

The Three Gorges Project: A Question of Sustainable Development?

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Abstract

This case focuses on issues concerning the damming of the Yangtze River in China. Like other developing countries, China faces the dilemma of trying to sustain its economic growth while maintaining its culture and environment. The economic growth rate in China has been phenomenal since reforms began with the implementation of the Open Door policy in 1978. While the growth has been extremely beneficial to the general economic development of the country, the Three Gorges Project (TGP) illustrates the problems China faces in trying to maintain modernization and bring modernity to areas that are beginning to develop. Through the project, the government's primary goal (among others) is to generate much needed electricity in the country through hydropower while preventing future floods. However, the TGP has encountered opposition both locally and abroad because of the subsequent dislocation of over one million Chinese residents and because of possible environmental repercussions. There has been additional opposition to the project because of its high costs. At current estimates, the project has a price tag of at least \$11 billion so outside funding is needed to complete the project.¹ Two possible sources for funding are the World Bank and the United States Export/Import Bank. Since the project involves a substantial amount of money, these banks have decided to hold a forum to solicit opinion about the project. This case is presented in the context of allowing both supporters and opponents to present their positions to the banks' representatives so they can consider alternatives other than only funding the project or not funding the project at all. By using this approach, the debate is not bipolar and the banks can consider whether or not this project is within the boundaries of the banks' policies. Issues the banks' representatives should consider are: "environmental threats, economic concerns, unproven engineering concepts and human-rights issues."²

Introduction

The Yangtze River has always been of great significance to China as it invokes pride and feelings of China's greatness. It is of geographical significance as it "is 3,940 miles long, the longest in the world after the Nile and the Amazon. The heart of China, it divides the country into north and south."³ Not only is the river of geographical significance but it has also been a source of inspiration for poets and tourists alike. "For millennia, the river has played a mystical role in the spiritual life of the nation and served as a potent symbol for Chinese civilization."⁴

Once again, the River is being utilized to reinforce feelings of China's superiority (especially the building of the dam comes at a time when China is beginning to reestablish itself as a growing economic power). The proposed dam will once again show the world what China is capable of. "If

¹ Stephen Magagnini, "Taming the Dragon," *The Amicus Journal* 15:2 (Summer 1993): 9-13.

² Jeremy Schmidt, "China's Coming Flood," *International Wildlife* 26:5 (Sept-Oct 1996): 34-44.

³ Arthur Fisher, "World's Largest Dam" *Popular Science* 249:2 (August 1996): 68-72.

⁴ Fisher, 68-72.

the dam is to be built, it “will be the world’s largest...It will stretch some 6,860 feet – approximately five times the span of the Hoover Dam...and it will loom 610 feet high. When completed, the dam will impound so much water that it will create a riverlike reservoir (called the Three Gorges Lake) 375 miles long and 575 feet deep...”⁵

Problems associated with the creation of the lake (and the dam itself) revolve around the submersion of towns, villages and farms, primarily in the Hubei Province which includes 22 counties and districts as well as the Chongqing Municipality and some of the Sichuan Province. While some development has occurred in this area, most of China’s economic development reforms have been concentrated on the coast and have been promoted through international influence in the form of foreign direct investments and joint ventures. Since Hubei and Sichuan Provinces are located in central China which is further away from the coast, most of this region’s economic efforts have been centered on farming and utilizing land. The area which will be inundated by the dam (the Three Gorges Valley) includes some of the most fertile land in China. The lower reaches of the Yangtze River are “known as ‘the land of fish and rice’...and yields 70 percent of its rice.”⁶ In a country of over one billion people, making sure people in the country are fed is of the utmost importance. However, the building of the dam would not only rid people of their farmland and familiar occupations they are familiar with, but it would also force the resettlement of over one million people.

The land that is occupied by these people is also the site of many cultural landmarks and relics in China. Archaeologists are worried about the submersion of ancient sites and artifacts. For example, temples and other relics including “stone engravings of poems, couplets, and calligraphy of poets of various dynasties, and tools, weapons, and bronze mirrors from the Bronze Age through the area of the First Emperor between 221 and 207 BC” will be submerged or moved.⁷ In response, the government has offered to move these objects to fifteen new museums they will create. However, there is no guarantee the museums will be created and the effect of seeing these objects in museums will probably not be the same as before.

Additionally, many of these cultural landmarks are the reason for the strong tourist industry. Of course, the River is the most importance reason for the thriving tourism industry. Tourists flock to the Gorges to see what has inspired poets for centuries. “Since ancient times, the Three Gorges – Qutang, Wu, and Xiling – have held special significance in Chinese art and literature. Poets wrote lyrical verse about misty crags soaring above the turbulent and dangerous river...Today, travelers on passenger ships still marvel at the scenery, by any measure one of the world’s most compelling landscapes.”⁸ One tourist remarked, “on both banks, steep mountains, grand and magnificent. It inspires people, this scenery.” Another said, “After we enjoy the Three Gorges scenery, we feel we love our motherland more warmly than before. Our country is so beautiful.” However, the dam will turn the river into a lake and some of the inspiring mountains will be under water. The government counters that more scenic spots will be created – 11 more lakes, 14 more islands, 37 more valleys. The dam itself will become a big attraction, the biggest in the world.”⁹

⁵ Fisher, 68-72.

⁶ Fisher, 68-72.

⁷ Jean Ash, “Damming the Yangtze,” *Forum for Applied Research and Public Policy* 13:3 (Fall 1998): 78-84.

⁸ Schmidt, 34-44.

⁹ Ash, 78-84.

Yet many environmental organizations from around the world (including the International Rivers Network, Friends of the Earth, Probe International of Canada, the Center for Marine Conservation, Defenders of Wildlife, the Worldwide Fund for Nature in Hong Kong, and the Asian Pacific Peoples' Network in Malaysia) assert that this attraction will create several environmental problems. These organizations have joined forces with several Chinese environmental groups to stop the dam because their concern over possible environmental repercussions. These problems include: pollution, sedimentation and siltation, erosion, and the risk to wildlife and extinction of species.¹⁰

The government counters that there will be both negative and positive effects to the dam, but the positive effects outweigh the negative effects as many of the problems can be solved. They believe that more consideration should be given to the creation of electricity through hydropower (following the tenets of sustainable development). This electricity will be used throughout the country. More importantly, the electricity will encourage foreign companies to begin investing in the region. This will allow development, in the form of foreign industry, to be implemented. Through this developmental industrialization (via foreign investment and joint ventures coupled with the electricity produced by the dam), government officials believe that the quality of life in the region will be improved. Furthermore, the government strongly supports the dam because of the number of lives that will be saved if the floodwaters of the Yangtze are kept under control.

However, the government's policy promises and focuses should also be viewed in the context of other dam projects China has been engaged in. To date, 10.2 million people have been resettled for the construction of dams and reservoirs in China, according to official figures. Of the country's completed dam projects, the largest in terms of population resettlement are Sanmenxia with 410,000 people displaced, Danjiangkou with 380,000 and Xin'anjiang with 280,00. In each of these cases, resettlement was plagued by economic or political problems, and the process of moving people from the areas to be flooded was rushed, often accompanied by intimidation and sometimes outright violence. The haste and forcible nature of resettlement can be traced, in part, to people's reluctance to leave their homes, but ultimately it was caused by poor planning, including insufficient compensation, shortages of farmland and the selection of unsuitable sites for resettlement. One consequence of the problems was the long-term disfranchisement of the resettlers, most of whom were rural residents suffering from dire poverty largely because they were not properly resettled. In their defense, the Chinese government is adamant that they have learned from the past and will not repeat past mistakes.¹¹ The government wants to be able to use the Three Gorges Dam to further development in all of China which could then possibly rival that of the NICs and improve China's position in the world.

The Local Setting

Within the context of the Yangtze River's significance, the representatives from the World Bank and the United States Export/Import Bank want to be able to understand the various perspectives offered by both supporters and opponents. By understanding the situation, they can determine funding of the project (whether it be full funding, funding with alternatives and conditions, or not funding the project). They also want to gather information about how the dam will affect all aspects

¹⁰ Magagnini, 9-13.

¹¹ Wu Ming, *Resettlement Problems of the Three Gorges Dam: A Field Report*, 11 March 1998, International Rivers Network, 18 November 1999 <<http://www.irm.org/programs/threeg/resettle.html>>.

(culturally, economically, etc) of China. Supporters of the TGP will present their position through Tang Zhangjin, the official in charge of the Three Gorges resettlement.¹² While the opponents have received support from international environmental organizations, Dai Qing¹³, a Chinese woman who has been adamantly opposed to the dam because of its many impacts, will present their position. Lastly, the local position will be presented by Li Ru, a farmer whose family has lived in the region for many generations.¹⁴

Government proponents – Tang Zhangjin

It is in the best interest of our nation to invest in this dam. Following the wisdom of our great leader, Mao Zedong, who initiated the idea for this project, we must go forward with the Three Gorges Project. China must show the world that it is still capable of completing such a monumental symbol of China's greatness. In the past, China has been able to prove to the world that it can build immense structures that emphasize China's greatness. One example is the Great Wall and we must continue this tradition. As President Jiang Zemin said, "The age-old dream of the Chinese people to develop and utilize the resources of the Three Gorges of the Yangtze River has come closer to becoming true. This proves vividly once again that socialism is superior in being capable of concentrating resources to do big jobs."¹⁵

Socialism with market characteristics also provides the possibility of bringing additional advantages to China including prosperity for the people. Economic prosperity and the benefits of modernization are the rights of all people in China. When the dam is built it will bring electricity to remote areas and provide power to areas as far as Shanghai. In fact, the dam (when completed in 2009) will provide 85 billion kilowatt hours of electricity, approximately 10 percent of the country's total capacity as of 1993, thereby eliminating the annual burning of 40 million to 50 million tons of coal in steam power plants and significantly reducing air pollution in the Yangtze River basin.¹⁶ As I understand and will try to explain the benefits, "We compare the Yangtze River to a dragon, with its head in Shanghai's Pudong economic development zone. The tail is the project site to Chongqing [a city of 14 million at the west end of the proposed dam's 350-mile reservoir]. The government will try to enliven the whole dragon by bringing to life the tail to speed up development and open the region to foreign investors."¹⁷ With the TGP, we can open up the area to improve the lives of many people, not only through investment but also through saving lives.

Too many people have died in the past for us to not regulate the river. In 1931, a flood inundated an area the size of New York state and left 14 million refugees in its wake. In 1954, floodwaters covered 6.9 million acres and killed 30,000 people. And in the summer of 1998, flooding triggered by heavy rains has resulted in nearly 14 million displaced people and a high death toll.¹⁸ Putting a stop to the flooding and deaths is extremely important and should be the impetus for building the

¹² Although Tang Zhangjin is a real person and his quotes presented later on in the Government Proponent's position are also real, the position he takes is more broadly based in the "official" government position.

¹³ Dai Qing, has authored and edited two books on the Three Gorges Project. Her first book, *Yangtze! Yangtze!* Landed her in jail for ten months after the Tiananmen Square protests. The book is now banned in China. Her most recent book, *The River Dragon Has Come!* is a compilation of positions that oppose the dam because of various reasons.

¹⁴ Li Ru is a fictitious character but his position is one that local residents take in trying to evaluate the advantages of development but realizing the effects it will have on their lives, in terms of loss of community, land, culture, tradition, etc.

dam. This has been the attitude of our country's leaders for decades. We must go forward with this project.

Another benefit of building the dam is improved navigation on the river. By raising the water level, treacherous shoals would be removed. Since the Yangtze carries nearly 80 percent of China's river-borne freight, the improved navigation would allow for goods to reach China's underdeveloped interior.¹⁹ Again, this would open up the area and literally bring in development. It would also improve the valley's economy which would result in the improved lives of people.

While we realize that there are many concerns being raised about the effects on the environment, we also recognize that there are both positive and negative effects associated with the completion of the TGP. According to a feasibility study conducted by Li Zherman, a former chief engineer with the Changjiang (Yangtze) Water Resources Commission, we can guarantee that "the dam will save 50 million tons of coal [a year] and reduce the amount of carbon dioxide released by 100 million tons. That can hardly be compared with such environmental problems such as a slight drop in temperature or one or two more foggy days a year."²⁰ Additionally, we must remember "that many adverse impacts can be solved through appropriate measures."²¹

Environmental Opponents – Dai Qing

There are many environmental issues that the Project either addresses inadequately or does not address at all. While the government asserts that the dam is an example of sustainable development, other effects would be detrimental to the environment. One of the most important concerns is that of pollution. At Chongqing and other sites along the river, we are worried that sewage and toxic waste effluents will be flushed into the river which will jeopardize the health of millions who live in the Yangtze basin. "Along with silt, 265 billion gallons (1 trillion liters) a year of raw sewage and industrial waste will accumulate in the reservoir [the Three Gorges Lake]. None of Chongqing's domestic sewage – and only a fraction of its industrial waste – is now being treated."²² Government officials have countered that the pollution is the responsibility of polluters but they have decided to implement regulations. Yet we know that China does not always enforce its regulation, especially if it is at the cost of alienating foreign companies and foreign investors. The government also claims that air pollution will be improved with less coal burning, yet we counter that combined with industrial pollution, the fog created with the new lake will perpetuate the smog problem. Yes, the foggy days will have an impact on people's lives and not a positive impact.

¹⁵ Jiang Zemin, *Speech Marking Yangtze-Damming for Three Gorges Project*, 8 November 1997, United Kingdom Chinese Embassy, 18 November 1999 <http://www.chinese-embassy.org.uk/Issue_events/Press.pl-gorges02.html>.

¹⁶ Lawrence R. Sullivan, "The Three Gorges Dam and the Issue of Sustainable Development in China," *The Global Environment: Institutions, Law, and Policy*, Ed. Norman J. Vig, et al. (Washington D.C.: Congressional Quarterly Inc., 1999) 302.

¹⁷ Magagnini, 9-13.

¹⁸ Ash, 78-84.

¹⁹ Ash, 78-84.

²⁰ Xiong Lei, "Going Against the Flow in China," *Science* 280:5360 (April 3, 1998): 24-27.

²¹ Lei, 24-27.

²² Ash, 78-84.

Increased smog is only one of the problems. Heavy sediment is a possibility because silt would hinder navigation as well as flood the harbor. “Without the scouring action of the free-flowing river, millions of tons of river silt and cobbles could wash down and be trapped against the dam, poisoning its workings. Sediment could accumulate gradually to turn the proposed deep-water harbor of Chongqing into a mud-strangled pond.”²³ Then this water would flow into rivers where fertile farmlands would be adversely affected. One example of this happening in the past was the Sanmenxia dam. The rate of siltation there was grossly underestimated and had to be redesigned within two years of completion. If this were to occur with the TGP, this would cost more money and pose more risks to the environment. Combined with pollution, this environment could threaten fish, reptiles and other wildlife that depend on the river for survival. Additionally, Chinese scientists are studying the endangered river dolphins (baiji) of the Yangtze as there are only 200 left and the dam would degrade and pollute the baiji’s habitat.²⁴

Of most serious concern is the threat of a catastrophic breach in the dam’s wall since the area where the dam is located has been noted for potential earthquakes. If an earthquake were to occur, a collapse would release waters worse than a usual flood. By lowering the height of the dam to a proposed 160 meters by flood control managers (which was a compromise between their original proposal of 150 meters and proposal of higher levels by power and navigation managers), there would be less of a risk. However, former Premier Li Peng ordered the level to be raised to 175 meters which is considered to be an unsafe height.²⁵

Some sort of compromise should be reached so that other alternatives are considered and not as much damage could be done. “The Sierra Club advocates China increase investments in energy efficiency, augmented by smaller dams and other more environmentally sustainable and economically sound projects.”²⁶ I advocate smaller upstream and tributary dams; these dams put together would be more efficient and use much less land and displace less people. “Five small dams upstream could give electricity, but they cannot give the biggest wattage in the world from a single dam – they cannot show how a socialist country can build the biggest dam in the world.”²⁷ We are not saying that development should not occur and the banks should fund the project or not fund it all. Instead, we advocate alternatives and funding with conditions.

Local village residents – Li Ru

We (as I speak to represent all the local citizens) speak today with the risk of being persecuted for expressing our opinions. Yet we still speak because we, as the people, who will be most affected by the TGP want answers about our future. We deserve to know what will happen to us. Up to this point, we do not know what kinds of changes the government has planned for us.

We have been farmers and lived our entire lives here. The benefits associated with modernization have not gone unnoticed. Who would not want electricity, running water and the other luxuries such as televisions and telephones? In the past, our requests for economic reform, opening and

²³ Fisher, 68-72.

²⁴ Fisher, 68-72.

²⁵ John Tuxill, “Past dam disaster casts a shadow over Three Gorges,” *World Watch* 9:4 (July-August 1996): 6.

²⁶ Sid Tan, *China’s Three Gorges Dam Project*, 18 November 1999, Sierra Club, 18 November 1999

<<http://www.sierraclub.ca/prairie/gorges.html>>

²⁷ No author, “Three Gorges Madness: An Interview with Dai Qing,” *Multinational Monitor* 18:12 (Dec 1997): 19-23.

modernization have been placated by promises of the completed dam bringing these changes. Yet, we do not know how much of our lifestyle we will have to sacrifice in order to improve our life. We do not want to lose our sense of community, our land, our culture and traditions, but we do want modernization. While we do want to live in Third World living conditions for the rest of our lives (nor do we want our descendants to live in such conditions), we will no longer be placated with empty promises.

The central government has guaranteed that we will receive monetary compensation (approximately US\$1,850 directly – compared to the low \$61 average per-capita yearly income in the region) for our resettlement expenses.²⁸ We have also been promised additional money for the allocation of building roads, buildings and other infrastructure such as water systems and power lines. However we have experienced enough local government corruption to know that this money may never be used and could end up in the pockets of, dare we say it – corrupt and incompetent officials.

Even if we managed to move, there are also additional concerns revolving around being able to support ourselves. How many jobs are going to be available as unemployment rises as the result of more state-run industries being decentralized? Will new jobs be created? Will we have to work in factories with sweatshop conditions?

We have these doubts because of experiences fellow Chinese citizens have projects such as “the Gezhouba dam [when] the government made the same promises to the people of [a better life, better housing, and better schooling], but the harsh reality of successive relocations, partial payment and the absence of housing, schooling, and job opportunities made the experience a disastrous one.”²⁹ While we want modernization, we are still weary of what that will entail.

Our feelings can be summarized by a statement made by a county-seat physician. His statement revolves around the effects the TGP will have on elderly people but these are mutual feelings felt on some level by every generation. He said, “These old people have lived on the riverbanks for so long. They have built their houses here, cultivated their vegetable gardens on the slopes, opened small shops near the docks, and they have their particular teahouses for talking with their old friends. It will cost them more to move everything than the government will provide in compensation. Above all, they want to be buried in the family graveyard with generations of ancestors. They are depressed by the economic loss they will suffer and disturbed by the inevitable breakup of the emotional ties they have had with this land.”³⁰ We are most concerned about the changes in our way of life that the proposed Three Gorges Project will bring and the uncertainty we face. We need alternatives.

²⁸ Nguyen Thi Dieu, “The State versus Indigenous Peoples: The Impact of Hydraulic Projects on Indigenous Peoples of Asia,” *Journal of World History* 7:1 (Spring 1996): 120.

²⁹ Dieu, 120.

³⁰ Wu Ming, *Resettlement Problems of the Three Gorges Dam: A Field Report*, 11 March 1998, International Rivers Network, 18 November 1999 <<http://www.irm.org/programs/threeg/resettle.html>>.

Representatives from the World Bank and the United States Export/Import Bank

There have been many concerns that have been expressed at this meeting. Since all the positions have been presented we need to begin a discussion on these concerns. Among these central issues, we must consider the following:

- 1) Do the economic benefits of modernity outweigh the elimination of traditional lifestyles and cultures? In other words, is economic development important?
- 2) With the understanding that economic development is essential, are there any alternatives that would bring the same results but not disrupt the lives of so many people? It is not only a matter of funding the project or not funding the project at all. What are alternatives advocated by the environmental opponents and local village residents?
- 3) In order to address environmental problems, what are some appropriate measures that the government briefly mentions? What are alternatives suggested by environmental opponents?
- 4) How can we guarantee that people will be adequately compensated and that relocation efforts are carried out properly? Should these guarantees be part of the banks' responsibility in funding the TGP?
- 5) Have the long term effects of the TGP been considered? What significance will they have in the banks' decision?
- 6) If the project was to be approved, what is the responsibility of the World Bank and the United States Export/Import Bank?

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