

The
River Dragon
Has Come!

The Three Gorges Project

A Symbol of Uncontrolled Development in the Late Twentieth Century

Dai Qing

"Water benefits all things generously and without strife. It dwells in the lowly places that men disdain. Thus it comes near to the Dao."

—Laozi

The opening of my country to the outside world has been the most important development in twentieth century China. The two major consequences of this "opening" have been the birth, development, and dominance of the communist/socialist system, and the influx of modern science and technology. We Chinese are repeatedly told that both the communist system and the ascendancy of science and technology fit China's historical conditions of economic underdevelopment, foreign domination, and political autocracy. But rather than "fit" our national conditions, these systems have dominated and distorted our lives. As the old Chinese adage says: "Things will develop in the opposite direction when they become extreme" (*wuji bifen*). This is the case with our current socialist regime and its blind faith that engineers and technical fixes can solve all problems. The result of all this is uncontrolled development, and there is no better symbol of uncontrolled development than the Three Gorges dam.

"Uncontrolled" (*bujia jiezhi*) and "out of control" (*shiqu kongzhi*) are similar terms which actually have different implications: The first—uncontrolled—is subjective and describes someone who consciously fails to control his/her behavior. The second—out of control—is more objective and describes how someone's behavior can cause things to spin out of control.

The Three Gorges project has been meticulously planned and controlled from its original design to its final construction. But the people who have been doing this planning have failed to understand key Chinese concepts such as self-restraint and the control of brazen arrogance. In Chinese antiquity, a sense of self-restraint was paramount; as the ancient Daoist philosopher Laozi said: "To know one's limits is to be invincible" (*zhizhi keyi budai*). But a couple of centuries after the advent of the industrial revolution, this ancient wisdom lost its appeal and has only been recalled in the last fifty years. This conscious failure by China's leaders to "control" their behavior; that is, to respect and follow ancient wisdom, is what makes the Three Gorges dam a symbol of uncontrolled development. The sad irony is that although every aspect of the Three Gorges dam's construction has been thoroughly planned by scientists, engineers, and officials, if it is completed and goes into operation, we will quickly learn that we are unable to control its effects on the environment, and on society.

The Three Gorges dam will be the largest dam ever built. Its wall of concrete, reaching 185 meters into the air and stretching almost two kilometers across, will create a 600-kilometer-long reservoir.

The dam will require technology of unprecedented sophistication and complexity: It will include twenty-six, 680 MW turbines; twin five-stage lock systems, and the world's highest vertical shiplift.

The project will also cause some of the most egregious environmental and social effects ever: It will flood 30,000 hectares of prime agricultural land in a country where land is the most valuable resource; it will cause the forcible resettlement of upward of 1.9 million people; it will forever destroy countless cultural antiquities and historical sites; and it will further threaten many endangered species, some already facing extinction.*

But perhaps the most astounding fact of all is that although the project has attracted the interest of the world's businesses and the ire of its environmentalists, it has faced very little opposition at home. The National People's Congress (NPC) approved the project in April 1992, but since then very little has been said or written in opposition to the

* Some of the most seriously endangered include the white-fin dolphin (whose population now numbers less than one hundred and is on the verge of extinction), Chinese sturgeon, Yangtze sturgeon, yanzhi fish, white dolphin, and river sturgeon.



"Wind box gorge." One of several smaller gorges inside Wu (witches) Gorge. At the center is the entrance to the "cavern of the enchantress."
(Photo by Audrey Topping)

Table 1.1

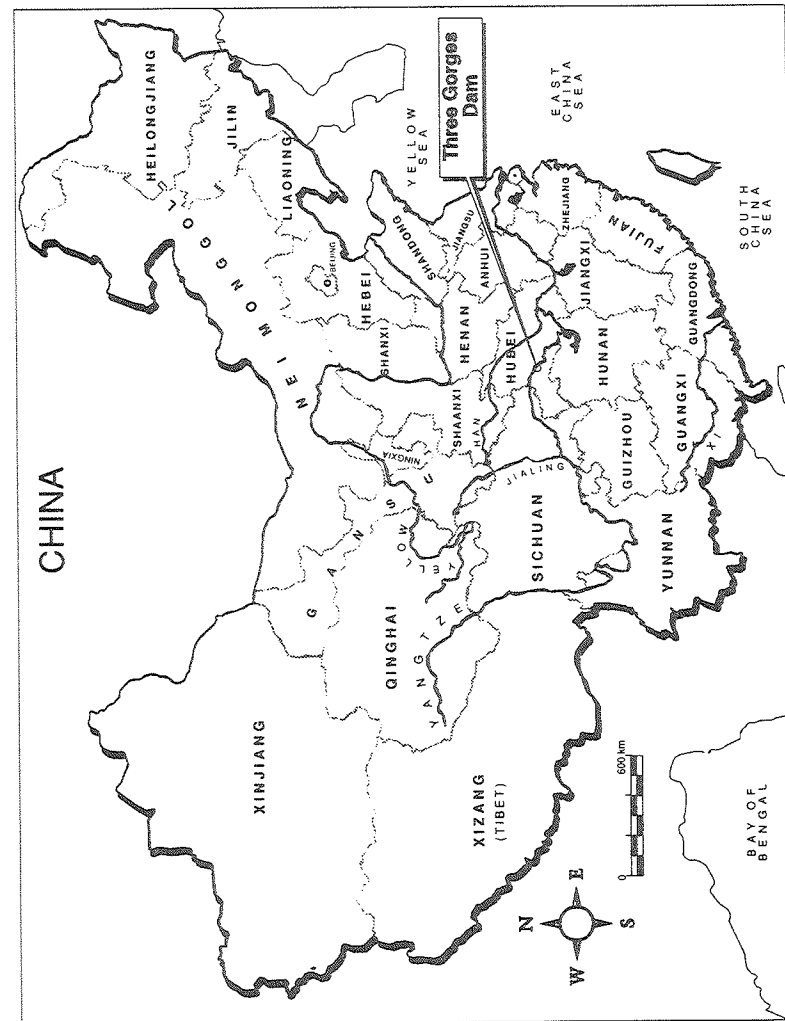
Three Gorges Dam Specifications

Dam crest	185 m
Dam length	2,000 m
Reservoir Functions	
Normal pool level	175 m
Flood control level	145 m
Total storage capacity	39.3 billion m ³
Flood control storage	22.1 billion m ³
Navigation	Reservoir level raised by 10–100 m to allow 10,000-ton ships to Chongqing
Power Generation	
Installed capacity	17,680 MW
Unit capacity	26 units, 680 MW/unit
Inundation	
Land	632 km-long, 19 cities, 326 towns
Arable land	430,000 mu [30,000 hectares]
Population	1,130,000 people

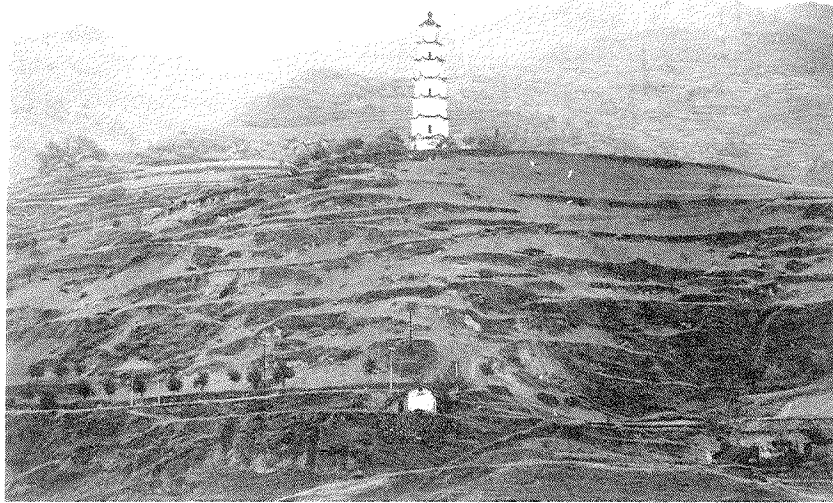
Note: Figures for land inundated and people moved are government estimates and are questioned by dam opponents.



Dam construction site near Sandouping (circa 1996). (Photo by Richard Hayman)



Map of China.



Pagoda near Wanxian; waters will flood to base of the structure. (Photo by Audrey Topping)

dam that will disrupt the lives of so many and damage such great swaths of our territory.*

Everyone knows that China is facing an energy shortage,** that our transportation systems are congested, and that we suffer frequent floods. The country has only recently emerged from the chaos of the Cultural Revolution (1966–76) and, with the pursuit since 1978 of a new, more open economic policy, increased foreign trade, and dramatic reforms in agriculture and commerce we have finally begun to experience some re-

* NPC approval of the dam came in April 1992, by a vote of 1,767 in favor, 177 opposed, and 644 abstentions, an unusual display of public opposition in the generally rubber-stamp body. The vote was in favor of a resolution to authorize construction of the dam and was conditioned on a promise from the Three Gorges Project Development Corporation to resubmit more precise construction schedules for future approval. See, Dai Qing, *Yangtze! Yangtze!*.

**In 1994, China generated 926 billion kilowatt-hours of electricity, 19 percent of which came from hydropower. Demand for electricity, which has been substantially underpriced in China's centrally planned economy, is expected to grow at an annual rate of at least 6 percent through the year 2000. See, *China Statistical Yearbook, 1996*, pp. 203–207.

markable economic gains. Why then, just when the country seemed to have a bit of money to spare, was this mammoth project proposed; especially when there were smaller and more viable options to meet our energy, transportation, and flood control needs?

The best alternatives involve building smaller dams on the Yangtze River's tributaries. But alternatives were never seriously considered by the top leadership. Why? Because China is in the midst of a phase of "uncontrolled" development where a sense of moderation and restraint are completely absent. This lack of control is evident at every level of planning for the Three Gorges project: From the "red specialists' " faith in technology, to the closed decision making of autocratic leaders, and the complete disregard for the environmental effects of the project on the river valley and its residents.

The Power of the Red Specialists

In China the so-called red specialists (*hongse zhuanjia*) consider themselves infallible even though the history of the People's Republic is littered with grandiose technological and economic projects gone wrong, often at enormous costs to the treasury and to human life.* With regard to the Three Gorges dam, this sense of infallibility manifests itself in a number of ways. For instance, the red specialists arrogantly claim that they have the technical ability and capacity to build the world's largest dam, turbines, and shiplift. But what they fail to consider is that the use of this technology does not make hydrological and environmental sense. Meeting the difficult technical challenges posed by the project should never take the place of sound scientific decision making. Decisions based only on what is technically possible may eventually succeed in building the dam and turbines, but they are unlikely to solve the pressing hydrological, environmental, and human problems which the dam will undoubtedly cause. This point was raised as early as the 1930s by Professor Huang Wanli. But unfortunately, the opinions of such venerable sages have had virtually no impact on policy that is driven by visions of technological grandiosity.

*Grandiose engineering and energy projects have also been criticized in the former Soviet Union. See, Grigori Medvedev, *No Breathing Room: The Aftermath of Chernobyl*, trans. Evelyn Rossiter (New York: Basic Books, 1993).

Even if the Three Gorges project is completed at the appointed hour, the long-term upheaval and damage caused by the resettlement of upward of 1.9 million people and the destruction of treasured cultural relics will be difficult, if not impossible, to reverse. The havoc created by the vast resettlement scheme will not only carry an immense price tag, but will also forever damage the spiritual and psychological health of the relocatees. The dam is not just about the loss of beautiful tourist landscapes, but about the damage the nation will do to itself through the patent disregard and ignorance of its spiritual wealth.

The "red specialists" have never managed to grasp the concepts of fundamental order and balance in the relationship between humankind and nature. At every turn—from its preference for a planned economy with a focus on iron and steel production, to its promotion of grain production, population growth, and large-scale dam construction*—the Chinese leadership has made decisions which run counter to the Chinese philosophical concepts of maintaining order and balance between humankind and nature. Not surprisingly, each of these decisions has caused immense damage to the country's environment and natural resources. For political reasons, however, those scholars and intellectuals who are in touch with this philosophical tradition have had very little opportunity to speak up. With the promotion of a new market economy since 1978, profit once again comes first in the minds of China's leaders, and all they think about is plundering nature rather than respecting and conserving it and maintaining the balance.

Adding to the problem is the fact that so many of these specialists make decisions based on blind self-interest, or on the narrow interests of their bureaucratic bailiwicks. A case involving the Leading Group for the Assessment of the Three Gorges Project is illustrative.** The youngest of the

*A reference to policies in the 1950s promoted by Mao Zedong over the objections of some scientists, agronomists, and hydrologists that led to converting almost all available land to grain production in order for each region to achieve agricultural self-reliance, that opposed population control on the grounds that more people meant more power for the "new China," and that led to a massive dam-building campaign during the Great Leap Forward (1958–60).

**Leading groups in China consist of a few to more than a dozen pertinent officials from various Party and government organs established to address a particular problem. The Leading Group for the Assessment of the Three Gorges Project was established in 1985 under the Ministry of Water Resources and Electric Power and led by Li Peng.

412 experts to advise the leading group was an unabashed supporter of the dam who longed to help with its construction. This young man was the only engineer out of the 412 researchers to be given the rank of specialist and was obviously promoted because of his unquestioning support for the project. By contrast, Huang Wanli, a hydrology and water resources expert and professor at Qinghua University, and Huang Shunxing, an agricultural and environmental protection expert, were barred from participating in the assessment of the project.

And then there's the case of Guo Laixi, one of nine experts who refused to sign their names to the assessment report. In a speech to one of the many meetings convened to assess the project, Guo noted that "China now confronts a very serious situation: There is a severe shortage of natural resources; our supplies of raw materials are seriously low; arable land is decreasing day-by-day; the population is growing rapidly; our agricultural base is extremely poor; the quality of the environment is deteriorating seriously;* inflation is widespread; financial deficits are growing; demand is outstripping supply; and the economic reforms are confronting many difficulties. Any proposal for an early and speedy launch of the project under these conditions is," Guo continued, "not a simple error or an example of negligence, but a calculated preference on the part of the leadership. For if the Three Gorges project is not launched immediately, the authorities will have to find jobs for the tens of thousands of workers who will soon be out of work when the Gezhouba dam is completed.** In other words, the decision to launch the project is really about meeting the personal interests of workers and their families in the

The leading group oversaw and coordinated the fourteen studies that comprised the assessment report for the Three Gorges dam, which preceded a full decision by the NPC. See, Kenneth Lieberthal, *Governing China: From Revolution Through Reform* (New York: W.W. Norton & Co., Inc., 1995), p. 193., and Dai Qing, *Yangtze! Yangtze!*, p. 18.

*China's environmental problems are analysed in Vaclav Smil, *China's Environmental Crisis: An Inquiry into the Limits of National Development* (Armonk, N.Y.: M.E. Sharpe, Inc., 1993), and He Bochuan, *China on the Edge: The Crisis of Ecology and Development*, ed. Xu Yinong (San Francisco: China Books and Periodicals, Inc., 1991).

**Located 40 kilometres downstream from the current site of the Three Gorges dam at Sandouping, the Gezhouba dam was supposed to take five years to build and cost ¥1.35 billion. Instead, the project took nineteen years to build and ultimately cost ¥5 billion (¥:\$ = 8:1).



Gezhouba dam. (Photo courtesy of Jim Williams)

various construction gangs and organizations that make up the dam-building industry in China.”

Reckless actions by specialists and bureaucrats who possess narrow scientific and technical skills can be very frightening indeed. Such people plan things in very meticulous ways to fit their own personal interests and work only to advance the goals of their respective bailiwicks. They could care less about the national interest and the fate of the nation.

Autocracy and Closed-Door Decision Making

Throughout its history, China has been ruled by an autocratic system. In the distant past, everything was done in the name of the emperor. After the 1912 Republican revolution, it was done in the name of the people's revolution. And since 1949, during the reigns of Mao Zedong and Deng Xiaoping, it has been done in the name of communism and socialism. Autocracy is still considered an acceptable form of government in some areas and under some circumstances either because there is no alternative system, or because it is believed to be appropriate at a certain stage of a nation's development. Nevertheless, autocratic governments are on the wane.

The Three Gorges project has both benefited from China's autocratic

history and helped strengthen it. Those promoting the dam, from the 1950s to today, have all been masters of political gamesmanship, constantly referring to “Chairman Mao's desire” (*Mao zhuxide xinyuan*) and “Deng Xiaoping's support and concern” (*Deng Xiaopingde zhichi he guanxin*) for the project. By invoking the support of the country's autocratic leaders, the dam was made virtually unassailable.*

When the project did run into resistance, the dam-supporters used nationalistic bluster to reinforce their position. Nationalism is an inherently parochial, irrational, and extremely destructive force that ultimately runs counter to the interests of human development. It should only be called on in extreme circumstances, such as in resisting foreign invasion, and not otherwise used to stir passions and excitement.

Although private companies and other ostensibly private organizations have been established to assist in the construction of the dam, the project has relied on government financing since its inception. Given that China is trying to move in the direction of a market economy, the decision to build a large project such as the Three Gorges dam solely on the basis of the leadership's will can only have a negative impact on the transition.

Government munificence has come in many forms: direct allocations by the state; the transfer of revenues from the Gezhouba dam; and increases in national electricity rates. The government has also “recommended” that some profitable large enterprises “assist their counterparts” through donations to the Three Gorges project. This sort of action strengthens and supports the central planning apparatus in the economy and works to stifle independent thought and competition.

Because local leaders are centrally appointed under China's autocratic system, they do not dare strive for a fair deal for their local constituencies. The people of Chongqing, Sichuan (who will receive few if any benefits from the dam and may suffer many of its negative effects), have con-

*In 1953, Mao first expressed interest in the Three Gorges dam and insisted on building a single large dam, instead of a series of smaller ones on the Yangtze's tributaries, something that had been proposed by the hydrologist Lin Yishan. Mao even suggested that he might resign as chairman of the Chinese Communist Party to assist in the project design which was eventually overseen by Zhou Enlai. *Mao Zedong zai Hubei* (Mao Zedong in Hubei Province) (Wuhan: Hubei People's Publishing House, 1993), pp. 95–100.

demned their leaders for selling out Sichuan's interests.* Even more significant is that, in 1989, amid strong opposition to the dam, the State Council decided to postpone consideration of the project. But in the political atmosphere following the Tiananmen Square massacre, all opposition to the project in the government was crushed, and "senior leading cadres" used their political weight in the traditional style of autocratic politics to ignore legal procedures and ensure that the project went forward.¹

Subsequently, when the Three Gorges project was awaiting approval from the NPC, the national press was mobilized to write only positive reports about it. Meanwhile, even before the NPC convened for its vote, the chair made it clear that its approval was not in question.² During the course of the session itself, the microphones on the floor of the NPC were turned off to prevent the dam-opponents among the delegates from voicing their views and generating collective opposition.**

China's autocratic leaders have used the most undemocratic procedures imaginable to push the project forward. I don't think for a moment that China's modernization can be achieved overnight, but the government and the people should break with the traditional autocratic system and make a conscious effort to gradually begin the transition to a more open system in order to bring about a fundamental transformation in China's political culture. Instead, supporters of the Three Gorges project continue their efforts to consolidate power and support the old system by whatever means necessary in order to ensure that the construction goes forward.

The Effects of Uncontrolled Development on the Environment

Even if construction of the Three Gorges dam is completed as planned in 2013, its ability to generate electricity depends on avoiding a massive

* In 1996, Chongqing Municipality was granted province-level status under the direct authority of the central government, thereby separating it from Sichuan Province, whose leaders have generally not supported the dam. Province-level conflicts and divergent interests over the dam are analysed in Kenneth Lieberthal and Michel Oksenberg, *Policy Making in China: Leaders, Structures, and Processes* (Princeton: Princeton University Press, 1988). See also, Epilogue.

**These events are described in Dai Qing, *Yangtze! Yangtze!*, pp. 107–117.

Table 1.2

Construction Phases

Phase	Year	Construction stage	Water level
Preparation 1993			
First 1994–97	1994	Excavation of base begins Project inaugurated	
	1995	Pouring of reinforced concrete begins	
	1997	River blocked and diverted	
Second 1998–2003	2003	Electricity generation begins	135m
Third 2004–2013	2007		156m
	2009	Electricity generating system completed	
	2013	Normal operation	175m

buildup of sediment behind the dam. Because of sedimentation, the Three Gate Gorge dam (*Sanmenxia*) on the Yellow River has induced floods in the river's upper reaches and led to the resettlement of over 400,000 people. It now produces less than one-third of the power that was promised, its turbines are damaged by sediment, and it will not be able to fulfill its flood-control function until another massive dam, the Xiaolangdi, is built downriver.*

The Three Gorges dam will face similar sediment-related problems. Even if the dam does generate the promised electricity, most of it will go to serve southern and eastern China. Sichuan Province will be unable to develop its own regional electrical supply because all of the money available for electricity generation is tied up in the Three Gorges project. The province will reap few benefits from the dam, but will bear many of its costs, especially the loss of land and the burden of resettlement.

The primary purpose of the Three Gorges dam is flood control, and it

* After the Three Gorges dam, the Xiaolangdi dam is the second largest such project in China. Slated for completion in 2002, it will cost U.S.\$3 billion and will involve the relocation of over 400,000 farmers.

has been designed to contain a once-in-one-thousand-year flood. But no single dam could ever contain such a flood on the Yangtze River. Unable to contain massive floods, the Three Gorges dam provides, conversely, an excessive and unnecessary level of protection from the smaller floods which frequent the Yangtze. Even at its peak, the 1981 flood in Sichuan Province never reached the cities of Yichang or Wuhan.*

From the beginning of the dam project, Huang Wanli has consistently warned the leadership against creating a situation similar to the "Railroad Protection Movement in Sichuan" which, he noted, "led to the 1912 Republican revolution."** That revolution, we now know, turned out to be enormously destructive. People in China and throughout the world sincerely hope that the country's transformation and modernization can be carried out smoothly, but the Three Gorges project runs counter to this hope because, in its name, the government has suppressed free speech and strengthened its power at the expense of the provinces and the people. The project is encouraging corrupt economic practices in enterprises and in the government and will lead to an enormous waste of resources, all the while destroying the environment and violating the rights of the people.

We are fortunate that we live in an open world, for the effects of the Three Gorges project transcend national boundaries. If the project is to be supported financially by multinational organizations, then it cannot avoid the scrutiny of the outside world.

The human race has readily demonstrated its capacity to destroy the environment, and we do not yet know how to control our desires and greed. So what should we do when such an uncontrolled project is being carried out under the watchful eye of the Chinese public? I know that other countries subject their hydropower projects to public scrutiny with success. But how can the Chinese people struggle for the same assurances in the case of the disastrous Three Gorges dam?

*Evidence also exists that Chinese government officials have grossly exaggerated the severity of recent floods to justify construction of the Three Gorges dam. See, Simon Winchester, *The River at the Center of the World: A Journey Up the Yangtze, and Back in Chinese Time* (New York: Henry Holt and Company, 1996), pp. 220–230.

**The Railroad Protection Movement was an immediate cause of the 1911 revolution that overthrew the Qing (Manchu) dynasty (1644–1911). The movement was centered in Sichuan where local merchants resisted the central government's railroad nationalization plan because it entailed foreign loans, fostered official corruption, and led to the imposition of commercial taxes to finance the entire scheme.

Notes

1. This information was contained in a summary of the Lunar New Year Forum published in *Xinhua Monthly*, which covers domestic developments. [Note: Many sources provided in the original text are incomplete, eds.]
2. According to a participant at the meeting who wishes to remain anonymous.