The background image shows a massive concrete dam under construction. Several large cranes are positioned along the top of the dam structure. In the distance, a range of mountains is visible under a clear sky. The water in the foreground is dark, reflecting the light from the sky.

# An Investigation of Resettlement Issues

related to the

## Three Gorges Dam Project, People's Republic of China

Emily LeVine, Carleton College Geology Dept.

Senior Integrative Exercise

March 9, 2005

Submitted in partial fulfillment of the requirements for a Bachelor of Arts degree from Carleton College, Northfield MN

# ABANDONED CITY

**I was struck** by many images on my four-month trip to China in the fall of 2002-- starfish deep fried and skewered on a stick, street markets stocked with bright trinkets, and traffic phenomena that no licensed American could comprehend. No image stuck with me, however, as strongly as the picture of a city on the banks of the Yangzi River, completely abandoned but still standing, waiting to be torn down and covered with water.

The construction of the Three Gorges Dam on the Yangzi River (Changjiang, or "Long River" in Mandarin) created a reservoir 640 km long and 2.4 km wide along the Three Gorges in the People's Republic of China. In order to accommodate the rising of water by 175 m along this stretch, the Chinese government must facilitate the displacement or submergence of countless cultural artifacts, the destruction and rebuilding of 3 cities, 140 towns, and 352 villages, and the relocation of at least 1.2 million Chinese people.<sup>1</sup> The project of moving these people and places is a larger engineering project than building the dam itself.

Seeing abandoned towns, cities and villages dotted along the river, I grew quite curious about the execution of these moves. To where are these people moving? How are they getting there? Will they still have jobs? Will they be compensated? Some research had partially answered these questions, mostly reporting this relocation from a theoretical standpoint with a neutral or scolding tone. No one, however, had actually asked the people who had been moved what *they* thought.

In December 2004, I returned to China and spent four weeks along the Changjiang, interviewing those people who had actually been uprooted from their land, their jobs, and their communities. I went to find out what they thought, what they felt, and how their lives changed in response to the Three Gorges Dam.



IF YOU HAVE NOT  
TRAVELLED UP THE  
MIGHTY YANGZTE,  
YOU HAVE NOT BEEN ANYWHERE

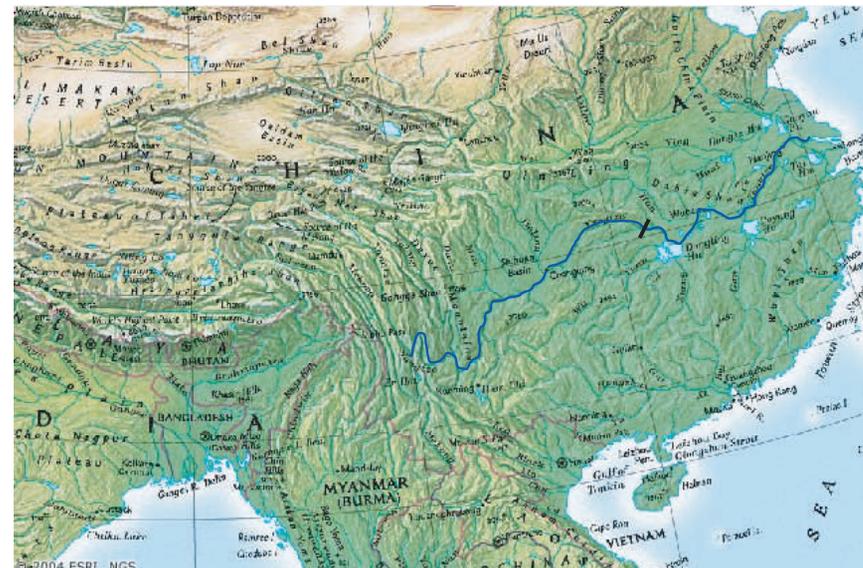
ANCIENT CHINESE PROVERB

**In November 2002**, I took a trip up the Changjiang traveling west for 1200 km on a commuter boat with four fellow students. The Changjiang is the third longest river in the world, measuring about 6,300 km in length, and draining a watershed of 1,722,155 km<sup>2</sup> that supports nearly 400 million people.<sup>2,3</sup> The river, often fierce and brown, carries an extremely large amount of sediment, dumping approximately 460 million tons into the sea annually.<sup>4</sup> Stretching from its origin on the Qing-Tibetan Plateau to its mouth where it spills into the Pacific Ocean at Shanghai, the Changjiang has been a source for irrigation, food, transportation, natural beauty, and spiritual guidance to the Chinese for thousands of years.

The "Mother River," as many Chinese songs refer to it, is both a wonderful blessing and a curse for the people it supports. Connecting Shanghai, China's economic center, to the inner provinces of central China, the Changjiang is a major source for and means to achieve the rapid growth of China's economy. Chugging through the water, gas-powered vessels carry everything from long-distance passengers to cargo such as coal or sand. At the harbors of big cities, large, cleaner boats bearing English names wait for tourists (mostly Chinese), who spend half-days exploring temples and markets in the riverside towns. The tourism industry contributes a large portion of money to many of these cities, especially those located within the beautiful Three Gorges section of the Changjiang.



A cargo ship on the Changjiang at sunset in 2002



Map of China (National Geographic Atlas). The Changjiang is lined in blue, the Three Gorges Dam Project is represented by the black line.

As communities built around the river system, many towns, villages, and cities, particularly in the eastern half of the Changjiang, have for centuries based their diets and parts of their economies around the river's resources: namely, fish. Many species of carp, plus shrimp and crabs are caught using pole fishing and netting methods, both by families for sustenance and by businesses and vendors for transportation and sale in local food markets and other locales.

Every gift, however, has its price. Serious flooding on the Changjiang occurs yearly, occasionally killing thousands of people in a matter of days. This has been a constant struggle in the lower stretches of the river. All large towns and cities are fortified by tens-of-meters-tall flood walls, but adequate warning and evacuation systems are still not in place in many locations, placing the lives of millions of Chinese at risk.

# THE THREE GORGES DAM:

## FACTS



The steep terrain of the Three Gorges

**My trip on the Changjiang** lasted four days; in the first two, we passed miles of flat farmland covered in rice, soy, and more. At the end of the second day, however, the surroundings began to morph into magnificent, steep limestone cliffs. Only a few minutes later, the engine suddenly stopped, and our large boat drifted to a standstill. We would remain in that place for almost 3 hours, staring up at the huge tangle of concrete in front of us, trying to comprehend the scale, the coordination, and the impact of such a massive thing.

This was the Three Gorges Dam.

The Three Gorges Dam Project is the largest hydroelectric project ever undertaken. Located at the entrance to the famous Three Gorges, the dam lies 40 km west of the city of Yichang in the formerly-small village of Sandouping, China. The idea for the dam was initially proposed by Sun Yatsen, one of the founders of the Republic of China, in 1919, and an intense feasibility investigation began after immense flooding on the river in the 1930s. The proposal was finally approved by the Chinese government, after an unusually large amount of debate, in April 1992. Construction on the dam is set in three stages, the second of which was completed in 2003, the last of which is projected to be completed in 2009.



The Three Gorges Dam from the village of Sandouping

The government of China is building the dam as a solution to energy problems and repeated deadly flooding in the Changjiang river valley, and for increased industrial navigation along the waterway. With 26 generators, the dam is expected have a 17,680 megawatt generating capacity. The dammed water from the project will rise a total of 175 meters (140 m of which were filled in 2003), forming a reservoir 640 km long and 2.4 km wide where the Three Gorges used to tower over the river. Five stages of locks, opened for use in 2003, must be navigated to pass through the dam, taking approximately 2.5 hours per ship.

The Chinese government estimates \$17-25 billion as costs for construction of the dam and related relocation efforts. This money has been and will continue to be collected from a large pool of resources, including electricity profits from the Gezhouba Dam in Yichang, the Chinese government, bank loans, and some foreign investment. Of course, any project this size has enormous economic, environmental, political, and social side effects, some positive, some negative, and some that simply cannot be quantified.

# THE THREE GORGES DAM:

## IMPACTS

### Oil companies in America are talking about China.

In 2004, the country's oil imports rose by one-third, and a booming industrial sector implies a continuation of this trend in the future. In 1995, 75% of China's electricity was generated by coal, one of the most polluting and dangerous-to-produce energy sources in existence.<sup>5</sup> Proponents of the Three Gorges Dam project hail the project as a move toward cleaner energy, and a move away from this politically and economically detrimental reliance on foreign oil.

In addition to massive energy production, the main reason cited for building the dam is flood control. Serious flooding of the Changjiang valley occurs many times a decade, sometimes killing thousands. In recent years, yearly flooding has become even more destructive due to increased runoff from industrialization in the area. Chinese officials claim that the dam could protect anywhere from ten to fifty million people and their surrounding farmlands from potentially deadly floods, which in the past have contributed to destruction of fertile lands and high death tolls.<sup>6</sup>

While most veil the Three Gorges as a natural place of unparalleled beauty, most ship captains see it as a navigational nightmare, full of sharp turns and narrow stretches. The creation of the reservoir has hastened travel for cargo ships, increasing economic opportunities along the river greatly. In particular, the deeper and wider path has opened up prospects for transportation of goods from Shanghai to Chongqing city, which is located at the far western end of the new reservoir. Increased tourism for dam viewing will also contribute greatly to economic development in the area.



The Three Gorges at sunset in 2002

There exist, of course, many opponents to the controversial project, with reasons ranging from environmental and geologic to financial and sociologic. Environmentalists worry about the destruction of natural habitat for many endangered species, including the rare Baiji river dolphin, as well as increased erosion and back-up of pollution behind the dam. Reservoir construction may also destroy many fish ponds on the river, greatly altering local fishing economies that have existed for centuries.

Geologists and engineers, including both Leopold<sup>7</sup> and Xiqing<sup>8</sup> express concern for the health of the dam related to sediment build up. With heavy water flows comes large amounts of sediment, which will build up behind the dam, and will require an even faster flow to be washed away. Therefore, there must be careful monitoring of sediment level and proper removal of excess, which can cause extreme damage to the dam if left unattended. In addition, the introduction of water into higher altitudes where water was previously lacking may increase risk of landslides or collapse due to water filling in fissures or karstic features.

Critics also worry that the \$25 billion dollar projected costs are grossly underestimated, and some suggest that the overall price could amount to as much as \$75 billion, effectively making the project financially unfeasible.<sup>9</sup>



Trash in the water drainage leading to the Changjiang



# THE THREE GORGES DAM: RELOCATION



I took these two photos standing in the same place, rotated around 180 degrees. The **top photo** is an old home that will soon be torn down and flooded. The **bottom photo** is a building that will rest along the new riverside once flooding is complete in 2009.



**Relocation of citizens** for government projects is an ancient issue. This right is, in fact, guaranteed to the United States government by the Constitution, and is implemented regularly for development of highways, business centers, and more. Thus it is not the *concept* of relocation and resettlement that is so striking when considering the Three Gorges Dam Project. Instead, it is the scale--1.2 million or more people-- and the reports of corruption and fraud that create interest, awe, and, often, skepticism among the world's onlookers.

It should be noted that, of the 1.2 million estimated people affected by the resettlement programs, about half were living in rural areas prior to flooding.<sup>10</sup> Some, such as the majority of people I spoke to, have been moved to existing or newly built urban areas. In addition to supplying housing in these new communities, the government should be required to provide these people with job training for the industrial employment that they claim is available there. Instead, there are dozens of reports of a lack of jobs in many of these cities, because industrial development, quick as it is in China, has been unable to keep up with the intense urban immigration.

Other rural resettlers have been relocated to local farmland of higher elevation, but critics warn that this land is subject to poor growing conditions due to steep inclines and increased erosion. If the land is unsustainable, these people will be forced to move again in only a few years, this time with minimal or no financial aid from the government.<sup>11</sup> Others still have been placed on farm land in distant provinces, most of which was previously unsettled due to the area's infertility. In addition, compensation rules state that those moving into rural settlements will receive about 25% less than those moving to urban areas, a discrimination that many farmers view as unfair, and which provides for much dissatisfaction and contempt among rural immigrants.

The project of demolishing towns and villages that would be flooded, rebuilding those communities, and relocating and compensating the people who formerly occupied those places is an undertaking larger than the building of the actual dam. The official budget for resettlement, however, was only 24% of the project's overall budget. In addition, some critics warn that the actual number of people to be relocated will be nearer to 2 million by 2009 due to population growth, and that the budget set aside for resettlement is nowhere near enough to complete the massive project. Jun Jing traced the legacy of dam-related resettlement to two projects from the Great Leap Forward era. He reports that 20 years after initial relocation, the central government still reports that it is not uncommon for displaced people to have been living in poverty for the past two decades.<sup>12</sup>

# THE THREE GORGES DAM: RELOCATION

## The New Capital Newspaper

in Beijing reports that perhaps only half of the money allocated for rebuilding of communities has been distributed to local citizens. This discrepancy has various explanations. One issue has been the underestimation of building costs. The mountainous terrain of the region has led to many problems with construction, and there simply are not funds remaining in the project's budget with which to supplement previously allocated money.<sup>13</sup> Therefore construction crews simply cannot complete the building of new developments, sometimes including basic infrastructure, making resettlement in these areas extremely difficult. More alarming, however, are the reports of intentional money mismanagement, including fraud and embezzlement among government employees.

Corruption has been rampant among local officials from dam-affected communities, denying proper compensation to citizens both within and outside of fraudulent officials' districts. Some officials are simply hoarding funds allocated for community development, in effect halting construction of new towns to which immigrants will be relocated. Other officials are skimming money off of the central government's Three Gorges Project budget by extensively over-reporting the number of people in their districts eligible for compensation and pocketing the extra cash. Both are detrimental to community welfare and to the success of the overall project. The central government's solution to these problems is frequent audits of local governments with respect to compensation budgets, but these are often left incomplete or are, ironically, brushed over by bribed inspectors.

According to a report conducted by the International Rivers Network, the Chinese central government has focused dam-related press on groups they have intentionally created as model groups for propaganda purposes. One such "ideal" community, located one of the wealthiest sections of Shanghai, was revisited by officials from both Chongqing and Shanghai after the town received intense media coverage. The reports were surprising; "After resettlement, most migrants have no money at all, and owe mortgage loans so they generally feel under great economic pressure. Secondly, migrants lack any cash income after resettlement. Though at the time of resettlement, each migrant is given 0.067 hectares of land, the return from farming is too low."<sup>14</sup>



The remains of a demolished house in the flood zone of Wanzhou.

# PAST LESSONS

**During the Great Leap Forward**, a short period

in China's extensive history characterized by colossal national transformations of Chinese production, cultural ideals, sociological structure, and land usage, the Communist Party pushed hard to build dams as national water conservation programs and to control local flooding. By 1990, 83,387 dams and reservoirs were built in China. On average, 110 of those collapsed per year, though this average includes the extraordinary statistic of 554 dams collapsing in 1973 alone.<sup>15</sup> Most of these failures were due to sedimentation build-up behind dams and poor engineering. The most massive of these catastrophes occurred in August 1975, when the large-scale Banqiao and Shimantan dams on the Ru River both collapsed after torrential rains, killing 85,000 people and displacing millions downstream.<sup>16</sup>

In 1997, Jun Jing published a study of rural resettlement related to three dam projects built during the Great Leap Forward, following them through to the present.<sup>17</sup> He found three main problems with past resettlement programs; suppression of relocatee resistance, faulty estimates and technological miscalculations, and inadequate compensation. Jing sees no proof that these oversights have been overcome in the Three Gorges project, nor does he see any reason to believe that they will be. All of these issues had been addressed by the Chinese government at the time of construction of the dams Jing investigated, and were all considered problems that had been addressed and solved, implying that they should not be issues in the future. Jing, however, found repercussions of these programs that have lasted until present day, and which persist in the Three Gorges Project.

Government officials look to China's long history of dams as a reason that the country is prepared to take on the world's largest hydroelectric project. But critics wonder whether the lessons of the past have been learned and integrated into the project's planning, or lost among the ruins of the Changjiang.

According to the People's Daily<sup>18</sup>, 80 cracks, at least 0.2 millimeters wide each, were found in the left dam, the section completed in 2003. These cracks were larger than allowed by dam engineers, and were repaired before the filling of the reservoir. Officials said that lessons learned from these mistakes will help to prevent future blunders in dam construction. It seems, however, that four decades of dam-building and maintenance should have given enough insight to prevent much miscalculation. There is no reason to assume that the problems in the left dam will provide enough experience to stop more mistakes from occurring in the last five years of construction. This is an extremely worrisome possibility, especially considering the past history of dam failure in China.



Critics worry about the structural quality of the dam and its locks.

Meanwhile, reports of mistreatment of the resettlement program are streaming in from human rights organizations around the world.

# BACK TO CHINA

**For me**, it was not necessarily the threatening of endangered species or engineering worries that drove me to return to China; instead, it was that sight, that image of an abandoned city, dozens of abandoned towns and villages along the riverside, and the many implications of their desertedness. I wanted to know: Where did their residents all go?; Who decided where to send them?; Did they have any say in the matter?; How did they get where they were going?; What did they do when they got there?; Were they properly compensated?; What do *they* think of the dam?

There have been quite a few studies conducted on different issues surrounding the Three Gorges Dam project, most of which briefly mention the relocation of 1.2 million people as an innately negative issue. Few studies, however, have addressed the perspective of these people; and no one examines the impacts of many of these issues on a small group of people.

In December 2004, with financial support from the Carleton College Geology Department, I returned to China to attempt to answer some of these questions.

For five weeks, I traveled alone along the Changjiang, talking about the Three Gorges Dam project among people it affects most. I visited three towns along the river-- Yichang, Wanzhou, and Chongqing, each for different reasons.



**Above:** A woman watches as her ship is raised through one of five Three Gorges Dam shiplocks.

**Below:** A resident of this former town surveys what remains prior to flooding.



Most of my time was spent in Wanzhou, where I found a translator to compensate for my unsatisfactory Mandarin, and where I met and interviewed many immigrants, as the Chinese refer to them. Though I spoke to dozens of people on the issue, I focused my efforts on interviews with a 65-year-old woman and her 35-year-old son.

In approaching interviews, I always tried to get to know the person or people first, preferably for a whole morning or a meal, with conversation exchanged in Chinese, or sometimes in English for students who wished to practice with me. Once the relocation conversation(s) did begin, I made it clear (though they may not have believed me) that I was not working for the government, and that my questions were based in pure academic curiosity and not accusation or criminal investigation. I formatted my interviews to tend toward personal experience instead of political thought. For example, instead of inquiring, "Was your life better before you were relocated?" I simply said, "Tell me about your life before you moved." Eventually, usually at the end of a conversation, I always asked each person, "How do you feel about the Three Gorges Dam project?"

My experiences with these people are documented on the following pages.

## PROPAGANDA AND WAR

**As a small industrial city** located on the Changjiang, Yichang is a welcoming and diverse town. The streets bubble with lively food markets, offering endless local citrus fruit and steaming noodles, and the scent of potatoes frying is constantly in the air. Formerly, this city of 450,000 was known throughout China as the gateway to the Three Gorges, the striking 200 km stretch of towering limestone cliffs that has been known to inspire artists, poets, and politicians alike for centuries. Since the project's planning became reality with the beginning of construction in 1994, Yichang has become famous throughout China instead as the gateway to the Three Gorges Dam Project. Just 40 km upstream, at the town of Sandouping, lies the construction site of the largest dam in the world.

Arriving in Yichang after the 24-hour long train ride from Beijing, the passengers are awakened, as they have been on the approach of a dozen other cities, by a calm female voice. In clear Mandarin, the woman announces that in just thirty-five minutes, the train will arrive at its final destination, the city of Yichang. "From here, you may visit the site of the Three Gorges Dam Project," says the woman. "This dam is the largest hydroelectric project in the world, and will provide the power equivalent of burning 50 millions tons of coal.... The improved navigation will allow for increased transportation of goods, improving the local economy.... The annual flooding problems will be over." She continued for a few minutes about the dam project, leaving me with strong sense of dam propaganda, which I assumed I would be able to overcome in personal conversations.

Naturally, I wanted to visit the construction site of the dam. When I asked a young couple on the street in Yichang which bus to take to the site, I received a response I never expected. In a flurry of excitement, the man explained that he was a firefighter, that he worked for the government, and that he would take me himself, with 3 other government officials, to the dam site. We took the "privileged" new highway straight to the site, as all four men talked constantly about the dam, which we viewed from newly planted gardens and stylized viewing towers. Since no one in Yichang had been relocated, I asked the officials about their own experiences with the dam. All gave rave reviews, noting that construction was on schedule, and commenting endlessly on the beauty of the dam. I asked if any of them knew anyone who had been relocated. One of the men said that his cousin had moved from a farm to the city, where "he started a business and is very happy."

Every person I spoke to in Yichang supported the dam project, sometimes noting some minor environmental disadvantages. All of them, however, brought up a topic that nobody situated above the dam ever mentioned, a response vitally important to all people in Yichang. That is the fear of an attack targeted on the dam if China ever goes to war with another nation. Of course, this is the most logical place for this particular concern: if the dam were to collapse, Yichang's population of 450,000, plus hundreds of thousands of others in surrounding villages, would be killed in a matter of hours.



The people of Yichang fishing in the Changjiang on a Sunday afternoon

# YICHANG

# WANZHOU

# CHONGQING

## A SMALL SCALE PROTOTYPE



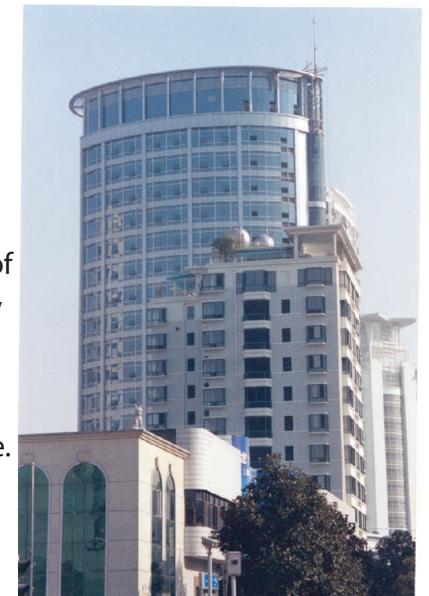
The stark contrast between new buildings (**bottom right**) and only 10-year-old buildings (**above**) in Yichang.

**The idea of dams** is not new to residents of Yichang. At the west edge of the city, 38 km downstream from the Three Gorges Project, sits the less famous Changjiang dam prototype, the Gezhouba Dam. Proposed as one of the thousands of dams built during the Great Leap Forward (1959-1961), construction of the Gezhouba Dam did not begin until the 1970s due to bureaucratic problems. Construction and financial setbacks, including the death of a construction worker and costs rising to almost twice the initial estimation, were to blame in the subsequent 15-year postponement of completion to 1989. Now, the dam is online and produces 13.8 billion kilowatts of power per year (16% that of the projected Three Gorges production). Thus, some of the impacts of building large dams on the Changjiang have been moving in on the valley for decades.

If you wake up early in the morning in Yichang, you will likely find a wealth of people outside, exercising in various manners. Some will be practicing taiji or martial arts in parks, while others will be engaging in a less familiar health practice of the Chinese—dozens of people, mostly men over the age of 55, clad in Speedos and swimming caps, doing laps in the river along which the city is built. From the banks of the Changjiang to the ships anchored a few dozen meters away, they swim. When they reach a boat, usually heavy with cargo, they turn around and stroke back to shore. From a distance, it is quite charming, really. But

descend the stairs of the city's limestone flood walls, and notice the endless broken glass on the sandy shore, the tissues blowing in the morning breeze, and then glance in the water. The Changjiang is simply polluted beyond a modern westerner's reasonable grasp. Food wrappers, soda cans, tissue, paper, and instant noodles both in and out of a container perpetually float in the silty brown water. This pollution, dumped directly into the river by virtually every person and business in the area, is built up to an extreme behind the Gezhouba dam, causing the water to resemble at times a churning landfill. This is, naturally, a problem which greatly worries critics of the Three Gorges Project.

Residents of Yichang, however, are also experiencing positive feedbacks from their proximity to the construction site. All dam tourism flows through the city, bringing in a new economic market for hotels, restaurants, shops, and more. One woman I spoke with had recently opened a store selling decorative sinks, a business that she said would have been completely unrealistic only five years ago. She attributes much of her success to economic prosperity directly related to the Three Gorges Dam Project.



CENTER OF THE RESERVOIR

I selected Wanzhou as the city in which to conduct most of my interviews because it is a small city with nearby farmland, and is a town that has experienced a large amount of flood-related relocation since 1992. Wanzhou, formerly known as Wanxian, is a town of about 300,000 people, situated at the west end of the Three Gorges, about 300 km from both Yichang and Chongqing. The city is also flanked on both the east and west by recently built sections of town constructed specifically for the housing of immigrants, simplifying greatly my search for people with whom to talk.



The streets of Wanzhou, near Three Gorges College



The new Wanzhou harbor in 2004

When my boat docked in Wanzhou, I was immediately struck by the sheer scale of a 175 m water level rise. The second phase of construction had been completed on the dam in 2003, leaving the water 40 meters short of the final level it will rise to by 2009. The original Wanzhou dock had been flooded, and the new harbor was built to function at the future permanent water level. I was thus greeted by 40 vertical meters of rubble stretching endlessly on both sides, and about 60 meters of steep cement stairs to climb with a 40-pound pack on my back. The dirt-brown stretch was dotted with construction crews, and in exploring the area, I discovered that not all of the destruction of to-be-flooded areas was completed.

In 1994, when dam construction began, large white signs prominently displaying the mark of 175 m were incrementally placed along the entire 640 km of the future reservoir. As I walked the muddy road leading away from Wanzhou's harbor, I came upon a strange tent-city-like area. There were vendors selling trinkets and food, but no solid structures to speak of in sight. Behind a stand lined with dress shoes rested a white sign with a line and an arrow the 175m mark. This would soon be Wanzhou's new waterfront. Below me, the declining land was scattered with limestone bricks that were formerly houses and wooden floors that had not been demolished with the buildings around them. A few lonely houses were left standing, abandoned, awaiting their end.



The new Wanzhou waterfront before the final flood



Rubble and a doomed house below the 175m mark.

People wandered the area, some climbing among the rubble, others squatting and staring off toward the river. I asked a man who was pacing a small area of brick and trash why he was there. He pointed at the ground and said, "This was my home."

## ADDIE

**My spoken Mandarin** was no match for detailed interviews in the Chongqing dialect of Chinese, a detail I optimistically overlooked in my trip planning; so I set off to locate a translator in Wanzhou. As an inner-China city, Wanzhou houses few people who can speak English well. My eventual luck was found at a college on the west side of town. The frustration that I had already experienced with the propaganda surrounding the dam manifested itself yet again in my initial (and many subsequent) interactions with the wonderful girl who became my translator.

A sort of wild goose chase ensued around town as I searched for an English-speaking person. Finally, I stumbled into the office of the English department at Three Gorges College. Upon my entrance, silence fell over the group as they noticed me, a foreigner, until finally a woman about my age approached me. She introduced herself as Addie, a name given to her by a former English teacher. 'What can I do for you?' she asked in slow but certain English.

After initial introductions, I jumped right in to my dilemma. Between my broken Mandarin and her surprisingly clear English, and with some cultural differences thrown in the mix, she misunderstood my request. 'Sure, I can tell you all about the dam. It is a wonderful project, and will make electricity and stop flooding! We are very proud to be a part of it.'



Addie, my patient, but slightly biased, translator and friend.

I reworded. 'Oh, you want to interview immigrants? But that is not necessary. *Here is what they will say.* Sanxiadaba is a wonderful project; it will make electricity and stop flooding--we are very proud!'

'Were you relocated?', I asked? 'Me? No!!,' she laughed. 'Then how do you know what they'll say?'

*'Why would they think anything else?,' she replied.*

Addie was very extremely helpful and patient with me as I dragged her through interview after interview. In addition to her help in translating the words of relocated people, I learned a great deal from the way in which she approached the topic of the dam. Addie is what most people I met in China would consider an academic. She graduated from college with a major in English, and is currently working as a secretary in the English department with aspirations to teach or translate English for a living.

Addie often expressed political views, mostly basic ideas such as criticizing America's actions in Iraq or expressing an extreme desire for Taiwan to be reunited with mainland China. I do not recall, however, one single conversation in which she expressed any perspective other than that which is endorsed by the Chinese government. While this in itself was frustrating, she occasionally took it one step further during my interviews.



Addie often distorted the words of my interviewees, often making simple conversation a struggle.

## ADDIE

**After talking with** a person specifically about his/her life, during which Addie faithfully translated as well as she could, I unflinchingly asked a few pointed questions about the dam. Addie translated persistently; but more than a few times, she translated a controversial sentence, and then paused, and followed it with "but what she *really* meant to say was...", and continued on to explained that, for example, the person was not truly unhappy, but was, in fact, glad to sacrifice for the benefit of the masses. While interviewing Mrs. He, the focus of my research, I asked her to describe both positive and negative differences between her former and current residencies. When Addie translated, the responses were purely positive. "And negative differences?," I inquired. "Oh, I didn't ask her that...But you know, Emily, I don't think there are any negative changes, so we don't have to ask her." Addie said. Of course, I pushed her to ask, and, of course, got a few responses that I believe Addie translated in their entirety.

As I learned early on that one of the major problems with the resettlement project was the lack of available jobs, I consistently inquired to interviewees as to their current employment status. Addie picked up on this, and, as she did often with questions she thought were "silly", she tried to convince me not to ask it anymore. As we walked along the streets of Wutiao, a new district west of Wanzhou, Addie pointed out to me stores that we passed along the way.

"For your project, Emily, you can say that immigrants opened stores like that tire shop, and like that food stand over there. Look, Emily, there's a hotel. You can use that for your project. Look at all the businesses people have opened! Look how happy they are!" It was overwhelming, but I think that Addie meant well, both for me and for herself. It was in her interest to play up the dam, and I think she truly believed that she was helping to make my project easier by attempting to simplify my data.

In the end, I explained to Addie that, while I valued her opinion and would be sure to include it in my paper, my goal in interviewing relocatees was to find out their own thoughts, and so it would be most helpful for her to translate exactly what they said without adding her own two cents. She certainly understood, and after that mostly ceased to add her opinion, at least as far as I could tell with my minimal knowledge of Mandarin and my own sense of the interviews.

## MRS. HE



The apartment building where Mrs. He lives.

**Mrs. He lives** on the the fifth floor of a seven-story apartment building in the Wanzhou district of the Chongqing municipality with her husband, thirty-five year old son, daughter-in-law, and granddaughter. The apartment has two bedrooms, a small living room, and a kitchen. Upon entering, Addie and I remove our shoes and slip on sandals two sizes too small even for my feet. We are offered seats on the couch. "Oh!," cries my hostess as I begin to sit, and she grabs a ball of rice from the sofa upon which I was lowering myself. Grabbing the sofa cover from beneath us, she rushes into the kitchen, where she brushes off the rice with her hand and returns with the cover, setting it in its place and gesturing again for us to sit. She disappears again into the kitchen, this time returning with a bowl of oranges and a knife, and insists that we each have at least one. I take one and commence the slow process of eating it. I know that if I finish it too quickly, another will be forced upon me before I have a chance to spit out the last seed. We settle in, Addie and I watching in horror as the 3 year old granddaughter picks up the knife, which is 4 inches long and 2 inches wide, and begins peeling an orange with it. We alert Mrs. He, who shrugs as if it were a common sight.

I tell her, partially through Addie's translation and partially through my own Mandarin, about my project, and assure her that I am not a government official and am simply curious about her life. Thoughtlessly peeling an orange, she begins to unfold through harsh Chongqing dialect her life before the flood. Mrs. He lived with her husband in a small country home in Fenghuan Shan, or Phoenix Mountain village, south of Wanzhou on the banks of the Changjiang. Their village was one in a group of about 20 villages (called *gui* in Chinese) in the area, each the home of about 200-400 farmers. They had a plot of land on which they grew vegetables, the sale of which supported their lives as it had for the

last 55 years. Mrs. He was a busy woman, with many chores to attend to on the farm like feeding pigs and chickens, in addition to the cooking, cleaning, knitting, and money management required for household upkeep. One day in 1992, government officials came to Fenghuan Shan, and announced that in 2001, destruction of the village would begin in preparation for the second stage of flooding for the Three Gorges Dam Project. There was no opportunity for public comment, no town meeting to discuss compensation options. In 1997, the people of Fenghuan Shan began to pack up and leave.

**Mrs. He said that almost** all of her fellow villagers moved to the city of Yunyang, newly built solely for the purposes of housing the immigrants. Her son, however, already had a job in a textile factory outside of Wanzhou, so the whole family decided to move there together, with no promised employment and no job training provided for those without. After a few months, Mrs. He was able to find part-time work cleaning houses, in her free time cross-stitching patterns into pads for shoes to sell on the street. Mr. He found part-time work as a watchman for a local elementary school. The government offered a one-time compensation of about 10,500 yuan, approximately \$1315, for each person relocated, which afforded the family the one apartment into which they now house 5 people. Mrs. He and her husband share one room, and their son and his wife and daughter share the second room in the apartment. Going from owning their own home to sharing with so many people can be a source of tension for the family, as Mrs. He mentioned that she doesn't get along well with her daughter-in-law. "Every family has tension, though, be them Chinese, Japanese, or American," she remarked. This is certainly true, but it may also be that Mrs. He was underestimating the intense generation gap that economic and technological development have forced onto the people of China.

I spoke to many people in my five weeks along the Changjiang, and most fell into one of two categories--young (under 25) and older (over 50). I discovered a vast difference in people's concepts of relocation depending on which of these labels applied. Mrs. He said once, "We Chinese have a saying-- One [acre] of land, a lifetime of happiness." She expressed in her description of her life in rural China a sort of longing for the "old ways", wishing she could tend her own land again or own her own home. Yet not one 'young' person that I spoke to expressed any dismay at all over moving. Most were students (anywhere from middle school to college), and all explained to me, as if it were clear as day, that an urban lifestyle

offers infinite opportunities that the farms they from which they moved lack. Education was always the first and main point--none of the schools in the country, for example, have the resources to offer English classes, a skill that many young people view as vital for their future careers and their social lives. Entertainment and higher standard of living were also seen as reasons to look forward to moving out of the countryside. Most of these urban opportunities are new to the entire country, rushing in within the last decades with China's immense economic boom, and so the generation gap, and thus perspectives on relocation, vary drastically in people of different ages.

**Clockwise from the left:**

Myself, "Julie", "Addie", and "Mary". Julie and Mary had been relocated with their families from a small village to the city. Since the move, both had begun English lessons in their middle school, and were able and excited to communicate (minimally) with me.



## MR. AND MRS. HE

**I was only able** to have a brief conversation with Mrs. He's son because he worked often and far away. Every morning he took a bus for one hour, to arrive at a textile factory and work for the day, usually about ten to twelve hours. The move from the banks of the Changjiang actually brought Mr. He a few minutes closer to the factory, cutting his commute by half an hour each day. It was at his suggestion that the whole family moved to Wanzhou together, instead of following the prescribed government relocation which would have moved them to one of a variety of locations, mostly in other provinces. Most of their neighbors were moved to new farmland in more mountainous regions of the country which were previously uncultivated. Early reports from these friends dissuaded Mr. He from following in their footsteps, as many claimed the land was not sufficiently fertile to sustain the community.

Regional geographies also posed interesting predicaments in relocation. For example, most of China depends on a bicycle-dominated transportation system, for everything from commuting to work to the hauling of food supplies. The Three Gorges area, however, is unique because its steep hills produce a climate in which bikes are not a viable transportation option, and so the residents have not learned to ride. Thus thousands of people accustomed to relying on a well-developed public transportation system have been moved to areas in which they physically do not know how to get around. Even more limiting are regional variations of language dialect, a problem which makes local employment and schooling very difficult for displaced people.

According to government plans for relocation, the process varies drastically depending on whether or not it is carried out through the government or independently, and there are positive and negative factors for both options. If a person submits to the the default plan worked out for them by authorities, compensation is not directly paid in full to the immigrant. In these cases, usually about half to three quarters of the money is initially given to the families who are moving. The remaining funds are distributed among local officials, to be used for community planning and development. However, as noted earlier, there have been dozens of charges fraud and embezzlement by these authorities of amounts up to millions of dollars.<sup>19</sup> Mr. He noted that one friend told him the town they moved into was not finished when they got there, with some basic infrastructure such as roads still lacking completion. It is these people who will lose out on poorly planned or inappropriately executed programs for resettlement compensation.

As Mr. He already had a secure job, he decided to take the family's government compensation money and move to Wanzhou city, where his parents looked independently for, and eventually found, part-time work with which to supplement his income. He noted that his compensation had thus far been paid on time, and he expects to continue relieving small bimonthly checks from the government for the next year. At the time of writing, his wife was still unemployed and searching for a job daily, while his mother (Mrs. He) looked after his 2-year-old daughter while cross-stitching at the market.



Relocation of farmers led to some settlement in areas of inadequate fertility or lack of sufficient land area.

# YICHANG

# WANZHOU

# CHONGQING

## NAVIGATION AND ECONOMY

**Chongqing city is** one of the most populated cities in China, housing 2.3 million within city limits. The Chongqing municipality, formerly a section of the Sichuan province, is home to 30.5 million, and was recently created as a district under direct jurisdiction of the central government. The municipality encompasses almost the entire stretch of the Changjiang that has been affected by the Three Gorges project (Yichang and the actual dam site remain in the province of Hubei). The vast majority of people relocated by the dam (85%) lived in the Chongqing municipality, though very few people from Chongqing city were affected.

Chongqing is the major economic core of central China, and much of the financial prosperity that will result from the dam can be directly attributed to the new and improved accessibility of Chongqing to large vessels traveling along the Changiang. After the completion of the Three Gorges Project, the maximum capacity 10,000-ton ships that can navigate the five-step ship lock system will be able to travel directly from Shanghai to Chongqing.

It has been estimated that the creation of the reservoir will increase the annual cargo transported along the river by 500%, from 10 million tons in 1992 to 50 million tons after 2009, with a 30% decrease in navigation costs.<sup>20</sup> In addition to cargo transportation, tourist cruises may increase on the river due to quicker navigation. A typical

cruise of the Three Gorges area used to take two to four days, and can now be completed in one day, an enticing possibility for tourists rushing to visit the country's many attractions..

Critics, however, worry that extremely heavy siltation will clog the Chongqing port in only a few years, making it unnavigable for these ships. Lu Qingkan, former deputy chief engineer for planning at the Ministry for Water Resources and Electric Power, with the approval of dozens of other Chinese engineers, recommended the lowering of the reservoir's maximum capacity (now set at 175 m) by 10 to 15 meters. However, this alteration would significantly decrease flood-protection potential of the dam, and so the proposal was refused. If siltation is as bad as these experts predict, it could clog not only harbors, but also the dam's generators, which would be detrimental to the project. There are a few proposed solutions to the sedimentation problem, such as frequent dredging, but all are at a cost to the overall profit of the dam, and the government refuses to implement them until it is clear that problems are imminent, which may be too late.<sup>21</sup>



One step of the 5-step, two-way ship lock-system at the Three Gorges Dam



The extremely modern city of Chongqing

# PEOPLE ON THE MOVE



A woman forced off her land, along with her fellow villagers, to make room for an expanding city.

**Relocation of Chinese people** is not limited to the Three Gorges Dam project, though it is the first large-scale relocation effort on which the international community has commented. It occurs throughout China in varying scales and for a variety of reasons, and has even previously struck small towns like Wanzhou.

My quest for finding dam-related "immigrants" in China often consisted of simply locating a newly built section of town and asking its residents where I could find "the immigrants". One person in Wanzhou told me to take the number 9 bus, nicknamed the "immigrant bus", to get to the far west end of the city, where new developments housed people who had been recently relocated. Upon arrival, I was directed eventually to a group of people selling vegetables by the side of their apartment building. I began to talk with a woman regarding her move. After stories of being forced off her land and moving into the city, I asked about her physical, spiritual, and historical connection to the Changjiang. "I don't have much of a connection with the river," she said. I was confused. "But you lived so close to it. Your family must have fished for food?," I asked. "We didn't live very near to the river," she replied. "Our village was just over there." She pointed east.

Her village was not relocated due to the flooding of the Changjiang. Instead, the government had confiscated her land in order to expand the city, most likely in order to adjust for the influx of people moving in from the flooded areas along the river. She said there were at least dozens of other villages destroyed to make room for the expanding city. I was unable to find a study that addressed this issue, and therefore am unsure (and doubtful) as to whether current counts of dam-related relocation include those who moved off of their land to make way for new "immigrant" sections of town.

This idea, however, brings to light cultural and economic issues that are not often addressed. Considering China's amazingly rapid economic growth, and thus the inevitable expansion of urban areas throughout the country, it is likely that rural people all over China, not just along the Changjiang, are being forced off of their land. Granted, the estimated 1.2 million people relocated for dam construction is an extreme case, and is massive when thought of as a concentrated group of people being moved all at once from one place to dozens of others. But having seen with my own eyes the immense and continuous transformation of the country through only two short years, I suspect that an extremely large number of rural villages have been and will continue to be uprooted by the state simply for urban expansion.

Perhaps this is an outrage. Perhaps it is another explanation for the seemingly superficial complacency of even those Chinese who have lost their identities as rural people. If people are used to watching their neighbors sacrifice their land for the "betterment or the country", it may be much more difficult to justify resistance or anger when asked to sacrifice.

# WHAT THEY DIDN'T SAY

**While Mrs. He** certainly expressed longing for the past and dismay at her forced move, in the end, her overall response to the dam was the same as literally every person I interviewed or spoke casually to about the dam. As she described it, it came down to a matter of national pride and communal responsibility-- she felt that the project in itself would provide more than it would take away, and it was her duty to contribute to that in whatever manner asked of her, even if it meant giving up her home and her ways. These are honorable sacrifices, ones that many in individual freedom-based societies such as America may not fully understand, myself included. It was, however, frustrating to hear over and over again not just compliance with government actions, but *always*, without fail, the repetition of the Communist party line response.

REVOLUTION DEPENDS ON TWO BARRELS;  
THE BARREL OF A GUN AND THE BARREL OF A PEN  
MAO ZEDONG

How could people--intelligent, self-thinking individuals--give in to such blatant propaganda?, I wondered.

Peter Hessler was a Peace Corp volunteer in Fuling, a town along the Changjiang, from 1996 -97. He wrote the novel "Rivertown" about his experience, which included many frustrations with the people he met constantly sticking to party line thought. He expressed intense frustration with these interactions, because he felt that he could not get a true answer to his questions, one unpolluted by governmental propaganda. When I read Rivertown before my trip in 2004, I thought to myself, "This guy just isn't asking the right questions. He didn't speak Chinese, he's probably intimidating, and he was working with a US governmental organization. No one trusts him. *///* go talk to them, and they'll listen to *me*, and give *me* a straight answer." This, of course, is not exactly what happened, but I did try to provide a conversation that lent itself to revealing more than propaganda. For the most part, I believe I failed.



Women like Qing Jinli may not want to sacrifice losing their jobs and families by expressing discontent with the government.

When considering the logic of the people with whom I spoke, I realized finally that this failure makes some sense. What is their motivation for "complaining" to a foreigner, someone who they have no reason to trust and who may reveal their dissenting perspectives to the government? They have none. They do, however, have motivation to *not* reveal information to me, motivation in the form of punishment for speaking out against the state. The Chinese government has imprisoned an unrecorded number of citizens for speaking out against the dam project, including Dai Qing, the author of *Yangtze! Yangtze!*, a compilation of Chinese articles debating the project. Another man who has been imprisoned, He Kechang, was detained after traveling to Beijing to report that himself and fellow farmers were being deprived of their compensation due to government corruption.<sup>22</sup>

It has been common practice in the past for the Chinese government to execute or severely "opponents of the Communist regime", and it would be far from worthwhile for a relocated person to complain to me if the punishment were imprisonment or death.

# REFLECTIONS



A model of the new riverfront of Wanzhou--but is everything as ideal as the government, and even the people, make it out to be?

**At one point** during my time in Wanzhou, I was talking to a group of people who had all been moved as a complete village into one apartment building in one of the new sections of the city. I was surrounded by about twenty of these people, chatting casually about myself and about their relocation. Most of the comments from the group were positive, as they relayed mostly stories of improved quality of life in the city and fully-paid compensation.

All of a sudden, a man who was probably 60 came charging out of the building behind us, screaming and waving a broomstick at me. He stood shouting at his family and friends in his thick Chongqing dialect until the women of the group shooed him off. When the chaos ended, I asked my translator Addie what the man had been yelling about. "He did not want his family to betray their secrets to you," she said. "What secrets?," I asked, and, ironically, Addie answered.

*"He doesn't want them to tell you that none of them can find jobs in the city," she replied.*

Addie's answer, while extremely insightful, still seemed incomplete somehow, though my prodding revealed no further answers.

My experience on the Changjiang, and especially with the people I met in Wanzhou, was incredibly confusing and oftentimes frustrating. Cultural and linguistic differences proved to be minor barriers in my journey. Mainly it was the political environment that provided for ambiguous and sometimes contradictory statements, and virtual silence in the realm of dissent. I was thoroughly surprised by the accepting perspectives of almost all of the relocated and otherwise affected people that I spoke to.

My initial distaste for the dam project has changed drastically. However, it has not dissolved, but has instead morphed into a certain skepticism. It was obvious through various encounters, such as the one described above, that there were underlying issues that I simply could not tap for reasons beyond my control. I have found in research and mentioned here many examples of relocated people speaking out about maltreatment, under-compensation, and fraud, but I found no direct examples of these exploitations in my travels. Why was I greeted by such enthusiasm in a community that has in part been documented as being cheated and neglected?

**The first and** most apparent reason that I encountered mostly positive reactions is that there do exist people for whom the resettlement program is working out well, and many of these people have actually benefited from their move from rural to urban areas. Mrs. He's story should not be overlooked, and stands as proof that some relocation efforts, though obviously disturbing of former lifestyles, can provide opportunities that would not have been available otherwise, especially for younger people. My choice of Wanzhou as a setting probably exposed me to a higher number of people content with their relocation compared to if I had selected a rural area. All of the people with whom I spoke had moved from small villages to Wanzhou.

Most of the resettlers in Wanzhou are now situated in urban environments, which have proven to be less infected by corruption than new rural communities across the board. I was

unable to get to any new farming settlements for a few reasons. First, many of these sites are spread out in different provinces, and are new and therefore unfamiliar to city residents, and unmarked on maps. Second, and perhaps more applicable, people in China are extremely proud of their accomplishments as a nation. They are therefore very tentative to show any signs of failure, such as poverty, to "important figures", a term which applies to all foreigners. So, I had an extremely difficult time finding out how to locate these communities. On the off chance that I did find one, I had trouble convincing anyone, including, but not limited to, Addie, to take me there to conduct interviews.

Similarly, there is a fair amount of pressure among Chinese people to portray a certain concept of the dam on people investigating the subject. This holds especially true for those living in the Three Gorges region, who are most likely to be questioned by tourists, reporters, and academics about the project. This is shown particularly well by the incredible helpfulness of the government officials in Yichang, who brought me on a personalized tour of the dam construction site after having known me for no more than ten minutes. I should not downplay the extreme kindness and consideration of these people--they truly were the some of the most hospitable and thoughtful of all of the wonderful people I met in China. However, I do not believe that if, for example, I were a regular Chinese tourist, I would have been subject to the same treatment. By a combination of personal and governmental persuasion, they were driven to prove to their foreign guest the awesomeness, the beauty, and the pride that they saw in the dam project. In their special treatment of me, they did a duty to the state, which the Chinese honor greatly. These inherent tendencies toward the flaunting of national pride can also provide insight to help explain some of the embezzlement and fraud that have been associated with local officials in resettlement districts.

While some of the motivation behind the extensive corruption related to resettlement funds can be explained by pure greed, there exists, as always, alternative logic that explains the phenomenon in greater detail. The central government of China has presented the Three Gorges Dam Project to the world as a massive, infallible, and ultimately noble undertaking for which the country has an inordinate amount of pride. Since the era of Mao, one of the most unacceptable crimes in China has been opposition of governmental policy, particularly in the case of high profile ventures such as the dam. Therefore, local officials have great motivation to cover-up any underachievement or problem areas that would cause disapproval among the central government. No one wants to be the "troublesome" county with dissatisfied residents, so the local government tries to tone it down or cover it up, therefore denying proper attention to disgruntled relocatees. Of course, this does not excuse any embezzlement or fraud, and it is the harsh truth that many of these officials are simply exploiting the people for personal gain.





## CONCLUSION

**There is no black and white** answer to the question of Three Gorges Dam resettlement. In my investigation, I attempted to find an all encompassing perspective of the dam project according to a small pool of people. While this did provide an opportunity for me to get one complete story, this constraint also limited my contact to only a few, very similar perspectives. With at least 1.2 million people being relocated, there are vast differences between the experiences of all of these people, and I only had access to a very small group of them. The people I did meet told me stories of leaving behind one life and, for the most part, welcoming the next like a breath of fresh air. It could be that they are better off now, armed with a higher standard of living and aided by an increased quality of education for their children. It may also be that they did not share with me, due to cultural values, any problems that they may have encountered in their relocation.

Their path could have altered very much if the He family had decided to move to Yunyang with the rest of their village. Perhaps there, they would have re-settled into their former lifestyle of tending the land and living a relatively simple life. Perhaps they would have encountered massive obstacles to basic survival such as language barriers or unavoidable and insurmountable debts. There is no way to tell. The reports of these misfortunes among resettlers is, however, extremely alarming. While I encountered it only through the stories of the He family friends and others' acquaintances, these issues are obviously present and persistent among many relocated people.

At this point, five years away from completion, we are far beyond the possibility of turning back on the Three Gorges Dam project. Nevertheless, it

is vital to realize that, while some relocations are running smoothly, there are still massive injustices occurring across the country that must be addressed. While I was moved by the sense of national solidarity and personal sacrifice for the dam, the external or internal repression of dissent is absolutely detrimental to the health of the project and the health of the nation. So while China has a long history of hydroelectric experience to build upon, the government also has the disposition to deny even major potential problems, especially when pride is at stake. In order to even begin to address whatever misfortunes may be occurring, the central government must step forward and admit any and all of their mistakes. Only then will we hear the voices of those whose lives have been improved by the Three Gorges Dam, and only then will we be able to fix the problems that this exceptional project has forced on many others.

- <sup>1</sup>Jing, J., 1997. Rural Resettlement: Past Lessons for the Three Gorges Project: *The China Journal*, no. 38, p. 65-92.
- <sup>2</sup>Boxer, B., 1988. China's Three Gorges Dam: Questions and Prospects: *The China Quarterly*, no. 113, p. 94-108.
- <sup>3</sup>Watersheds of the world. EarthTrends 2002 World Resources Institute. [http://earthtrends.wri.org/pdf\\_library/maps/p2\\_104yangtze.pdf](http://earthtrends.wri.org/pdf_library/maps/p2_104yangtze.pdf) (11 Feb. 2005)
- <sup>4</sup>Xiqing, C., 1998. Changjiang (Yangtze) River delta: *China Journal of Coastal Research*, vol.14, no. 3, p. 838-858.
- <sup>5</sup>Drennen, T.E., Erickson, J.D., 1998. Who will fuel China?: *Science*, vol.279, p.1483.
- <sup>6</sup>Edmonds, R. L., 1992. The Sanxia (Three Gorges) Project: The Environmental Argument Surrounding China's Super Dam: *Global Ecology and Biogeography letters*, vol. 2, no. 4, p. 105-125.
- <sup>7</sup>Leopold, L. B., 1996. Sediment Problems at the Three Gorges Dam: United States Export-Import Bank Report: Appendix B *in* *The River Dragon Has Come! : The Three Gorges Dam and the Fate of China's Yangtze River and It's People*. Armonk, N.Y. ME Sharpe, Inc.
- <sup>8</sup>Xiqing, C. See footnote 4.
- <sup>9</sup>Pearce, F., 1995. The Biggest Dam in the World: *New Scientist*, vol.145, p.25-29.
- <sup>10</sup>Jing, J. See footnote 1.
- <sup>11</sup>International Rivers Network, 2003. Human Rights Dammed Off at Three Gorges: An Investigation of Resettlement and Human Rights Problems in the Three Gorges Dam Project. [www.irn.org/programs/threeg/3gcolor.pdf](http://www.irn.org/programs/threeg/3gcolor.pdf) (12 Nov 2004)
- <sup>12</sup>Jing, J. See footnote 1.
- <sup>13</sup>Jing, J., 1999. China Report: Displacement, Resettlement, Rehabilitation, Reparation and Development. Contributing paper for Thematic Review I.3, World Commission on Dams, Capetown.
- <sup>14</sup>International Rivers Network, 2003. See footnote 11.
- <sup>15</sup>Fu, S., 1996. World's most catastrophic dam failures: the August 1975 collapse of the Banqiao and Shimantan Dams, *in* *The River Dragon Has Come! : The Three Gorges Dam and the Fate of China's Yangtze River and It's People*. Armonk, N.Y. ME Sharpe, Inc.
- <sup>16</sup>Si, Y., 1996. Discussing population resettlement with Li Boning, *in* *The River Dragon Has Come! : The Three Gorges Dam and the Fate of China's Yangtze River and It's People*. Armonk, N.Y. ME Sharpe, Inc.
- <sup>17</sup>Jing, J. See footnote 1.
- <sup>18</sup>"No crack anymore on the Three Gorges Dam": *People's Daily Online*, June 30, 2004. [http://english.people.com.cn/200406/30/eng20040630\\_148065.html](http://english.people.com.cn/200406/30/eng20040630_148065.html) (17 Feb 2005).
- <sup>19</sup>Peryman, L., 2000. Three Gorges dam is 'black hold of corruption' says Chinese journalist: *Three Gorges Probe*, no.18. <http://www.nextcity.com/probeinternational/ThreeGorges/tgp/tgp18.html> (19 Jan. 2005)
- <sup>20</sup>"Relocating 1 Million People": *China Today Online*, May 25, 2003. <http://www.china.org.cn/ChinaToday/Today/ChinaToday/ct2000e/05/ct2000-5e/ct2000-5e-8.htm> (27 Feb. 2005)
- <sup>21</sup>Xiong, L., 1998. Going Against the Flow in China: *Science*, v. 280, issue 5360, p.24-26.
- <sup>22</sup>International Rivers Network, 2003. See footnote 11.

## ACKNOWLEDGEMENTS

I would like to thank the Carleton College Geology Department for providing the funding for this project through the Burnstien Student Research Fund, Mary Savina for encouraging me to tackle the question I really wanted to ask, despite it's slightly indirect link to classic geology, Clint Cowan for stress-relief sessions, the Carleton College Geology Department class of 2005 for hours of late night entertainment and advice, Tracy for long-distance travel companionship and support, all the lazy-Susans in China for friendship and persistant translation, Megan and Ellen for uncountable cups of coffee, cookies and comfort, and my family and friends for constant sustaining energy.

