



Protecting Rivers and Rights

THE WORLD COMMISSION ON DAMS
RECOMMENDATIONS IN ACTION BRIEFING KIT

WORLD COMMISSION ON DAMS
WCD+10 YEARS
PROTECTING RIVERS AND RIGHTS

About International Rivers

International Rivers seeks to protect rivers and defend the rights of communities that depend on them. We oppose destructive dams and the development model they advance, and encourage better ways of meeting people's needs for water, energy and protection from damaging floods.

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Front cover photo: *Fishing by the Da River near the Son La Hydropower Project in Vietnam. Photo: Hoai Thanh*



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Introduction

With support from the World Bank and the International Union for Conservation of Nature (IUCN), the independent World Commission on Dams (WCD) was created in May 1998. Its mandate was to review the development effectiveness of dams and develop standards and guidelines for future projects. The Commission consisted of 12 government, industry, academia, and civil society representatives and was chaired by South Africa's water minister, Kader Asmal.



Nelson Mandela and WCD Chair Kader Asmal launch the World Commission on Dams final report in 2000. Photo: Birgit Zimmerle

During its two-year lifetime, the WCD carried out the most comprehensive evaluation of large dams to date. It commissioned 130 technical papers, studied seven dams and three dam-building countries in great depth, reviewed another 125 dams in less detail, conducted consultations in different parts of the world with 1,400 participants, and accepted 950 submissions from experts and the interested public. Altogether, the WCD reviewed 1,000 dams in 79 countries.

The WCD concluded that while “dams have made an important and significant contribution to human development . . . 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.” The WCD found that dams have physically displaced 40–80 million people worldwide, most of whom never regained their former livelihoods and were made poorer as a result. Dams have also caused a significant and irreversible loss of species and degradation of ecosystems, while efforts to mitigate these impacts have rarely been successful.

To improve the development outcomes of water and energy projects, the WCD report presented recommendations

based on recognizing the rights of and assessing the risks to all interested parties. Its final report, *Dams and Development*, constitutes the most comprehensive set of environmental and social standards for dams. In the 10 years since the WCD report was launched, many of its recommendations have become accepted legal norms. Furthermore, other international environmental and social standards developed over the past decade reflect approaches that are similar to the WCD recommendations.

ABOUT THIS BRIEFING KIT

This briefing kit focuses on major categories of WCD recommendations: (1) demonstrating public acceptance and requiring free, prior and informed consent of indigenous peoples; (2) assessing all available options for meeting water and energy needs; (3) reparations and addressing existing dams; (4) managing downstream impacts and environmental flows; (5) sharing benefits; and (6) ensuring compliance. The briefing kit highlights key examples of policies, regulations and laws that reflect these WCD recommendations and references specific projects that demonstrate them in action. These examples—some of which do not explicitly reference the WCD and others that even precede the WCD—illustrate how the WCD recommendations reflect core principles of human rights and environmental sustainability that cut across institutions and industries.

Although the dam examples highlighted in this briefing kit show how certain WCD recommendations have been successfully applied, many of these projects suffer from serious shortcomings in other areas. This underscores the need for a comprehensive environmental and social approach that respects the rights of affected people and fairly accounts for the risks of large dams. Furthermore, while the policies included here reflect WCD recommendations in principle, a separate assessment is required to determine whether these laws and policies are being adequately implemented.

What Does the WCD Recommend?

The WCD developed a set of recommendations that includes a number of components:

- Seven broad “strategic priorities” to guide decision-making: (1) gaining public acceptance; (2) comprehensive needs and options assessment; (3) addressing existing dams; (4) sustaining rivers and livelihoods; (5) recognizing entitlements and sharing benefits; (6) ensuring compliance; and (7) sharing rivers for peace, development and security.
- A step-by-step process for making decisions at various project stages supported by “criteria checklists.”

- Twenty-six “guidelines for good practice” that explain in more detail how to implement principles outlined in the strategic priorities.

Details on the WCD recommendations can be found in International Rivers’ “Citizen’s Guide to the World Commission on Dams,” available in English, French, Chinese and Spanish at: <http://www.internationalrivers.org/en/node/1453>

The full WCD report, *Dams and Development*, is available at: http://www.unep.org/dams/WCD/report/WCD_DAMS%20report.pdf

Which Governments and Funders Endorse the WCD Recommendations?

Although the Commission dissolved after publishing its report in November 2000, the WCD recommendations live on and have become the most important and legitimate global benchmark for dam building. The following are examples of institutions and governments that have endorsed the WCD report:

- Several governments—including Germany, Nepal, South Africa, Sweden and Vietnam—have organized dialogue processes to integrate WCD recommendations into national policies. The German government in particular has expressed a strong commitment to the WCD recommendations.
- The member countries of the OECD and the European Union have issued a statement on hydropower that “recognizes the value” of the WCD strategic priorities.
- The Swiss export credit agency, SERV, expects project developers to follow the WCD’s strategic priorities.
- The U.S. Overseas Private Investment Corporation (OPIC) applies screening and environmental assessment criteria that incorporate the WCD strategic priorities.
- The Swedish and German bilateral aid agencies have adopted the WCD recommendations and are supporting their partner countries and project developers to implement them.
- The World Bank and the International Hydropower Association (IHA), while critical of specific WCD recommendations, have endorsed the strategic priorities.
- Both the European Investment Bank (EIB) and the European Bank for Reconstruction and Development (EBRD), the two largest public banks in Europe, announced in 2005 that they would take into account WCD recommendations when considering funding for large dams, though the statements are not yet mandatory policies.
- In May 2005, HSBC bank developed water sector guidelines that require dam projects to comply with the WCD recommendations in order to receive funding.
- The member states of the European Union have decided that carbon credits from large dams can only be sold on the European market if the projects comply with the WCD recommendations.
- International Carbon Investors & Services, a group of international banks and other bodies involved in carbon trading, requires WCD compliance for large hydropower projects.

Demonstrating Acceptance and Free, Prior and Informed Consent

KEY WCD PRINCIPLES

- **Demonstrating Acceptance:** Public acceptance of all key decisions should be demonstrated. (*WCD Strategic Priority 1*)
- **Free, Prior and Informed Consent (FPIC):** Decisions affecting indigenous peoples should be taken according to their free, prior and informed consent. (*WCD Strategic Priority 1*)

SOME EXAMPLES OF POLICIES AND LAWS THAT REFLECT THESE PRINCIPLES

- FPIC is a feature of national legislation or jurisprudence in the Philippines, Australia, India, Colombia, Venezuela and Canada.
- *Inter-American Court of Human Rights:* The Inter-American Court has developed considerable jurisprudence on FPIC, with several decisions stating that indigenous peoples' informed consent is required in relation to activities that affect their traditional territories. For instance, in the case of the *Saramaka People v Suriname*¹, the Inter-American Court held that large-scale development projects that would have a major impact within an indigenous peoples' territory can only proceed with their free, prior and informed consent according to their customs and traditions.
- *1969 International Convention on the Elimination of Racial Discrimination:* The United Nations (UN) Committee on the Elimination of Racial Discrimination, which interprets the Convention, recommends that to fulfill their obligations under the Convention, States should "ensure that members of indigenous peoples have equal rights in respect of effective participation in public life and that no decisions directly relating to their rights and interests are taken without their informed consent."
- *1976 International Covenants on Human Rights:* The International Covenant on Civil and Political Rights (ICCPR) and the International Covenant on Economic, Social and Cultural Rights are binding treaties that acknowledge indigenous peoples' right

to self-determination and to freely determine their political status, freely pursue their economic, social and cultural development, and freely dispose of their natural wealth and resources through opportunities to engage in consultations and to agree or reject proposals for development.

The case of *Angela Poma Poma v Peru*² supports FPIC for non-indigenous communities. The Human Rights Committee of the ICCPR found that FPIC is required for any minority under Article 27, including non-indigenous peoples, where the State acts in a way that substantially compromises or interferes with a group's culturally significant economic activities.

"All projects have to be planned, implemented and operated with the clear consent of the public concerned."³

–International Commission of Large Dams (ICOLD), 1997

- *1989 International Labour Organization (ILO) Convention 169:* ILO Convention No. 169, a binding instrument exclusively concerned with indigenous peoples' rights, requires different standards ranging from consultation to participation and, in the case of relocation, informed consent. The Convention also states that indigenous people's own institutions should be respected in decision-making and makes provisions for the exercise of customary law.

- *2003 World Bank Extractive Industries Review:* The Extractive Industries Review’s Executive Summary recommends the adoption of FPIC when making decisions about oil, gas, and mining projects for both indigenous peoples and local communities affected by these projects.
- *2007 UN Declaration on the Rights of Indigenous Peoples:* Six articles in the Declaration make explicit reference to FPIC, although only two, Articles 10 (on forced relocation) and 29 (on hazardous waste storage), clearly prohibit any government action without the consent of the affected indigenous community. Article 32 states that indigenous people shall not be removed from their ancestral lands without their free, prior and informed consent and that States shall work to obtain FPIC before approving projects that affect indigenous peoples’ lands and resources. Article 10 states: “No relocation shall take place without the free, prior and informed consent of the indigenous peoples concerned and after agreement on just and fair compensation and, where possible, with the option of return.” The Declaration was adopted with 144 countries voting in its favor.



Burntwood River, site of the Wuskwatim project. Photo: Christian Cassidy

SOME CASES WHERE PRINCIPLES HAVE BEEN APPLIED

Free, Prior and Informed Consent

Wuskwatim Dam, Canada: In the 2004 court case, *Haida Nation v British Columbia (Minister of Forests)*, the Supreme Court of Canada decided that the full consent of an aboriginal nation must be given for claims over aboriginal lands. This case had an impact on subsequent projects, including the 200 MW Wuskwatim Dam in Manitoba on the Burntwood River, which became the first case where a company (Manitoba Hydro) entered into an equity partnership with a First Nations community. Participation of the Nisichawayasihk Cree Nation (NCN) was agreed to in a June 2006 referendum of NCN members after nine years of negotiations. The environmental and social impact assessments were developed through intensive consultations that incorporated traditional knowledge, which was instrumental in the selection of a 200 MW low-head design rather than a high-head design (which would have generated more power but also caused far more flooding and environmental damage). The NCN has been involved in the development of the dam and will own 33% of the Wuskwatim generating station.

Despite its positive relationship with the NCN, the Wuskwatim Dam has other shortcomings. The Asatiwisipe

Aki (Poplar River First Nation) has been opposing the project because its transmission lines and roads would run through a pristine ancestral boreal forest. The Natural Resources Defense Council, together with some First Nations and other environmental NGOs, are campaigning to designate 4.3 million hectares of boreal forests in Manitoba and Ontario a World Heritage Site in order to protect the land from further hydropower development and transmission line construction. In August 2009, NCN protesters blockaded a road to the dam because Manitoba Hydro was not living up to its agreement to provide jobs to members of the NCN.

Demonstrating Acceptance (or Rejection)

Colorado and Chixoy River, Guatemala: In 2005, the Municipality of Río Hondo held a popular referendum, or consulta, on three dams proposed on the Colorado River



Community members, young and old, recorded their votes on whether Guatemala’s Xalala Dam should proceed. Photo: Commission on Community

near the headwaters in the Sierras de las Minas mountain range. The vote, proposed by the mayor and Municipal Council and conducted by the Supreme Electoral Tribunal, overwhelmingly rejected the dams (2,735 out of 2,831 votes cast were against) due to their potential environmental impacts and irregularities of the environmental impact study. The government recognized the vote and decided not to proceed with the projects. One local resident explained the vote against another dam: “We already have precedents of contamination and water shortage. . . . Previously, the legislation did not allow us to have a consultation, but now that they are giving us a chance to voice our opinion, this is what we think.” She was referring to the 2002 Municipal Code, mandated by the 1996 Peace Accords, which states that where there is not an indigenous majority, 20% of the population must vote in the referendum for it to be considered valid.

Another project on the Chixoy River, the Xalala Dam, was voted down in a local referendum in 2007. The government proceeded to ignore this vote because the project was deemed a national priority. However, in 2008, the government failed to receive a single bid to develop the project, largely because of the massive opposition to the dam. Civil society is calling on the government to recognize the indigenous communities’ right to free, prior and informed consent. The UN Committee on the Elimination of Racial Discrimination has also cited the government’s refusal to respect the referendum outcome and its support for large projects with negative social and environmental impacts as evidence of institutional racism.

SOME CASES WHERE PRINCIPLES HAVE BEEN IGNORED

Free, Prior and Informed Consent

Changuinola 1 (Chan 75) Dam, Panama: The 222 MW Chan 75 Dam, located on the Changuinola River, has had major impacts on the ancestral territories of the Ngöbe indigenous people. The project’s problematic history includes the forced displacement of more than 1,000 Ngöbe people and impacts to the livelihoods of 4,000 more. Because of the dam, the Ngöbe have suffered beatings, arbitrary detention, public humiliation, threats and illegal destruction of crops and homes at the hands of the police and AES, the developer. The dam is also expected to negatively affect fish and shrimp biodiversity by blocking migrations between the San San Wetlands RAMSAR site and the UNESCO World Heritage Site La Amistad International Park (shared with Costa Rica). Despite these impacts and a community petition that calls for observance of the *Inter-American Court of Human Rights’* decision (see previous section), the government has failed to adequately consult the Ngöbe and obtain their free, prior and informed consent.

Demonstrating Acceptance (or Rejection)

La Parota Dam, Mexico: Despite strong organized opposition to La Parota Dam, the Federal Electricity Commission tried to push the project forward. The Commission resorted to tactics such as organizing illegitimate consultations, permitting violent police, illegally clearing lands, and bribing local government officials. But these measures could not overcome the overwhelming public opposition to the project. Local communities won a significant victory in 2009 when the Mexican government announced that the construction of La Parota Dam would be delayed until 2018. But as this briefing kit went to press, the project was approved by what critics are calling an illegal assembly, with those in attendance representing only 10% of the affected community instead of the 50% required for a project to proceed. Dam opponents plan to bring the case to the Senate and possibly to the Supreme Court.

Merowe Dam, Sudan: With a planned capacity of 1,250 MW, the Merowe Dam in northern Sudan is the largest hydropower project currently under construction in Africa. The dam will displace up to 70,000 people from the fertile Nile Valley to arid desert locations. The project is being built by Chinese, German and French companies, with financing from the China Exim Bank and Arab financial institutions. In May 2007, the affected people reached an agreement with the government of Sudan’s Nile State that gave them the right to relocate to settlements along the reservoir. Yet this agreement has never been honored, and the powerful Dam Implementation Unit, which sits directly under the Sudanese president, has waged a relentless campaign to drive the affected people off their lands. The dam authority sent armed militia to suppress local protests in several instances, including killing three people and injuring many more in a massacre in April



The temporary camp for Merowe Dam affected people.

2006. In 2008, the Sudanese government closed the gates of the Merowe Dam to flood out thousands of people who have resisted displacement from their villages in the Nile Valley. The government has also closed the region to aid agencies attempting to get relief supplies to the flood victims. No public consultations have been carried out and the government has not provided compensation.



In 2006, thousands rallied in Manipur, India, to protest the government's decision to follow through with the Tipaimukh Dam.

Tipaimukh Dam, India: For the last 15 years, communities in Manipur State in north-east India and in Bangladesh have resisted the proposed Tipaimukh Dam on the Barak River. The 163-

meter dam has sparked controversy in both countries over India's failure to conduct public consultations and share information with Bangladeshi and indigenous communities. The dam will submerge more than 275 square kilometers of prime farmland and displace 60,000 people in Manipur, including the indigenous Zeliangrong and Hmar communities, and will negatively impact 40,000 people in Bangladesh. The dam also threatens to dry up Bangladesh's Surma and Kushiara rivers, thus choking the northeastern region of Bangladesh. Experts predict that the dam will disrupt the seasonal rhythm of the river, agriculture, irrigation, fisheries, drinking water supply, navigation and ground water levels. Strong local opposition to the project has already led to long delays, cost increases and a militarization of the region.

NOTES

- 1 Inter-American Court H.R., ser. C. No. 172. November 2007.
- 2 Human Rights Committee, para. 7.6-7.7. April 2009.
- 3 International Commission on Large Dams (ICOLD). 1997. "Position Paper on Dams and Environment." p13. <http://www.icold-cigb.org/chartean.html>

Energy and Water Options

KEY WCD PRINCIPLES

- **Needs Assessment:** Objectives and development needs for water and energy services should be clearly formulated through an open and participatory process, before project options are assessed. (*WCD Strategic Priority 2*)
- **Options Assessment:** A balanced and comprehensive assessment of all options should be conducted, giving social and environmental aspects the same significance as technical, economic and financial factors. The first priority should be to make existing water, irrigation, and energy systems more effective and sustainable. (*WCD Strategic Priority 2*)

SOME EXAMPLES OF POLICIES AND LAWS THAT REFLECT THESE PRINCIPLES

- *2000 European Union (EU) Water Framework Directive (WFD) and the Strategic Environmental Assessment (SEA) Directive:* These directives require the assessment of various options for water resources development. The SEA Directive states that reasonable alternatives to an action must be assessed and the reasons for selecting the chosen alternative should be described in the accompanying environmental report. The assessment of different river basin management plan options during the SEA would also ensure compliance with WFD requirements for options assessment.
- *2003 World Bank Sourcebook “Stakeholder Involvement in Options Assessment: Promoting Dialogue in Meeting Water and Energy Needs”:* The Sourcebook was developed for training World Bank staff and borrowing country officials, as well as for “mainstreaming of the WCD’s core values and strategic priorities within the Bank.” The Sourcebook advises project managers to investigate all reasonable options before a decision is made to proceed with a dam. It argues that those likely to be affected should be encouraged to participate actively in decision-making and that all options should be evaluated fairly and transparently.
- *2004 International Hydropower Association (IHA) Sustainability Guidelines:* The IHA has asserted that “governments and, where applicable, project proponents should apply sustainability criteria when comparing project alternatives in order to focus on options that maximize environmental, social and economic benefits and, conversely, eliminate unacceptable alternatives early in the planning process.” According to the Guidelines, project proponents should demonstrate that their recommended option is sustainable and of net benefit to the community. To facilitate this, there should be early engagement with relevant stakeholders on the comparative benefits of feasible options.
- *2009 Asian Development Bank (ADB) Energy Policy:* While the Policy does not directly require options assessment, it states that the ADB will encourage utilities to “incorporate into their energy planning process the key elements of integrated resource planning.” This includes the assumption that both supply addition options and demand-side management options, especially energy efficiency, will be considered equally and that environmental costs and benefits will be included in the analyses.

“All reasonable options need to be investigated before a decision is made to proceed with a dam, and . . . those likely to be affected by such decisions should be encouraged to participate actively in the making of the decisions.”⁴

–World Bank Vice President Ian Johnson, 2003

SOME CASES WHERE PRINCIPLES HAVE BEEN APPLIED

Needs and Options Assessment

Chimanimani and Gwanda Districts, Zimbabwe: Under the legal frameworks of the 1998 Rural District Councils Act and the 2000 Traditional Leaders Act, which allow for decentralized planning and needs assessments on the level of individual villages, the districts of Chimanimani and Gwanda undertook a process called Community Based Planning (CBP) to determine their needs and options for water and food security. The CBP process, which is a decentralized, bottom-up approach meant to build on local resources and capacities, established a needs assessment for water that included a description and ranking of community-level options. Rather than proposing a centralized development project such as a dam, the assessment concluded that household-level water harvesting and soil conservation technologies were the optimal solutions.



Organizations and communities in the municipality of Texistepeque gathered for a forum entitled "Free Rivers, Free Communities" in 2008 for the protection of the Lempa and Torola Rivers. Photo: National Anti-Dam Movement of El Salvador

El Cimarron Dam, El Salvador: The Movement of Dam Affected Peoples of El Salvador (MONARES) has been fighting construction of new dams on the Lempa and Torola Rivers, including El Chaparral, El Cimarron and El Tigre, for close to a decade. In January 2010, President Funes shelved the El Cimarron project and asked the National Energy Council to work on an energy development plan for the country that would include a recommendation on the necessity of the El Cimarron Dam. The plan is expected to be completed in May 2010.

Small Hydro, Nepal: In the 1990s, frustrated by the high costs—including financial, social and environmental—of big, foreign-led hydro projects like the proposed Arun III (a



The Seti River in Western Nepal is site of the planned 750 MW West Seti Hydropower Project. Despite the success of small hydro, the Nepali government is still looking for investors and financiers for several large dam projects including West Seti and Arun III. Photo: Yuki Tanabe

201 MW project supported by the World Bank and costing US\$1 billion, or one and a half times the annual budget of Nepal), Nepali engineers, economists and civil society started looking for cheaper alternatives. Although their efforts were initially met with skepticism, it became clear that smaller primarily locally financed, built and managed projects could help meet Nepal's electricity needs in a more affordable way. Today, many smaller hydro projects have been built throughout the country, increasing generation capacity by 294 MW. These alternatives, which took less time to develop and were primarily locally designed and built, provide electricity at about half the cost of the original Arun III proposal.

SOME CASES WHERE PRINCIPLES HAVE BEEN IGNORED

Needs Assessment

Mphanda Nkuwa Dam, Mozambique: The Mozambican government plans to build a new dam, Mphanda Nkuwa, on the Zambezi River, 60 kilometers downstream from the destructive Cahora Bassa Dam (which is itself downstream from the Kariba Dam, one of Africa's largest). The \$2 billion Mphanda Nkuwa Dam would fuel energy-intensive industries in Mozambique and South Africa. The dam would set a poor standard for future energy development projects in Mozambique, where market-ready, clean-energy options



Local environmentalists see this project as doing little to help the 95% of Uganda's population who are not connected to the national grid.

exist that would be quick to implement and well-suited to the country's decentralized energy needs. A 1999 feasibility study for Mphanda Nkuwa failed to assess the country's priority needs, such as rural electrification, and to take into account non-hydro options. In 2009, Maputo-based environmental

NGO, Justiça Ambiental (JA!), commissioned an energy consultant to review the nation's renewable energy potential and policies. The resulting report revealed significant opportunities for renewables and many pitfalls in how energy projects are planned and evaluated. The options analysis produced by the NGO is the type of work the government itself should have undertaken before moving forward with more dams on the heavily impacted Zambezi.

Options Assessment

Bujagali Dam, Uganda: The development of the Bujagali Dam, with support from the World Bank, is the antithesis of the open, transparent and comprehensive options assessment process advocated by the WCD. The Bank commissioned, and subsequently ignored, an energy alternatives report by the dam-building firm, Acres, in May 2000. A 2008 report on the Bujagali Dam by the World Bank Inspection Panel⁵ showed that the Bank violated its own policies in its decision to support Bujagali: spiritual and cultural values were not "properly considered" when comparing two alternatives (i.e. the cultural significance of Bujagali Falls to the Busoga people was not given necessary weight), and alternatives were subjected to a priori judgments that unduly narrowed the range of project alternatives. The Bank overstated Bujagali's economic viability and underestimated or dismissed the potential of energy options like geothermal, wind, and biomass co-generation.



Power lines from Cahora Bassa Dam bypass rural communities living beneath the power lines. Despite having one of Africa's biggest hydro dams, Mozambique's rural poor have not benefited from the dam's electricity.

Belo Monte Dam, Brazil: The Brazilian government is planning to build what would be the world's third-largest hydroelectric project on one of the Amazon's major tributaries, the Xingu. The Belo Monte Dam would divert the flow of the Xingu River and devastate an extensive area of the Brazilian rainforest, displacing over 20,000 people and threatening the survival of indigenous peoples. While the project will have an installed capacity of 11,233 MW, the dam would only generate 1000 MW during the 3–4 month dry season. A recent cost analysis revealed a 72% chance that the costs of the Belo Monte Dam will be greater than the benefits. The government has yet to conduct a thorough options assessment for the region, choosing instead to promote the economic and political interests of large dam builders and politicians rather than the rule of law. A 2007 study by WWF–Brazil showed that by 2020, Brazil could cut the expected demand for electricity by 40% through investments in energy efficiency, with national electricity savings of up to \$19 billion. The power saved would be equivalent to 14 Belo Monte hydroelectric plants.



Indigenous people peacefully protest in front of the Brazilian Permanent Mission to the United Nations in New York on in April 2010. Photo: Amazon Watch

Better Options Assessment in Kenya

The Government of Kenya has learned about the unreliability of hydropower the hard way. In recent years, drought has crippled its hydro-dependent energy system—where approximately two-thirds of the nation's electricity is supplied by dams—multiple times. But unlike many other drought-prone African nations, Kenya has taken steps to analyze its energy options and work to diversify its supply.

After two months of power rationing in 2009, Kenyan Prime Minister Raila Odinga said, "The country can no longer continue to rely on hydroelectric power supply." The government wants to add 500 MW of geothermal power and 800 MW of wind energy to the grid within five years. There are no new dams on the drawing board.

In early 2010, a consortium of Dutch and Kenyan investors began construction on a 300 MW wind project near Lake Turkana in northern Kenya. When completed in 2012, the wind farm is expected to boost the nation's power supply by almost 30%—one of the highest proportions of wind energy to be fed into a national grid anywhere in the world. Kenya is already Africa's top producer of geothermal power, and with the Turkana windfarm, it will become the continent's biggest wind producer as well.



Lake Turkana, site of the future Lake Turkana Wind Power project.

Kenya's national energy policy is helping the nation move away from big dams by prioritizing renewable energy development, rural electrification and the electrification of slums, and by easing the way for communities to develop their own off-grid energy systems such as micro-hydro plants. The government also offers financial incentives for renewables, like feed-in tariffs for wind, solar, small hydro, geothermal and biogas projects.

NOTES

4 World Bank. 2003. "Stakeholder Involvement in Options Assessment: Promoting Dialogue in meeting Water and Energy Needs." *World Bank Sourcebook*. <http://www-wds.worldbank.org>

5 World Bank Inspection Panel. 2008. "Inspection Panel Investigation Report: Uganda – Private Power Generation (Bujagali) Project." <http://www.internationalrivers.org/en/node/3568>

The Legacy of Dams

KEY WCD PRINCIPLES

- **Addressing Existing Dams:** The legacy of existing dams should be addressed before developing new projects. Programs to restore, improve and optimize benefits from existing large dams should be identified and implemented. Relicensing processes should provide opportunities for participatory reviews of project performance and impacts that may lead to changes in project operation or to dam decommissioning. (*WCD Strategic Priority 3*)
- **Reparations:** Outstanding social issues associated with existing large dams should be identified and assessed, and processes and mechanisms developed with affected communities to remedy them. The effectiveness of existing environmental mitigation measures should be assessed and unanticipated impacts identified. Opportunities for mitigation, restoration and enhancement should be recognized, identified and acted on. (*WCD Strategic Priority 3*)

SOME EXAMPLES OF POLICIES AND LAWS THAT REFLECT THESE PRINCIPLES

- *1920 Federal Power Act, US:* Under the Act, the Federal Energy Regulatory Commission (FERC) can issue surrender proceedings at a hydropower facility that lead to dam removal or dam decommissioning at the expense of the licensee when a hydropower license expires. The 1986 amendments to the Act require FERC, when deciding whether or not to (re)issue a license, to consider not only the power generation potential of a river, but also other values, such as energy conservation, protection of fish and wildlife, recreational opportunities, and preservation of general environmental quality.
- *1948 UN Declaration of Human Rights:* Article 8 states that everyone has the right to an effective remedy by the competent national tribunals for acts violating the fundamental rights granted by the constitution or by law.
- *1969 American Convention on Human Rights:* Article 25 states: “Everyone has the right to simple and prompt recourse, or any other effective recourse, to a competent court or tribunal for protection against acts that violate his fundamental rights recognized by the constitution or laws of the state concerned or by this Convention, even though such violation may have been committed by persons acting in the course of their official duties.” Article 68 (1) also states that the consequences of a breach of rights or freedoms must be remedied and fair compensation paid to the injured party.
- *1976 International Covenant on Civil and Political Rights:* Article 2 (3) states: “Parties to this Covenant agree to ensure that persons whose rights or freedoms are violated shall have an effective remedy, notwithstanding that the violation has been committed by persons acting in an official capacity.” If the remedies are granted, Parties agree to ensure that competent authorities enforce these remedies.
- *1986 African Charter on Human and Peoples’ Rights:* Article 21 (2) states that in the case of “spoliation” (or destruction of property by the act of another), the dispossessed people shall have the right to the lawful recovery of their property as well as to adequate compensation.
- *2003 World Bank Extractive Industries Review:* The Extractive Industries Review’s Executive Summary calls for the Bank to make a strong commitment to helping governments tackle the social and environmental legacies of extractive industry projects, which resemble those left by large dams. This involves establishing compensation funds for people affected by past developments and programs to restore degraded lands and improve the lives of affected communities.
- *2005 UN “Basic Principles and Guidelines on the Right to a Remedy and Reparation for Victims of Violations of International Human Rights and Humanitarian Law”:* This agreement defines reparations and describes mechanisms to achieve them: “Reparation should be proportional to the gravity of the violations and the harm suffered. In accordance with its domestic laws and international legal obligations, a State shall provide reparation to victims for acts or omissions which can be attributed to the State and constitute gross violations⁶ of international human rights law or serious violations of international humanitarian law.” Reparations include restitution, compensation, rehabilitation, satisfaction and guarantees of non-repetition.

- *2006 Reservoir Resettlement Regulation, China:* In 2006, the State Council decided to provide “retroactive payments” to millions of people who were displaced by dams. This unprecedented step acknowledged mistakes China had made regarding resettlement practices. Starting in 2006, the Chinese government would reportedly pay \$75 per year to every farmer displaced by dams between 1949 and 2006, for a period of 20 years. For older farmers who are left without land and become urban citizens, China’s new decision provides for the introduction of a “safety net” measure: payments toward a “Social Security Fund,” comparable to a retirement pension.⁷
- *2007 UN Declaration on the Rights of Indigenous Peoples:* Articles 11, 20, 28 and 32 state that indigenous peoples who are deprived of their means of subsistence and development have the right to redress through effective mechanisms. They also have the right to restitution or just compensation when their lands and natural resources are taken or used without their free, prior and informed consent.

SOME CASES WHERE PRINCIPLES HAVE BEEN APPLIED

Addressing Existing Dams



Tribal fishermen have fought for dam removal on the Klamath for years. Photo: Bob Dawson

Klamath River, US: In January 2010, a diverse group of stakeholders from 26 organizations in the region agreed to remove four dams on the Klamath River. While the final decision must be approved by California voters, Klamath could become the biggest dam removal in the US and possibly the world. Back in 2001, the Klamath River was known as one of the most contentious river basins in the country, deeply dividing California and Oregon into two camps, with commercial fishermen and Native Americans on one side and ranchers and farmers on the other. FERC

ruled in January 2007 that PacifiCorp, the utility that owns the dams, would have to install fish ladders and screens on the dams as a condition of renewing its license. As a result, PacifiCorp was forced to consider removal, since ladders and screens would cost as much as \$150 million more than dam removal. This case not only represents a positive example of stakeholder participation (and reconciliation), but also where addressing existing dams can lead to dam decommissioning.

San Joaquin River, US: For nearly 60 years, the San Joaquin—California’s second longest river—had a 60-mile stretch that ran dry, thanks to the Friant Dam. In the late 1980s, the Natural Resources Defense Council (NRDC) filed a lawsuit to revive the river’s flow and its once abundant fisheries. Nearly two decades later, environmentalists, farmers and the federal government signed an agreement to restore the river and bring back its dwindling salmon populations. According to NRDC, “The San Joaquin settlement established two primary goals: restoring robust, self-sustaining populations of salmon and other fish below Friant Dam and programs to minimize water supply impacts that could result from the restoration.” When full implementation is achieved by 2016, the river will have year-round, fish-sustaining flows for the first time in 60 years. While farmers in east San Joaquin Valley have lost as much as 18% of their water in the first year of river restoration to keep the flow going, under the proposed plan, flows will be recaptured by existing water diversion facilities along the San Joaquin River for agricultural uses.

Tarbela and Ghazi Barotha dams, Pakistan: Completed in 1974, the 143-meter-high Tarbela Dam is perhaps the world’s most problem-stricken major dam. Only an expensive program of emergency repairs and continual monitoring and maintenance have prevented its reservoir from bursting through the embankment and devastating the densely populated Vale of Peshawar, through which the Indus River flows. When the World Bank began considering financing for the Ghazi Barotha Dam, which is just seven kilometers downstream of Tarbela, NGOs argued that the Bank should first resolve outstanding problems with Tarbela. In 1995, the World Bank placed a condition to this effect in its loan agreement with the Pakistani government, and negotiations with the affected people resulted in a comprehensive reparations package. Although this action was positive—and represents a case where the need to address the legacy of existing dams was recognized—the Water and Power Development Authority and the Asian Development Bank ignored this outcome and eventually funded the project anyway, despite the failure of the Pakistani government to accept the reparations package that had been negotiated. Communities affected by Tarbela are still suffering, almost four decades after the project was completed.



Paulina Osorio was born in a village flooded by Chixoy Dam. Her parents were murdered by the Guatemalan Army when she was 9. Photo: Erik Johnson

Reparations

Chixoy Dam, Guatemala: People affected by the Chixoy Dam are negotiating to secure reparations for the significant losses they suffered more than 20 years ago. When the dam was built, villagers were forcibly removed from their lands and their homes and fields were burned. More than 400 people, mostly Maya-Achi Indians, were killed in massacres. In 2004, survivors of the massacres launched a peaceful protest calling for reparations. This led to an agreement with the Guatemalan government to launch a negotiation process. Between 2005 and 2009, affected communities met with the Organization of American States, the Inter-American Development Bank, the World Bank and the Guatemalan government and drove the process of formulating a plan for reparations. The negotiations process is promising and offers much hope for affected communities. However, until compensation is delivered, affected communities continue to suffer in poverty without electricity, water or adequate housing, farmland or food.

SOME CASES WHERE PRINCIPLES HAVE BEEN IGNORED

Addressing Existing Dams

Theun-Hinboun Expansion Project, Laos: The 210 MW Theun-Hinboun project began operation in 1998 and has caused a significant decline in fish catches, major erosion resulting in the loss of riverbank gardens, a decrease in dry season drinking-water sources, and flooding in the Hai and Hinboun rivers. Tens of thousands of villagers have not been compensated for these losses. Without addressing the problems of the existing project, a new Theun-Hinboun Expansion Project is being built on the Gnouang River. The new project will double the capacity at the existing Theun-Hinboun hydropower plant, resulting in a doubling of the amount of water diverted into the Hai and Hinboun rivers. It will also displace up to 4,800 people and affect

more than 48,000 others living downstream on project construction lands and in host villages, many of whom are already suffering from the existing dam.

Reparations

Kariba Dam, Zambia/Zimbabwe: The Kariba Dam on the Zambezi River has come to symbolize the failure of government to provide reparations for development-induced displacement in Africa. The Gwembe Tonga and Kore Kore peoples had lived for centuries in the Gwembe Valley along the northern and southern banks of the Zambezi River. But in 1958, this wide valley turned from river to reservoir. Whole villages were flooded, and 57,000 indigenous people were displaced. Affected communities were given little information about the dam and no choice but to move. Some displaced communities resisted resettlement, but were defeated by colonial authorities in a short battle known as the Chisamu War. Villages were burned so the people could not return. Fifty years later, the communities live in extreme poverty, but calls for reparations by the communities and civil society (in the form of monetary compensation, decommissioning of the dam, official recognition of past and current injustices suffered, or complete restoration of the ecosystems) have yielded few results. Led by traditional leaders and local NGOs, these communities continue to fight for adequate rehabilitation and redress, and for the project's developers to take responsibility for this unjust legacy.

Son La, Vietnam: The Son La Hydropower Project is the largest and most complex dam project ever to be built in Vietnam. The construction of the \$3.2 billion project was formally started in December 2005 and is expected to be completed by 2015. The project will displace more than 91,000 ethnic minority people, requiring the largest resettlement in Vietnam's history. Most people will be moved 50–100 kilometers away from their current homes and will no longer have access to the Da River and the livelihoods it provides. In late 2005, Vietnamese researchers identified two critical problems with the resettlement program: the failure to ensure land-use rights and to provide arable land for the resettled people. Additional problems include the disintegration of resettled ethnic minority communities and insufficient compensation for lost land, livelihood and infrastructure.

NOTES

6 Defined as "an affront to human dignity." <http://www2.ohchr.org/english/law/remedy.htm>

7 Cernea, M. M. 2008. "Compensation and benefit sharing: Why resettlement policies and practices must be reformed." *Water Science and Engineering*, Vol. 1, No. 1: p89–120. See also Prof. SHI Guoqing, Hohai University, "Policies and Mechanism on Hydropower Resettlement in China," presentation. <http://www.hydropower.org>.

Downstream Environmental Impacts

KEY WCD PRINCIPLES

- **Environmental Flows:** Large dams should provide for releasing environmental flows to help maintain downstream ecosystem integrity and community livelihoods. (*WCD Strategic Priority 4*)
- **Shared Rivers:** National water policies should make specific provision for basin agreements in shared river basins. Agreements should be negotiated on the basis of good faith among riparian States. (*WCD Strategic Priority 7*)

SOME EXAMPLES OF POLICIES AND LAWS THAT REFLECT THESE PRINCIPLES

- *1920 Federal Power Act, US:* According to the Act, the FERC can make adoption of environmental flows a criterion for dam licensing or re-licensing.
 - *1992 Helsinki Convention on Trans-boundary Watercourses and International Lakes:* Articles 22 and 24 acknowledge the importance of environmental flows for ecological and other purposes. This convention was adapted as the Berlin Rules of Water Resources drafted by the International Law Association in 1996. These rules are not binding but have been used by some countries (such as the signatories to the Mekong River Agreement and Sweden and Finland) in specific international trans-boundary agreements.
 - *1994 Australian Water Reform Framework Agreement, 1998 ACT Water Resources Act, and 1999 Water Management Act, Australia:* The Australian Water Reform Agreement and subsequent water acts state that priority should be given to formalizing allocations of water entitlements and calls for the environment to be a “legitimated user of water.”⁸
 - *1997 Convention on the Non-Navigational Uses of International Watercourses (IWC):* The IWC codifies the principle of equitable use outlined by the Permanent Court of International Justice in 1929. It states that “watercourse States shall participate in the use, development and protection of an international watercourse in an equitable and reasonable manner.” Another guiding principle of the IWC is the obligation not to cause significant harm to other watercourse States.
- The IWC promotes regular information exchange and proposes a six-month notice period for comment by any neighboring States on proposed uses of the shared watercourse.
- *1998 National Environmental Management Act (Act 107), and the 1998 National Water Act (Act 36), South Africa:* These Acts require the maintenance of an “ecological reserve” of water in all of the country’s major aquatic ecosystems. The environment is “regarded as an automatic (priority) allocation as the resources base upon which other users depend, and therefore separated from other water users.”
 - *2000 Wild and Scenic Rivers Act, US:* The Wild and Scenic Rivers Act protects selected rivers, such as sections of the Klamath River in California and the Missouri River, in “their free-flowing condition.”⁹
 - *2000 EU Water Framework Directive:* All EU member states are required to monitor and take action to achieve “good ecological status” for all surface water bodies. States are required to take action to restore water bodies to “good ecological potential” if surface water bodies are heavily modified. Annex V reiterates the importance of the quantity and dynamics of water flow in rivers and other surface waters and the need to take into account natural flow conditions.
 - *Convention on Biological Diversity:* In 2001, the Convention’s Subsidiary Body on Scientific, Technical and Technological Advice recommended that environmental flow assessments should be conducted for dams to ensure downstream releases for maintaining ecosystem integrity and community livelihoods.

- *Murray-Darling Basin Agreement (Schedule 1 of the 2007 Water Act)*: The first Murray–Darling Basin Agreement was signed by the governments of the Commonwealth, New South Wales, Victoria and South Australia in 1987. The purpose of the agreement is “to promote and co-ordinate effective planning and management for the equitable, efficient and sustainable use of the water and other natural resources.” The agreement is currently being revised to help “improve the means of and approach to sharing, storing, delivering and accounting of water and the management of river operations to achieve best results for the whole Basin,” and “better define the rights of and improve water security for individuals, communities and the environment.”

SOME CASES WHERE PRINCIPLES HAVE BEEN APPLIED

Environmental Flows

Itezhi-Tezhi Dam, Zambia: The Itezhi-Tezhi Dam on Zambia’s Kafue River provides partial river regulation for the 900 MW Kafue Dam. Itezhi-Tezhi was completed in 1978 to store wet season peak flows to maximize hydropower production at the lower dam. The operations of the upper dam interrupted the beneficial wet season flooding of the Kafue Flats, resulting in serious social and ecological impacts. Approximately 1.3 million Zambians from several ethnic groups live in the greater watershed and about 300,000 of these people rely directly on the Kafue Flats. In 1999, a partnership was formed between the operator and the World Wildlife Fund to restore a more natural flow pattern of water releases from the Itezhi-Tezhi Dam, while leaving power generation unaffected. The partnership also resulted in the Integrated Water Resources Management Strategy for the Kafue Flats, which was endorsed by the Ministry of Energy and Water Development in 2002. In early 2007, a major flow mimicking natural wet season flooding was released for the first time. This joint project on developing environmental flows is still ongoing and is expected to be finalized at the end of 2010.

Lesotho Highlands Water Project, Lesotho: The Lesotho Highlands Water Project (LHWP), which transfers water from the mountain highlands of Lesotho to South Africa, includes a multi-dam scheme that is one of the world’s largest water-resource projects. In addition to resettling over 20,000 people, the project has

affected some 150,000 people downstream. The first two dams in the scheme are complete, but critical social and environmental problems affecting approximately 20,000 Basotho villagers are still unresolved. One improvement has been an environmental flow requirement established in 2003.

As the first dam, Katse, neared completion in 1997, international pressure forced an assessment of the project’s impacts to downstream ecosystems and communities. The LHWP environmental flows study analyzed how changes to the way water was released from the dams could reduce the impact on both downstream river ecosystems and on the livelihoods of people living alongside them. The resulting Instream Flow Requirement Policy in 2003 specified operating rules for the dams and a program to monitor compliance with the agreed releases, which would change depending on climatic conditions. In 2006–07, the rivers downstream of the dams had either met or improved upon their target ecological condition. The costs of the environmental flows, including compensation, were only 0.5% of project costs.

Penobscot River Dams, US: In June 2005, a diverse group of stakeholders participating in the FERC re-licensing process came to an agreement with the owner of PPL Corporation, the owner of several dams on the Penobscot River in Maine. This innovative agreement resulted in the formation of the Penobscot River Restoration Trust (PRRT). The PRRT was granted settlement funding and the option to purchase three Penobscot dams and remove the two lower-most dams, Veazie and Great Works. The PPL Corporation also agreed to decommission the Howland Dam and install a state-of-the-art fish bypass, as well as to improve fish passage at four additional dams. These measures will restore 1,000 miles of historic habitat for native fish, renewing opportunities for the



Affected people in Lesotho gather in celebration of rivers. Photo: JM Lenka

Penobscot Indian Nation to exercise their sustenance fishing rights and creating new tourism and business development opportunities for nearby communities. In turn, the PPL Corporation was permitted to increase generation at six other dams, enabling the company to maintain existing power production levels.

Shared Rivers

Rhine River, Germany/Netherlands/Switzerland/France/Austria/Luxembourg/Liechtenstein/Italy/Belgium: The Rhine basin covers an area of nearly 200,000 square kilometers and is shared by nine countries. Approximately 60 million people live in the basin, the majority of whom are located in Germany. The Rhine is used for navigation, domestic and agricultural water supply, hydropower, industry, wastewater disposal, fisheries, recreation and other activities. The main threat to the river has been pollution. In the 1970s, the heavily polluted Rhine was referred to as “the sewer of Europe.” Successful efforts and transboundary cooperation since then have resulted in dramatic water quality improvements, making the Rhine potentially one of the cleanest rivers in Europe. In 1999, the Convention on the Protection of the Rhine was signed, which replaced the 1963 Treaty of Bern governing the Rhine’s management. The International Commission for the Protection of the Rhine (ICPR) was established to implement the Convention, in which a number of NGOs have observer status. The ICPR consists of a series of working and expert groups tasked with addressing the issues relevant to the implementation of the Convention as well as of European law, including the EU Water Framework Directive.

Tumen River, China/Russia/North Korea: The Tumen River is bordered by China, Russia and North Korea. Water pollution from agriculture and industrial sewage has become a serious issue in this trans-boundary river. In 1995, China, Russia and North Korea agreed to the Greater Tumen Initiative (GTI) as an intergovernmental platform for economic cooperation and water resources management. Environmental and sustainable development concerns are an underlying principle of the agreement. The GTI and an accompanying Memorandum of Understanding stress cooperation and coordination “to protect and enhance the environment” in accordance with the no-harm principle. Specific trans-boundary EIA procedures are also included.

SOME CASES WHERE PRINCIPLES HAVE BEEN IGNORED

Environmental Flow/Shared Rivers

Farakka Barrage, India/Bangladesh: Completed in 1974–75, the Farakka Barrage is a dam on the Ganges River located in the Indian state of West Bengal, approximately 10 kilometers from the border with Bangladesh. The dam

was built to divert water from the Ganges River into the Hooghly River during the dry season and flush out the accumulating silt. In Bangladesh, the diversion has raised salinity levels, contaminated fisheries, hindered navigation, and posed a threat to water quality and public health as it cuts off the river’s water supply to that country. Lower levels of soil moisture along with increased salinity have also led to desertification. India and Bangladesh have negotiated several agreements regarding environmental flows from the Farakka Barrage, but India has so far not complied with any of them.



A Karo boy collects water from the Omo River floodplain in Ethiopia, downstream of Gibe 3 dam. Photo: Alison Jones

Gibe 3 Dam, Ethiopia/Kenya: The Omo River is a lifeline for hundreds of thousands of indigenous people in southwestern Ethiopia and northern Kenya. The 1,870 MW Gibe 3 Dam, already under construction, will dramatically alter the Omo River’s flood cycle, negatively affecting the ecosystems and livelihoods of those living in the Lower Omo Valley and around the world’s largest desert lake, Kenya’s Lake Turkana. The Lower Omo Valley, a UNESCO World Heritage Site, is home to an estimated 200,000 agro-pastoralists from eight distinct indigenous groups who depend on the Omo River’s annual flood to support riverbank cultivation and grazing lands for livestock.

Ilisu Dam, Turkey/Iraq/Syria: The proposed Ilisu Dam on the Tigris River in southeastern Turkey is one of the world’s most controversial hydropower projects. If built, it would displace up to 70,000 people, drown the 10,000-year-old city of Hasankeyf, and destroy critical biodiversity areas. Iraq’s government has expressed concerns that Turkey would use the Ilisu Dam to control the flow of the Tigris to the detriment of downstream countries Iraq and Syria. Under international law, Turkey is obliged to notify, consult and negotiate with the two countries to ensure a



The ancient town of Hasankeyf will be flooded by the Ilisu Dam, but local and national groups are fighting tirelessly to keep it safe. Photo: Doga Derneği.

fair use of the Tigris. But a fact-finding mission in 2007 found that Iraq had not agreed to the proposed dam and that no negotiations had taken place between Turkey, Syria and Iraq on Ilisu. Because of the serious and unsolved environmental, social and cultural heritage problems and the strong opposition in their home countries, European funders pulled out of the Ilisu Dam in 2002 and again in 2009. The Turkish government says it plans to continue construction of the Ilisu Dam.

Lancang River Dams, China/Burma/Thailand/Laos/Cambodia/Vietnam: The Lancang River begins in the Tanggula Mountain Range on the Qinghai-Tibet Plateau in China's Qinghai Province, and becomes the Mekong River as it travels through Laos, Burma, Thailand, Cambodia and Vietnam. More than 60 million people depend on the river and its tributaries for food, water, transport and many other aspects of their daily lives. The Mekong also supports one of the world's most diverse fisheries. However, China's construction of dams and a navigation channel along the upper reaches of the Mekong threatens this complex ecosystem. Development of an eight-dam cascade is already well underway, with four dams completed and two more currently under construction. The scheme will drastically change the river's natural flood-drought cycle and block the transport of sediment, affecting ecosystems and the livelihoods of millions living downstream. Construction



Plowing rice paddies in the future reservoir area of Xiaowan Dam on the Lancang River. Photo: © Marcus Rhinelander

of these dams has proceeded without consultation with China's downstream neighbors and without an assessment of the dams' likely impacts on the river and its people. Decreases in water levels and in fisheries have already been recorded along the Thai-Lao border.

NOTES

8 A good example of environmental flows practice is the Sydney Catchment Authority: <http://www.sca.nsw.gov.au/dams-and-water/environmental-flows>

9 For a full list of designated rivers, see: <http://www.rivers.gov/wildriverslist.html>

Benefit Sharing

KEY WCD PRINCIPLES

- **Legally Enforceable Entitlements:** Joint negotiations with adversely affected people are conducted to arrive at mutually agreed and legally enforceable mitigation and development agreements. (*WCD Strategic Priority 5*)
- **Benefit Sharing:** Adversely affected people are recognized as the first to benefit from the project. Mutually agreed and legally protected benefit sharing mechanisms should be negotiated to ensure their implementation. Benefit sharing should be additional to compensation for negative social and environmental impacts, including the loss of land, assets and access to natural resources. (*WCD Strategic Priority 5*)

SOME EXAMPLES OF POLICIES AND LAWS THAT REFLECT THESE PRINCIPLES

- *1995 The Columbia Basin Trust, US and Canada:* The Trust was created to address the outstanding environmental and social issues of existing dams in the Canadian part of the Columbia River Basin. The trust also includes provisions for the active involvement of community organizations in the project-affected area. The Trust is financed with a portion of revenues from projects built under the Columbia River Treaty signed between Canada and the US in 1961.
- *2000 International Energy Agency (IEA) Annex III:* In “Hydropower and the Environment: Present Context and Guidelines for Future Action,” Recommendation 5 describes benefit sharing and states: “The development of short-term as well as of long-term community benefits must be a foremost project goal and the only way to achieve such a goal is through a participatory planning process.”
- *2000 Water Resources Act and the 1917 Watercourse Regulation Act, Norway:* Norwegian legislation relating to taxes and license fees for watercourse regulation explicitly recognizes that project-affected people, as part of the populations of municipalities in which water resources are exploited, must receive a share of the project benefits, over and above mitigation and compensation measures that are included in project design. This legislation provides for a variety of benefit sharing mechanisms, such as revenue sharing, equity sharing, development funds, and preferential electricity rates.
- *2001 World Bank Involuntary Resettlement Policy:* World Bank OP 4.12 says: “Where it is not feasible to avoid resettlement, resettlement activities should be conceived and executed as sustainable development programs, providing sufficient investment resources to enable the persons displaced by the project to share in project benefits.”
- *2009 ADB Safeguard Policy Statement:* The ADB’s policies on involuntary resettlement and on indigenous peoples call for benefit sharing with affected communities. The statement on involuntary resettlement says that livelihoods of displaced people should be improved or at least restored through replacement of and compensation for lost land and assets, as well as the provision of “additional revenues and services through benefit-sharing schemes where possible.” The indigenous peoples statement requires that culturally appropriate benefits are equitably shared with affected indigenous peoples.
- *2010 or 2011 Proposed Government Decree on Benefit Sharing, Vietnam:* Benefit sharing for hydropower projects will be covered by a new decree that is currently under preparation by the Electricity Regulatory Authority of Vietnam with support from the ADB. The decree will focus on three forms of benefit sharing for new and existing hydro projects: equitable access to electricity services, equitable access to natural resources, and revenue sharing. This benefit-sharing model is being piloted at the A Vuong Hydropower Project in Quang Nam Province, where affected households can apply for grants from the Benefit Sharing Council and Fund Management Board. Grants have reportedly been disbursed to 482 households in support of projects like aquaculture, livestock raising and capacity building.
- In addition to the examples highlighted above, some form of benefit sharing for hydropower projects is a feature of national legislation in China, Colombia, Nepal, Thailand, Argentina and Japan.

SOME CASES WHERE PRINCIPLES HAVE BEEN APPLIED

Benefit Sharing

Keeyask Dam, Canada: In Manitoba, four Cree Nations secured economic, social, and environmental benefits as well as an ownership stake in Manitoba Hydro's proposed 695 MW Keeyask hydroelectric project. The Manitoba Hydro-Electric Board has yet to approve the construction of the Keeyask project and both provincial and federal regulatory licenses and approvals are still required. If the project proceeds, the Keeyask Cree Nations collectively have the right to own up to 25% of the partnership. Individual Adverse Effects Agreements with the four Nations have also been signed. These agreements outline procedures for the avoidance of adverse effects from the generating station, and provisions for cultural and language programs, environmental monitoring, members' access to and use of the resource area, and ongoing training and jobs for community members.

Minashtuk Project, Canada: With a capacity of 9.9 MW, the Minashtuk Project is a run-of-river facility on the Mistassibi River in Québec that was constructed in 1999. The project was developed by the Innu, an aboriginal community with a total population of approximately 4,600, just under half of whom live near the project site. Since the beginning of the 1990s, the Innu considered the Minashtuk project as a means to provide employment and foster development in the area. In an agreement signed with Hydro-Québec in 1994 for the construction of a transmission line, the Innu became the majority shareholder with 51% stake in Minashtuk. The Innu-owned Hydro-Innu is the general partner of the limited partnership. Hydro-Québec committed to buy all of the electricity generated by the project under a 20-year contract, which provided the necessary conditions for the local community to invest. The Innu were able to design and develop the project to best meet their needs, as well as receive a share of the profits, which they plan to invest in employment-generating initiatives.



Manantali Dam on the Senegal River.

SOME CASES WHERE PRINCIPLES HAVE BEEN IGNORED

Benefit Sharing

Manantali Dam, Senegal/Mali/Mauritania: In 1972, the governments of Mali, Mauritania and Senegal set up the Organisation pour la Mise en Valuer du Fleuve Senegal (OMVS), which oversaw the construction of the 200 MW Manantali Dam. However, the entire project budget was spent before the power plant could be installed because of huge cost overruns, which meant that the dam did not generate any revenue. In addition, the annual flood was reduced to an artificial two-week flood, directly and indirectly affecting over 100,000 families in the floodplains. While the basin-wide agreement attempted to distribute the benefits of irrigation, hydropower and navigation to each country, it failed to distribute benefits to affected communities and include them in the decision-making process. The Manantali reservoir destroyed 120 square kilometers of forest and forcibly displaced 12,000 people. Severe political, ethnic, and military tensions between Mauritania and Senegal also arose as a result of the unequal downstream impacts of the project. Hundreds were killed, tens of thousands of farmers were expelled from their lands, and the two countries nearly went to war.

Maguga Dam, Swaziland: Benefit Sharing Done Right

A strong example of benefit sharing can be found in the Maguga project in Swaziland. Located on the Komati River, the 115-meter-high Maguga Dam was built in 2001, as the WCD dialogue was being initiated in South Africa. Ninety households were resettled and 125 were affected by the dam. The project was intended to support commercial forestry and sugar cane plantations in South Africa and Swaziland, and provide irrigation for about 1,000 of Swaziland's small farmers. South Africa helped pay for the dam and is guaranteed 60% of the project's water, with the rest going to Swaziland.

The project authorities in Swaziland and South Africa were determined not to repeat the mistakes of other water projects like the Lesotho Highland Water Project and the Driekoppies Dam. Instead they worked to incorporate some of the WCD guidelines into the development of Maguga, such as benefit sharing. Affected communities received water, electricity, and jobs from the project, assistance with setting up farming cooperatives, and health and sports facilities. An independent dispute resolution process was established that could order the project authority to pay significant amounts to affected people. The Maguga communities were able to build their houses as they wanted. They could also decide to use part of the money they received for housing to develop businesses or purchase communal equipment, thereby spurring "positive



Mother and children were resettled by Maguga Dam, but they say they are happy with their new life. Photo: Liane Greeff

ownership" within the community. And the project took steps to mitigate environmental impacts as well, by minimizing the size of the reservoir and the land that would be flooded.

While the project succeeded in distributing benefits among affected communities, the Swazi government failed to address other key WCD principles in its water and energy planning. The majority of Swazi citizens are desperately poor and lack clean water, sanitation, and, in many years, enough to eat. Prior to a decision being taken on the project, a needs and options assessment should have been conducted to analyze local needs for water across communities. The project did not address those needs, and ongoing drought has made the dam less effective than anticipated. And while most households affected by Maguga say they are better off than they were before, the Reverend Jameson Mncina, who helped the villagers maximize their benefits and minimize project impacts, says that the project could have empowered people to participate more effectively in the early planning stages of the project.



Maguga Dam, a rare example of successful resettlement from the construction of a dam. Photo: Liane Greeff.

Ensuring Compliance

KEY WCD PRINCIPLES

- **Ensuring Compliance:** Compliance with applicable regulations, criteria and guidelines, and project-specific negotiated agreements, is secured at all critical stages in project planning and implementation. A Compliance Plan is prepared for each project prior to commencement, which is subject to independent review and includes binding arrangements for project-specific technical, social and environmental commitments. The costs for establishing a compliance mechanism and ensuring its effective application are included in the project budget. (*WCD Strategic Priority 6*)

SOME EXAMPLES OF POLICIES AND LAWS THAT REFLECT THESE PRINCIPLES

- *Federal Energy Regulatory Commission, US:* FERC has been a key player in ensuring compliance of dams with federal laws and community agreements. FERC has a number of compliance tools at its disposal to increase pressure on operators to bring their facilities into compliance with federal laws. For example, the 1986 amendment of the Federal Power Act increased the maximum penalty of non-compliance from \$5,000–\$10,000 per day per violation.
- *2000 Water Resources Act, Norway:* This Act is the general statute governing water resources management in Norway. It aims to ensure that river systems and groundwater are used and managed in the interest of society. The Act includes, amongst other provisions, rules for the minimum permitted rate of flow in

watercourses. The Act stipulates the supervisory role of the water authorities in Norway, including their right to unimpeded access to facilities and to issue fines to owners or developers who violate the terms of the Act or of an individual licence. Serious violations can lead to up to two years' imprisonment.

SOME CASES WHERE PRINCIPLES HAVE BEEN APPLIED

Ensuring Compliance

Trollheim Power Station, Norway: In 2005, an accident at the 130 MW Trollheim Power Station in Central Norway led to a stop in electricity production. It also interrupted the flow of water through the power station and reduced water flows in the Surna River, stranding salmon fry. The incident was reported to the authorities by the local branch of the National Hunting and Angling Association. As a result, Statkraft, the owners of the power station, received a \$230,000 (NOK 1.5 million) fine from the Norwegian National Authority for Investigation and Prosecution of Economic and Environmental Crime (Økokrim) for contravention of the Water Resources Act. In addition, over \$300,000 (NOK 2 million) of the company's profits were confiscated. Statkraft later installed a bypass valve to channel the flow of water past the generator back into the Surna River in the event of any future stoppages.

Clark Fork Project, US: The 697 MW Clark Fork Project includes the Noxon Rapids Dam and the



Every summer, hundreds of fishermen come to the Surna River, which runs through the valley in Surnadal, to fish for salmon. Photo: Banangraut

Cabinet Gorge Dam in western Montana and northeastern Idaho on the lower Clark Fork River. The dams were completed in the 1950s and in 1999, Avista, the project operator, filed its renewal application with FERC. This application represented the culmination of seven years of environmental studies and consultation with state and federal agencies, tribes, local government, landowners, and special interest groups. The central piece was the Clark Fork Settlement Agreement, under which Avista would implement the protection, mitigation, and enhancement (PM&E) measures that were collectively developed. The Clark Fork Settlement Agreement also established the Living License, which promotes ongoing problem-solving through adaptive management. Under this framework, a Management Committee meets biannually to monitor the operation of the dam and assess its compliance with the various PM&E measures of its license. If there are any issues with compliance, changes are made with the committee's input and direction. Implementation of the PM&E measures is subject to FERC's approval. Within a few years of implementation, the project had shown compliance with the original PM&E measures, as well as provided benefits such as habitat protection and restoration. The Living License has since been codified in FERC regulations.

SOME CASES WHERE PRINCIPLES HAVE BEEN IGNORED

Ensuring Compliance

Nam Theun 2, Laos: The World Bank-backed 1,070 MW Nam Theun 2 hydropower project in central Laos displaced more than 6,200 indigenous people from the reservoir area and will cause significant impacts on more than 100,000 villagers downstream. While Nam Theun 2 has a number of mechanisms on paper to ensure compliance with social and environmental commitments, these mechanisms have not been adequately enforced. Many villagers lost land and other assets to project construction activities, but had to wait—some for more than two years—for compensation and income restoration. Despite this violation of project agreements and World Bank policies, penalties were not enforced. In March 2010, Nam Theun 2 began full operation in violation of legal obligations to provide compensation and livelihood restoration to affected communities. Commercial operations started before resettled communities received irrigated land and before downstream communities received alternative water supply sources and compensation for flooded riverbank vegetable gardens, to which they are legally entitled.



Riverbank gardens along the Xe Bang Fai that are now being affected by Nam Theun 2. Photo: Shannon Lawrence

Additional Resources

African Commission on Human and People's Rights
www.achpr.org/english/_info/news_en.html

Convention on Biological Diversity
www.cbd.int

Environmental Flows Network
www.eflownet.org

EU Water Framework Directive
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Back cover photo: *Boatmen on Congo River*. Photo courtesy of Thierry Michel/Trigon Film.

