

# Resettlement for china: the three gorges dam essay



**ASSIGN  
BUSTER**

Communist and Post-communist Studies 33 (2000) 223-241 www. Elsevier.

Com/locate/postcode Resettlement for China's Three Gorges Dam: socio-economic impact and institutional tensions Khan Jackson b , Adrian Sleigh  
Department of Economics, University of Queensland, SST Lucia, Queensland 4072, Australia Australian Center for International and Tropical Health and Nutrition, Medical School, University of Queensland, Hermiston, Queensland 4006, Australia Abstract Large dams have been an important component of infrastructure development in capitalist and communist countries alike.

In 1998, changing world attitudes on large dams led to a outwear World Commission on Dams and new global standards may soon insist that future projects pay fair compensation so that resettlement becomes voluntary. Now, 10 years after introduction of economic reforms, China is monopolizing its resources to build the world's largest dam. This fulfils a longstanding ambition to impound the Yang River in Central China at the Three Gorges and use the hydrophone, improved navigation and flood control to develop the economy. This paper examines the socio-economic impact of Three Gorges Dam on over 1. Million people to be displaced while China is in transition to a market economy. We consider resettlement in terms of the decision-making structure, property rights and incentives to move, and how the project exacerbates problems created by market reforms, especially rising unemployment and deteriorating public health. We conclude the project is boosting economic expectations while adversely affecting large sections of the population, and this could provoke widespread social unrest and eventual changes in political institutions. 2000 The Regents of the University of California. Published by Elsevier Science Ltd.

<https://assignbuster.com/resettlement-for-china-the-three-gorges-dam-essay/>

All rights reserved. Keywords: China; Dams; Emerging infections; Parasitic diseases; Property rights; Public health; Resettlement; Sadomasochists; Three Gorges; Water power; Yang River \* Corresponding author. Fax: +61-7-3365-7299. E-mail address: (S. Jackson). I nee Regent Published by Elsevier Science Ltd. All rights reserved. 224 IS – see Toronto matter TTY AT ten Unless clamatorial. S. Jackson, A. Sleight / Communist and Post-communist Studies 33 (2000) 223-241 The need of such knowledge has become more and more urgent in China because the country cannot afford to waste any more of her wealth and energy in making mistakes. L

Introduction China, more than 10 years into economic liberalizing, transiently reverted to the Moist mode of decision-making in 1992 to approve a massive development project, the Three Gorges Dam (TAG). It will affect millions of citizens whose response will be far less compliant than for Moist decisions in the sass. The mode of the decision was out of touch with sass social reality and may lead to conflict far greater than anticipated. TAG is China's largest engineering and infrastructure project since Liberation. It will affect the lives, habitat or economy of at least 20 million people above the dam and another 300 million downstream.

Building a 185 m high dam across the Yang River at Three Gorges was infeasible in the sass, unaffordable in the sass, and politically and technically opposed in the sass. But in the early sass, after the Dietitian's demonstrations, an authoritarian decision was taken to build the dam.

Relocations will not be complete until 2009, and the socio-economic impact has begun. This region has been disadvantaged for decades and remains

poor and lapidaries for economic upheaval arising from uncertain property rights, lost farmland and new health hazards.

Here we explore the human impact of relocating at least 1.3 million Three Gorges people at a time of rising national unemployment and major economic reforms. We use available data and field experience from three research trips to the Three Gorges area (1996-1999). Our analysis produces new perspectives on the socio-economic effect of large dams in a transitional economy, and we hope to stimulate mitigation programmes lacking at present for the Three Gorges project itself. Finally, we predict that the project could induce social unrest and democratic changes in national political institutions.

Ecological and economic setting Arable land and fresh water in China are so scarce the country is thought to be approaching the limits of an environmentally sustainable economy. It is estimated to have only 2484 mm of fresh water per person compared with 7744 mm/person for the world average, and only 0.08 ha of arable land per person compared with a world average of 0.26 ha/person (Distilled, 1997). Over the last two decades the arable land  
Bronchial Mammals, writing in 1938, quotes anthropologist Hashish-Tuna Fee in the preface to Fee's study on a Yang village. 5 per capita in China has actually decreased by 0.2% (McKinley and L', 1992, p. 197).

So caution is called for when sacrificing Chinese farmland to store water for power generation, as planned for the giant Three Gorges Dam. The 600 km long reservoir that will form behind the 185 m high dam across the Yang

River will trade-off scarce environmental assets close to the sustainable margin. The project is intended to promote rapid economic development of China's poor interior, but there will also be a great social cost. The dam (Fig. ) will flood a large area of farmland and withhold fertile silt from downstream areas. Water in the reservoir may precipitate earthquakes, landslides and large surface waves, geophysical phenomena that could destroy human settlements. Below the dam the river may shift its course, some irrigation intakes will no longer function, and alluvial soils will degrade. Dykes, built up over thousands of years, will erode. The downstream effects are unpredictable for specific locations (Barber and Ryder, 1993) but it is certain that there will be less summer flooding, higher winter flows, and less silt for decades.

As well, the dam will reduce damaging floods, boost national electricity output by 10% and conserve water on a grand scale that may alleviate water shortages in the North of China (China Yang Three Gorges Project Development Corporation, 1994; Marcello, 1991). The Three Gorges Dam controversy The Three Gorges Dam provokes awestruck interest or passionate disapproval, or both, from an increasing number of people around the world. There is a global campaign opposing the impending destruction of the fragile physical environment, the rare flora and fauna, and the precious historical relics.

There is less voiced once for the dispersion and forced resettlement of local communities whose plight is the most certain adverse outcome of the dam.

Experiences in China and elsewhere indicate that many people directly affected by the Three Gorges Dam will become worse off (Stanley and <https://assignbuster.com/resettlement-for-china-the-three-gorges-dam-essay/>

Lapels, 1975; Hunter et al. , 1993; Berger, 1994; Cornea, 1997; Scudded, 1997). Some may never recover socially or economically. Displaced villages may be broken up and conflict is to be expected in communities hosting large groups of stoutest.

Most published information on the adverse impact of large dams is post hoc, documenting what happened after instruction was well advanced or complete (Hunter et al. , 1993; Cornea, 1997). Noteworthy examples include a book on Indian's Sodal Sarcoma projects (Morse and Berger, 1992) and a world-wide review at a recent World Bank-ICON conference (Doddery et al. , 1997). For the Three Gorges Dam, despite its scale and notoriety, information on the expected socio-economic impact is lacking.

A non-government organization opposing ten Am uses ten Freedom AT International law to Torte ten Canaan 2 rent International Union for Conservation of Nature and Natural Resources, also known as World Conservation Union. Three Gorges area. Fig. 1. 226 227 to release most of the feasibility study it had financed in the late sass. A scholarly analysis concluded that this seemingly biased study had overlooked the socio-economic impact of resettlement, and lacked crucial baseline information on sociology and demography (Barber and Ryder, 1993).

To date, Three Gorges resettlement is managed by engineers and no baseline information on the dam- affected people has emerged in the public domain. Background to the Three Gorges Dam Chinese society relies on hydraulic technology for water supply, flood control, irrigation and navigation (Needled, 1981; Marcello, 1991). One of the earliest projects, still in sound

working condition, is the Digging Dam built 2200 years ago, for agricultural purposes, on the upper Yang River in Chuan Province.

The decision to dam the Yang in Huber Province at Sandbagging, just below the Three Gorges, can be partly explained by the Chinese development culture for manipulating water resources. This dam arises from a long-held vision going back to Sun Yates (provisional President of the Republic of China in 1912) and fits an ancient Chinese tradition of grand schemes for economic development. The dam has been planned for many years but debate about costs, feasibility and economic viability froze decision-making for decades until 1993. The Three Gorges Dam has three main purposes.

First, the benefits of flood control will go to 200 million people downstream in the middle and lower Yang valleys. The dam builders use Chinese records to show there were more than 200 major floods, about once every 10 years, from 185 BC to 1911 AD (O'Donnell, 1998, p. 16); the three catastrophic floods of 1931, 1935 and 1954 killed a total of more than 320,000 people. The recurring floods (including the July-September 1998 disaster claiming at least 3000 lives) and the potential of the dam to mitigate major floods provide a powerful argument for building it.

The second purpose is to improve river transport, increasing ship size from 2000 ton to 10,000 ton to connect the East coast to inland industrial development. The third purpose is to generate electricity from an 18,200 MW plant, whose capacity will rise to 22,400 MW when six more turbines are installed later (China Yang Three Gorges Project Development Corporation, 1994). As well, the dam will boost winter flows and substantially enhance electricity

produced by the Gazpacho Dam located 40 km downstream, which has had an installed capacity of 2715 MM since its powerhouse was completed in 1986.

From 1970, electricity supply in China has lagged behind demand and the crisis has worsened in the past two years as industries expanded at an average annual rate of 22% (State Statistical Bureau of China, 1996, p. 204 and 403). In 1990, per capita electricity production in China was only 5% that in the USA, and 20% of the level in South Korea. China errantly relies on coal for energy to the extent of coal supplying almost 80% of electricity; the alternative to hydrophone and coal is nuclear power but it is the most costly to install.

Resettlement of the Three Gorges population should be nearly complete by 2003 when the dam fills to the 135 m level and begins to generate power. By 2009, when 228 the dam wall reaches its final height of 185 m, the reservoir will have a 5000 km margin stretching from the dam at Sandbagging upstream for 600 km through the three gorges ? Satang, Www and Exiling ? to Cocooning City (Fig. 1). Based on official population estimates, adjusted for growth to 2003, at least 1. 13 million people must move. Experience with other large dams suggests this number will increase substantially (Dodderly et al. 1997). The relocation has begun in the 19 affected counties under the Jurisdiction either of Huber Province or Cocooning Municipality, an inexperienced provincial-level government created in 1997. In 2003 the dam will flood two large cities (Hawaiian and Filing), 1 1 county towns, 114 townships, and numerous villages and farms. Chinese authorities reported that more than 100, 000 people were removed by the end of 1997 UT others <https://assignbuster.com/resettlement-for-china-the-three-gorges-dam-essay/>



dispute this figure, saying that many have refused to go (Chuckhole, 1998, derived from Www Mining, 1998).

Probably people will be moved in a rush as the impoundments becomes imminent in 2003, as has happened with many other large dams. Dam-affected people China has a poor record in relocation of people displaced by several thousand hydrations built since 1949. By 1996, there were 118 large and medium hydrophone dams across China's seven major rivers and their tributaries. All were built at great and unmeasured social cost for an estimated total of 10. 2 million displaced people Noun Jinn, 1997).

The Three Gorges Dam stoutest will exceed the combined total of the three largest Chinese dams: Dan]Nanking in Huber Province (380, 000), Examines in Henna Province (320, 000) and Gangrening in Jagging Province ) (Yeans, AY). Junk Clung (III/, p. 14) release concern Tort ten conduct AT Three Gorges resettlement by pointing to past neglect, coercion and suppression accompanying construction of China's big dams when " no serious effort was made to respond to local concerns over matters of compensation, community break-up, economic recovery, or social adjustment in the new communities".

Large dams round the world have imposed heavy economic and social costs on local populations. At least 35, 000 large dams exist (Doddery et al. , 1997); many are in low- income countries. An average of two million people a year are forced to move because of dams, but affected people are resisting. Vigorous opposition to the Cards Sartor dam in India interrupted construction and the World Bank ceased funding in 1993 (Morse and Berger,

<https://assignbuster.com/resettlement-for-china-the-three-gorges-dam-essay/>

1992; Berger, 1994). Other dams attracting strong opposition are the Run in Nepal, the Kiang USA Tan in Thailand, and the Baku in Malaysia (Sleigh and Jackson, 1998).

In 1998, the World Bank and the World Conservation Union appointed an independent World Commission on Dams for a two-year inquiry to set new standards, with special emphasis on socio-economic impacts (Dodderly et al. , 1997). This inquiry will herald a major shift in the policies and practices of international dam builders and financiers. It is amidst this changing global attitude that China proceeds with the Three 229 Gorges Dam. Also, within China massive urban dislocations are occurring owing to economic reforms in state enterprises Jackson 1986, 1992). Anyone evicted by the

Three Gorges Dam and not given land will compete with millions of other unemployed people for scarce work opportunities. This situation is especially serious in Cocooning, the mega-city that would be most likely to absorb displaced Three Gorges labor. The scale of resettlement for the Three Gorges Dam is unprecedented. An official survey of unknown accuracy in 1992 revealed that 846, 500 residents must relocate (GHZ Among et al. , 1996). After population growth is taken into account, the official estimate is 1. 13 million to 1. 6 million (IQ Rene, 1998) which could grow eventually to more than 2 million.

The overall distribution of the displaced persons is indicated in Table 1 . So far there has been no open discussion about the problems of the displaced. Incentives and constraints to voluntary resettlement Large dams in China and other places flooded homes and land, and resettlement has typically

been involuntary. From an ethical perspective, involuntary resettlement is a most serious issue because people should matter the most in any infrastructure development. But promised compensation for the loss of homes and livelihoods is usually inadequate for dam projects of low-income countries.

Enormous costs are arced upon stoutest, imposing sacrifices for the community good on people to be relegated to a Tie AT extreme narrates Ana poverty Tanat may persist Tort generations. Already, critics of the Three Gorges resettlement programmer are describing how communities are being broken up. They report that stoutest are forced to migrate to inhospitable localities or to live amongst hostile host populations, with coercive eviction and variable compensation causing widespread resentment and intense

Table 1 Displaced population in Three Gorges Dam area Administrative unit (number of affected counties) Total population No. Displaced persons (% of total) Cocooning City (3)b Filing Prefecture (3)b Jangling Prefecture (1)b Hawaiian Prefecture (8)b (Womanhood Development Zone) Huber Province (4) All 19 counties 470, 000 571 Source: compiled from GHZ Among et al. (1996). Formerly under Chuan province, now under Cocooning Municipality.

C Baseline population in 1994. By 2003 the total population in the affected counties will grow to 19 million and the displaced total will reach at least 1.13 million. B s. Jackson, A. S e gnu / communist Ana Post-communist statues opposition (Www Mining, 1998).

These reports are unverified but are not surprising, eased on experience elsewhere. Incentives and compensation constitute the major problem in resettlement. The construction of dams breeds untold social discontent and <https://assignbuster.com/resettlement-for-china-the-three-gorges-dam-essay/>

despair when developers absolve themselves from the duty of care to see that displaced people are not worse off. However, some critics even think that the Parent welfare optimum of economists that “no one should be worse off” is not sufficient because it implies economic paralysis (Goodling, 1997).

Indeed, the beneficiaries of dam development should also include the displaced and host populations. International support for future large dams will have to focus on just and fair compensation so that resettlement actually becomes voluntary for most people displaced. In general, there is a right price for voluntary resettlement; voluntarism is attainable when compensations make people better off. As shown in Fig. 2, the price should be negotiated at above the compensation payment  $UP$ , the point at which the stoutest are indifferent to staying or leaving their habitats and livelihoods.

The model suggests that an individual will definitely stay at  $PI$ , will be indifferent to whether to move or to stay at  $UP$ , and will have the economic incentive to move at  $UP$ . Payment at  $PI$  under-compensates. To induce voluntary resettlement, compensation payment should be offered above “indifference” payment  $UP$  but below  $UP$  (that is, within the PAPPY zone of negotiation). This will match the aspirations of individuals to become better off. However, these points will be based on average values for groups and we would expect considerable variation in the point of indifference for individuals, even within the same household.

Some will never want to move. Of course, such “willingness to move” analysis over-simplifies by notarizing the entire basis of hooch, and we have ignored the possibility of inflated UP levels as part of a self-interested “game” strategy that may be played if peasants expect to be under-compensated. Fig. 2. Levels of compensation payments for voluntary resettlement. 231 Also, we are aware that some factors considered by resettles have no monetary value.

According to a newspaper report on the Three Gorges Dam project, government documents promise the peasants in Yuan Yang County a sum of 20,000 Yuan for every relocate but local officials offer 10,800 Yuan. Township and county governments vise their own separate schemes for compensation (South China Morning Post, Apart from fair compensation, another issue is that government investment in regions to be flooded by dams may decline for many years before construction. This nearness that residents have a much lower standard of living when compensation is calculated than they would have if the dam had not been planned at all.

Such withholding of investment has indeed been reported for the Three Gorges area. In Hawaiian (renamed Womanhood), the prefecture most affected by the dam, the government invested only US\$72 million since 1949 because it was known that this area would be flooded, making it one of the 18 poorest regions in China today (China Daily, AAA). As well, Chuan Province had under-invested in the Three Gorges prefectures for many years because of plans to remove those areas from Chuan, as happened eventually in 1997.

Even the best intentions cannot materialize into satisfactory resettlement if funds are insufficient, as they are for the Three Gorges Dam. Despite the completion of the cofferdam in 1997, and awarding of the first turbine contracts, the construction of the dam could be slowed down or even halted because of financial difficulties. A recent estimate put the total cost of the dam project at 200-240 billion Yuan (at least US\$24.1 billion) (China Daily, Bibb). The crucial problem is finance for the first 11 years of construction amounting to 65 billion Yuan (at 1993 prices), before it begins to earn electricity revenue in 2003.

The funding shortfall is exacerbated by non-participation of the World Bank, the US Export-Import Bank and several other finance agencies normally helpful for large dam projects. Officials expect the resettlement budget to be over 100 billion Yuan (US\$11.76 billion) by 2003, the first stage of inundation. The budget will cover compensation for lost homes and farms, as well as for new roads and bridges, water and power supplies and other infrastructure and moving expenses. But the amount actually being disbursed for resettlement is not known.

The official prediction for the Three Gorges area is a grain shortage of 120-150 thousand tons each year (China Yang Three Gorges Project Development Corporation, 1994). Dam builders have argued for constructing a large dam in order to gain economies of scale. For every billion kWh in annual electricity output, inundation of 28.35 ha of land was necessary for the Three Gorges Dam compared with an average of 900 ha for the other 31 large and medium-sized dams currently under construction (Ghezzi et al. 1996). This engineering viewpoint is economically miscalculated if the scarce and fertile  
<https://assignbuster.com/resettlement-for-china-the-three-gorges-dam-essay/>

farmlands to be flooded are more valuable than the electricity generated; the total welfare loss to the whole society might be minimized if the economic cost of inundated farmlands was more widely dispersed instead of concentrated in one area. The fertile farmlands to be flooded by Three Gorges Dam are located in a mountainous zone where arable land is scarcer and the population more dense than most areas in China.

Furthermore, Premier GHZ has banned clearing of virgin forest for resettlement because of the risk of soil erosion, and has also banned terracing on slopes exceeding 250 (South China Morning Post, Bibb). These new regulations will exacerbate the land shortage. Claims that rural relocation was feasible for 60% of displaced farmers were surely exaggerated. Inadequate property rights When infrastructure development entails loss of human habitats in a market economy, fairness and equity are upheld by paying compensation equivalent to market prices, at least. A property market has developed in some urban areas in

China but it is still unclear if individual home buyers have full rights to sell as they wish (China Daily, ICC). In 1998, the government announced it would end socialist distribution of welfare housing with a nationwide plan to build affordable housing for families. The implication was that a property rights reform was forthcoming in the real estate sector of many cities. However, such conduct has not yet reached rural China. Farmland acquired by the State cannot be valued by a prevailing market price because there is no market for rural land. 233 Economists (who support the school of New Institutional Economics) note that