

Chapter Five

The Environmental Impacts of Resettlement in the Three Gorges Project

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Over the past few years, I have participated in research to assess the impacts of the Three Gorges dam on its local environment. The research has focused on the effects of the project on the Three Gorges reservoir area, the middle reaches of the Yangtze, the mouth of the river, and the sea in and around the estuary of the Yangtze River near Shanghai. The research has not addressed the economic and environmental benefits and costs of the various functions of the dam such as flood control, electricity generation, and navigation. Nor has it examined other potential problems like sediment accumulation and project cost.*

The research shows that although the project will produce some benefits, they will be outweighed by the costs and that although it has certain advantages, it has many more disadvantages. Moreover, the cost and disadvantages of the project will appear almost immediately and persist over the long run, while the project's benefits will not be evident for some time. Perhaps the most important conclusion is that the environment, of the Three Gorges area cannot sustain the hundreds of thousands of people who are supposed to be resettled there. If the state does not take this fact into account, the local environment will be destroyed and the future economic development of the Three Gorges area and of the entire Yangtze River Valley will be undermined.

Not everyone agrees that the dam and consequent resettlement will destroy the environment of the Three Gorges region. Some optimistic comrades disagree entirely. Whether these differences stem from different methods of analysis or some other cause, the issue of resettlement requires further study so that colleagues at home and abroad can continue to evaluate and assess the situation.

*This article was originally published in *Shuitu baochi tongbao* (Soil Conservation Newsletter), vol 7, no. 5 (October 1987). For a detailed examination of the potential impacts of sedimentation, see Appendix B.

Respecting Relocatees

Over the past thirty years, the government has shown considerable responsibility in resettling people, but there is much left to learn. In the past, authorities took only a short-term interest in the fate of relocatees. Those who were moved were considered less important than the project itself, and their resettlement secondary to the physical works. The approach was simple: Mobilize the masses with heavy doses of propaganda in support of the project; provide them with reimbursement funds (many of which were

embezzled by local government officials before they ever reached the relocatees); and then resettle them. Where differing views or outright resistance to resettlement were found, the government would eliminate all opposition by labeling people "class enemies" and thereby opening them up to possible persecution or exile. As the old Communist Party saying goes: "Once you pay attention to class struggle, everything can be resolved." The officials generally believed that resettlement was executed efficiently. But it was not. By focusing on the short term, the long-term social and economic development of the resettlement areas was ignored. Moreover, the relocatees had very little say about the resettlement process, such as conditions in the resettlement areas, how their basic needs should be met, or how resettlement should be financed and managed. As a result, many state-sponsored projects have left a plethora of unresolved problems in their wake. If we rely on the old approach to resettlement for moving people out of the Three Gorges area--issuing decrees to move people, reimbursing them for lost land and housing stock at far below market value, and concentrating solely on the project without helping to develop the resettlement area--the same problems will occur. It will not be easy to fully respect the rights of the relocatees and show a true sense of responsibility toward them. In fact, it will complicate and draw out the project considerably. When the organizational departments in charge of resettlement recognize this fact and feel that their task is complex and fraught with difficulties, I will be at ease. If they treat resettlement lightly and feel their task is a simple one, I will be extremely concerned for the fate of the relocatees.

Resettlement and the Environment

Resettlement is an environmental issue. The success or failure of the resettlement program will be determined not only by whether relocatees have food, clothes, shelter, and employment, but also by whether the environment can sustain the incoming population, and whether there are adequate resources available for economic development. If the relocatee population strains or surpasses the region's environmental capacity, the local environment will deteriorate, natural resources will dwindle, and the standard of living of relocatees will fall. The fact is that the environmental capacity of the Three Gorges area is already strained and the resettlement of relocatees in the region will only make the situation worse. Some serious concerns include population pressures and consequent overplowing, deforestation and soil erosion, and the effects of the project on the rural labor situation.

Population Pressure and Overplowing

To describe the Three Gorges region as "underdeveloped" is misleading. It is, instead, maldeveloped. To meet the needs of the present population, local forests have been destroyed and a great deal of steep land has been converted to terraced fields for cultivation. Most of the land in the area (78 percent) is mountainous, and about 40 percent of it is under cultivation. A third of this land is on mountainsides with gradient

slopes of 25 or greater and therefore should not be farmed (according to the Water and Soil Protection Act). Because of the region's growing population, the average resident has only 0.07 hectares of land and produces only 340.5 jin* of grain—far below the national average and the averages for Sichuan and Jiangxi provinces.

*One jin equals one-half kilogram.

*Examples include the Sanmenxia dam on the Yellow River, the Danjiangkou project, the Wujiangdu River reservoir, and the five large-scale reservoirs built in western Anhui Province which drove 100,000 residents out of the Dabie mountain region and left them homeless. See Chapter Eight for a discussion of resettlement in the Xin'an River Power Station Project.

Deforestation and Soil Erosion

There has been a dramatic loss of forest cover in the Three Gorges area. In the 1950s, 20 percent of the area was forested, but today there is only 10 percent tree cover. In Fuling, Fengdu, Kaixian, Fengjie, and Zigui counties 95 percent of the remaining trees are immature. Horsetail pine makes up more than 70 percent of the trees, and there are only about 4.35 square meters of trees per hectare. These areas are regressing from forest to bushes to grassy slopes and finally to exposed rock. Over 80 percent of the land is experiencing soil erosion, and more than half of it is serious or extremely serious. Soil erosion causes about 40 million tons of sediment to flow into the Yangtze each year.

The deforestation and erosion also cause landslides. There are 172 gullies, 210 landslips of more than 600,000 cubic meters; and 36 large-scale landslips of more than 10 million cubic meters. The sediment problem is so serious that in one county 60 percent of the storage capacity of its 2,200 reservoirs has been lost to accumulated sediment.

Rural Labor Surplus

For the sake of the population and the development of the reservoir, one must discuss the issue of exporting labor out of the region. Taking into consideration the fact that much good quality land in the reservoir area will be submerged and that China's Forestry Protection Act (Senlinfa) requires vegetation on 40 percent of land before it can be cultivated, forest land in the area [with forest coverage of less than 40 percent] should be protected from cultivation, all of which will compound the problem of surplus population. Thus, it is impossible to resettle large numbers of relocatees in this area.

Ideal Versus Reality

Some residents of the reservoir area are hoping that resettlement funds will radically change their lives for the better—they dream of new towns replacing old ones, of shabby houses being torn down and replaced with modern ones, and of lucrative industry jobs replacing agriculture. But this is highly unlikely. The fact of the matter is that the state does not have enough money to complete the project, let alone the resettlement aspects of it, and will have to rely heavily on borrowed money.

The Three Gorges project's original design was for a smaller dam, with a 150-meter normal pool level, 25 meters lower than the 175-meter normal pool level design that was eventually agreed on. The lower dam would have caused only ten towns to be submerged and therefore would have incurred much lower resettlement costs. Based on this lower and using the lowest available estimates of per capita income at the end of the century as a guide, the Urban Planning Research Institute estimated that resettlement would cost ¥500 million. However, even this conservative estimate is substantially higher than the ¥110 million the Yangtze Valley Planning Office plans to provide for resettlement for the now larger dam. It is clear, therefore, that there is unlikely to be enough money to meet the basic needs of the relocatees, let alone make them rich.

Whatever benefits the project brings will not be realized for at least twenty years. But the costs will be felt much sooner. Soon after the project is launched it will wreak havoc on the systems of production. With the old system destroyed and the new one not yet functioning, chaos will ensue. The losses will be immense, and whatever resettlement funds are available will do little to remedy the situation. Experience has shown that even after acquiring electricity, farmers who have lost their land to a reservoir remain poor. In some past projects, enraged farmers have demanded that reservoirs be destroyed and the land reclaimed. We must never forget these lessons.

Past resettlement experience also shows how idealistic plans and promises for compensation and future development often sound plausible, but turn out to be impractical or even harmful when implemented. This same idealism is evident in resettlement planning for the Three Gorges area. For instance, there are those who feel that salt reserves in the Three Gorges area are so vast that once developed they will provide jobs for many relocatees. The reality, however, is not so simple. The salt is buried deep in the ground and would not be easily extracted. Salt mines can be highly polluting, and the Three Gorges area is steep and mountainous with a poor transportation system. All of these factors would make it very difficult for mines in the Three Gorges area to compete with those in Zigong and Lushan in Sichuan. Finally, the Three Gorges region is a renown tourist destination, and industrial development [and consequent pollution] could adversely affect the tourist trade.

Successful resettlement in the Three Gorges area requires a thorough study of every aspect of the dam. Plans for local development and for resettlement could then be tailored to fit the specific needs of the project; to build on its strengths and address its weaknesses. Planning for resettlement in any other way will, ultimately, be unsuccessful. A key element in this planning, and one that can truly increase the wealth of local people, is education. Experience the world over demonstrates that education is the best way to increase economic prosperity. We must also, however, focus on construction, environmental cleanups, protecting forests and increasing forest cover, reducing the rate of population growth and managing population density, adopting long-range economic development plans, improving labor skills, developing primary agriculture and specialized products, and integrating the local economy with that of the region.

Examining the twists and turns in national policy over the last few decades in our country [from the Great Leap Forward to the Cultural Revolution], we see that the Chinese people have made great strides but have suffered as well. We are still poor and we have many lessons to learn. We have made mistakes, including unbridled population growth in the 1950s, poor management of natural resources, and the fostering of environmentally

destructive enterprises. We have also made mistakes in macro-level decision making where large-scale construction projects were concerned. The Three Gorges project could be an error of great magnitude because it touches on all of these past errors. Hopefully, the final assessment of the project will be based on scientific fact and we will not repeat past mistakes. We should not be blamed for having such hopes.