

Moore, D.; Dore, J. and Gyawali, D. 2010.
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Revisiting the large dam controversy.
Water Alternatives 3(2): 3-13



The World Commission on Dams + 10: Revisiting the Large Dam Controversy

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ABSTRACT: The World Commission on Dams (WCD) was an experiment in multi-stakeholder dialogue and global governance concerned with a subject area – large dams – that was fraught with conflict and controversy. The WCD Report, *Dams and Development: A New Framework for Decision-Making*, was published in 2000 and accompanied by hopes that broad-based agreements would be forged on how to better manage water and energy development. Ten years later, this special issue of Water Alternatives revisits the WCD and its impacts, exploring the question: Is the WCD still relevant? The editorial team and the Guest Editors of this special issue of *Water Alternatives* have selected a range of 20 papers, 6 viewpoints, and 4 book reviews that help to illustrate the evolution in the dams debate. The goal of this special issue is to examine the influence and the impacts of the WCD on the dam enterprise, in general, and on the policies and practices of key stakeholders and institutions, and on the development outcomes for affected communities and environments, in particular. In this introduction, the Guest Editors provide an overview of the special issue, exploring the new drivers of dam development that have emerged during the last decade, including climate change and new financiers of dams, and describing the themes emerging from this diverse set of papers and viewpoints. This special issue demonstrates the need for a renewed multi-stakeholder dialogue at multiple levels. This would not be a redo of the WCD, but rather a rekindling and redesigning of processes and forums where mutual understanding, information-sharing, and norm-setting can occur. One of the most promising developments of the last decade is the further demonstration, in case studies described here, that true partnership amongst key stakeholders can produce transformative resource-sharing agreements, showing that many of the WCD recommendations around negotiated decision making are working in practice. We hope that this special issue sparks a dialogue to recommit ourselves to finding effective, just, and lasting solutions for water, energy and ecosystem management. It is a testament to the continued relevance of the WCD Report that ten years later it is still a topic of intense interest and debate, as illustrated by the papers presented in this special issue.

KEYWORDS: World Commission on Dams, dams and climate change, resettlement, development policy

WHY REVISIT THE WORLD COMMISSION ON DAMS?

Why revisit the World Commission on Dams? The answer, in one simple phrase: because the issues of contention around dams have not gone away!

When the World Commission on Dams (WCD) was established in 1998 and its Report was released in 2000, the hope (perhaps misplaced, but certainly overly optimistic, maybe even naive) was that

universally acceptable answers would be found to contentious issues and the warring parties would embrace each other while beating swords into ploughshares. Dam builders and dam critics are not anywhere near such a happy ending. At the same time, the terrain of the debate has shifted, as have the concerns and positions of the protagonists. The nature of the debate now is more than the simplistic 'small versus big' of the past. While the first set of problems focused on environment and resettlement impacts, there is now a set of second-generation problems that must be addressed, stemming from new drivers of dam development and changing political landscapes. The private sector and newly dominant economies like China are emerging as primary investors in dams that have different approaches to safeguard policies and public oversight than the traditional funders like the World Bank. The prospect of climate change, with promises of hydropower as the low-carbon panacea, or warnings that reservoirs emit substantial levels of greenhouse gases and that hydrology of the future will no longer be that of the past, is placing a formidable question mark on the design and economic evaluation methodology for future dams. And the information revolution in the Global South is bringing political awareness to even the most marginalized communities, empowering them to find new ways of engaging in decisions over dams.

Water Alternatives is an interdisciplinary journal addressing the full range of issues that water raises in contemporary societies. The ambition of the Journal is to provide space for creative, critical and free thinking on water, fostering debate, eliciting innovative alternatives, promoting original analyses and constructive critiques.

It is in this spirit that *Water Alternatives* decided to publish this special issue on the World Commission on Dams (WCD) recognizing the tenth anniversary of the publication of its Report, *Dams and Development: A New Framework for Decision-Making*. The WCD – an independent, international commission comprised of leaders from all sides of the debate surrounding big dams – issued its Report in 2000 with findings about the development effectiveness of large dams globally and proposed guidelines for improving dam performance and governance, including – among others – principles of participation, equity, transparency and comprehensive options assessment. As stated by the WCD ten years ago, "Dams have made an important and significant contribution to human development, and the benefits derived from them have been considerable. In too many cases an unacceptable and often unnecessary price has been paid to secure those benefits, especially in social and environmental terms, by people displaced, by communities downstream, by taxpayers and by the natural environment".

Despite the WCD process, the legacies and controversies of the world's 45,000 large dams¹ continue to cause conflict between providing hydropower, water supply, flood control, irrigation and other substantial benefits to many, while devastating the basic rights and livelihoods of others, and damaging shared rivers and ecosystems. Dams control floods and regulate irregular water regimes, generate hydropower, provide storage for domestic, industrial or agricultural use, and allow the development of recreation. But these benefits are not well distributed socially, often favouring urban dwellers, industries and certain types of farmers disproportionately; and they come with large social and environmental costs that for too long were overlooked. Few rivers remain that have been untouched by some type of dam. Displaced populations, estimated between 40-80 million, have frequently been resettled with minimal or no compensation, often in marginal lands, and in the majority of cases have become and remained poorer. Large-scale alteration of natural hydrologic regimes has had massive impacts on fisheries, water-based livelihoods, aquatic ecosystems and environmental services as a whole. Some scientists also believe that many reservoirs emit large amounts of greenhouse gases, up to 4% of all human-induced GHG emissions, as reviewed in this volume by Mäkinen and Khan.² Indeed, the first-ever global estimate of the number of river-dependent people potentially affected by dam-induced

¹ Large dams – over 15 m high or with a reservoir capacity more than 3 million m³ – total roughly 45,000 worldwide, not considering millions of smaller dams and reservoirs (WCD, 2000; in November 2000). This definition must be adapted when considering dams in the Himalayan region, as discussed by Dixit and Gyawali in this volume.

² For this specific estimate, Lima et al., 2008.

changes in river flows and other ecosystem conditions is presented in this volume by Richter et al.: that 472 million river-dependent people have had their livelihoods negatively affected by dams.

What has happened in the decade since the WCD Report was published? The goal of this special issue is to examine the influence and the impacts of the WCD on the dam enterprise, in general, and on the policies and practices of key stakeholders and institutions, and on the development outcomes for affected communities and environments, in particular. While social and environmental costs and risks are better understood, several changes have recently emerged. Energy demand and the price of fossil fuel have prompted a renewed interest in hydropower; traditional development banks and developers have been increasingly challenged by competitors from emergent countries, often with access to public finance; while opponents have also become more sophisticated in their understanding of the issues and modes of action. An upsurge of dam projects has been witnessed during the past five years, but the recent global economic meltdown might temporarily slow this trend. Does the governance of these projects show substantial progress compared with earlier decades? Has the performance of dams improved? Did the WCD, or other subsequent initiatives, instil a new ethics and greater consideration of social and environmental impacts? Has the debate become more, or less, polarized? The overarching questions we explore in this issue are: What has changed in the dams and development arena in the last decade, and is the WCD still relevant?

The WCD was an experiment in multi-stakeholder dialogue and global governance concerned with a subject area that was fraught with conflict and controversy. Its intention was to facilitate creative and free thinking on the topic of large dams and move beyond the impasse and conflicts that were prevalent in the 1990s. The editorial team and the Guest Editors of this special issue of *Water Alternatives* have selected a range of viewpoints and papers that help to illustrate the evolution in this debate. It is a testament to the continued relevance of the WCD Report that ten years later it is still a topic of intense interest and debate, as illustrated by the papers presented in this special issue.

In creating this special issue, the Guest Editors placed a high value on the criteria of diversity and balance in selecting papers for publication. The process for soliciting papers included a broad call for submissions through a variety of networks, listservs, and web postings. To ensure a wide range – of topic, author, geography, perspective, and discipline – the Guest Editors also invited particular individuals to submit. Out of the 70 abstracts received and based on a rating system, we accepted 45 of these abstracts for submission of a full paper. Several people and organisations that had some direct involvement during the WCD process were invited to submit Viewpoints, usually briefer papers that present their opinions, based on their experiences in the WCD and beyond. Accounting for authors who did not send their full papers on time or gave up, and for papers discarded after the review process, we ended up with 20 scientific articles and 6 viewpoints, complemented with 4 book reviews related to dams. The editorial team contacted more than 200 peer reviewers – again emphasising diversity and balance of views amongst reviewers – to anonymously evaluate these papers, and the final selection was based on the ratings made by these reviewers and the Guest Editors.

Overall, the Guest Editors have strived to publish papers of high quality, innovative thinking, and new analyses that have a clear link to the WCD and span geographic diversity, varied opinions, and multiple disciplines.

BRIEF OVERVIEW OF THE WCD REPORT

"The WCD has undertaken a rigorous, independent and inclusive global review...", claimed Professor Kader Asmal, WCD Chairperson (WCD, 2000). In this section we briefly revisit the World Commission on Dams, introduce its follow-up effort, the Dams and Development Project, and discuss the initial responses to the WCD Report.

The WCD grew out of the growing controversy over the economic, social and environmental consequences of large dams built in the 20th century. It was established in February 1998 through a process of dialogue amongst all the major parties engaged in conflicts over dams: the private sector,

civil society, government, affected communities, scientists, and international financial institutions. The Chair, Professor Kader Asmal – then South Africa’s Minister of Water Affairs and later its Minister of Education – was selected in May 1998. The WCD’s 12 members were chosen to reflect regional diversity, expertise and stakeholder perspectives. Some aspects of past conflict stemmed from the lack of agreement on basic factual issues related to the consequences – good or bad – of large dams. Whenever one stakeholder group issued a report or research or evaluations, other stakeholders would perceive that the information presented was biased. Therefore, the WCD was created as an independent body, with each member serving in an individual capacity and none representing an institution or a country (WCD, 2000, p. xxx). To foster its independence, the WCD was supported by the WCD Forum (comprised of 68 institutions from 36 countries), through Partnerships and Cooperation with 14 organisations, and with financial donations from 53 contributors (including governments, international agencies, the private sector, NGOs and various charitable foundations)(ibid: p. xix- xxi).

The WCD had two primary objectives. It sought to undertake a global review of the development effectiveness of large dams, and assess alternatives for water resources and energy development. It was also charged with developing internationally acceptable criteria, guidelines and standards, where appropriate, for the planning, design, appraisal, construction, operation, monitoring and decommissioning of dams (ibid: p. xxx). The Commissioners produced a 'consensus' report, a negotiated opinion, which was launched in a blaze of publicity in 2000, and evoked a range of initial responses from celebration to rejection. The WCD Report was promoted to all interested stakeholders through a variety of channels and outlets, such as this excerpt from a promotional brochure:

*Don't plan, build, protest, operate, decommission, propose, oppose or discuss a dam without it! By 2000, the world had built 45,000 large dams to irrigate a third of all crops, generate a fifth of all power, control floods in wet times and store water in dry times. Yet, in the last century, large dams also disrupted the ecology of over half the world's rivers, displaced over 40 million people from their homes and left nations burdened with debt.*³

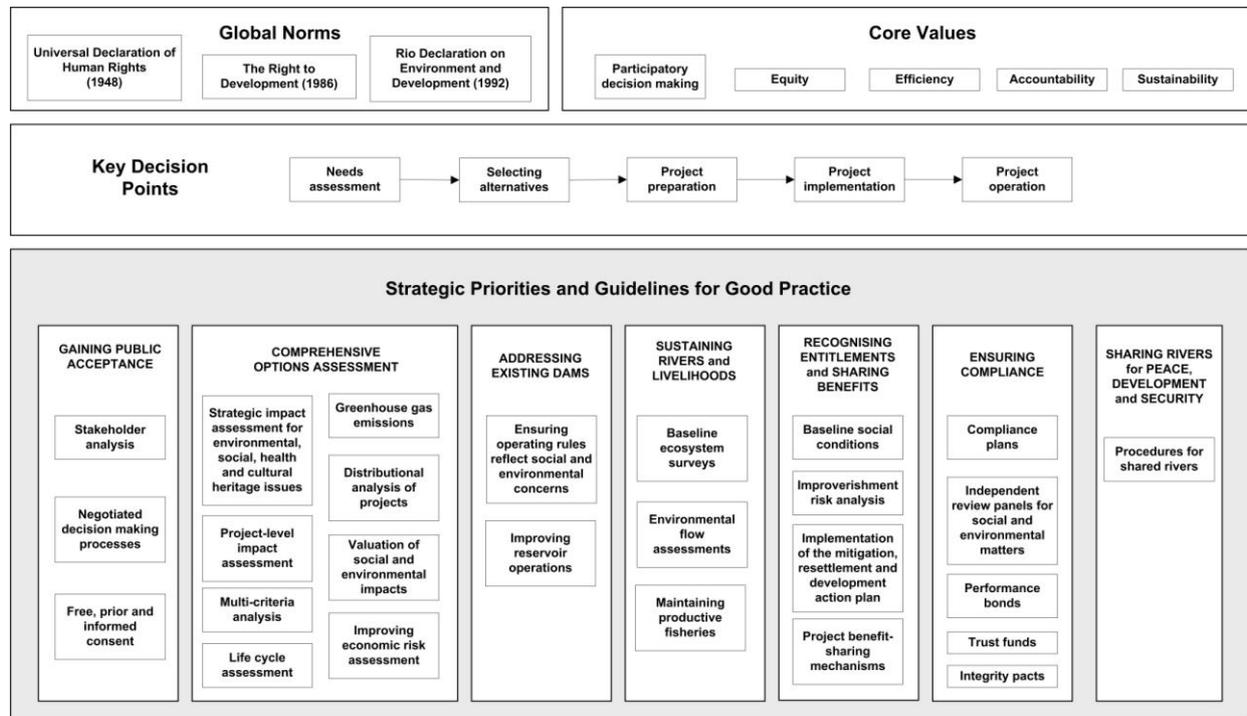
Since its formulation and release, the 'WCD framework' (figure 1) has been evaluated for use as both an implementation and advocacy tool. It is complex. The Report presents three grounding Global Norms, five Core Values, five key Decision Points, seven Strategic Priorities, 33 associated Policy Principles, and 26 Guidelines. The task of trying to determine how best to combine these recommendations into operational practices remains a challenge for post-WCD activity.

During the WCD process, it appeared that conflict was set aside; however, the Report itself stirred considerable debates and reignited controversy in some quarters. Most institutions and stakeholders broadly accepted the core principles and Strategic Priorities, but it was concerning the 26 Guidelines that agreement broke down. Some believed the guidelines were unrealistic, impractical, and would prevent future dam construction. Others believed the guidelines were not intended as strict regulatory standards, but rather recommendations for best practice, which – if adapted to specific national and river-basin contexts – would help avoid the problems of the past. The WCD Report was accepted by some countries and institutions, like the German aid agencies GTZ and BMZ (German Technical Cooperation and German Ministry for Economic Cooperation and Development) and the Japan International Cooperation Agency (JICA), as the needed basis for decision making. Some private companies, like Harza Engineering and HSBC Bank also supported the Report. Others, like the World Bank, considered its principles as useful, but not binding, and generally rejected the WCD Report in favour of developing its own strategies. Governments like South Africa, Vietnam, and Nepal joined multi-stakeholder dialogues at the national level to consider whether and how to adapt the Report’s recommendations to their specific contexts. Still other countries, such as India and China, rejected the Report for fear that it could bring dam construction to a halt. Positions were not monolithic: within

³ Excerpt from promotional materials created to advertise the WCD Report by the publisher Earthscan, 2000, www.earthscan.co.uk.

governments and institutions a robust debate ensued. Divergent views within the World Bank, for example, are highlighted in two of the Viewpoints published here. And within governments like Brazil, different agencies took different positions on the Report – some of the energy agencies ignored it, while Brazil’s National Water Agency participated in the WCD Forum and follow-on effort.

Figure 1. WCD framework for decision-making.



Source: Summary extract from WCD, 2000.

After the WCD Report was published in November 2000, the WCD Forum – an advisory body that had been part of the WCD process – agreed that a follow-on effort was needed to help translate and disseminate the Report and continue the dialogue at different levels. The Dams and Development Project (DDP) was hosted by the UN Environment Programme (UNEP) and continued with parts of the work commenced by the WCD, seeking ways forward through still difficult issues. The goal of the DDP was to promote a dialogue on improving decision-making, planning and management of dams and their alternatives based on the WCD Core Values and Strategic Priorities. To achieve its goal, the DDP focused on: promoting and facilitating dialogue on dams and related issues at national, regional and global levels; networking; translating and disseminating the WCD Report, related material and DDP publications; and facilitating the exchange of ideas on best practices.

There was action on many fronts, supported by the DDP Secretariat, a diverse 13 member Steering Committee (UNEP is a non-voting member of this committee), and an even more diverse Dams and Development Forum (DDF). There was not complete acceptance of all other parts of the WCD Report by the Steering Committee and the DDF, resulting in the negotiation and focusing of the DDP mandate. Moreover, in response to some specific WCD criticism, the DDP had a particular emphasis on "reaching out to governments" (Dubash et al., 2001).

While it would have been unreasonable to expect unanimity on all these issues, what was not unreasonable was to expect that the dialogue and the constructive engagement that the WCD represented would be taken forward. The editors of *Water Alternatives* felt that the tenth anniversary

of the WCD was an opportunity to review and reflect on progress, setbacks, unresolved issues, and new challenges in the dams and development field.

THEMES EMERGING FROM THE WATER ALTERNATIVES WCD + 10 SPECIAL ISSUE

We worked to select a set of papers for this special issue that covers a range of topics, geographic diversity, and perspectives surrounding dams. Having read through all the papers, we see several critical and relevant themes emerging.

THEME 1. *Diverse perceptions: Perspectives differ on the impact of the WCD Report and process*

Just as opinions differed at the time the WCD Report was published and the DDP follow-on process began, perspectives continue to differ ten years later on the lasting impacts of the Report and process. Most authors seem to agree that the Report was not as fully and broadly endorsed as was perhaps expected at the time of its publication. The papers cite and reference numerous scholarly articles published during the last decade that analyse the implementation of the WCD's policy and best practice recommendations. Some authors, such as Dubash in his Viewpoint, believe that the expectations on the WCD multi-stakeholder process to produce regulatory guidelines were perhaps misguided and that if judged against the expectation of a global norm-setting process to produce new ideas and encourage higher standards, the WCD Report and process were successful. Many authors describe how the WCD Report has been partially adopted by a diversity of institutions and state that the ideas continue to drive current policy debates. Others, such as Briscoe in his Viewpoint, argue that the WCD Report overreached and led to a new consensus among developing country governments that such policy decisions were more appropriately made at the national level primarily by the State. Yet others, such as Goodland in his Viewpoint, believe that the institutional responses to the WCD were sabotaged by a relatively small but vocal set of critics.

Despite the WCD's efforts to find mutual agreement about the development effectiveness of dams and to assemble a comprehensive knowledge base that remains unrivalled in its scope ten years later, fundamental disagreements remain about the costs and benefits of large dams, and about who reaps the benefits and who suffers the burdens of the costs. The question remains: are dams a useful technology to advance sustainable development or a destructive technology that only in rare cases can be managed successfully to avoid social and environmental devastations and produce real economic benefits? Facts and values remain contested, which is not unexpected. The fact that the WCD Report is even a topic of interest ten years later is an indication that the ideas and recommendations are still relevant today, if for no other reason than that there is a healthy ongoing debate about whether and how to adapt the WCD's ideas into specific mechanisms for managing dams at the local, national, and international levels.

THEME 2. *Changing drivers*

Water and energy demands continue to rise and drive dam development

The context for most of the papers is that human demands for water and energy continue to grow and that large dams remain the solution of choice for many governments, private companies, and financial investors. John Briscoe's paper explores the evolution of the World Bank's positions and policies related to large dams that led to the Water Resources Management Sector Strategy (World Bank, 2003) to support 'high risk-high reward' projects like large dams, with a recent update on the Bank's position provided in *Directions in Hydropower* (World Bank Group, 2009).

Climate change is now a greater driver of hydropower expansion

Many papers acknowledge that in the last decade, the world has focused its attention on climate change and that hydropower dams have been promoted as a 'clean' and 'carbon neutral' energy strategy, helping to further stimulate investments in both dams and in carbon trading and offset schemes generated by potential credits associated with large dam projects. Debate remains about whether large dams should be considered part of a carbon-reduction strategy or not due to significant concerns regarding the net greenhouse gas emissions from reservoirs. The paper by Finley-Brook and Thomas examines the demand created for new dams in Panama associated, in part, with the value of selling carbon credits, and how this affects the local and national decision-making process. The value of possible carbon credits is also a factor considered in the economic risk analysis of the Belo Monte dam in Brazil, examined in the Sousa Júnior and Reid paper. The paper by Hirsch notes that environmental concerns are being touted both in favour of, and in opposition to dam construction, by opponents/proponents invoking climate change threats. Pittock argues there is a need for a greater focus on identifying and limiting the perverse incentives of climate change policies that are leading to negative impacts. Finally, the paper by Mäkinen and Khan explores the science of greenhouse gas emissions from reservoirs and the policy interventions that could reduce such emissions from reservoirs, suggesting that reservoir emissions should be treated like other anthropogenic greenhouse gases.

New financiers are changing the loci and framework for decision-making processes

In the last decade, many shifts in political power and financial muscle are changing the roles of national, international, and multilateral institutions. The private sector's role in financing dams has grown, as have the abilities of emerging economies like Brazil, China, and Turkey to self-finance dams from their own coffers. Indeed, China is now a major investor in dams beyond its own borders in Africa and elsewhere. The paper by Hirsch explores the shifting geopolitical and eco-political landscapes in the Mekong river region, noting that the growth of regional economic players is fundamentally altering the context for energy demand, planning and investment. The Viewpoint by Smith also highlights increased investments in dams and new global actors involved in promoting dams – many of whom were not active in the WCD process – heightening the need for transnational codes of conduct to ensure that environmental and social safeguards are applied so that the unsatisfactory development outcomes of past dams will be avoided.

Theme 3. Environment and social justice: Negative consequences of dams on the environment and livelihoods of dam-affected communities remain critical issues

The WCD amassed a wealth of evidence that large dams had created environmental and social impacts that could no longer be considered unforeseen or acceptable, and highlighted that the cost versus benefit trade-off approach to decision making was inadequate to be the sole or at least the dominant criterion to be used when evaluating and deciding on whether projects should proceed. Ten years later, millions of people continue to be negatively affected by existing dams and more will be affected by dams in the pipeline, while we continue to lose aquatic ecosystems and biodiversity at an alarming rate. Even if more people, in gross number terms, benefit directly or indirectly from such dams, the costs involuntarily borne by others are surely unacceptable and must be avoided or mitigated. Many of the papers in this volume further describe the ongoing and widespread impacts of large dams.

Richter et al. focus attention on previously neglected populations living downstream of dams whose livelihoods have been affected by dam-induced alterations of river flows. By substantially changing natural flow patterns and blocking movements of fish and other animals, large dams can severely disrupt natural riverine production systems – especially fisheries, flood-recession agriculture and dry-season grazing. The paper provides a conservative estimate of 472 million negatively affected river-

dependent people living downstream of large dams along impacted river reaches, lending urgency to the need for more comprehensive assessments of dam costs and benefits, as well as to the social inequities between dam beneficiaries and those potentially disadvantaged by dam projects.

Dam-induced displacement and resettlement remain primarily negative consequences of dams that still have not been satisfactorily addressed, and many of the papers in this volume focus on this topic. The paper by Nga Dao explores the evolution of resettlement policies in Vietnam through a comparison of Hoa Binh dam (constructed between 1979 and 1994) and Son La dam (formally under construction since 2005), indicating that improvements in policy may bring limited improvements in planning and practices of dam development at the community level. In the paper by McDonald-Wilmsen and Webber, the authors look to the experiences in other fields of resettlement, such as refugee studies and migration due to adaptation to environmental change, to learn from their practices and standards of how to effectively settle people in new communities.

One of the WCD's Strategic Priorities was Comprehensive Options Assessment, which recognised that alternatives to dams do often exist. More evidence is accumulating, showing that effective alternatives do, in fact, exist. The paper by Totten et al. presents evidence from the state of California that shifting from a conventional focus on supply expansion to one that concentrates on efficiently delivering services at and near the point of use could be accomplished with investments in the range of US\$10-25 billion annually, while obviating the need for spending hundreds of billions of dollars on more expensive hydropower and related infrastructural expansion projects. Such a shift to cost-effective end-use efficiency improvements in delivering water and energy services could eliminate the need for an estimated half of all proposed dams globally, thus allowing for the maintenance of other ecosystem service benefits and offering hope for meeting basic human needs for water and energy at a more achievable level of investment.

THEME 4. *New assessment tools: The quest for new decision-making tools and approaches continues, from assessment protocols to economic analysis*

One critique of the WCD Report is that it did not succeed in providing tools that could be readily implemented at the operational level for evaluating, managing, and building dams. During the last decade, an inspiring array of tools and approaches has continued to evolve and be tested at the community, the river basin, the country, and international levels. The paper by Locher et al. describes the Hydropower Sustainability Assessment Forum and its efforts at building on the WCD Report to create an operational tool for assessing large dams against an agreed-upon set of multiple criteria. In a contrasting view, a key message from the paper by Bosshard is that the hydropower industry would like to establish norms that can create greater predictability through the certification of dam projects using protocols like that in HSAF; yet industry is not prepared to accept binding minimum standards that would confer new obligations to the hydropower industry. Without agreed-upon minimum standards, the concern is that the worst consequences will not be avoided or mitigated.

Tullos et al. argue that many challenges remain in evaluating the biophysical, socio-economic and geopolitical impacts of dams, including the diversity of stakeholder perspectives on dam impacts. Given the complexity of data and perceptions around dam impacts, decision-support tools that integrate the objective magnitude and perceived salience of impacts are required urgently. This conclusion stems from the authors' own experimentation developing an Interdisciplinary Dam Assessment Model (IDAM) working with colleagues in southwest China.

The WCD Report documented numerous instances where the costs of large dam projects were underestimated. This problem continues to plague the evaluation process, as explored in two papers. The Sousa Júnior and Reid paper uses an economic-risk analysis to project that there is a 72% chance that the Net Present Value of the benefits of the Belo Monte dam in Brazil will be zero; and the Jeuland paper examines the influence of varying discount rates used in an economic analysis on the final analysis of a dam's overall economic value.

Going well beyond such technical tools as HSAF, IDAM, benefit-cost analyses, NPVs and discount rates, Baghel and Nüsser argue that analyses of large, complex dam projects – before, during and after key decisions – should use the lens of political ecology and explore the social and power relationships between actors, in what we know are highly politicised situations.

THEME 5. *Advances in participation and accountability: How can participation, compliance, accountability, and performance be ensured?*

A constant theme throughout the WCD Report was the need to improve the participation of affected communities in the decision-making process and to ensure compliance with policies and negotiated agreements so as to improve the development effectiveness of dam projects. It is the same in this volume, where many papers explore the roles of different stakeholders – the state, local NGOs, affected communities, the private sector, international NGOs, financial investors, and multilateral institutions – in promoting participation and accountability. The Dore and Lebel paper explores the WCD's Strategic Priority on Gaining Public Acceptance, which focused on issues of 'procedural justice', and suggests expanding the approach to include issues of 'distributional justice'. They also revisit issues of participation that were raised during the WCD, present their views on necessary state attributes for accountability, in order to earn legitimacy and public trust.

Embedded in the approach to gaining public acceptance and the 'rights and risks' framework put forward by the WCD was the key policy principle of 'free, prior and informed consent' (FPIC) for affected indigenous communities. This new framework included a recognition that indigenous communities – with recognized rights to self-determination – should give their free, prior and informed consent to development projects like dams that affect their livelihoods, culture, land and resource rights, and basic human rights. Many have questioned whether FPIC can be practically implemented or recognised. The Viewpoint by Cariño and Colchester, however, documents advances during the last decade in recognising this principle in important legal and policy arenas, including United Nations declarations and court decrees by the Inter-American Court of Human Rights in Latin America. McGee's paper explores the use of community referenda in Latin America as a democratic and legally recognizable means of a community's expression of its consent (or disapproval) for a proposed development project, such as a mine or a dam. Such mechanisms are showing promise for how elements of FPIC can be practically implemented.

Moving from principles to practices, several papers and Viewpoints explore the roles of different stakeholders in ensuring that policies and standards are followed. The Dubash and Briscoe Viewpoints offer differing perspectives on the roles of the state and NGOs in fostering safeguard norms, policies, and regulations. The Viewpoint by Goodland, a former World Bank senior environmental advisor, explores reasons why the World Bank has long resisted guidelines requiring large dam projects to internalise the social and environmental costs of dam construction and offers suggestions for more humane and economically responsible Bank policies. Differences between free, prior and informed 'consultation' versus 'consent' in Bank policies are also explored.

Several case studies explore the role of bilateral agencies in dam development. The paper by Eberlein et al. on the Ilisu dam in Turkey examines the roles of secondary stakeholders – the European Export Credit Agencies and European NGOs – in promoting international standards for best practice and accountability in decision making.

The paper by Seeger et al. describes Germany's engagement in the promotion of participatory processes on dam-related issues, building on the WCD and follow-up processes at both the international level, through Germany's participation in the Hydropower Sustainability Assessment Forum (HSAF), and at the national level, with the Ghana Dam Dialogue. Interestingly, it appears that smaller bilateral agencies have been better able to take up, or more interested in taking up, the WCD's framework and recommendations to assess their own water resources and dam development programmes than the larger multilateral institutions.

THEME 6. *Negotiation*: Multi-stakeholder platforms (MSPs) continue to show promise for informing and shaping negotiated agreements that result in better sharing of the resources, benefits, and costs associated with dams

The inherent complexity and diversity of interests in water resources development and energy production, of which dams and hydropower are a part, present considerable social and political challenges that must be negotiated. MSPs are an approach for constructive engagement and learning about complex problems where facts are disputed and values differ. Experiments with a variety of MSPs – some more inclusive, some less – have taken place around dams, and beyond to many other decision-making realms. Interestingly, multi-stakeholder approaches have been used to address the legacy impacts of existing dams in several regions. Gosnell and Kelly describe an innovative approach to negotiating difficult water-sharing and dam re-licensing agreements among indigenous tribes, farmers and hydropower interests in the Klamath river basin, which may lead to decommissioning of several dams as a means of restoring important salmon fisheries. And in the Barbara Rose Johnston paper a process in Guatemala is discussed, where communities who suffered violence associated with the Chixoy dam have spearheaded efforts to document their losses and advocate for reparations to remedy the legacy of loss.

MSPs can help deliberation to become routine, enabling complex water issues to be more rigorously examined in better, more informed negotiations, argue Dore and Lebel. A key message from Dixit and Gyawali, however, is that although dialogue about dams has continued over the past decade, there is no guarantee that this translates into improved decision making without commensurate political will. They discuss the case of Nepal where there was extensive, often feisty dialogue processes before and after WCD, and yet unsatisfactory conventional practice by the 'hydrocracy' continues to reign even after significant political changes that saw the rise to power of the political Left.

A NEW WAY FORWARD

The initiative by *Water Alternatives* has elicited a strong response illustrative of the widespread interest in the issues surrounding large dams and of the continued relevance of the WCD's analysis and recommendations.

Based on the diverse perspectives across a range of topics, the changing drivers of dam development, and the new financiers of dams emerging, the papers and viewpoints in this special issue demonstrate the need for a renewed multi-stakeholder dialogue at multiple levels. This would not be a redo of the WCD, but rather a rekindling and redesigning of processes and forums where mutual understanding, information-sharing, and norm-setting can occur. There would also be opportunities for renewed reflection – in light of the changing drivers of dam development, including climate change – on the whole approach to water storage and energy production that could include not just concrete dams but also other 'technologies' such as groundwater and wetlands management, water harvesting, conjunctive management of groundwater and surface water, renewable energies like solar, wind, and geothermal, decentralised and small-scale technologies, and intensive water and energy conservation, among others. Such dialogues would likely be necessary at local, national, and international levels.

While one of the key drivers of dam development remains the pressure to meet human needs for energy and water resources, there is a continued need to better explore, promote, develop, invest in, and replicate the variety of non-dam and less-destructive alternatives for providing water and energy development. In the ten years since the WCD, there has been inadequate investment in the kinds of non-dam and efficiency investments outlined in several papers in this volume.

One of the most promising developments of the last decade is the further demonstration that true partnership amongst key stakeholders can produce transformative results. Successes on the ground in Guatemala, the Klamath basin in the US, the Pangani river in Tanzania, and others described in this

volume demonstrate that many of the WCD recommendations around negotiated agreements are working in practice to foster resource-sharing agreements among the affected stakeholders.

What is crucial at all levels is compliance and accountability – true ten years ago and today. Many excellent projects exist from which we can learn, but there are others that continue to have serious negative impacts. Ignoring either does not serve anyone’s interests – we must learn from all, make wiser choices and improve performance. We hope that this special issue sparks such dynamic learning and dialogue to recommit ourselves to finding effective, just, and lasting solutions for water, energy and ecosystem management. The world’s impoverished and our suffering rivers and aquatic environments – upon which we all depend – deserve better!

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