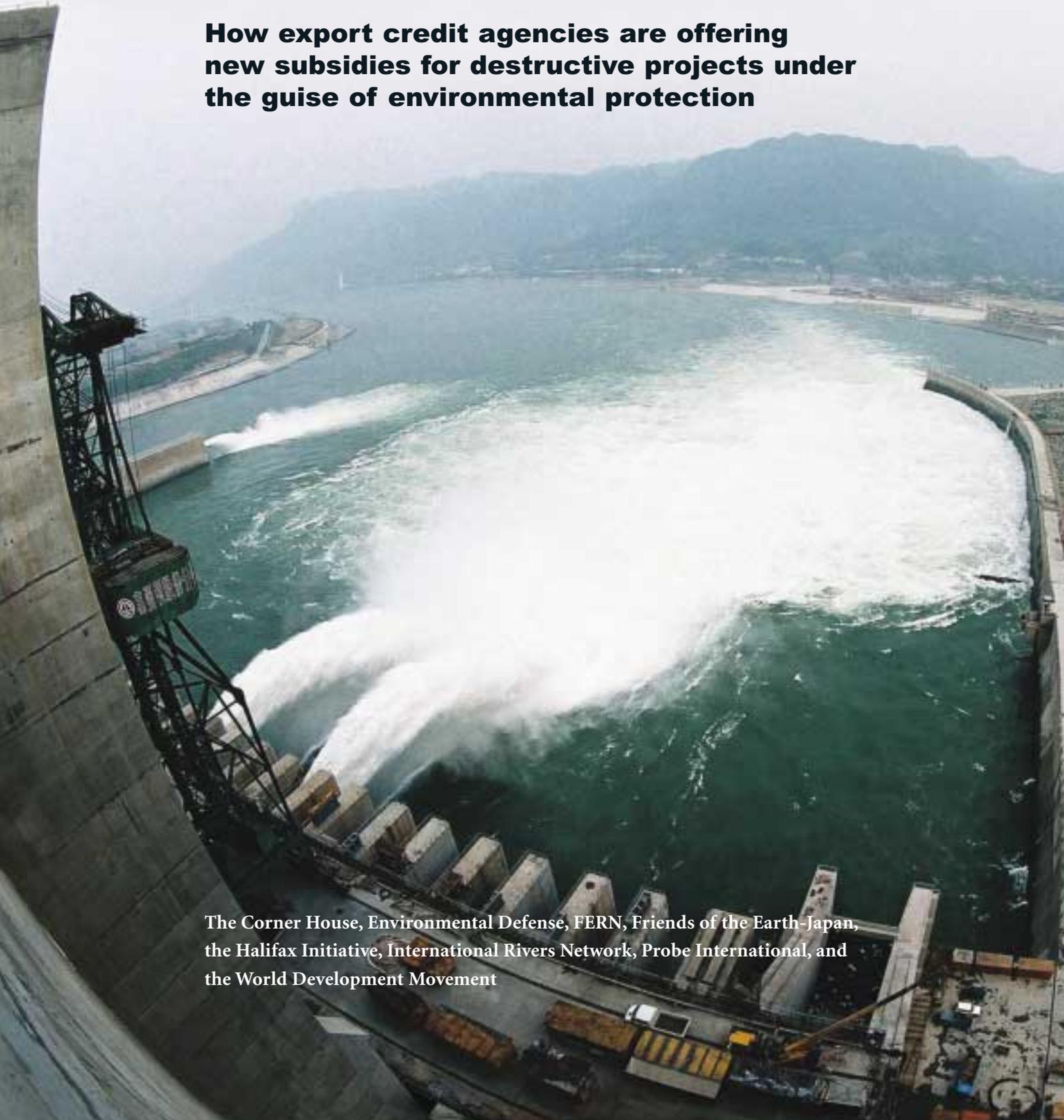


A Trojan Horse for Large Dams

**How export credit agencies are offering
new subsidies for destructive projects under
the guise of environmental protection**

The Corner House, Environmental Defense, FERN, Friends of the Earth-Japan,
the Halifax Initiative, International Rivers Network, Probe International, and
the World Development Movement



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A report prepared for *ECA WATCH* by:

The Corner House, Environmental Defense, FERN, Friends of the Earth-Japan, the Halifax Initiative, International Rivers Network, Probe International, and the World Development Movement

September 2005

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Imprint

A Trojan Horse for Large Dams: How export credit agencies are offering new subsidies for destructive projects under the guise of environmental protection

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“Three Gorges Dam”

Paris, September 2005



This man, fishing near the Three Gorges Dam construction site, is likely to catch fewer fish as the reservoir fills.

Photo: www.stevenbenson-photo.com

Introduction

By Peter Bosshard, International Rivers Network; and Aaron Golzimer, Environmental Defense

Large dams are among the most socially and environmentally risky and controversial of infrastructure projects, and the export credit agencies of wealthy countries have a long history of granting public financial assistance so that their dam-building industries can build these projects in Southern countries. Official export credit agency support can be confirmed for 30 of the world's most controversial dams. The recent decision by industrialised-country governments to grant special export credit terms – amounting to new financial incentives – for hydropower projects in Southern countries threatens to result in publicly subsidised environmental destruction and impoverishment.

In April 2005, the member governments of the Organisation for Economic Co-operation and Development (OECD) – known as the “rich man's club” of wealthy countries – decided to extend special financial incentives to renewable energy and

water projects through the Arrangement on Officially Supported Export Credits. This responded to a long-standing demand from civil society organisations that export credit agencies do more to shift their portfolios from their heavy support for fossil fuel and large dam projects towards sustainable energy technologies. However, instead of shifting their portfolios *away* from high-impact projects like large dams, the OECD governments included hydropower in their definition of “renewable energy” – thereby allowing even more generous financial support for large dams than before.¹

While the preferential terms given to sustainable sources of energy like solar, wind, and geothermal are welcome, the extension of favourable financial terms to hydropower projects – already a long-standing and powerful industry – may be the most important impact of the new agreement on the global environment. If a realistic assessment of the recent past is any guide, more generous export credit subsidies for large dams will bring about major adverse environmental and social impacts in Southern countries.

The impacts of large dams have been extensively documented, most comprehensively and authoritatively by the World Commission on Dams (WCD) in the year 2000.² They can be summarised as follows:

Social Impacts – Large dams have displaced 40-80 million people. Millions more have been affected by the loss of land and fisheries, the disappearance of flood-recession agriculture, and water-borne diseases such as malaria that are spread by reservoirs. According to the WCD report, the failure to adequately resettle and rehabilitate people displaced by dams has led “to the impoverishment and suffering of millions”.³

Poor, marginalized rural communities, including indigenous peoples, have been particularly negatively affected by large dams. Resettlement and compensation plans have had a nearly universal record of failure, almost always failing to restore, much less improve, the livelihoods of affected populations. According to the WCD report, a “lack of equity in the distribution of benefits has called into question the value of many dams in meeting water and energy development needs when compared with the alternatives”.⁴

Environmental Impacts – The WCD found that “large dams generally have a range of extensive impacts on rivers, watersheds and aquatic ecosystems” and “have led to irreversible loss of species and ecosystems”. Dams have altered 60 per cent of the length of the world’s large river systems and have caused a rapid loss of freshwater biodiversity. Up to 35 per cent of freshwater fish species are estimated to be extinct, endangered or vulnerable. Large dams have flooded hundreds of thousands of square kilometres of valuable ecosystems, including irreplaceable habitats for endangered species and the farmlands of the rural poor.

The environmental impacts of large dams also include the emission of greenhouse gases. Because of their methane emissions, the climate impacts of tropical hydropower reservoirs have often exceeded those of conventional fossil fuel plants generating

1 See OECD, Arrangement on Officially Supported Export Credits, Agreement on Special Financial Terms for Renewable Energies and Water Projects, 15 July 2005, [webdomino1.oecd.org/olis/2005doc.nsf/43bb6130e5e86e5fc12569fa005d4004c/4e6f9ffa185b7b3ac1257042002ec55c/\\$FILE/JT00187704.PDF](http://webdomino1.oecd.org/olis/2005doc.nsf/43bb6130e5e86e5fc12569fa005d4004c/4e6f9ffa185b7b3ac1257042002ec55c/$FILE/JT00187704.PDF)

2 World Commission on Dams, Dams and Development: A New Framework for Decision-Making, Earthscan 2000.

3 Ibid., p. xxxi

4 Ibid., p. xxviii

equivalent amounts of energy. Emissions from the Balbina reservoir in Brazil (a project financed with official export credits), for example, are estimated to be some 25-28 times higher per kilowatt hour than emissions from modern coal-fired power plants.

Economic Impacts – Historically, the benefits of large hydro projects have been overestimated and the costs vastly underestimated. The average of cost overruns for the 81 large dams that the WCD studied in its representative cross-check survey was 56 per cent.⁵ In addition to social and environmental costs that are not adequately taken into account, construction delays, cost overruns, and lower-than-projected power outputs have been the rule, rather than the exception. Furthermore, the functional lifetime of many dams is being severely impacted by sedimentation. Some large dams have silted up within a few years or decades. The huge Tarbela hydropower project in Pakistan, a dam financed with official export credits, has lost one quarter of its storage space to sedimentation. The World Bank estimates that 300-600 new large dams must be built every year simply to offset the loss of storage capacity due to the sedimentation of existing dams.

Export credit agencies have for at least a decade claimed that they have learned lessons from the errors of the past and that their environmental guidelines adequately address the environmental and social impacts of the projects they finance. As the export credit agencies of the OECD countries look to extend even more generous financial terms to hydropower projects, this report looks at the social, environmental and economic track record of hydropower and other water projects that export credit agencies have supported during the last ten years.

The case studies confirm that dam projects financed by export credit agencies continue to have serious detrimental social, environmental, and human rights impacts. Export credit agencies should, therefore, not allow their special export credit terms for large dams to come into effect – particularly under the guise of an environmental initiative – and should only support dams in the future under strict conditions adequate to the task, namely the recommendations of the World Commission on Dams.

Further reading

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- Hildyard Nicholas, *The OECD Arrangement and New Subsidies for Dams, The Case for Strengthened Standards*, The Corner House, August 2005.
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This village chieftainess was forcibly resettled for Mohale Dam, the second of the giant LHWP dams.

Photo: Don Edkins

Lesotho Highlands Water Project

Corruption and impoverishment

By Lori Pottinger, International Rivers Network

One of Africa's biggest infrastructure projects has succeeded in delivering water to South Africa but has left a trail of social ills and environmental problems in its wake. The Lesotho Highlands Water Project (LHWP), a huge inter-basin water-transfer scheme, comprises five dams, 200 kilometres of tunnels blasted through the Maluti Mountains, and a 72-megawatt hydropower plant. The project's primary purpose is to transfer water to South Africa. Two of the dams and the hydropower component have been completed at a cost of approximately \$3.5 billion.

Financing – Financing for the project comes from the World Bank, the Development Bank of South Africa, the African Development Bank, the European Development Fund, European commercial banks, and the following export credit agencies: **Germany's Hermes**, the **UK's Export Credit Guarantee Department**, **COFACE of France** and **SACE of Italy**. In March 1993, the Norwegian Agency for Development Cooperation (NORAD) rejected an application by Kvaerner Energy for credit support, on the grounds that the contract supported a series of dams whose cumulative social and environmental effects had not been studied.

Social Impacts – The once remote mountain communities of the Lesotho Highlands have changed dramatically because of the project. More than 27,500 people have been affected by the first phases. Resettlement housing took years to complete. Since Lesotho has so little arable land, most of the displaced farmers did not receive "land for land" compensation, which meant they needed to be trained with new skills for alternative livelihoods – an effort that has mostly failed. The key strategy for restoring livelihoods was the Rural Development Plan (RDP), which was widely criticised; even World Bank reports called it "the sick man of the project". A June 1996 World Bank report stated: "After about eight years of implementation of RDP progress, a recent evaluation shows that, although there is some potential for this program in the Highlands, it cannot be trusted to restore incomes and sources of livelihoods as required by the treaty and Bank resettlement policy."⁶

Health impacts have also been particularly severe. The dam's workforce of 20,000 moved into the Highlands, bringing AIDS to previously isolated communities. As a consequence, Lesotho has today one of the highest AIDS rates in Africa, and the Highlands have an inordinately high rate. The greatly reduced flow of water has also led to adverse health impacts for communities downstream of the dams.

Environmental Impacts – Many of the most important environmental and

6 World Bank, Lesotho Highlands Water Project Aide Memoire, June 4, 1996

social studies were carried out too late to influence project design or to add meaningfully to the debate about project viability. Because the feasibility study for the project had declared that there were no major “environmental obstacles” to the project, the LHWP began without even an environmental impact assessment. In addition, there were no studies on problems such as erosion and sedimentation, although these issues are critical to the project’s long-term viability. An instream flow requirements study (IFR), which analyzes how much water is needed in areas downstream of a dam to support life and livelihoods, was not completed before construction of the second dam had begun, greatly reducing the impact of the report.

A number of rare and endangered species are known to have lost habitat because of the project. Diverting most of the river’s flow has had substantial downstream impacts. If the entire project is built and Lesotho delivers as much water to South Africa as the original treaty requires, the IFR study reports that the rivers affected by the project could deteriorate to “something akin to waste-water drains”.

Corruption – Widespread corruption was discovered in the LHWP in 1999, when more than twelve multinational firms and consortia were found to have bribed the chief executive officer (CEO) of the project. After the CEO himself was convicted of bribery, three major international firms were found guilty, and one (Canada’s Acres International) was debarred at the World Bank. According to the Lesotho Attorney General, the court cases themselves have cost the government \$4.3 million as of 2004 – 2 per cent of the country’s annual budget for public services.

Now that the World Bank is about to close its books on the first phase of the project, it admits it cannot guarantee that people were not made poorer as a result of the project – although this minimal requirement was an explicit commitment made by the parties to the project contract. Sadly, although the Bank considers the LHWP a project a model for future large dams in Africa, this case study clearly shows that the Bank safeguard policies are inadequate to address the challenges associated with large dams.

People affected by Katse Dam (the first of the LHWP dams) gather to discuss their lives since the dam was built.

Photo: Lorri Pottinger



San Roque Dam Project Philippines

Broken laws, broken promises

By Hozue Hatae, Friends of the Earth-Japan

The San Roque Multipurpose Project is one of the most controversial projects funded by Japan Bank for International Cooperation (JBIC) to date. The dam was constructed on the Agno River in the northern Philippines for four main objectives: electricity generation (345 megawatt capacity), irrigation of 87,000 hectares of land, flood control, and water quality improvements. Despite failure to comply with several JBIC policies and Philippine laws, and despite strong opposition from local communities, dam construction was completed, and the commercial operation of the power component began in May 2003.

Financing – The total cost of the project was \$1.19 billion. **JBIC** and private banks provided \$500 million in loans to the San Roque Power Corporation (SRPC), and JBIC alone provided \$400 million in loans to the Philippine National Power Corporation (NPC). The financing for the power component has been disbursed entirely (as of January 2005), even though many outstanding environmental and social problems have not been resolved. The Philippines government also requested a JBIC loan for the irrigation component (some \$160 million), which has not yet been implemented.

Social Impacts – Now that the dam has been built, sediment will be accumulating behind the reservoir. This will raise the level of the river bed and flood adjacent low-lying lands. This flooding will affect up to 20,000 villagers of the Ibaloi, an indigenous people who depend on the Agno River basin upstream of the dam. The sediment will eventually bury the Ibaloi's ancestral lands, including their homes, rice terraces, orchards, pasture lands, gardens and burial grounds. These impacts, acknowledged by project proponents, cannot be mitigated or avoided and will deprive the Ibaloi of their communities and their indigenous culture.

2,545 families were also forced to give up their agricultural land to make way for the project, and more than 3,000 gold-panners lost their livelihoods. Most of these people were tenant subsistence farmers who met their basic needs from gold-panning, farming, gardening and animal husbandry. These tenant farmers were relocated after the NPC bought the land from the owners. The tenants were made to sign forms in English indicating their agreement to be relocated, even though most of them did not understand English. They were entitled only to cash compensation for their houses, land improvements, and crops and were given no alternative means to restore their livelihoods. As a result, the standard of living of those resettled has deteriorated. Six years after they were moved, many are struggling to survive in resettlement sites and

lack sufficient sources of income. Some cannot afford to pay their electricity and water bills and have had to move away again.

The Indigenous Peoples' Rights Act of the Philippines requires the free, prior and informed consent of indigenous peoples for projects that impact their ancestral lands. When the affected Ibaloi communities learned of the San Roque Dam project, they immediately raised their concerns with the government about the adverse impacts of this project. In spite of their efforts to defend their rights and appeal to the Philippine government, to JBIC, and to the power companies, through consultations, legal appeals, and petition letters, the project was still pushed through.

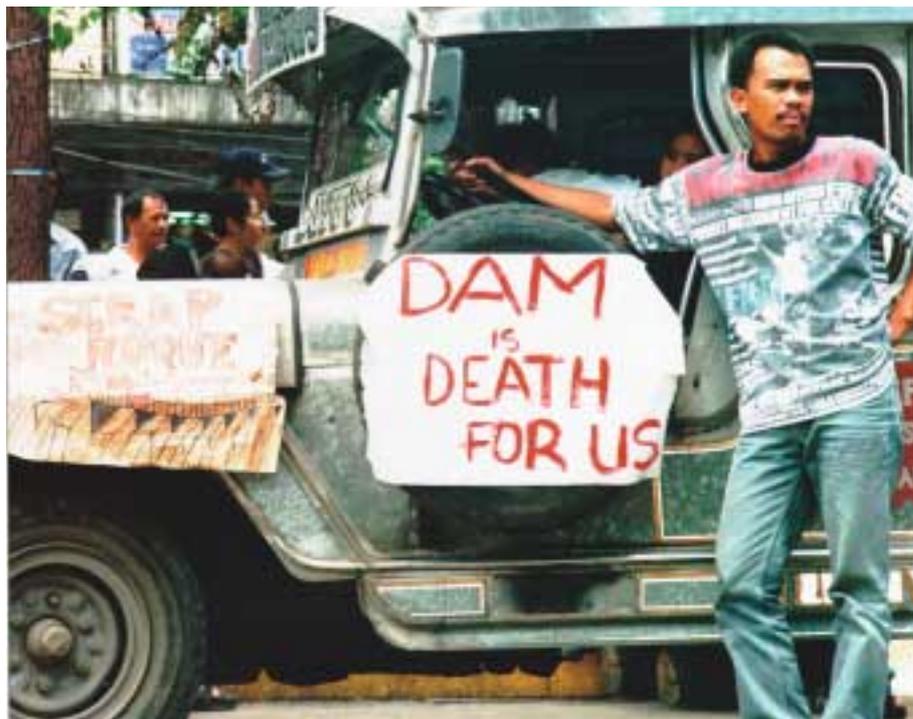
Economic Impacts – The Power Purchase Agreement between the SRPC and the Philippine government's NPC heavily favours SRPC. The cost of the power is greatly inflated, and the NPC has agreed to pay \$10 million a month to the SRPC regardless of whether there is sufficient water available to generate power or not.⁷ Furthermore, now the Philippine government is responsible for paying back \$400 million in loans to JBIC, increasing the debt burden of an already heavily indebted country.

Further reading

→ *Development Disasters: Japanese-Funded Dam Projects in Asia – a report about JBIC and large dams in Asia, published by RWESA, FoE-Japan and IRN in March 2003, www.irn.org/programs/seasia/030309.irnjbic.pdf*

A man protests the San Roque Dam.

Photo: Toot S., Philippine Daily Inquirer



⁷ White, Wayne, A Review of the Power Purchase Agreement between NPC and SRPC, 2000, available at www.irn.org/programs/sanroque

Three Gorges Dam China

Pervasive abuse of human rights

By Fraser Reilly-King, Halifax Initiative; Kevin Yuk-shing Li, International Rivers Network; and Pat Adams, Probe International

In 1993, work began on the world's largest and most controversial hydroelectric facility, the Three Gorges Dam in China. When completed in 2009, the dam will provide up to 22,400 megawatts of electricity,⁸ and its reservoir will stretch 600 kilometres upstream. The reservoir is submerging over 20,000 hectares of farmland, two cities, eleven county seats, 119 small towns, 6,300 villages, and 1300 archaeological sites and will displace over 1.2 million people.⁹ For those directly affected, the combination of resettlement failures, inadequate compensation, flagrant corruption, and the collapse of the resource base that many depend on for their livelihoods is condemning them to a lower standard of living. Furthermore, in confidential official documents, Chinese officials reveal that the flood control benefits (one of the main justifications for the project) were vastly exaggerated.¹⁰

Financing – Export credit agencies from eight countries, as well as 26 private banks and the Chinese government, helped finance the dam. Canada's export credit agency, then called the Export Development Corporation (EDC), was the first to sign an export credit agreement for the dam, in 1995. Since then, export credit agencies have provided more than \$1.4 billion in financing, or 6-8 per cent of the total budget. Loans, guarantees and insurance came from **Canada's EDC, France's COFACE, Norway's GIEK, Germany's KfW and Hermes, Switzerland's ERG, Sweden's SEK, Spain's CESCE and Brazil's BNDES.**¹¹ Both the World Bank and the United States' Export-Import Bank did not provide any support for the project, largely because of environmental, economic, and/or transparency concerns.¹²

Social and Agricultural Impacts – Agriculture is the main economic activity in the affected region, and arable land is already extremely scarce. The loss of the valley's most fertile agricultural land and the further aggravation of soil erosion downstream from the dam is beginning to undermine local food security, especially since the land used for resettlement has proven to be insufficient and of poor quality. This will be compounded by the fact that silt from the Yangtze, which would normally provide important nutrients and ensure the future fertility of farmland, will largely be impounded by the dam. Meanwhile, hundreds of factories have been submerged by the reservoir, adding to the ranks of the unemployed in the region. The reservoir has also wiped out aquaculture facilities, as well as irrigation ponds and rice fields that had been used for raising fish, reducing fish production in the region by thousands of tonnes a year.

⁸ People's Daily, December 9, 2004

⁹ www.threegorgesprobe.org/tgp/index.cfm?DSP=content&ContentID=10063

¹⁰ www.threegorgesprobe.org/tgp/index.cfm?DSP=content&ContentID=1716

¹¹ Three Gorges International Bidding Company Limited, China Water Resources Daily, 25 March 2003; Multiple ways of capital raising to assure construction of Three Gorges Project, 2.35 billion Yuan was saved, Economic Information Daily, June 6, 2003 (Chinese sources)

¹² www.threegorgesprobe.org/tgp/index.cfm?DSP=content&ContentID=9869

Forced displacement and inadequate resettlement and compensation are producing some of the most severe impacts. A 2003 report published by the International Rivers Network found that:

- Land and jobs that had been promised to displaced communities were either no longer available or of inferior quality, leaving many individuals landless, homeless and jobless.
- Many of the resettlement villages consist of shoddily constructed buildings lacking sufficient infrastructure for water and power.
- Compensation fell far short of the amount needed to restore livelihoods.
- No independent grievance mechanism exists, and protests about resettlement problems have been quelled with repressive police tactics that have included violence and other serious human rights abuses.¹³

Corruption – Corruption has exacerbated many of these dynamics. Millions of dollars have been siphoned off from resettlement funds by local bureaucrats, who have been charged with using stolen money in real estate schemes, leisure hotel construction, and stock market speculation. In 2005, the Xinhua news service reported that hundreds of cases of corruption, involving tens of millions of dollars, had been uncovered to date.

Cultural Heritage Impacts – The project will not only upend livelihoods but will also destroy vast treasures of China's cultural heritage. Over 1300 archaeological and cultural sites are being submerged, including temples and ruins dating from the ancient Daxi culture and tombs from the Warring States period and the Eastern Han, Ming and Qing dynasties. Officials in charge of salvaging important relics admit that, because of the tight schedule, 90 per cent will be lost.

Environmental and Seismic Impacts – The environmental impacts predicted by various assessments over the past decade are beginning to be felt:

- Unprecedented changes in river hydrology have impeded fish and river mammal migration, threatening the endangered Baiji Yangtze River dolphin and the Chinese sturgeon with extinction.
- Sediments trapped by the dam are failing to reach lowland floodplains downstream, thereby starving wetland areas of nutrients and possibly changing migratory bird habitats.
- Heavy metals from submerged coal and phosphorus mines, as well as mercury from impounded sediments, are leaching into the reservoir. The release of these elements, in addition to the chemical pesticides and fertilisers in the reservoir bottom, is creating a severely toxic reservoir environment.

13 Human Rights Dammed off at Three Gorges, IRN, January 2003

- Landslides and seismic activity are likely to increase in the reservoir zone since the dam has been built in a geologically unstable region prone to earthquakes and landslides. Prominent scientists have warned that the impounding of such a large body of water is likely to trigger geological incidents, putting lives at risk. The construction of new settlements for people displaced by the dam has already triggered landslides and riverbank collapses.

Further reading

- *Three Gorges Probe*, www.threegorgesprobe.org
- *International Rivers Network, Human Rights Dammed Off in China, January 2003*, www.irn.org/programs/threeg/pdf/3gcolor.pdf

This village will be submerged when the reservoir reaches it's full depth, marked here by this sign.

Photo: www.stevenbenson-photo.com



Nam Theun 2 Hydropower Project Laos

Ignoring alternatives, threatening livelihoods

By Aviva Imhof, International Rivers Network

The Nam Theun 2 Hydropower Project, in Laos, was given the green light earlier this year when the World Bank, Asian Development Bank, four export credit agencies and a host of private banks agreed to support the \$1.3 billion project. The 48-meter high dam will be located on the Theun River, a major tributary of the Mekong. Water will be stored in a reservoir on the Nakai Plateau and diverted to a powerhouse, before being released into another Mekong tributary, the Xe Bang Fai River.

Export credit financing – The project is being supported by four export credit agencies, namely **COFACE (France)**, **EKN (Sweden)**, **GIEK (Norway)** and **Thai Exim Bank**. Together, they are providing \$230 million in loans to the Nam Theun 2 Power Company, which is a consortium composed of Electricité de France, two Thai companies and the Lao government. The project is supposed to generate foreign exchange for Laos by selling power to Thailand; this revenue is then intended to be used for poverty alleviation in Laos.

Social impacts – Approximately one in 50 Laotians will be negatively affected by the Nam Theun 2 Dam; and as with many other hydropower projects in Laos, it is the poorest people, often subsistence farmers, who will lose their livelihoods as a result of the dam. Nam Theun 2 will displace 6,200 indigenous people living on the Nakai Plateau, and it will affect more than 100,000 people living in downstream communities along the Xe Bang Fai and Nam Theun rivers. The project will jeopardise food security for these people, who depend on freshwater fish for up to 80 per cent of their protein. It will also affect their ability to grow vegetables along the riverbanks during the dry season, deprive them of fresh drinking water and impair river transportation.

Experience from other hydropower projects in Laos and elsewhere shows that replacing subsistence livelihoods is extremely difficult. Independent reviews of the plans for compensating villagers affected by Nam Theun 2 reveal that these plans are overly ambitious and have a high likelihood of failure.¹⁴ Meanwhile, there are no guarantees that the revenue accruing to the government from Nam Theun 2 will be used for poverty alleviation. The negative track record of other dam projects in Laos, such as Nam Leuk and Theun Hinboun, and the government's failure to transparently manage its revenues are strong indications that the poverty exacerbated by Nam Theun 2 will be far greater than any poverty alleviated by it.

Environmental impacts – In addition to the social impacts, the reservoir on the Nakai Plateau will submerge an area of rich biological diversity that sustains one of

¹⁴ Environmental Defense and International Rivers Network commissioned a series of technical reviews of Nam Theun 2 project documents. These reviews are available at www.irn.org.

the last remaining herds of wild elephants in Laos. Several other endangered and endemic species, such as the white winged duck, will have their habitat and/or migration routes flooded by the dam. The release of cold water from the bottom of the reservoir will also impact aquatic ecosystems downstream, which will likely lead to massive fish die-offs.

Nam Theun 2 may also result in substantially higher greenhouse gas emissions than combined-cycle natural gas plants generating the same amount of electricity. The characteristics of Nam Theun 2 – a tropical reservoir with a large drawdown zone – are similar to those of Brazilian reservoirs where high methane emissions have been measured. Extrapolations from the average net emissions per square-kilometer flooded calculated for four reservoirs in the Brazilian Amazon indicate that Nam Theun 2 could emit the equivalent of nearly 5 million tons of carbon dioxide every year. By comparison, a natural gas combined-cycle plant generating the same amount of electricity as Nam Theun 2 would emit the equivalent of around 2.53 million tons of carbon dioxide. In other words, Nam Theun 2 could have *twice* the greenhouse gas emissions and climate impacts of fossil fuel alternatives.¹⁵

World Bank standards a failure – Despite repeated calls from project critics for an assessment of Nam Theun 2’s compliance with World Commission on Dams guidelines, the World Bank and other donors refused to conduct such an analysis. Instead, the World Bank said that it would rely on its own safeguard policies to determine whether to support the project or not. The four export credit agencies involved in the project primarily relied on the World Bank’s appraisal to determine their own positions on the project. In doing so, the export credit agencies abdicated their environmental and social due diligence responsibilities.

Nam theun 2 will flood the habitat and breeding grounds for one of the last remaining populations of wild elephants in Laos. Asian elephants are globally endangered.

Photo: Alongkot Chukaew



¹⁵ The Brazilian calculations are done by researcher Philip Fearnside of the National Institute for Research in Amazonia. The project documents for Nam Theun 2 forecast relatively low emissions from the project. These are based on extrapolating from a single project in French Guyana. The official project documents state that the large drawdown zone means that emissions will be low; in fact, the contrary is more likely to be true. Research in Brazil shows that drawdown zones, with their annual cycle of weedy growth followed by flooding and decomposition, are in the words of Fearnside “virtual methane factories”.



Young children in house on the Nakai Plateau which will be inundated by the Nam Theun 2 reservoir.

Photo: Virginia Morris & Clive Hill

If a true, open and transparent options assessment process had taken place – as included in the WCD recommendations – it is likely that Nam Theun 2 would not have been considered the best option either for meeting Thailand’s energy needs or for alleviating poverty in Laos. The World Bank claims that Nam Theun 2 will benefit Thai consumers, who will be forced to purchase over 90 per cent of the electricity from the dam for the next 25 years. But the economic analyses for the project, which were released just a week before the World Bank Board meeting, contain several startling errors and unjustified assumptions that make Nam Theun 2 appear in a favourable light compared to other alternatives.¹⁶ In addition, a World Bank report found that renewable sources of power and efficiency improvements could generate the same amount of electricity for the Thai market as the Nam Theun 2 Project, but at a 25 per cent lower cost.¹⁷

Furthermore, without a series of legally binding mitigation and compensation agreements with affected people – another of the WCD recommendations – the rights of affected communities will be difficult to protect. There is no independent legal forum in which to seek redress if promises are not met. This is of particular

concern for Nam Theun 2, because Laos lacks an independent judicial system, meaning that affected communities will have nowhere to turn when promises are broken. Indeed, the lack of an independent media and freedom of expression in Laos has prohibited open scrutiny of the project from the beginning – communities are unable to access information and freely express opinions and concerns about the project. Finally, the absence of adequate baseline data, particularly for the hydrological analysis, calls into question the technical and economic viability of the project. An independent review of the hydrological data for the project found that the power company’s analysis is so deficient that it is impossible to predict how much water will be available for power generation.

Nam Theun 2 is the most recent large dam approved by the World Bank. Taken with the evidence concerning social and environmental impacts presented above, it is clear that the World Bank’s safeguard policies are inadequate for assessing hydropower projects.

Further reading:

→ www.irn.org/programs/mekong/namtheun.html

¹⁶ Did the World Bank Fudge Figures to Justify Nam Theun 2? Analysis by Dr. Chris Greacen and Detcharut Sukkamnoed, available at www.palangthai.org/docs/NT2EconMalfeasRefs.pdf

¹⁷ Nam Theun 2 Hydropower Project (NT2): Impact of Energy Conservation, DSM and Renewable Energy Generation on EGAT’s Power Development Plan (PDP), by Dr. Peter Dupont, Prepared for the World Bank, 24 March 2005.

The Birecik, Ermenek and Ilisu Projects Turkey

No lessons learnt

By Judith Neyer, FERN; and Nicholas Hildyard, The Corner House

Birecik and, if it is built, Ilisu are both part of Turkey's \$32 billion South Eastern Anatolia Project (known as GAP after its Turkish name, Guneydogu Anadolu Projesi). Consisting of a planned network of 22 dams, 19 power plants and ancillary irrigation and industrial projects, GAP is intended to use the waters of the Tigris and Euphrates Rivers to transform the Southeast of Turkey into a regional "breadbasket".

GAP had been largely financed by the Government of Turkey, with \$3.79 billion coming from foreign sources. Turkey's economic problems during the 1990s, however, led to an increasing reliance on external financing, including export credits from **Germany, Switzerland, Italy, Austria** and the **USA**. In addition to Birecik, dams funded through such export credits have included Ataturk, Karakaya and Karkamis. Export credit agency support is currently also being sought again for Ilisu, the project having been temporarily shelved in 2002, and for the Munzur and Hakari dams. The World Bank has declined to support GAP projects.

Other dams are also planned outside of the GAP project, including the Ermenek dam. Ermenek is currently under construction. Financing was arranged after the Common Approaches (the OECD agreement on common environmental guidelines for export credit agencies) had come into effect for the export credit agencies involved, demonstrating the woeful inadequacy of the Common Approaches for managing the challenges of large dams.

The Birecik Hydroelectric Project

The 672 megawatt Birecik dam is situated on the Euphrates River some 30 kilometres from Turkey's border with Syria.

Financing – Eleven companies formed the consortium that originally built and operated the dam but two – Philipp Holzmann and Alstom France – have since sold their share to Sumitomo Corp. The project was backed by **export credit agencies from Germany, France, Belgium and Austria**. Financing from 44 commercial banks was arranged by Chase Investment Bank.

Social impacts – The Birecik project affects 1,200 square kilometres, its reservoir flooding or partially flooding 44 settlements, including the town of Halfeti. 30,000

Three members of a family in front of their house in the Tigris valley near Hasankeyf in the reservoir area.

Photo: Judith Neyer



people were affected, but only 6,500 people were officially resettled.¹⁸ No resettlement plan or environmental impact assessment was made available for public comment, and those evicted were not consulted, in violation of international standards. Those without title to land were not even compensated. The inhabitants of some 18 villages located close to the construction sites were forcibly evacuated by soldiers in 1996 and 1997, while over a thousand villagers from Kavalica, a village close to Halfeti, were forced to abandon their homes and belongings when they awoke to find their houses partially submerged by the rising reservoir. Project officers did not alert them to the rising waters. Numerous families received no compensation whatsoever because they did not have land rights and still have not been given houses despite promises that they would be re-housed. Villagers who have been moved to new resettlement sites complained that their new houses are over-crowded and had not even been finished. One oustee told a fact-finding mission: “In the new villages, it is like death.”¹⁹

¹⁸ Resettlement, employment and economic investments of people affected by Birecik dam a project for planning and implementation, www.gap.gov.tr/English/Sosprj/birecik.html

¹⁹ The Ilisu Dam Campaign; the Kurdish Human Rights Project; The Corner House; World Economy, Ecology and Development; Eye on SACE Campaign and Pacific Environment Research Center, If the River were a Pen: The Ilisu Dam, the World Commission on Dams and Export Credit Reform, www.khrp.org/publish/p2000/ilisureportOct2000.htm

Cultural heritage impacts – The flooding of the reservoir led to the destruction of the remains of the Roman city of Zeugma, known as Apamea-Seleucia in ancient times. Reputed to have been one of the most important trade and cultural centres of the Hellenistic period, Zeugma has been called “a second Pompeii”. Although a last minute “salvage” operation rescued some highly significant mosaics, many others were lost to the flood waters.

The Ermenek Hydropower Project

The 309 megawatt Ermenek hydropower project is currently under construction, located on the Ermenek River, a tributary of the Göksu River in the province of Karaman. Ermenek was approved for financing by export credit agencies after they had committed to the OECD Common Approaches.

Financing – The project was built with 100 per cent foreign financing. The financing group includes ABN AMRO Bank, Bayerische Landesbank, **Kreditanstalt für Wiederaufbau** and Société Générale as joint lead arrangers, Bayerische Landesbank as agent of the banks, Bank Austria Creditanstalt Group as Co-Arranger and **OeKB** as facility agent. **Hermes** also provided reinsurance for the OeKB export credit.

Environmental impacts – The Göksu River is one of the last free-flowing rivers in Turkey. Its delta has been recognised as a Wetland of International Importance under the Ramsar Convention. Though there are plans for five further hydropower plants, there has been no basin-wide assessment of the cumulative impacts of Ermenek and the other projects.

There were also a number of shortcomings in the environmental impact assessment. Ecological surveys were insufficient for such a large project, and the assessment fails to list several threatened species which are known to occur in the area. The mitigation of environmental impacts was not covered comprehensively. For instance, the proposed minimum flow is clearly inadequate to maintain downstream ecological conditions.

Economic impacts – There was no needs and options assessment; alternatives such as decentralised renewables, energy efficiency or cutting transmission losses (30 per cent in Turkey) were not given any consideration. The economic analysis carried out for the project failed to take into account various major costs and economic impacts, such as the cost of new transmission lines, economic losses to fisheries and to other resources associated with diminished flood regimes, loss of cultural heritage, and future decommissioning costs.

Social impacts – There have been protests in 12 affected villages. Cost-benefit analysis details were kept confidential due to a confidentiality agreement made between the company and the responsible government agency, DSI (State Hydraulic

Works). The environmental impact assessment is extremely difficult to obtain, requiring a lengthy process of application to DSI or the Environment Ministry.

The Ilisu Hydroelectric Project

Scheduled for construction on the River Tigris, some 65 kilometres from the Syrian border, the planned Ilisu dam is intended to generate 3,600 gigawatt-hours of peak electricity a year and would be the largest dam in the GAP project. Export credit agencies were approached to support this project in the past, and it is likely that they will be again, creating a crucial test of how they will handle large dam projects in the future. The World Bank has declined to support Ilisu and other GAP projects.

Financing – In the late 1990s, an international consortium including Britain's Balfour Beatty, Italy's Impregilo and Switzerland's Sulzer Hydro (subsequently sold to VA Tech of Austria) sought export credits from nine countries: Austria, Germany, Italy, Japan, Portugal, Sweden, Switzerland, the UK and the USA. However, a major international campaign by environmental, human rights and development organisations publicizing the negative impacts of the dam led to the withdrawal of the principal companies and financiers. But in May 2004 the project was revived under a new consortium, led by VA Tech (now part of the Siemens group but scheduled to be resold in late 2005). To date **Austria's OeKB** and the **Swiss ERG** appear to have been informally approached for export credit support.

Environmental and social impacts – The region in which the Ilisu dam is to be built has been and continues to be characterised by repression and intimidation of the Kurdish people, who form the majority ethnic group. Significantly, since June 2004, the region has seen a return to armed conflict. In this context of widespread human rights abuses, political conflict, repression and intimidation, it is hard to see how a good project outcome, much less an outcome based on free and fair consultation, is possible.

The project will dispossess 78,000 people, mostly ethnic Kurds. No full resettlement plan has been produced, but recent evidence suggests that a resettlement action plan now being undertaken will fall far short of international standards, including the World Bank's resettlement policy, to which export credit agencies are bound under the Common Approaches.

Turkish officials have declined to require that the Ilisu project comply with the EU Directive on Environmental Impact Assessment, arguing that planning for Ilisu preceded the Turkish Accession Agreement with the European Union. The environmental impact assessment that was conducted for the former Ilisu consortium was found to be grossly inadequate. Although a new assessment is being undertaken, there are no indications that the problems identified with the previous assessment are being adequately addressed.



The ancient town of Hasankeyf, including a 12th-century bridge over the Tigris river, would fully disappear under the Ilisu reservoir.

Photo: Figen Bozyigit

Cultural heritage impacts – The ancient town of Hasankeyf, culturally important to many Kurdish people, became the focus of international attention when plans to submerge it beneath Ilisu’s reservoir first surfaced. The town is a rich treasure of Assyrian, Christian, Abassidian-Islamic and Osmanian history and has been subject to an archaeological protection order by the Turkish Department of Culture since 1978. The design of the dam has not been altered and will still submerge the city.

International security impacts – Together with other dams planned as part of the GAP, Ilisu would allow Turkey to control 50 per cent of the downstream flows of the river Tigris into Syria and Iraq. During the original planning stages of the Ilisu dam, neither of these countries were consulted by Turkey. This constitutes a potential violation of customary international law, such as the UN Convention on the Non-Navigational Uses of Transboundary Waterways, which attempts to prevent significant negative impacts of projects on international waterways on other riparian countries. These impacts could be severe; an independent review of Ilisu’s environmental impacts found that downstream water supplies in Syria and Iraq could be significantly affected by both the reduction in summer flows and deterioration in water quality.

Further Reading

- Ronayne Maggie, *The Cultural and Environmental Impact of Large Dams in Southeast Turkey: Fact-Finding Mission Report*, National University of Ireland, Galway and Kurdish Human Rights Project, 2005, www.khrp.org/publish/p2005/05A.htm
- *The Ilisu Dam Campaign*, www.ilisu.org.uk
- WWF Turkey, *Ermenek dam and hydropower project. Research and evaluation report*, 2003, www.wwf.org.tr

Water privatisation in Dar es Salaam Tanzania

No water for the poor

By Vicky Cann, World Development Movement

Though the majority of this report concerns large dam projects, the new agreement established by OECD governments also grants preferential export credit terms to other water projects. This case study regards an investment insurance policy provided by the British export credit agency for a privatized water utility in Tanzania. The case study illustrates some of the risks associated with other types of water projects – particularly those that might be associated with privatized water utilities – and therefore some of the risks of allowing preferential export credit support for these kinds of projects.²⁰

The privatisation of Dar es Salaam's water had been an externally imposed condition of debt relief and development assistance loans to Tanzania since the 1990s. In 2003, Biwater Gauff (Tanzania) Ltd, a subsidiary of the British utility company Biwater, was issued an Overseas Investment Insurance policy by the **British government's Export Credits Guarantee Department (ECGD)**. This insurance policy covers a \$4.34 million investment in a company called City Water Services Ltd (CWSL), which took over the management of water supplies in Dar es Salaam in the summer of 2003.

The insurance policy protects Biwater Gauff Ltd against “the main political risks of expropriation, war and restrictions on remittances that may arise in connection with CWSL's ten-year contract”.²¹ ECGD justified the awarding of the insurance policy on sustainable development grounds, arguing that the project would “improve the quality, accessibility and reliability of the water supply and sanitation services to an urban population of 3-5 million people in a city prone to cholera and outbreaks of water-borne diseases”.²²

However, the ECGD's projected outcomes proved to be unfounded. ActionAid, in the report “Turning off the Taps”, written ten months into City Water's contract, said that tariffs had increased substantially, despite the fact that consumers did not feel they were getting a better service. City Water was continuing to charge households for water even though water supply was only occasionally available. This meant that Dar es Salaam residents often paid twice for water: once to City Water; and then again to private vendors when the City Water flow dried up. ActionAid also reported that City Water would cut off whole communities from the water supply in an attempt to get individual non-payers to contribute.²³

In May 2005, the City Water contract was terminated by Edward Lowassa, the Tanzanian water minister, who cited “poor performance”. He was reported as saying: “The water supply services in Dar es Salaam and neighbouring places have

²⁰ This transaction was actually investment insurance, rather than an export credit; but it is presented here to illustrate the complicated issues associated with water privatization, given that projects of privatized water utilities could be eligible for these special export credit terms.

²¹ ECGD News, Summer 2003, www.ecgd.gov.uk/index/news_home/news_newsletter.htm

²² ECGD News, Summer 2003, www.ecgd.gov.uk/index/news_home/news_newsletter.htm

²³ Turning off the Taps, Action Aid International, September 2004

deteriorated rather than improved since this firm City Water took over two years ago...The revocation was made following persistent complaints by city residents over incompetence of the firm.”²⁴

City Water and its UK parent company Biwater²⁵ have since denied these claims and have won an interim injunction at the English High Court to prevent the Tanzanian Government “from terminating the contract unlawfully”.²⁶ The ECGD has informally told the World Development Movement that they will wait for the outcome of any legal proceedings before deciding whether or not Biwater has any rights to a claim under the insurance policy. If ECGD pays a claim under the insurance policy, taxpayers in the UK will be paying Biwater – and ECGD will likely seek to recoup its losses from the Tanzanian taxpayers who apparently never benefited from the contract in the first place.

Further reading

- *ActionAid International, Turning off the Taps, Donor Conditionality and Water Privatisation in Dar es Salaam, Tanzania, September 2004,*
www.actionaid.org.uk/wps/content/documents/TurningofftheTAp.pdf

Women in Dar es Salaam are likely to suffer most from increased water tariffs

Photo: Romilly Greenhill



²⁴ Tanzania: Government terminates firm's water contract, Reuters/ IRIN, 17 May 2005, www.alertnet.org/thenews/newsdesk/IRIN/8058cc1019e6e6a6d5701a130abedfe6.htm

²⁵ The parent company is a joint venture in which Biwater is a partner – the other companies are Gauff Ingenieure and a Dar es Salaam based company called STM.

²⁶ City Water and the Government of Tanzania, www.biwater.com/media_room/



This Laotian girl is one of 6,200 indigenous people to be displaced by Nam Theun 2.

Photo: Bruce Adam

Conclusion

By Peter Bosshard, International Rivers Network; and Aaron Goldzimer, Environmental Defense

The case studies in this report confirm that hydropower projects and other large dam and water projects financed by export credit agencies from around the world continue to have serious detrimental environmental, social, economic, and human rights impacts.

Environmental impacts – Projects such as the Nam Theun 2 Project in Laos and the Three Gorges Dam in China will destroy the habitats of several threatened species, including elephants, white-winged ducks, the Yangtze River dolphin, and the Chinese sturgeon. According to estimates, the Nam Theun 2 reservoir will have almost twice the greenhouse gas emissions and climate impacts of fossil fuel alternatives. This is all the more significant since renewable sources of power and efficiency improvements could generate the same amount of electricity for the Thai market as the Nam Theun 2 Project, but at a lower cost.

Lack of consultation – Affected communities have not been meaningfully consulted about the projects studied for this report. The projects located in South-East Anatolia are part of a strategy of dis-empowering and controlling the region's Kurdish population. In the case of the San Roque Dam in the Philippines, the sponsors disregarded the right of indigenous peoples to free, prior informed consent that is enshrined in national law.

Social impacts – In most cases – including the Lesotho Highlands Water Project, the San Roque Dam, the Birecik Dam and the Three Gorges Dam – the livelihoods of the affected communities have not been restored, in some cases after many years. The Three Gorges Dam in China, a project financed by several export credit agencies but not the World Bank, is a testament to the large-scale impoverishment and human rights abuses that often accompany large dams. The Three Gorges Dam and the hydropower projects in South-East Anatolia are also destroying invaluable cultural heritage sites, and the San Roque reservoir has submerged the culturally important burial grounds of indigenous communities.

Corruption – For none of the projects studied in this report was there a rigorous, comprehensive and transparent assessment of options, and so potential alternatives were disregarded. The lack of transparency, consultation and options assessments favours corruption in large dam projects. The Lesotho Highlands Water and Three Gorges Projects are sources of rampant bribery and embezzlement.

Many of the environmental and social impacts of the hydropower projects studied for this report are irreversible. Cultural heritage sites are lost forever once they have been submerged in a reservoir. Fertile farmland that has been submerged cannot be restored. Threatened species cannot be brought back to life once they have become extinct. Because of the methane that is produced in tropical reservoirs, the climate impact of large dams can be greater than the emissions of conventional fossil fuel plants generating equivalent amounts of energy. Because of these irreversible impacts, hydropower should in many ways not be considered a renewable form of electricity.

Recommendations – Export credit agencies and other financial institutions should only finance large dams under strict conditions that can ensure that the serious social and environmental impacts described in this report are avoided. And export credit agencies should not allow their special financial terms for hydropower to come into effect – particularly under the guise of an environmental initiative.

OECD governments are currently considering whether to allow their special financial terms for large dams to take effect without any additional environmental safeguards, or whether to adopt the safeguard policies of the World Bank for hydropower projects financed by official export credits in the future. This report has shown that neither of these options is sufficient. Every project analysed in this report caused seriously detrimental impacts, including some projects (like Ermenek and Nam Theun 2) that were approved by export credit agencies after they adopted their international agreement on common environmental standards.

Some of the projects (Nam Theun 2, Lesotho Highlands Water Project) were also financed by the World Bank, demonstrating what is widely recognized – that the World Bank's policies are not suited for the complex issues associated with large dams. There is no comprehensive World Bank policy on large dams, and the Bank's safeguard policies do not address many problems that typically occur in dam projects. There are, for example, no binding World Bank standards on environmental flows – a crucial requirement for dam projects. Downstream communities who lose their access to water resources but not land have no rights under the Bank's resettlement policy. And in the case of large tropical reservoirs, dam developers are not yet required to assess the greenhouse gas emissions from their reservoirs.²⁷

Today's best-practice guidelines on hydropower projects are the recommendations that were put forward by the World Commission on Dams in 2000. They reflect the empirical experience with large dams, and incorporate many standards and guidelines on social, environmental and human rights concerns that governments and industry associations have adopted in other bodies.

The WCD presented its recommendations in the form of seven strategic priorities, several specific policy principles, and a checklist of guidelines to help developers and financiers put the recommendations into practice. The recommendations cover crucial issues such as gaining demonstrable public acceptance for energy and water projects, the comprehensive assessment of needs and options, the integration of social and

²⁷ See also Prof. Thayer Scudder, World Bank Safeguard Policies Are Not Sufficient for Hydropower Projects, June 14, 2005, www.irm.org/programs/finance/index.php?id=050621scudder2.html

environmental concerns into energy and water projects, the assurance of compliance with respective commitments, and the resolution of the social and environmental problems of existing dams. The OECD governments should adopt the recommendations of the WCD for all future dam projects supported with official export credits. They should certainly not give special terms to large dams if export credit support is not tied to WCD compliance.

Export credit agencies were created as instruments of mercantilism, in order to help private companies win export markets. OECD governments at present offer export credits with special financial terms for large airplanes, nuclear power stations and (under certain conditions) thermal power plants. If they were really concerned about the environmental impacts of their export credits, governments could abolish these forms of corporate welfare for environmentally destructive technologies.

Offering special financial incentives for large hydropower projects would amount to an attempt to push through further subsidies for projects that cause large-scale harm. The OECD governments' current proposal would turn an environmental initiative into a Trojan horse for environmental destruction. The governments should adopt the WCD's best-practice recommendations for dams financed by official export credits. They should not offer financial incentives for hydropower projects.

Thousands of people were displaced to make way for the San Roque Dam Project, many of whom ended up in bleak resettlement sites such as this one.

Photo: Toot S., Philippine Daily Inquirer



Information about the contributors and publishers



ECA Watch is an organizing and outreach network of the larger international campaign to reform Export Credit Agencies. www.eca-watch.org



The Corner House is a UK research and advocacy group, focusing on human rights, environment and development. www.thecornerhouse.org.uk



Based in Washington DC, **Environmental Defense** has linked science, economics and law to create innovative, equitable and cost-effective solutions to society’s most urgent environmental problems since 1967. www.environmentaldefense.org



With offices in Belgium and the UK, **FERN** works to achieve greater environmental and social justice, focusing on forests and forest peoples’ rights in the policies and practices of the European Union. www.fern.org



Friends of the Earth-Japan is working to improve the policies of the Japan Bank for International Cooperation and other financial institutions and advocates for greater transparency and accountability in development finance. www.foejapan.org/en/aid



The **Halifax Initiative** is a Canadian coalition of development, environment, faith, rights and labour groups. www.halifaxinitiative.org



International Rivers Network works to protect rivers, defend the rights of communities that depend on rivers, and help address the water and energy needs of the poor. www.irn.org



Probe International exposes the devastating environmental, social, and economic effects of Canada’s aid and trade abroad. www.probeinternational.org



Based in London, the **World Development Movement** campaigns to tackle the root causes of poverty, and wins positive change for the world’s poorest people with partners around the world. www.wdm.org.uk

A Trojan Horse for Large Dams

Under the guise of an initiative to promote sustainable energy technologies, governments are about to grant subsidised export credits for hydropower projects.

This report looks at the experience over the last ten years with dams financed with official export credits. It finds that these projects have had massive social and environmental impacts, including large-scale involuntary resettlement, human rights abuses, the loss of critical habitats of endangered species, and, in some cases, greenhouse gas emissions greater than those from thermal power plants.

If the governments go ahead with their plan, they will turn an environmental effort into a Trojan horse for environmental destruction.

