



***Viewpoint* – The World Bank Versus the World Commission on Dams**

Robert Goodland

613 Rivercrest, McLean, VA, 22101, USA; rbtgoodland@gmail.com

ABSTRACT: The World Bank Group (WBG) has long resisted guidelines from reformers and the World Commission on Dams (WCD) requiring large dam projects to internalise the social and environmental costs of dam construction. Despite some progress, the Bank continues to resist calls for it to eschew countries' use of violence in removing residents from areas to be flooded by reservoirs, compensate residents adequately for their losses, or involve affected people in planning for big dams. Suggestions are made for more humane and economically responsible Bank policies.

KEYWORDS: World Bank, hydropower, big dams, oustees, displacement, resettlement, World Commission on Dams (WCD), Hydropower Sustainability Assessment Forum (HSAF), Nam Theun 2 dam, Ilisu dam

INTRODUCTION

By the late 1980s, the world's biggest financier of big dams, the World Bank, found it increasingly difficult to promote big dams over rising protests against its policies. In 2000, a new commission issued a report challenging The World Bank Group (WBG) practices and establishing guidelines for the selection of new dam projects. Over the next nine years the Bank, along with the hydropower industry, resisted the guidelines and struggled with reformers. By 2010, the Bank has not yet agreed to eschew countries' use of violence in removing residents from areas to be flooded by reservoirs, compensate residents adequately for their losses, or involve affected people in planning for big dams.

The controversy slowed the construction of big dams from the mid-1980s through 2007, but dam financing soared in 2008¹ (double the amount spent on renewable energy). About US\$2 billion worth of dam projects are still in the WBG's pipeline. In the long term, hydro dams are likely to become dinosaurs as climate change worries become more dominant, as efforts shift to renewable energy, and as the need for irrigation soars.

THE WORLD BANK'S SAD HISTORY OF DAM BUILDING

From the 1970s to the mid-1990s, the World Bank created a monumental imbroglio of the entire hydroelectric dam sector, and worse, denied there were any shambles; and even if there were, the WBG was not responsible for them. Although the World Bank's charter mandates that it be guided by economic principles, it had suspended many of these principles by externalising many costs of dam building and operation to local or downstream communities and to the environment, in effect forcing them to subsidise the hydro projects. For example, worldwide 40-80 million people have been displaced by dams, most of them never regaining their livelihoods. Many dams have led to irreversible loss of

¹ Sixty-seven hydropower projects have been approved since FY2003, amounting to US\$3.7 billion in World Bank contributions (US\$3.2 billion for hydropower components) to support a total of US\$8.5 billion and nearly 9,700 MW in project investments. New lending increased significantly, from less than US\$250 million per year during 2002-2004 to US\$500 million per year during 2005-2007. In FY2008, new lending exceeded US\$1 billion (World Bank, 2009a, b).

species and ecosystems, as well as significant generation of greenhouse gases. The Bank claimed it followed an economic least-cost analysis to take up the most cost-effective power projects before the less-effective options. But because major categories of costs were either exempted or disregarded, the Bank created a predicament for itself. It was not market failure, but rather policy ineptitude and a refusal to fully internalise the social and environmental costs that provoked outcries from reformers. In many cases over the years, the Bank allowed countries to deploy their armies or armed mercenaries to move people out of the way of a dam because it was cheaper than offering fair compensation to the displaced people. This practice is far from prudent development.

Using market economics – especially distorted economics – to deliver a country's energy supply makes no more sense than using market economics to support national defence. Both national defence and delivering a long-term, low-cost, environmentally sustainable, and socially humane energy supply are the jobs of government.

Of the many damaging hydro projects, two of the most notorious were India's Narmada dams and Indonesia's Kedung Ombo dam, both stemming from Bank loans in 1985. The Narmada, Kedung Ombo, and similar dam debacles have led to much unnecessary suffering, major increases in poverty, and massive environmental impacts. They spurred me to draft, and more importantly persuade the Bank to adopt, an official policy on the environmental aspects of dams and reservoirs (Goodland, 1989).

From the time of the Narmada project's first loan in 1985, the Bank not only refused to comply with its own social and environmental policies, but also denied its non-compliance with its own policies – as voiced by many critics and as confirmed by the 1992 Morse Commission, which eventually forced the Bank to withdraw from the Narmada scheme in 1993. The Bank even denied the findings of the Morse Commission to the extent that they forced the author, a former head of the United Nations Development Programme (UNDP), Bradford Morse (1921-1994), to get out of his hospital bed to refute World Bank Group President Lewis Preston's (1926-1995) gross misrepresentation of the commission's findings. A few months later, the Bank's internal review of compliance with its own policies (The Wapenhans Report, 1992) fully confirmed the Morse Commission's findings and went beyond them reporting that more than 37 percent of the Bank's projects completed in 1991 were deemed failures by the Bank's own staff, which also said that 30 percent of Bank projects in their fourth or fifth year of implementation in 1991 had major problems, the worst being water supply and sanitation, where 43 percent of the projects had major problems (Wapenhans, World Bank's Portfolio Task Force, 1992). The Narmada debacle led directly to the creation of the Bank's Inspection Panel in 1994.

During Indonesia's Kedung Ombo dam project, evidence was presented to document the evacuation by the army of more than 5,000 families from the reservoir area before it was flooded. The project had not estimated the number of people likely to be displaced, had not included any finance for resettlement and, indeed, had not viewed displacement as important, mainly because a larger number of other people were expected to become beneficiaries of the irrigation that the project planned to provide downstream. The Bank started to heed these problems only when we managed to get the Bank's second highest official (Senior Vice President Moeen Qureshi) to witness firsthand the reservoir refugees marooned on their rooftops. In 1994, Indonesia's Supreme Court confirmed that the dam proponents, including the Bank, had committed massive errors and policy violations.

In the same year, those suffering from the impacts of dams worldwide and their supporters adopted the Manibeli Declaration, which urged a moratorium on World Bank-financed high-impact dams. In 1996, the Bank retorted by publishing *The World Bank's Experience with Large Dams*, which was so biased toward big dams that in 1997, the Curitiba Declaration expanded the Manibeli Declaration to include *all* high-impact dams.

The first three-quarters of James Wolfensohn's presidency of the World Bank (1995-2005) was an era of prudence and social concern, including adopting the UN Millennium Development Goals in 2000, raising poverty reduction to the Bank's top priority, and fighting government corruption – hitherto

taboo.² Criticism of the Bank's hydro financing forced a deadlock, which led to the Gland workshop of 11-12 April 1997 convened by the World Bank and the International Union for Conservation of Nature (IUCN) with representatives of the hydro lobby, civil society, and dam-affected people. The first action, after the opening ceremonies, was to agree that the Bank's submission, *The World Bank's Experience with Large Dams*, was unacceptable; thus the report sank without a trace. By midday on the second and last day, the conclusions of the workshop were almost unanimously adopted, namely: halt all funding for high-impact dams until they could be independently scrutinised and 'best-practice' guidance and international standards could be agreed upon by what soon became known as the World Commission on Dams (WCD). A matter of days later, Bank President Wolfensohn encouraged the start-up of the WCD.

THE WORLD COMMISSION ON DAMS ATTEMPTS REFORM

WCD³ was established in May 1998 and issued its findings in a 404-page report in November 2000. The WCD report *Dams and Development: A New Framework for Decision-Making* (WCD, 2000) was, and remains, the most global, holistic, systematic, comprehensive, participatory, and scientifically valid assessment of large dam building to date. There is no close equivalent. The WCD report did not recommend an end to large dam building, but rather proposed that large dams be built under a set of internationally agreed norms that were aligned with global and international laws and principles of human rights, environment, indigenous peoples, etc. The bottom line of WCD's report was that high-impact dams should be financed only after substantially raising the quality of dam design to the level of best practices.

To the chagrin of the World Bank, WCD has become the de facto international standard. The World Bank refused to endorse WCD's report; instead it drafted its own *Water Resources Sector Strategy* (World Bank, 2003), which disregards WCD's findings. A few influential Bank staff went around the world undermining and impugning WCD's report before they were eventually stopped and chided by the Vice President. But the damage had been done.

The debate on the two sides of the dams continued during the design of the WCD and the selection of commissioners and staff. Pro-dam Bank staff complained that, despite much influence by the Bank, the composition of the commissioners and staff members of the secretariat was not balanced. During the two years of the commission, to the dismay of the pro-dam lobby, commissioners gradually became persuaded that hydro's track record was unacceptable, that there were indeed major grounds for concern, and that raising the quality of hydro design was essential. In fact, some originally pro-dam commissioners gradually shifted their views to support improved design quality.

Pro-dam Bank staff struggled to influence all aspects of the WCD and managed to keep the Bank's social and environmental staff from participating. Pro-dam Bank staff encouraged the dam industry to intervene at all possible junctures, complained that the commissioners had not fully read and comprehended WCD's draft report, and noted that WCD's drafts had not been provided to the Bank early enough. For these reasons the Bank first rejected the WCD report, but later claimed that some of WCD's findings might be useful. In fact, unlike the Japan Bank for International Co-operation and the German Development Bank, the World Bank refused to embrace the recommendations of the WCD as the industry standard. Sadly, this remains the case today. The Bank cannot accept that the higher but realistic prudent standards offered by the WCD should become the norm, or that impacted people should have a voice in dam construction.

² US President George W. Bush's nomination of Paul Wolfowitz as president of the World Bank in 2005 (he resigned in 2007) sparked a decline in social and environmental prudence in the Bank Group, which may not be significantly improving under Robert Zoellick.

³ WCD's Secretary-General Achim Steiner, WCD's Vice-Chair Lakshmi Jain and WCD Chair Minister Kader Asmal urged me to join WCD from the outset and I helped them set it up in Cape Town during WCD's early months, although I was unable to join them full-time because of my World Bank commitments.

THE ISSUES

Force is not economic

The Bank, most governments, and the hydro industry insist on using force to remove people in the way of dam construction. The Bank refuses to require borrowing countries to set compensation for displacement high enough so that resettlement becomes voluntary. When countries offer low compensation, people refuse to move, and the Bank allows "involuntary resettlement" by whatever means. Essentially, the impacted poor are forced to subsidise electricity consumers. The Bank's insistence on involuntary resettlement keeps costs down and profits high. However, this tactic creates much poverty (the very thing the Bank was created to alleviate). Practically all post hoc reviews of resettlement, including those by the World Bank, confirm this: people displaced are worse off after their move – hence most dams manage to increase poverty.

Advocates of voluntary resettlement believe that there is a threshold of compensation and benefits above which most, if not all, people will move voluntarily because they see an opportunity to improve their livelihoods. The Bank disallows cash compensation, but oustees can be given land, training, housing and other amenities that could be made very attractive. Although this practice may be seen as 'buying off' resettlers, it does mean poverty will be reduced rather than increased by the project. If a community cannot be persuaded to relocate because of its strong ancestral attachment to their land, perhaps the dam should be relocated.

Meaningful compensation includes equal-land-for-equal-land, agricultural extension, support for agricultural inputs, agroforestry, home gardens, fish ponds, better housing, water and electricity supply, schools, clinics, public health programmes, training, job creation, transport and so on. Bonds, insurance, trust funds, third-party monitors and penalties for noncompliance are mechanisms that should be systematically employed to guarantee that moves are voluntary, and that impacted people – upstream and downstream – are indeed promptly made better off. Unless hydro proponents can find dam sites that do not involve displacing or otherwise impacting people, or unless people to be displaced are promptly made better off after they have freely consented to their move, fierce opposition to high-impact dam building will intensify.

Rectification before new dams

The Bank has not prioritised rectification of its past mistakes. There has been little progress in assisting the 10 million people impoverished by the US\$100 billion in dams already financed by the Bank, despite the fact that the Bank's priority is to reduce poverty, not increase it. Rectifying errors is rarely a precondition for new dam financing. Thus the Bank does little to rectify the damaging social and environmental legacy of its unacceptable hydro record. Impoverishment of 10 million dam-impacted people including indigenous peoples, as well as human rights violations, lost and gutted livelihoods, disrupted fisheries and other means of sustenance, and crushing indebtedness remain.

For example, the aftermath of the 1980-1982 massacres of indigenous peoples, who were in the way of Guatemala's Chixoy dam, festers unresolved. In 1975, the Bank made a first loan to the Guatemalan government, then under a repressive regime, to begin the dam. The government removed people from their land, without acquiring rights or paying reparation, and when the landholders protested, they were massacred. A Bank investigation in 1984 confirmed this and found gross violations in Guatemala's compliance with contractual obligations. However, the Bank ignored its own policies and directives in negotiating a second loan to complete construction without correcting the situation through loan negotiations or even requiring proof that the State had legally acquired the land to be flooded (Johnson, 2005). In 1999, the UN-sponsored Guatemalan Commission for Historical Clarification (the Guatemalan Truth Commission) judged this and other massacres conducted by the government against the Maya as genocide (Guatemalan Commission for Historical Clarification, 1999). To compound the errors, the Bank resists accepting the official UN standard of "free prior and informed consent" (FPIC)

(Goodland, 2004). Instead, the Bank has adopted its own unilateral standard of "free prior and informed *consultation*". 'Consultation' is hardly the same as 'consent'. The Bank offers no clear standard to document that even the consultation had occurred.

THE BANK RESPONSE: "HIGH-RISKS/HIGH-REWARDS"

After undermining WCD in the early 2000s, the Bank adopted its "high risks/high rewards" strategy (Briscoe, 2003).⁴ The new strategy admits that some of the World Bank's "greatest failures" in the past involved the financing of projects that "were planned and built without sufficient attention to social and environmental consequences... dam projects have often created environmental disasters, and the World Bank generally has not succeeded in mitigating negative social and environmental impacts" (cf. Bosshard et al., 2003; EDF, 2003). High-risk projects have often been associated with the repression of the poor. The World Bank has failed to mainstream social and environmental concerns into its decision-making. Furthermore, the Bank's independent internal audit (World Bank, 1996) concluded, "The Bank has done little institutionally to promote, monitor, or otherwise make mainstreaming (of social and environmental policies) happen".

THE HYDROPOWER SUSTAINABILITY ASSESSMENT FORUM CHALLENGES THE WORLD COMMISSION ON DAMS

The Hydropower Sustainability Assessment Forum (HSAF),⁵ the unabashed pro-dam lobby, began in 2007, sponsored by most of the world's biggest hydro and construction corporations. A big difference between WCD and HSAF is that the latter does not even attempt balanced membership: it has self-selected itself, whereas WCD sought, at all stages, to be inclusive and indeed represented all major groups of stakeholders. Dam-impacted people are not admitted to HSAF, and have no representation. In fact, the International Hydropower Association (IHA), the force behind HSAF, has expressed a paternalistic concern "about the practicality of all affected people being part of the negotiation process". It was only after pointing out that there had been no consultation and no chances of dam-impacted people voicing their concerns that HSAF attempted to start consultation in 2009, but with no financial support for participation by dam-impacted people.

The polarisation between WCD and HSAF is stark. WCD documented pervasive cases of killings, bloodshed, violence, and environmental damage throughout the hydro sector worldwide. Building on this evidence, WCD sought to prevent damage and human rights abuses by submitting prudent measures to redress the gross asymmetry of power between rich, powerful, and reckless dam proponents on the one hand, and the weak, voiceless, and impacted victims on the other.

The first major difference is that WCD set minimum social and environmental requirements that a dam project must meet before it can proceed. Conversely, the HSAF document does not define any clear minimum standards that developers must follow, or rights that they must respect.

According to HSAF, its future protocol will set out a spectrum of performance indicators on key hydropower sustainability issues without specifying guidelines or minimum standards on acceptable

⁴ IR's Peter Bosshard (2008) writes: "When the creation of the WCD was first discussed at a workshop in Gland, Switzerland, John (Briscoe) told me he was confident that an independent evaluation would confirm the World Bank's position on large dams. When the Commission published its highly critical report in 2000, he felt personally betrayed and went on a mission to undermine its recommendations. On countless occasions, Briscoe knowingly misrepresented the Commission's findings and recommendations. In an insult to the Commissioners whom he had helped select, he claimed that Southern governments had effectively been excluded from the WCD process. As we learned from several sources, Briscoe also pressured Southern governments and institutions such as the African Development Bank to speak out against the WCD framework".

⁵ The Draft Hydropower Sustainability Assessment Protocol (August 2009) has four assessment tools, one for each key stage of the project life cycle: Strategic Assessments, Project Preparation, Implementation, and Project Operation.

hydropower sustainability performance.⁶ HSAF even refuses to encourage compliance with existing national legislation and regulations as minimum standards. It does not foster compliance with widely accepted standards such as the UN International Labour Organisation's labour rights (box 1), or with human rights agreements (Herbertson et al., 2010).

Rather than setting minimum standards, HSAF proposes a hugely complicated system of ranking and scoring that suffers from a fundamental and inherent problem: a high score in some rankings (e.g. technological or economic advantages) can offset a low score on other rankings (e.g. participatory and humanitarian concerns). This logic is similar to the position of the Bank, in the mid-1980s, that led to the Kedung Ombo and Narmada projects, in which the homes of thousands of poor people were flooded by reservoirs. But the Bank argued "one cannot make omelettes without breaking eggs", and pointed out that many more beneficiaries would receive electricity or irrigation water, eventually leading to a net gain. This faulty balancing process is unacceptable. Development can no longer force the poor to sacrifice their lives in order to benefit electricity consumers elsewhere. If a site is selected with no human displacement by the reservoir, it might still submerge a rich centre of biodiversity and endemism, in a UN Biosphere Reserve/National Park, for example, or might deny water to downstream riparians (see box 2).

Box 1. Examples of international environmental and social norms.

World Commission on Dams. The international benchmark on best practice for hydro projects and the best one-stop-shop for prudent standards.

World Bank Environmental and Social Safeguard Policies. These ten policies detail most of the standards relevant to hydro. They are in urgent need of revamping as most are becoming outdated. They are more prudent than HSAF standards, but weaker in some instances than WCD standards.

The United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). Mandates the use of free, prior, and informed consent (FPIC).

OECD (Organisation for Economic Co-operation and Development) Principles. Improve the legal, institutional, and regulatory framework for corporate governance

(www.oecd.org/dataoecd/32/18/31557724.pdf).

The Equator Principles. Environmental and social safeguard principles based on the World Bank Safeguard Policies (above) adapted for use by the private sector and commercial banks (www.equator-principles.com).

The Extractive Industry Transparency Initiative (EITI). Sets a global standard for transparency and is designed to reduce corruption. A coalition of governments, corporations, and civil society sets standards for companies to publish what they pay and for governments to disclose what they receive (Eitransparency.org).

Corporate Social Responsibility (CSR). A form of corporate self-regulation ensuring adherence to law, ethical standards, and international norms. CSR is the deliberate inclusion of public interest into corporate decision-making.

The UN Global Compact. The UN Global Compact's ten principles include human rights, labour, the environment, and anti-corruption. They are derived from The Universal Declaration of Human Rights, The International Labour Organization's Declaration on Fundamental Principles and Rights at Work, The Rio Declaration on Environment and Development, and the United Nations Convention against Corruption.

⁶ See www.hydropower.org/sustainable_hydropower/HSAF.html

The safe-minimum-standard approach adopted worldwide states that all safe minimum standards must be met before a hydro project can be permitted. The number of people impacted, the amount of biodiversity habitat and agricultural land to be flooded, the volumes of greenhouse gases emitted, the risk of a waterborne disease, and the impacts on riverbank dwellers downstream must all be minimised simultaneously. Low impact on biodiversity or fish, for example, cannot make up for flooding humans.

A second major difference between WCD and HSAF is in regard to participation of affected people. Whereas WCD proposes democratic measures, such as meaningful participation, HSAF promotes only transparency and disclosure of information. Participation is one of the sharpest contrasts in the polarisation of the two organisations: paternalistic high-impact dam proponents do not want participation. Conversely, civil society embraces participation, especially by dam-impacted sufferers who know the impacts first-hand (Herbertson et al., 2009). WCD was eminently participatory; HSAF is the opposite. The fact is that participation improves not only relations but also outcomes (Scudder, 2005).

Other differences are that HSAF does not require minimisation of displacement as a criterion for dam selection; neither does it advocate land-for-land compensation, a major regression from the progress achieved internationally in the 1990s and early 2000s.

Box 2. Definitions of hydro 'no-go' areas.

There are four main categories of no-go areas for hydroelectric dams: (1) areas with high human population densities, (2) lands of indigenous peoples, (3) habitats with high biodiversity, and (4) areas of significant cultural patrimony.

1. *Human population densities.* A hydro proposal to flood a city would probably not be permitted because the city's many citizens would object and would influence authorities. A proposal to flood many villages also should not go ahead, but may well proceed as villagers tend to be poor and have little voice. The principle is clear: select projects that do not have many households 'in the way'. The definition of 'many' depends on how democratic the site is and how much governance prevails. Hydros can get away with lower standards and greater impacts in undemocratic, weakly governed areas and where corruption is rife.

2. *Indigenous peoples.* Adequate resettlement of non-indigenous humans must be minimised. But resettlement of indigenous peoples or vulnerable ethnic minorities is vastly more difficult, such that the World Bank urges projects to be moved or redesigned to avoid the need to displace indigenous peoples. In the Nam Theun case, indigenous peoples were displaced for one reason or another and it is too soon to know how much they will ultimately be damaged.

3. *Biodiversity and habitat.* The Bank's definition of Critical Natural Habitats as no-go areas is comprehensive. It includes: (a) protected areas (e.g. UN World Heritage sites; UN Biosphere Reserves; Natura 2000 sites in Europe, Ramsar Convention sites); (b) areas meeting IUCN's categories I thru VI, and marine categories I-V (e.g. fishing or fish breeding reserves); (c) proposed protected areas (e.g. as designated in eco-region action proposals, regional assessments or land use plans), and areas recognised as protected, as well as areas maintaining conditions vital for protected areas (e.g. watersheds, buffer zones); (d) areas on supplementary lists, and those highly suitable for biodiversity conservation (areas in which biodiversity is unknown and must be assessed before they can be categorised); (e) areas critical for rare, vulnerable, migratory, or endangered species (on the IUCN Red List).

4. *Cultural patrimony.* Archaeological or historic sites judged to be valuable by the national or other authorities should be relocated with financing by the hydro project. If the authorities judge that such sites cannot be relocated or protected from flooding, then the project should be adjusted to avoid damaging them.

A critical analysis from *International Rivers* (Bosshard, 2009), which gives a point-by-point comparison, notes that HSAF "favours managing problems over avoiding them. This approach marks a stark departure from the WCD's rights-and-risks approach, which relied on negotiated, legally enforceable agreements with dam-affected communities". The report concludes as follows:

The approach expressed in the [HSAF] Key Components Document ignores important lessons of the large dams debate, and the development and environmental policy debate more generally. It will weaken key international standards, and will not achieve the clarity which dam funders and investors are seeking. The HSAF process will exacerbate conflict, and will not achieve the "broad endorsement" which the dam industry is seeking. It does not have the legitimacy to replace the WCD framework as the leading international benchmark for hydropower projects and other dams.

Now that the Bank has defamed WCD's prudent standards, it is financing the private pro-dam sector to come up with new and weaker procedures than those proposed by WCD a decade ago. But the world has changed: democracy, active civil society, and growing transparency are hopefully irreversible and will continue to burgeon. Environmental and climate concerns have become more important. The world needs more prudent standards, not ineffectual ones. While national policies tend to raise hydro construction standards, the Bank seeks to undermine them. For example, the Bank actively sought to weaken Brazil's existing national hydro environmental licensing procedures for Amazonian dams (World Bank, 2008). The Bank's gutting of national (and its own) policies is nothing new, especially in the extractive sector, and the Bank has a track record of rejecting the findings of commissions, even those it has financed itself.⁷ For example, a recent Bank-financed book, *Indirect Economic Impacts of Dams* (Bhatia et al., 2008), the latest example of politicised research, still embraces the benefits of dams while ignoring their costs.

CURRENT DAM PROJECTS

Two current projects illustrate the continuing clashes between the Bank or other regional development banks and reformers. In March 2010, a hydro project in Laos illegally began operation in violation of agreements, while a Turkish hydro ground to a halt after funders withdrew support because the project failed to comply with guidelines.

Case 1: Laos' Nam Theun 2 hydro project

The World Bank financed its biggest recent dam in 2005, the US\$1.25 billion Nam Theun 2 hydro project in Laos. The plant has a rated capacity of 1070 MW, 93 percent of which will be exported to Thailand. The 39 m-high dam creates a shallow 450 km² reservoir, much of which was forested land, and diverts water out of the Nam Theun river into the Xe Bang Fai river.

The World Bank and other project funders, including the Asian Development Bank, the European Investment Bank and Equator Principles Banks, worked out a concession agreement with the government and the Nam Theun 2 Power Company (NTPC) regarding relocation and compensation for the more than 6,000 indigenous people living in the watershed (which will be flooded) and the more

⁷ Three examples: (a) the Bank's initial rejection and misinterpretation of the 1992 Morse Commission that had examined India's Narmada dam controversy is mentioned above, as is (b) the Bank's vilification of WCD's recommendations in 2000, although both these rejections were later partly retracted; (c) the Bank accepted some parts of the 2001-2004 Extractive Industry Review (EIR), led by H.E. Minister Emil Salim, rhetorically, although implementation lags far behind. But top priorities were rejected. For example, in 2003-2004, EIR recommended phasing out coal lending over 5 years; the Bank is still increasing its lending for new coal worldwide (see carma.org; e.g. Tata Corporation's US\$4.2 billion Ultra Mega power plant in Gujarat, India will burn 40,000 tonnes per day of imported coal beginning generation in 2011. As of April 2010, the WBG wants to finance US\$5 billion toward South Africa's 4800 MW Medupi coal plant, which would be the fourth biggest in the world, and will emit 30,000 kilotonnes of CO₂ per annum. This makes a mockery of the WBG climate rhetoric. I was Dr. Salim's chief technical adviser throughout the 2001-2004 EIR process.

than 120,000 people downstream, who depend on the Xe Bang Fai and Nam Theun rivers for their livelihoods and risk destruction of fisheries, flooding of riverbank agricultural plots, and impaired water quality.

Ikuko Matsumoto, Lao programme director of International Rivers, which has been fighting for reparations for 15 years, noticed on a mid-March 2010 trip that the Xe Bang Fai river was flooding, drowning agricultural plots, contaminating drinking water, and halting fishing: it had risen by 3.6 metres. She found that Nam Theun 2 had quietly and illegally started operations, diverting the equivalent of six Olympic swimming pools of water per minute into the river (IR, 2010).

"The company was supposed to have provided people with new sources of water and compensation for flooded riverbank gardens *before* turning on the dam's turbines, but they didn't", she reported. She said the power company has warned communities living along the Xe Bang Fai not to drink the river water because it is contaminated, but that only a few of the groundwater pumps provided by the company were working.⁸

The Nam Theun 2 panel of social and Environmental Experts (PoE)⁹ was set up in 1997 to oversee compliance with the social and environmental agreements. According to McDowell et al. (2010), the project has most of the social and environmental impacts conceivable in a big hydro. A sterling attempt was made, thanks in no small part to the PoE, to turn Nam Theun into a model project with performance bonds, trust funds, and insurance, although some of these were later dropped.

However, according to International Rivers, a number of proposed plans have gone awry with new land proving unproductive and relocation budgets running dry (Imhof, 2007).

Case 2: Turkey's Ilisu hydro project

Unlike the Laos project, Turkey's Ilisu Hydro Project was put on hold when development banks withdrew their funding when the project failed to meet social and environmental agreements.

This case is the most recent salvo in the epic struggle between high-impact dam proponents, represented by some of the world's most powerful engineering and construction corporations (e.g. the UK's Balfour Beatty Engineering Corp.; Sulzer, Skanska, Impregilo, the Swiss-Swedish ABB Power Corporation, Andritz AG, Züblin, and Alstom), which wanted to construct Ilisu together with Turkish companies, versus the impacted people and those trying to uphold the best-practice recommendations of the World Commission on Dams and World Bank standards.¹⁰

The Ilisu dam is designed to become one of Turkey's biggest hydros.¹¹ The 138 m-high dam on the Tigris river will flood 313 km² to generate 1,200 MW. It will cost at least €2 billion. Construction began in mid-2008, but was halted in December 2008 when international funding was suspended to provide time to comply with agreed-on standards. Compliance was not achieved, so the German, Austrian and Swiss Export Credit Agencies (ECA) commendably cancelled their financing in July 2009.

The Project's history dates to 1984, when the World Bank had commendably declined to finance it. In 2000, following an uproar in Britain, including protests secretly filmed inside Balfour Beatty's annual general meeting, the British Government cancelled US\$236 million in export credit guarantees to

⁸ Letter from International Rivers and Mekong Watch to the World Bank and Asian Development Bank, March 26, www.internationalrivers.org/files/NT2%20COD%20letter%20to%20Banks%20final%20March%202010.pdf

⁹ One of the most cost-effective mechanisms to foster progress and implementation of agreements is the independent Panel of Social and Environmental Experts (PoE). The highly commendable Nam Theun PoE began work in 1997 with its top-flight membership and has persisted ever since. McDowell et al. (2010) assess the degree of compliance most recently in the report of their fifteenth visit to the project, the source of most of the material used in this section. Although adaptive management through the years has been exemplary, PoE recently found that huge open-cast gold mines and extensive logging are damaging the dam's officially protected watershed. See also: World Bank, 2010.

¹⁰ See www.eca-watch.org/problems/mideast/turkey/index.html#Ilisu, and www.eca-watch.org/problems/dams/Ilisu_construction_begins_30nov09.html

¹¹ Turkey's biggest 169 m-high hydro, Ataturk, has an 816 km² reservoir on the Euphrates river with a rated capacity of 2400 MW. Turkey refused to permit WCD to include this hydro in their survey.

Balfour Beatty, which withdrew from the project in 2001. Impregilo, Skanska and the Union Bank of Switzerland followed suit.

Before the 2006 ground-breaking ceremony, German, Swiss and Austrian export credit agencies agreed to fund US\$610 million of the project provided it fully met the World Bank's social and environmental standards. In December 2008, Swiss state-run Export Risk Insurance, Euler Hermes of Germany, and Austria's Oesterreichische Kontrollbank prudently gave the Turkish government 180 days to meet the standards. In July 2009, after failing to meet the standards, the three European credit agencies most honourably withdrew their export credit guarantees.

Impacted people, downstream riparians, and the German government participated in Berlin's May 2009 Ilisu Summit, which summarised the project's more egregious violations of the 153 specific conditions regarding resettlement, the environment and cultural impacts, with which they had promised the lenders they would comply.¹² Participants later discussed the violations with the Bundestag, the German parliament, and with several German ministries. The project violated agreements in five main areas:

1. *Environmental Assessment and the Environmental Policy for Dam and Reservoir Projects Operational Directive* (OP 4.00), partly because Sulzer Hydro's 1997 environmental and social assessment was kept secret.

2. *Involuntary Resettlement* (OD 4.30) because there was no resettlement plan even after construction began. One hundred and eighty five settlements will be fully or partially flooded or impacted. The number of people to be displaced or impacted was not adequately surveyed, so estimates of between 25,000 and 70,000 oustees are quoted. The UK-based Kurdish Human Rights Project reported that at least 19 villages had been evacuated at gunpoint by the Turkish authorities in the reservoir area, and many houses had been burned to the ground, with only a few families being compensated. The two-page May 2009 resettlement plan was too weak to be discussed.

3. *Projects on International Waterways* (OP 7.50). Ilisu planning also contradicts the 1997 UN Convention on Law of Non-Navigational Uses of International Watercourses. Ilisu is only 65 km upstream from Turkey's border with Syria and Iraq. Millions of Iraqis depend on the Tigris river for their livelihood. While the UK government supported Balfour Beatty, the project could have risked involving Britain in an armed conflict between Syria, Iraq, and Turkey (a NATO ally) over the right to water from the Tigris. At the Ilisu summit, H.E. Ambassador Hasan Janabi, formerly of Iraq's Water Ministry, outlined the devastating impacts the dam would have on Iraq, which would receive significantly less water, and which would be of poor quality. Equally affected would be one of the world's most significant natural habitats, the downstream Mesopotamian delta, whose marshes would dry out if less water reached them. Thus, Ilisu risks endangering peace and stability in the Middle East. So far, Turkey has not addressed impacts on downstream riparians, and has not reached agreement with Iraq and Syria on these risks. On February 3rd 2010, the European Parliament demanded that Ilisu construction be halted.

4. *Management of Cultural Property* (OPN 11.03). The Ilisu dam would cause the flooding of the 10,000-year-old city of Hasankeyf, proposed for UN World Heritage status. Turkey elevated Hasankeyf to National Conservation status in 1981. There are 300 medieval structures, and a spectacular canyon system. More than 20 cultures had lived and built there. The World Archaeological Congress (WAC) of 2001 adopted a motion against the impacts on the Kurdish people and on Hasankeyf. Archaeologists assess that most of Hasankeyf cannot be relocated as much of the city consists of structures carved into the limestone rock formations.

5. *Disclosure of Operational Information* (BP 17.50). Sulzer's 1997 environmental assessment was kept secret. The number of humans to be impacted was not divulged. The resettlement plan, if one existed, was not disclosed but the weak arrangements were unacceptable, according to World Bank sociologist Dr. Ayse Kudat.

¹² See www.rivernet.org/prs09_01.htm

HYDRO VERSUS IRRIGATION

There are many low-cost, low-impact and sustainable alternatives to high-impact hydroelectricity projects (e.g. wind, solar, tidal, waves, small dams, biomass, and geothermal, as well as energy efficiency and conservation programmes). Renewable energy has already become competitive with electricity from high-impact dams, i.e. if social and environmental costs are internalised in both cases. Climate change undermines a key planning element of hydros, namely the historical rainfall record. Conversely, food production must double to feed another 2.3 billion people by 2050. The Food and Agriculture Organization of the United Nations (FAO) estimates it may cost about US\$83 billion to feed the world's projected 9 billion people by 2050 (although US\$13 billion is for livestock). This will be impossible without substantial boosts in irrigation and agricultural productivity, as well as major shifts to meat analogues (Goodland and Anhang, 2009). If not, practically every last vestige of natural forest and habitat would have to be destroyed for agriculture. The effects of climate change (e.g. desertification, prolonged droughts, rain intensity, flooding, wildfires) have already begun to reduce food production and increase environmental refugees. These results are likely to intensify. As time passes, most factors tend to reduce the feasibility of hydro, while boosting the need for irrigation.

Most WCD commissioners were deeply experienced with hydro; few had much experience with irrigation. WCD's guidelines focused more on hydroelectric, as opposed to irrigation, dams. As the alternatives to high-impact hydro are increasingly attractive, HSAF is finding it difficult to sell high-impact hydro. Conversely, irrigation projects, many including dry-season water storage, are urgent and have few alternatives. To the extent that voluntarily displaced people promptly become beneficiaries of irrigation, irrigation dams will become more attractive than hydro dams. In many poor rural areas, water to grow food is much more important than electricity.

While it is possible for irrigation to be combined with hydro in multi-purpose schemes, there are often inherent incompatibilities between generation of electricity and provision of irrigation water when water is scarce but most needed during the dry season. When dam operators must choose one over the other, electricity generation almost always trumps irrigation. As alternatives to hydroelectricity (e.g. renewable energy) become more attractive, irrigation needs will be prioritised.

THE WAY FORWARD

As can be seen from the above history, the big-dams debate remains active and spirited. The poles between the high-impact dam proponents and the impacted people and civil society are no closer. This section briefly suggests seven ways by which dam financing could progress.¹³ Prudence suggests that environmental damage and climate risks should be prevented to the extent possible, and that people living at potential dam sites must be treated with respect and compensated for their losses.

1. *Rectify previous hydro damage.* "The legacy issue", as WCD rightly points out, focuses on where governmental and international financing and development institutions have financed destructive dams in the past and bear a responsibility to rectify the damage, preferably as a pre-condition to being permitted to finance new dams. Exemption from the responsibility of cleaning up previous damage encourages lower standards in the future. More accountability is needed, as are dynamic incentives to improve performance.

The main issue is ensuring that the oustees, who have sacrificed living standards for the benefit of distant electricity consumers, are promptly made better off and restored to at least the livelihood trajectories they had before they were moved. Three facts illustrate the urgent need to ensure that resettlement is voluntary. First, as many oustees disinvest during the often lengthy period between being informed they will have to move and actual displacement, that period must be compensated for.

¹³ Khagram (2004) and Scudder (2005) usefully outline the big dams debate and WCD. Ali and O'Fairchellaigh (2008) effectively expose the dilemmas between developers on the one hand and indigenous peoples and those impacted by such schemes, on the other.

Second, many oustees stagnate for a decade or so in plastic tent camps between the time of displacement and resettlement. Third, some oustees have to shift more than once because the reservoir water levels had been carelessly estimated; thus, their rehabilitation is a priority.

Commendably, the World Bank has rehabilitated, post hoc, some of the living standards of those immiserated by coercive displacement. But rehabilitation of the effects of shoddy social and environmental assessment and planning are not being systematically pursued, as recommended by WCD. A case can be made for reparations in situations in which the Bank proceeded with construction knowing that huge damage would inevitably accrue. The Chixoy dam in Guatemala, in which resisters were massacred, is an example of the legitimacy of the growing call for reparations. Cancellation of odious debt, where part of the debt is due to negligence on the part of the dam builders or the financiers, is also a matter of justice and human rights. Writing off debts, reparations and "rectification of previous errors" before permitting new hydros would encourage the Bank to strengthen accountability, perform due diligence and avoid repeating past errors.

2. *Eschew violence.* Abandon the use of violence as a tool in economic development. Market economics is based on the principle of 'willing seller-willing buyer'. If people are forced to move out of the way of the dam, market economics have been suspended. The World Bank charter mandates that it be run on strict economic principles; hence, nothing should depend on coercion. Dam builders must use full-cost pricing and internalise externalities. Shifting people out of the way should not be free. Compensation (e.g. new and similar farms) has to be upped to such a level that the people move voluntarily (Goodland, 2007). The United Nations adopted the principle of "free prior and informed consent" (FPIC) in 2007. The Bank needs to embrace FPIC. Eminent domain remains available, but it should be used only as a last resort; and then sparingly.

3. *Perform an environmental and social impact assessment (ESIA).* This WCD-commended tool has become increasingly cost-effective, although it is still open to abuse (Goodland, 2008). Simple rules-of-thumb can help demote the highest-impact hydros and promote the lowest-impact hydros. WCD rules-of-thumb include: (a) compare the ratio of oustees to the megawatts generated and (b) compare the ratio of land area pre-empted to the megawatts generated. The answers often obviate the need for a laborious ESIA. Although there are no set ratios, projects can be compared with the average, and those that would move many people for little benefit could be knocked out of the planning process early. Greenhouse gases emitted as compared to a coal-fired equivalent provides another criterion to improve selection of dam projects. Nowadays, the ESIA's social and environmental action or mitigation plan should be converted into a justiciable 'impact/compensation contract' agreed to by dam proponents and the impacted people, and preferably approved by the government. A contract becomes 'justiciable' when it contains clauses on grievance mechanisms stating that complainants can have recourse to the courts. Such contracts have been used in only a few countries (e.g. Canada and Australia). Dam proponents will soon find that dams requiring many people to move out of the way are far more expensive than those with little or no displacement of humans.

4. *Reduce climate risks.* The risks of severe climate disruption are so great that no dams generating substantial greenhouse gas emissions should be permitted. Greenhouse gas assessment of all dam proposals must be mandatory. UNEP is ready to help foster agreement on greenhouse gas assessment methodologies. Dams should be selected that emit little or no greenhouse gases. How much greenhouse gas emission from dams can be permitted will be adjusted downwards through the months and years as climate is increasingly disrupted. Dam-induced restricted low flows and downstream flooding risks should be increasingly taken into account as the climate changes. Extreme rainfall leads to emergency spillage from the dam often causing floods. Carbon-sequestration offsets, such as forests, must be added to all dams emitting some greenhouse gases. The International Organization for Migration predicts 200 million environmental refugees, (some estimate 700 million), many in Africa, as early as 2012. The International Panel on Climate Change (IPCC) warns of a 20 percent drop in food production caused by climate change in parts of Africa as early as 2020. Nearly 1 million, mainly small, farmers were displaced by climate change in 2008 alone. As high-impact dams pre-empt agricultural

lands for food production, and as dam-generated greenhouse gas emissions damage small farming and displace so many people, the greenhouse gas emission status of dams will become increasingly influential in demoting high-emission dams and promoting low-emission alternatives.

5. *Conserve biodiversity.* Biodiversity is increasingly imperilled according to every assessment, thus risking severe problems. Only those dams with little or no impairment of biodiversity (e.g. habitat, fish) should be permitted. Dams not destroying biodiversity will be much cheaper than those risking such destruction. If a dam impairs some biodiversity, then compensatory offsets should be financed and conserved in perpetuity, such that net biodiversity substantially increases with the construction of the dam.

6. *Foster compliance with agreements.* Performance bonds and industrial insurance must become standard parts of all infrastructural development projects. Hydro should no longer be exempt. The insurance and bonding levels must be set at meaningful levels such that any damage can be fully repaired promptly. Trust funds set up by the proponent to boost flexibility in financing unforeseen changes after the dam is operational are also necessary in many cases. In addition, hydro proponents caught violating social or environmental agreements, violating human rights, or engaging in corrupt practices should be blacklisted from governmental and international financing for several decades, and prosecution may be necessary.

7. *Adopt standards.* Many policies, best practices, standards, and codes of conduct are readily available (see box 1). Dam proponents should state at the start of project design, which such norms they propose to follow. *Dams and development: A new framework for decision-making* (WCD, 2000) is the most comprehensive on these issues. But WCD is a decade old and was never perfect; it needs to be updated to take account of current social and environmental trends, and its guidelines should be operationalised (Fujikura and Nakayama, 2009; Khagram, 2005; WCD+5, 2005; WWF, 2005). This task would be far more cost-effective than the pro-dam lobby inventing its own guidelines (e.g. HSAF, 2010) from scratch. From now on, all big-dam proposals will be compared with WCD's recommendations and any major divergences will be scrutinised.

CONCLUSION

Time is on the side of the prudent approach of WCD. As climate change intensifies, as the environment is increasingly damaged, as democracy, transparency, and participation burgeon, as renewable energy costs fall, and as the food and water crises sharpen, big-impact hydros seem likely to be demoted. Low-impact dams and schemes for irrigation and food production are likely to be promoted.

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