



Villagers Gather in Front of World Bank's Headquarters to Protest Nam Theun 2 Dam. Photo courtesy of Premrudee Daorung.

# The World Bank and Dams

## PART 1: LESSONS NOT LEARNED\*

As it rejoins a worldwide dam boom, the World Bank claims that the major impacts that characterized its dam legacy are a thing of the past. But the Bank's more recent history demonstrates that benefits of its large hydro portfolio have been significantly overstated, while its track record on addressing the environmental and social harms of its dam projects remains seriously flawed. Is the Bank failing the poor with its hydro-heavy investments?

“We will drown but we will not move.” So read the signs on houses to be destroyed for the World Bank-funded Sardar Sarovar Dam in the Narmada Valley, placed by people who for years risked their lives as the waters rose behind the giant dam. Their struggle eventually led to the Bank pulling out of large dams for a time, but not before displacing 10 million people with its large dams.

The World Bank was once the world's principal financier of large dams (15 meters or higher) in developing countries, and one of the sector's leading proponents. Through the 1990s it had invested more than \$90 billion in large dams that provided much-needed power and water storage to developing econo-

mies. But these projects also left behind a legacy of environmental devastation and impoverishment of communities that helped catalyze a global effort to reform the World Bank.

Destructive World Bank projects such as the Sardar Sarovar Dam in India's Narmada Valley, as well as the resistance movements they engendered, led to the establishment of critical safeguard protections for communities and the environment, and the creation of an Inspection Panel to investigate project-induced harms.

By the 1990s, the growing recognition of large hydro's steep costs to communities and the environment, and the accompanying increase in public pressure, led the World Bank to largely

\* First in a series exploring key issues concerning the World Bank's role in supporting large dams



withdraw from the sector. Meanwhile, the furor around the sorry legacy of Bank-supported projects led to the World Commission on Dams process, whose seminal work in examining the impacts of large dams represents the “gold standard” for determining when and how large dams can be developed sustainably.

### A RETURN TO BIG DAMS

After a brief hiatus, the World Bank quietly resumed support for large dams in the early 2000s, but it has shied away from the scenes of earlier community resistance to its dams in Latin America and India. Instead, it turned its focus on parts of the world that it deems have ample “untapped potential,” such as sub-Saharan Africa, Nepal, and Southeast Asia.

Indeed, the World Bank’s approval in 2005 of the \$1.3 billion Nam Theun 2 Dam in Laos constituted its first major foray into large hydro since the mid-1990s. Conscious of its reputation and eager to help refurbish its image, the World Bank invested enormous amounts of manpower, money and political capital into the project, hailing the project as a new model for “Doing a Dam Better” (also the title of the Bank’s book about the dam). It has since used its self-described success in Nam Theun 2 – the project’s serious impacts notwithstanding<sup>1</sup> – to spur a dramatic increase in hydropower lending.

Between 2002 and 2014, the World Bank Group (including its private-sector arm, the International Finance Corporation) approved \$8.8 billion for large hydro projects. In 2014 alone, having announced its intent to support major new dams, large hydro accounted for over half of its lending for power generation, and new approvals for large hydro reached over \$2 billion.

### REPEATING PAST MISTAKES

As it rejoins the worldwide boom in dam construction, the World Bank is eager to present large hydro as a clean, climate-friendly, and affordable resource capable of addressing widespread energy poverty. Moreover, as much as it acknowledges the environmental and social risks of large hydro, the World Bank is at pains to suggest that the major impacts that characterized its dam legacy are a relic of the past.

However, the Bank’s more recent history demonstrates that the benefits it claims for its large hydro portfolio are significantly overstated, if not downright misrepresented. Meanwhile, contrary to claims found in its public relations efforts, the World Bank’s track record on addressing the environmental and social harms of large dams continues to be problematic.

Given the World Bank’s stamp of approval on large hydro and its renewed appetite since 2013 for funding mega-dams, it is important to examine the Bank’s recent track record in delivering “sustainable and responsible hydropower projects” that demonstrate whether it has indeed learned from past mistakes.

<sup>1</sup> Persistent problems at Nam Theun 2 will be the subject of a forthcoming Issue Brief

Here we examine recent World Bank-funded projects; these issues will be explored in further depth in forthcoming fact sheets in the context of the World Bank’s growing role in financing large dams.

### FAILING TO ADDRESS DOWNSTREAM IMPACTS

Changes in river flow have affected the lives of millions of people living downstream from dams – as much as 10 times more people than are actually impacted by resettlement for dam construction. They suffer from declines in fisheries, poor water quality and disruption of the annual floods which once irrigated and fertilized their fields and recharged their wells. While the World Bank puts great store in its safeguard protections to manage the impacts of dams, in both policy and in practice it fails to address dams’ inevitable impacts downstream.

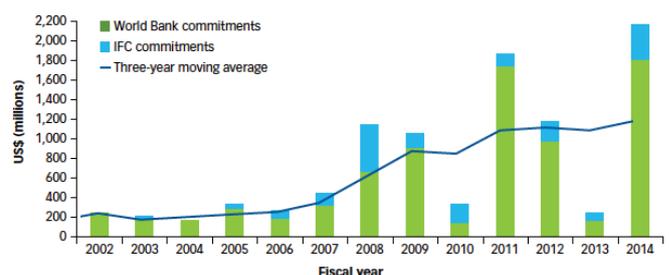
Though the World Bank has marketed it as model dam project, Nam Theun 2 in Laos has proven to be a calamity to the more than 120,000 mostly indigenous people living in villages downstream of the dam along the Xe Bang Fai River. Changes in the river’s ecosystem have caused villagers to suffer dramatic reductions in fish catch – previously the cornerstone of local livelihoods. Meanwhile, rice yields have plummeted as waters released by the dam have flooded out rice paddies, leaving downstream communities worse off.

### WRONG CLIMATE FOR DAMMING RIVERS

The World Bank routinely cites the pressing need to mitigate climate change as a key reason for scaling up its lending for large hydro. However, dam reservoirs, particularly in the tropics, emit greenhouse gases. Scientists have shown that rotting vegetation from dam reservoirs is a globally significant source of one of the most potent greenhouse gases, methane. These emissions have been estimated to be about 4-5% of human-caused emissions.

Large dams are also highly vulnerable to climate change, as river flows are increasingly unpredictable because of changes and extremes in rainfall patterns. On the one hand, more extreme floods bring increased risk of dam failures and catastrophic flood releases; while on the other hand, more frequent droughts will make many hydropower projects

## World Bank Group lending for large hydro



Source: World Bank

## Sardar Sandovar Dam, India – Mobilization in the Narmada Valley

The Sardar Sandovar Dam is among the most contentious projects that the World Bank ever financed. The project was designed to irrigate 1.8 million hectares of land and generate 1,450 MW of power, estimates that a World Bank investigation later found spurious. The vast reservoir would submerge 37,000 hectares of fertile lands, and require the uprooting of more than 200,000 indigenous adivasi, in addition to untold impacts on the Narmada's rich biodiversity and the communities who depend on it.

Faced with the dismantling of their communities and relocation to barren lands, affected communities opposed the project through the Narmada Bachao Andolan (Movement to Save the Narmada). Their peaceful struggle included demonstrations and hunger strikes, popular mobilization and international media campaigns, court action and advocacy work at the World Bank and in parliaments.



Activists and affected people march against the construction of dams in India's Narmada Valley . Photo: Heffa Schücking

The unprecedented local and international pressure forced the Indian government to ask the World Bank to withdraw from Sardar Sarovar in 1993, and helped presage the Bank's withdrawal from the sector for over a decade.

uneconomic, an issue of particular concern to the many countries that already heavily dependent on hydropower.

In Cameroon, the World Bank is financing construction of the Lom Pangar Dam, which will regulate the mighty Sanaga River to spur additional dam construction downstream, primarily to feed mining giant Rio Tinto's energy-hungry aluminum smelting operations. Cameroon is already heavily dependent on hydropower on the Sanaga for electricity, and Lom Pangar will help increase that share to well over 90%. Despite the risks that climate change poses to the viability and economics of the scheme, the Bank approved the project without assessing the potential impacts of climate change. With rainfall steadily declining, Lom Pangar could end up saddling the Cameroonian public with substantial debt for dams that don't have the water they require.

### ENERGY FOR THE POOR?

The World Bank consistently cites low energy access rates, especially in Africa, to make the case for large hydropower projects, yet large-dam hydropower is particularly ill-suited to expand electricity access for the poor. In sub-Saharan Africa in particular, where some 70% of people lack access to electricity (and mostly live far from the electricity grid), the World Bank has consistently backed large dams to power large energy consumers, including some of the world's largest mining companies.

The International Energy Agency (IEA) found that 70% of rural areas in the developing world are best electrified by

local mini-grids and off-grid solutions based on solar, wind and micro-hydropower projects. Yet the Bank prioritizes grid-based projects; from 2007-2013, it has spent less than 10% of its energy lending to target people who lack access to electricity. The Bank's continued support for large hydro ends up worsening this imbalance.

### UNDERESTIMATING COSTS, OVERSTATING BENEFITS

The World Bank claims that hydropower is a cheap or affordable option for developing countries, though there is little evidence to support that claim. In fact, a recent study prepared by researchers from Oxford University, based on the most comprehensive economic analysis of large dams ever undertaken, found the opposite to be true. On average, the costs of large dams suffered overruns of 96%. As a result, large dams often end up not being the least cost option, rendering most dams uneconomic and electricity too expensive for consumers, especially the poor. Forecasts have not improved over time, and the researchers found that projects supported by multilateral development banks "do not perform better in terms of cost overruns."

### A RETURN WORTH THE RISK?

In project after project, communities and the environment are left worse off from World Bank-financed dams, and the anticipated benefits to reducing poverty rarely materialize. As it once again pursues large hydro under the guise of clean energy, the World Bank has sadly failed to demonstrate that it is in fact able "do dams better."

## Inga 3 Dam, DRC – Bridging the energy divide?

The World Bank is backing plans to construct the 4,800 MW Inga 3 mega-dam in the Democratic Republic of Congo (DRC), a fragile country still recovering from prolonged civil war. Despite Bank pronouncements about harnessing Inga site's enormous hydropower capacity to "light up the African continent," Inga 3 will export about 80% of its electricity to power to South Africa and mining companies in eastern DRC. The remainder – likely to be much less than the estimated 1,000 MW – has been earmarked for consumption in Kinshasa, DRC's capital. This is on top of billions the Bank and other financiers have poured into rehabilitation at the existing Inga dams. Despite a combined price tag likely to surpass \$15 billion, these projects are not equipped or intended to deliver access to the 90% of Congo's people who lack electricity.

Meanwhile, with a singular focus on developing the Inga site, investments in decentralized power supply



Mwanza villagers who would be affected by the Inga 3 Dam. Photo by: Terri Hathaway

projects, such as off-grid and mini-grid renewable options, that could more quickly, cheaply and evenly reach the population and finally begin to close DRC's energy divide, are being overlooked.

## Bujagali Dam, Uganda – Power at any cost

Dogged by delays and once shelved because of corruption, the 250 MW Bujagali Dam was finally commissioned in 2012. According to the official count, the project cost totaled \$902 million – \$65 million more than anticipated – though a parliamentary inquiry estimated the final figure to be closer to \$1.3 billion.

The World Bank touted Bujagali, which was developed and owned in large part by a subsidiary of private equity firm Blackstone, as a successful model for public-private partnerships in Africa. In fact, the generous terms of the deal guarantee that the private sector operator will recoup its investment, passing along much higher tariffs to the Ugandan public than the project was sold at. As a result, demand for the

expensive power is low, and Bujagali is reportedly producing considerably less than its stated capacity of 250 MW.

Ugandan civil society had long questioned the optimistic cost estimates for Bujagali, which disadvantaged pro-poor energy options like solar, wind, biomass and geothermal that were not studied adequately to conclude that Bujagali was the least-cost option.

Given a conservative estimate of \$3.6 million per MW of installed capacity, then Ugandan minister for energy, Hilary Onek, acknowledged in 2009 that the Bujagali dam project is one of the most expensive dam projects in the developing world: "a bad project, over-delayed, and over priced."

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