threaten domestic stability, the government's priority will likely shift from an economy-first focus to stability-first. If conflict and unrest reaches a scale that they threaten China's stability, the situation would meet the requirements laid out by Lieberthal for pushing environmental compliance and the national government is likely to crackdown as and when necessary to restore order and could enforce resource management policy much more strictly.⁸⁴ (There is a risk these policies could produce conflict if they are targeted at already restive subgroups. Such is the case in the forced enclosure of traditional grazing lands which in some cases may have increased environmental degradation plus spawn clashes between Han and Mongolians⁸⁵). Thus, like Miller, Lieberthal's conclusions seem to

suggest that ultimately we should expect change as well as government action - though beyond that most analysts are uncertain. For now, however, it appears China's water problems will get worse before conditions change to the point that would allow them to get better. In the meantime we may see a related increase in local conflicts.

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