

Aluminum Companies Urged to Scrap Plans for Amazon Dams

by Glenn Switkes

A coalition of groups from Brazil, Europe, and the United States has written an open letter to the heads of the aluminum companies Alcoa (US), BHP Billiton (UK/Australia), and Cia. Vale do Rio Doce (Brazil) urging them to pull out of an auction for the concession for Santa Isabel, the first dam planned for construction on the Araguaia River in the Brazilian Amazon. The dam would flood an ecological reserve and destroy the culture of the Suruí-Aiwekar indigenous people, in addition to displacing 7,000 people. The Araguaia supports world-class wetlands, rare pink dolphins, and Amazon turtles.

The social and environmental organizations note in their letter that Alcoa, Billiton, and CVRD already share responsibility for the impacts caused by Tucuruí dam, also in the Brazilian Amazon, which displaced 35,000 people, including indigenous communities, and flooded 2,820 sq. km. of tropical rainforests when its floodgates were closed in 1984. According to Birgit Zimmerle

of the German Carajás Forum, "All existing social and environmental problems with Tucuruí must be resolved before these companies get involved in new dam projects." More than half of Tucuruí's electricity is consumed by the Alcoa-Billiton plant at São Luis, and the CVRD-Nippon Steel plant at Barcarena; both companies enjoy extremely low tariffs, which are heavily subsidized by Brazilian taxpayers.

Brazil's current energy crisis has led aluminum companies, the largest consumers of electricity in the country, to seek to build new dams to guarantee the enormous quantity of energy their plants require. According to Hélio Meca of the Movement of Dam-Affected People, "We know there are feasible energy alternatives to a new network of large dams in the Amazon. By investing in energy efficiency and conservation, and alternatives such as biomass and wind energy, the expulsion of families from their homes for Santa Isabel can be avoided."

Marluze Santos of the Carajás Forum in São Luis says, "As huge consumers of elec-

tricity, these aluminum companies should be leading the way in implementing clean, sustainable technologies for their electrical energy, rather than building more large, destructive dams. This project will affect the livelihoods of riverine populations of babaçu nut gatherers, fisherfolk and ceramic makers who depend on the Araguaia."

The groups also question whether building large dams to fuel the aluminum industry promotes regional development, as the industry claims. They cite studies showing that the food and beverage and textile industries produce 18-25 times more jobs than the aluminum industry for the same amount of electrical energy consumed.

They also cite the results of new studies showing that rotting vegetation in the reservoirs of dams in tropical forests produce large quantities of greenhouse gases, worsening global warming. ■

For more information, contact the Movement of Dam-Affected People (email: mab@mabnacional.org.br).

SPECIAL FOCUS - SECURITY

- Lesotho:** Thousands of affected people protest unfair compensation and unfulfilled promises from Africa's largest dam scheme. [Page 1](#)
- Commentary:** Water injustice plays a role in the world's current security meltdown. [Page 2](#)
- Turkey:** Balfour Beatty pulls out of Ilisu Dam. [Page 3](#)
- Interview:** The Palestinian Hydrology Group fights water insecurity. [Page 4](#)
- India:** Tehri Dam garners German funding, despite its many shortcomings. [Page 5](#)
- Argentina:** Activists gear up to fight the huge Corpus Christi Dam. [Page 13](#)
- US:** Decommissioning dams in droves leads to big improvements in fisheries. [Page 10](#)
- New Resources:** A roundup of new programs and resources for river protectors. [Page 11](#)
- WCD:** Analyzing the official response to the WCD's "Dams and Development" report one year after its release. [Page 8](#)
- Page 6**
- History:** Cahora Bassa Dam - a military target for years - affected Mozambique developmentally, politically and socially. [Page 6](#)
- WCD:** Analyzing the official response to the WCD's "Dams and Development" report one year after its release. [Page 8](#)
- US:** Decommissioning dams in droves leads to big improvements in fisheries. [Page 10](#)
- New Resources:** A roundup of new programs and resources for river protectors. [Page 11](#)
- India:** Tehri Dam garners German funding, despite its many shortcomings. [Page 5](#)
- Argentina:** Activists gear up to fight the huge Corpus Christi Dam. [Page 13](#)

IN THIS ISSUE

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Demonstrators Protest Large Dams' Impacts in Lesotho Police Attempt to Disrupt Demonstrations, Injuring Three

by Ryan Hoover

On November 19, more than 2,000 demonstrators converged on three major dams in Lesotho during a massive coordinated protest. Police responded violently at Mohale Dam, injuring three elderly women. The demonstrators, all of whom have been impacted by the Lesotho Highlands Water Project (LHWP), were protesting the lack of fair compensation for property lost to the dams, and unfulfilled promises of development in affected communities. They also demanded a 10% share of royalties generated from the dams and a commission of inquiry into the project's impacts on local people.

In a petition that they delivered to project authorities during the protest, the protesters state, "We have tried by all possible means to get a fair and reasonable compensation for our property...but this was all a fiasco. We were promised development...but this has not materialized to date."

The World Bank-funded LHWP is the most massive infrastructure project in sub-Saharan Africa. The US\$5 billion project is designed to divert water from Lesotho to the urban and industrial Gauteng region in South Africa through a series of dams and tunnels blasted through the Maloti Mountains. The first three major dams in the six-dam scheme affected 27,000 people. Approximately 2,000 of them were resettled.

Discontent stemming from the large involuntary resettlement and compensation program has plagued the project since its inception. Local communities, who depended on subsistence farming prior to the project, have been left bereft of land and struggle to survive on annual compensation deliveries. Through community meetings and petitions, affected people have repeatedly pressed for a greater voice in project decision-making and a more equitable distribution of project benefits. This week's protests, however, marked the first time communities

have demonstrated in such large, coordinated numbers.

Crowds of 1,000 affected people gathered at both Katse and Mohale dams on November 19, while 300 more marched at Muela Dam. They marched and sang protest songs before delivering the petitions containing their grievances. At Mohale Dam, they rolled large stones onto project access roads, briefly stopping construction at the site. Mohale police, angered that some protesters failed to gather at pre-agreed marching areas, assaulted a group of demonstrators with batons and whips. Three elderly women required medical attention after being beaten about the face and back.

"This lashing of defenseless old women was unprovoked," said Jacob Lenka, a community worker with the local human rights organization Transformation Resource Centre (TRC). "While some community members may have misjudged where they were to march, it did not warrant this police brutality."

In the days after the protests, officials at the Lesotho Highlands Development Authority (LHDA), the parastatal managing construction of the LHWP, stated that they were studying the petition and were determined to find a negotiated solution to LHWP-related problems. Field-level LHDA officers, however, were much less conciliatory during the



This Mohale-area family was one of hundreds displaced by LHWP dams.

Photo: Ryan Hoover

protests. Project managers at Katse and Muela Dams declined to meet with the petitioners, and at Muela, subordinate officials refused to accept the petition outright. "People were very angry because they wanted to see the project manager," said Thabang Kholumo, Coordinator of the Highlands Church Solidarity and Action Centre. "The police were also very uncooperative. At Muela, they changed the assembly point and the marching route. The demonstrators were forced to use long back streets, away from the public."

Elsewhere, a planned demonstration of resettled people in the Lesotho capital, Maseru, was postponed because police refused to grant permission for the protest.

"These protests show that affected people are running out of patience," said TRC Coordinator Motseoa Senyane. "The World Bank and other project authorities have not adequately addressed the communities' concerns in the past. It is time that they do so." ■

Exposing Our Insecurities

Recent events have exposed us to the realities of violent conflict, and of the complicated web of causes and effects that make a people feel insecure and drive them to resort to violent solutions. Water injustice is one of the many causes that underlie the world's insecurities. This issue of *WRR* is devoted to exploring a few specific examples.

The resources that rivers provide can be used equitably, or they can be expropriated for the use of a few. The latter situation, which inevitably inflames other types of conflict and instability, is too often the norm these days. Today, 1.1 billion people lack access to safe drinking water and 2.4 billion have inadequate access to sanitation, according to the UN Development Programme. Such conditions can lead to desperation, which can lead to chaos.

In the September-October 2001 issue of *Foreign Policy*, water conflict experts Sandra Postel and Aaron Wolf write, "Just since 1950, the renewable [water] supply per person has fallen 58% as world population has swelled from 2.5 billion to 6 billion. Moreover, unlike oil and most other strategic resources, fresh water has no substitute in most of its uses. And while history suggests that cooperation over water has been the norm, it has not been the rule. One fourth of water-related interactions during the last half-century were hostile. Although the vast majority of these hostilities involved no more than verbal antagonism, rival countries went beyond name-calling on 37 recorded occasions and fired shots, blew up a dam, or undertook some other form of military action." (For a water conflict chronology, see <http://www.worldwater.org/conflict.htm>)

The new world disorder has already resulted in an inordinate number of water security incidents. Since September 11, the 221-meter-high Hoover Dam has been deemed "a key military target" and placed under 24-hour guard, and the US military reportedly bombed near a large dam in Afghanistan, potentially endangering thousands of people downstream. Unrelated to the 9/11 events, in late November, bombs were dropped near a dam now under construction in the former Soviet republic of Georgia, according to the BBC.

Large dams are a natural target for combatants and terrorists, not only because disabling them can effectively halt strategic electricity generation or water supply, but also because of their great symbolism to ruling parties. They are concentrated development, a centralized representation of power. Dams have been key targets of guerrilla movements in Angola, the Congo and elsewhere, but perhaps no other dam in the world was ever so central to both a political dream and a regional conflict as Mozambique's Cahora Bassa Dam on the Zambezi. From its first days of construction, it was targeted by all sides in the conflict that engulfed Mozambique for the latter part of this century. See page 6 for a fascinating history of this dam's role in the regional conflict.

Dams and other river diversions can also increase regional tensions between upstream and downstream countries. The proposed Ilisu Dam in Turkey, which threatens to disrupt the flow of the Tigris to Iraq and Syria, is a perfect example of this phenomenon. Turkey refuses to consult these riparian countries on the impacts of Ilisu and other dams. Ilisu would also inflame internal tensions, as the dam area has been devastated by armed conflict, and remains under emergency rule. The affected Kurdish communities cannot voice their opposition to the project, which has been planned without any participation of the affected communities. These realities have not been lost on the project's developers, and in November a major player in the project pulled out in part because of these problems; see page 3 for that story.

While large dams are not the issue in the Israeli-Palestinian conflict, the ongoing violence there has watery roots. Water inequity has long been a key issue on the PLO's agenda. While neighboring Israelis enjoy a bounty of water (they use from four to seven times more water than Palestinians do), Palestinians live in desperate water circumstances. Restoring water equity would go a long way making Palestinians feel hopeful, which could be one step toward peace. To read about how a Palestinian NGO is trying to work water miracles in water-starved communities in the Gaza Strip and West Bank, see page 4.

Conflict is socially, environmentally and fiscally expensive. The world spends some \$780 billion each year on the military, according to the World Watch Institute. A 1998 report by UNDP stated that an annual expenditure of \$9 billion would provide water and sanitation for all. While solving water inequities will not stop all conflicts, it would be well worth spending less than one percent of our military expenditures to right these wrongs before they multiply further.

Lori Pottinger

IRN

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Hass, Dorka Keehn, Lauren Klein,
Joshua Mailman, Brian Smith

Contact Information:

IRN
1847 Berkeley Way
Berkeley, CA 94703 USA
Tel: (510) 848-1155
Fax: (510) 848-1008
E-mail: irn@irn.org
World Wide Web:
<http://www.irn.org>



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Ilisu Campaign Success: UK and Italian Companies Withdraw

by Kate Geary

On November 13, the lead contractor of the Ilisu Dam, the UK firm Balfour Beatty, announced it was pulling out of the project on social, environmental and economic grounds. Its partner, the Italian firm Impregilo, withdrew the same day.

Abdullah Akin, the Mayor of Batman – a town that would have been severely impacted by the dam – responded joyfully to the news, saying, “The people are celebrating!”

Kerim Yildiz, Executive Director of the Kurdish Human Rights Project and Chair of the Ilisu Dam Campaign, also expressed delight at the news. “Balfour Beatty’s withdrawal has vindicated what we have been saying all along: that the Ilisu dam would be a human rights, environmental and cultural disaster. This campaign, strengthened by the unity of human rights and environmental groups working together, has helped to establish a precedent in sending a clear message to governments and companies that projects like Ilisu are simply not acceptable. The campaign not only stopped the dam but has also helped to establish the beginnings of a democratic platform in Turkey where people can discuss possible alternatives to disastrous projects like Ilisu.”

The campaign went on fact-finding missions to the region and documented the failure of the project to meet export credit agencies’ conditions relating to resettlement, cultural heritage, consultation with downstream states and water quality. The fact-finding mission reports argued that the project could not satisfy the governments’ conditions under current political conditions in Southeast Turkey.

The companies’ withdrawal effectively means that the UK, US and Italian governments no longer support the project. Balfour Beatty had applied for export credit support from the UK Export Credit Guarantee Department (ECGD) and the US Export-Import Bank. With the company out of the project, both government agencies have now ceased involvement in it. Impregilo’s application to the Italian export credit agency, SACE, is also now withdrawn. The German, Swiss and Austrian governments have yet to announce their withdrawal of export credit support.

It is impossible for Turkey alone to shoulder the US\$2.5 billion cost of the project, particularly with its economy reliant on IMF bailouts. Without foreign support, it is unlikely that the project can go ahead.



Photo: Hugh Warwick

Welsh activists join Kurdish campaigners to protest British involvement in Ilisu at the site of a dam in North Wales.

“The people are celebrating!”

Abdullah Akin, Mayor of Batman

In publicly announcing its retreat, Balfour Beatty admitted these failures, making it all the more unlikely that other companies and export credit agencies will step into the project. In a remarkably candid public statement, Balfour Beatty stated: “The decision follows a thorough and extensive evaluation of the commercial, environmental and social issues inherent in the project. With appropriate solutions to these issues still unsecured and no early resolution likely, Balfour Beatty believes that it is not in the best interests of its stakeholders to pursue the project further...Given the substantial difficulties which remain to be addressed, including meeting the four conditions set by the Export Credit Agencies, Balfour Beatty believes the project could only proceed with substantial extra work and expense and with considerable further delay.”

Sulzer Hydro, the Swiss company that heads the dam consortium, has said that it is looking for a partner to replace Balfour Beatty. Alstom, the French company that bought out ABB, also remains involved in Ilisu.

However, a well placed Turkish source told the UK’s Channel 4 news, “Other European firms won’t be interested now and the Ilisu project may not go ahead.”

The campaign will continue to work with international colleagues to ensure that other companies and governments do not become involved, and to make sure that Ilisu is once and for all truly stopped.

The Lessons of Ilisu

The Ilisu campaign generated widespread public support and action, using saturation media coverage to raise awareness of the project’s problems. It employed many tactics, including the credible threat of legal action, missions to the region, press coverage, political work, grassroots letter writing, demonstrations, public meetings, coalition building, international networking and shareholder activism.

The dual injustices of the Ilisu project really struck a chord with the UK public, engaging many who had never campaigned before. Many UK citizens were appalled that their government was backing the project in their name, while refusing to allow public scrutiny of its justifications. Despite granting provisional approval for the project in December 1999, it was not until July 2001 that the project’s Environmental Impact Assessment was publicly released – and then only after a public outcry. Still today, the

continued on page 12

Interview

Palestinian Hydrology Group Fights Water Inequity by Catching the Rain

At this writing, the seemingly intractable spiral of violence between Palestine and Israel has been ratcheting up by the day. Looking to the root causes of this violence can help us demystify it, and perhaps even begin to untangle it. Inequities of many sorts contribute to the violence, but perhaps none is so central to Palestinians' everyday existence as the unfair distribution of water. Currently, Israelis use at least four times more water per capita than Palestinians. Water security is one of the top issues for negotiation by the PLO. Since 1987, the Palestinian Hydrology Group has been working to protect and develop the water resources of Palestine and to resolve water inequities. IRN spoke to Ayman Rabi, the group's executive director, about PHG's work and the role of water in the peace process.

IRN: Describe the current state of water resources in Palestinian communities.

PHG: Water inequity is a serious problem. Approximately 88% of Palestine renewable water resources and 75% of West Bank and Gaza Strip renewable water resources are used by Israel. Many rural areas (almost 30% of the population) are suffering from lack of a proper water supply. Although there has been an interim agreement which increases Palestinian quota of water, the difference in per capita water use among Palestinians and Israelis is still very high. While Israeli colonies in the West Bank are enjoying swimming pools, the Palestinian rural areas lack basic water supply for domestic use.

The imposed closure on the Palestinian territories has seriously affected the water availability to Palestinian towns and villages. Water tankers cannot reach many villages due to the closure. Water prices have also increased as a result of the inability of water tankers to fetch water from nearby sources.

Palestinians use on average 57-76 liters per person per day, below the World Health Organization's recognized daily minimum of 100 liters per person. In addition to the pos-



Photo: Chris Smith

UN water tanks in the Rafah refugee camp, Gaza. The Israeli army had earlier bulldozed homes and their water supply in an apparent effort to root out Palestinian gunmen.

sible health impacts of such low water use, the very small water quota allocated to Palestinians has limited economic growth and development. Agriculture, which is the backbone of the economy and uses almost two-thirds of the water allotment, has not developed. Irrigated agricultural areas have shrunk over time and are now restricted to below 5% of arable land.

People living under the same hydrologic conditions must enjoy the same rights to use the resources in an equal manner. In addition, in order for peace to be a reality, a peace culture and ethics must be the norm that governs the behavior of the people. Overexploiting the resources at the expense of the rights of others will not lead to peace. Peace starts when all people in the region start to save the water that may satisfy the thirst of others in the same region.

IRN: For more than a decade, PHG has been working with communities to harvest the rain. How many people have benefited from this program?

PHG: Almost 15,000 have benefited from our cistern program. Cistern water is far bet-

ter than trucked water because it is free, lasts long and the cistern can be used to store trucked water when the rains end. We have also worked with thousands of farmers to build ponds to catch the rain.

We work with families or communities that have no water supply and are not included in the water supply master plan, and poor families or communities who cannot afford to purchase water. These families and communities can participate by covering the labor costs.

As a result of the cut-offs, the price of tanked water increased from \$2.50 per cubic meter to \$7.50 per cubic meter. As a result of the drastic rise in the price of water, the amount of income spent per family on water has increased significantly, making it more difficult for families to meet their basic domestic and vital needs. Providing drinking water through a cistern allows families to reduce expenses allocated for water by 54%.

PHG also helps communities rehabilitate springs and wells, and undertake water conservation programs.

IRN: What lessons have you learned from your rainwater harvesting pro-

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German Agency Hermes Approves Funds for Tehri Dam

by Malavika Vartak

On October 26 the German government approved a guarantee by the export credit agency Hermes for the Voith Siemens Hydro Company's export of equipment to the Tehri Dam in India. The approval came in spite of strong opposition to the project for environmental, safety, social and economic reasons.

The 260.5-meter-high Tehri Dam, located in the Himalayas, would be the fifth highest dam in the world. It has been one of India's most controversial projects since its inception in 1972. Serious concerns regarding the viability of the dam have been raised in various studies undertaken by governmental and nongovernmental organizations.

Seismic safety is a major concern. The dam is precariously situated in the highly active central Himalayan seismic zone, and seismologists have expressed doubts about the dam's ability to withstand an earthquake measuring 8.0 or higher on the Richter scale. The 1991 Uttarkashi earthquake, whose epicenter was a mere 45 km from the dam site, serves as a reminder that high magnitude earthquakes are not rare in this region.

The location of the dam in the Himalayas also makes it vulnerable to landslides, which in turn could cause an overtopping of the dam and lead to floods downstream. If the dam or its surrounding hillsides were to collapse, an estimated 500,000 people would perish in floods. According to the government-appointed Hanumantha Rao Committee on Environment and Rehabilitation, "It appears that there is no approved Disaster Management Plan in place, and if this is so, it is a serious deficiency, apart from being a failure to comply with a condition of clearance."

Environmentalists have also opposed this project on the grounds that it will adversely affect the rejuvenating qualities of the River Ganga and impact aquatic life in the river. In a study by the Indian group INTACH (Indian Trust for Art and Cultural Heritage), economists pointed out that the dam would cost twice as much as it would return in irrigation and energy benefits.

Longstanding Opposition

The Tehri Dam has, from its earliest days, faced strong popular opposition by the

inhabitants of Tehri town and the 107 villages that the dam will flood. Protests supported by activist Sundarlal Bahuguna and the Tehri Bandh Virodhi Sangharsh Samiti (Committee to Oppose the Tehri Dam) have highlighted the project's inadequate resettlement and rehabilitation provisions. Opponents have resolved to protest any further construction until adequate land is provided.

A report on Tehri Dam recently released by the South Asia Network for Dams, Rivers and People (SANDRP) points to serious problems with resettlement and rehabilitation plans. The report reveals the inability and lack of will on the part of project authorities to provide adequate land, and the absence of proper mechanisms to assure successful resettlement. It also points to the near absence of efforts by authorities from March 1997 onwards to acquire additional land to resettle oustees.

The report also highlights the project's serious underestimation of affected people. The 1990 environmental impact assessment for the project estimated that 97,000 people will be displaced by the project, but current

continued on page 12

Interview continued from page 4

gram that might be helpful to others around the world who might be interested in replicating your program?

PHG: That the cistern is the safest way to insure water availability in people's houses under all circumstances, especially under emergencies. Cisterns can be installed with community help. They are relatively cheap and last for tens of years. There are cisterns that have existed since Roman periods here in Palestine. Cisterns might need some maintenance, but it is easy.

IRN: Describe your sanitation program.

PHG: Sanitation is a major issue. We were facing a growing wastewater pollution problem at the same time we were seeing increasing scarcity of water resources in Palestine. For the past few years, we have been promoting the dissemination of small-scale, decentralized wastewater treatment and reuse systems as an appropriate solution to Palestine's water resource problems in rural areas. We encourage economical and envi-

ronmentally sustainable methods and techniques to decrease water consumption and reuse wastewater, working with communities to design systems that are affordable and can be maintained by the community. We are also working with local farmers to encourage the use of treated wastewater for irrigation.

One of our pilot projects was to devise a sustainable sewerage system for a 1,000-student school in Beit Jala. PHG helped the school design and construct an unconventional, low-cost wastewater treatment technology that enables the treated water to be reused on school premises.

IRN: Is PHG working with any Israeli groups to resolve the water situation and inequities?

PHG: While we are not working directly on this issue with Israeli groups, our program is oriented toward marginal water resources whose development does not create any conflict with the Israelis while at the same time highly benefits Palestinians in overcoming water shortages. We do, however, work with

a number of international organizations in this matter.

IRN: PHG does a lot of educational outreach around water resources. In these times of growing unrest, do you find it harder or easier to educate people about water resources conservation and protection?

PHG: It is harder to reach those places where the unrest is worst, but easier to get people to accept conservation because they find it very difficult to get water regularly. We feel it is essential to educate the community on how to protect water resources and how to use water efficiently. PHG conducts public awareness programs in the West Bank and Gaza. Our main target groups are women, because they are the major water users and are also responsible for fetching water in some rural areas; and students, because we believe that the concept of water conservation and environmental protection must grow up together with those young people in order to insure a sustainable and prosperous future. ■

Fanning the Flames: A History of Cahora Bassa's Role in Southern African Instability

by Allen Isaacman & Chris Sneddon

Regional crises can be precipitated, in part, by inequitable access to scarce natural resources such as water. Perhaps no water resource system has been the object of more sustained military activity than Mozambique's Cahora Bassa Dam on the Zambezi River. From the late 1960s when the Portuguese colonial regime announced that it was going to build the dam, until the 1992 peace accords between the Mozambican government and the South-African-backed RENAMO (Mozambican National Resistance) guerrillas, Cahora Bassa and its transmission lines were the target of repeated attacks.

Initial opposition to the dam came from FRELIMO (the Front for the Liberation of Mozambique). The nationalist forces contended that Cahora Bassa was an integral part of a military and economic alliance between Portugal and South Africa designed to provide cheap energy to South Africa and perpetuate white rule in the region. For almost seven years, FRELIMO waged an unsuccessful guerrilla campaign to block construction of Cahora Bassa which was completed in 1974. Six months later, Mozambique gained its independence.

But independence merely intensified the conflict over Cahora Bassa between the new government and the apartheid regime. Stuck with the dam, the newly installed FRELIMO government had little alternative but to discard its long-term opposition to the project. In a radical departure from its previous stance, it hailed Cahora Bassa as a symbol of liberation which would help the people of Mozambique achieve economic prosperity, transform the strategic Zambezi valley and bring the impoverished nation a new source of hard currency by exporting energy to markets throughout the region.

But Pretoria had a different agenda. Concerned about FRELIMO's historic ties to the African National Congress and its non-racial socialist agenda, South African security forces began a sustained military and economic campaign to destabilize the Mozambican government and destroy the country's infrastructure. High on its list was Cahora Bassa. For more than a decade, South African backed RENAMO guerrillas repeatedly sabotaged the dam's power lines, effectively paralyzing the project, while simultaneously terrorizing hundreds of thousands

of peasants who lived adjacent to the Zambezi River.

Cahora Bassa occupies a curious space within the literature on large dams. It represents more than simply another addition to the litany of large dams with negative socio-ecological consequences for local communities and ecosystems (although it demonstrates that as well). The intertwined social and environmental histories of Cahora Bassa must be linked to the project's history as a fulcrum of political and military activity.

This politico-military aspect of the dam goes some way toward explaining the dearth of information on the dam's social and ecological implications. Until recently, we knew little about the experiences of the thousands of peasants forced to relocate from their historic homelands. We knew even less about the impact of Cahora Bassa on down-river communities, whose river-fed gardens and grazing lands are no longer seasonally irrigated by the Zambezi River and whose fishing areas have been greatly reduced. Similarly, we need to explore the impact of South Africa's destabilization campaign on the social and ecological resiliency of the diverse communities inhabiting the riverine zone.

In exploring these gaps in our knowledge, we are also mindful of the ways in which the lack of information is not an innocent by-product of inattention. As Cahora Bassa evolved from plan to actual edifice, the colonial government supported some investigations into the dam's consequences and actively suppressed others. Addressing these issues, even in a preliminary way, creates the possibility of writing an alternative history of Cahora Bassa, one which stresses that human security, or livelihood security, ecological resiliency and economic development are inextricably intertwined.

The Struggle to Build

In the 1950s, after the British had constructed a dam on the Zambezi 100 miles upstream at Kariba, Portuguese colonial planners began to contemplate a similar undertaking at Cahora Bassa Gorge in Mozambique. In 1956 a team of hydrologists was dispatched to survey the region and investigate the possibility of a dam. The resulting highly influential and optimistic report stated: "It is clear that the utilization of those possibilities, accompanied by a

well-defined policy of industrial development and mineral prospecting and mining could completely transform the economic prospects for the Province of Mozambique and, in consequence, for metropolitan Portugal. Rarely have conditions occurred which are so favorable for the economic development of a region."

The planning behind Cahora Bassa exhibited important security dimensions. First, Portuguese officials believed that the project would help blunt guerrilla advances south of the strategic Zambezi River in important ways. They theorized that the 500-km-long reservoir would impede the relatively easy access FRELIMO forces had to the heart of Mozambique from its bases in Zambia and Malawi. Moreover, they predicted that economic development stimulated by the dam would dramatically increase the size of the white settler community in the region who would provide the first line of defense against the exiled African guerrillas. Colonial planners estimated that as many as 80,000 immigrants would settle in the Zambezi Valley, including many former soldiers.

Economic realities, however, along with little evidence of settler interest in this malaria-infested region, compelled colonial officials to scale back their ambitious plans. Mozambique's inability to consume even 10% of the anticipated 2,075-megawatt output from Cahora Bassa made the project even more problematic.

Second, military pressure and growing international opposition – linked directly to the ongoing struggle between FRELIMO and the colonial government – complicated construction. FRELIMO had vowed to sabotage Cahora Bassa. In 1968 they initiated a guerrilla offensive in Tete, the home district of Cahora Bassa. By the end of the decade a sizable force was operating in the area adjacent to the proposed dam site. One senior Portuguese military official estimated that at least 1,800 well-armed guerrillas had crossed the Zambezi from Zambia and Malawi and were beginning to pose a serious threat. FRELIMO's anti-dam strategy benefited from a well-organized and highly visible international campaign to block western financing and construction of the dam. "What happens at Cahora Bassa," declared the Programme to Combat Racism

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Cahora Bassa under construction. Since the site was a virtual fortress, combatants attacked powerlines instead.

of the World Council of Churches, “is central to the fight for Mozambique and to the future of Southern Africa.” Moral outrage and threats of boycotts motivated Italian and Swedish companies to withdraw their support for the project.

The security threats and economic uncertainty compelled proponents of the dam within the Portuguese state to lobby for an energy and military agreement with South Africa which would guarantee a market for Cahora Bassa’s surplus power and incorporate Mozambique into South Africa’s security zone. Based on projections that its power requirements would double between 1967 and 1980, the apartheid regime needed a secure supply of cheap energy and was anxious to blunt the “black onslaught” as typified by the independence movement in Mozambique. In 1969 Lisbon signed a \$515 million agreement with a South African-dominated consortium to build the dam.

While colonial officials and state planners devoted careful attention to the financial and security dimensions of the dam, they gave scant notice to the potential consequences of the scheme for African peasants and their environment. They presumed that increased economic activity would have a trickle-down effect on “subsistence” African cultivators living in the Lower Zambezi basin. Authorities expressed confidence that the riverine communities would benefit from the introduction of new farming techniques, new markets for their commodities, new job opportunities, and by being regrouped into modern villages. State planners gave even less consideration to the ecological impacts.

Although senior nationalist leaders made bold pronouncements about sabotaging the project that helped to fuel the aforementioned international boycott, this was never a realistic option. The colonial regime had erected three heavily armed defensive rings near the dam site enclosed by doubled barbed-wire fences and one of the world’s largest minefields, making it virtually impossible for guerrillas to get within striking distance of the dam. Instead, small bands of insurgents mined the roads and railroad lines and ambushed trucks carrying essential equipment to the dam site. To minimize these attacks, the Portuguese cleared the bush adjacent to the roads, organized daily convoys and patrolled the train tracks more aggressively. Nevertheless these defensive tactics did little to dislodge the insurgent forces.

In November 1972 FRELIMO forces launched their boldest initiatives, highlighted by a mortar attack on the provincial airbase at Tete and eleven attacks on trains. During the next two years they continued to ambush lorries, attack trains and periodically blow up roads and bridges. Despite FRELIMO’s efforts, by 1974 the dam was virtually complete. Lost in the shuffle were the thousands of Mozambican peasants who had been forcibly relocated from the floodplains.

Immediate Consequences

Colonial planners stressed that the long-term benefits of the dam would far outweigh any short-term inconveniences in the lives of the riverine communities. But Cahora Bassa had immediate, multiple and far-reach-

ing consequences for the displaced communities whose homelands and farms were flooded to create the massive reservoir. Yet it was not simply being evicted from their homes and ancestral lands that proved so devastating. The Zambezi peasants were herded into strategic hamlets with few basic amenities. These *aldeamentos* were an integral part of Portugal’s broader counterinsurgency program designed to cut FRELIMO off from its rural base of support.

Thus, the forced relocation of several villages due to inundation from Cahora Bassa meshed extremely well with the counterinsurgency goals of the colonial state. Claiming to protect the peasantry, Portuguese officials began to evict communities near the dam site two years before actual impoundment. Under pressure from an expanded war and construction deadlines, local authorities did not even pay lip service to the notion of voluntary resettlement. With no warning, people in the area to be inundated were simply told they would have to leave.

Although colonial authorities initially claimed that only 25,000 Africans would be displaced, by the end of 1973 the number had jumped to over 42,000. Conditions in the camps were rudimentary at best. A typical *aldeamento* contained up to 1,500 residents. They lived in mud and wattle huts laid out in a grid enclosed by a barbed wire fence. The original planning documents called for each *aldeamento* to maintain a school, health clinic, water pumps, grist mills, warehouse for food reserves, social hall and football field. Except for a handful of model encampments, few of the “protected villages” had all, or even most, of these amenities.

Furthermore, the designated lands which the government had cleared were rocky and not very fertile and often far from the strategic hamlets. They stood in sharp contrast to the lands left behind. The arid conditions and absence of rain-fed lands dramatically reduced agricultural yields. So too did the colonial policies which limited each household to one small plot – typically less than a hectare in size.

In light of the restrictive government policies and the harsh environment, it is hardly surprising that the displaced communities experienced increased food shortages. There were also fewer opportunities to make up food deficits through hunting and fishing. In spite of government plans to protect the herds which roamed in the valley, large numbers of animals drowned when the Zambezi was impounded. Even in those areas where game survived, Portuguese military

continued on page 14

One Year After the World Commission

REFLECTIONS ON THE DIVERSE REACTIONS TO GROUNDBRE

by Patrick McCully

Just over a year ago, Nelson Mandela launched the World Commission on Dams' report at a glitzy ceremony in London. A coalition of dam critics, including IRN, marked the launch with a challenge to public funding agencies to stop supporting dams until the agencies had incorporated the Commission's recommendations into their policies. The critics claimed that if the builders and funders of dams were to follow the WCD's recommendations, "the era of destructive dams should come to an end."

So, what progress has been made in the first year since the WCD report was issued? Not surprisingly, the era of destructive dam-building has not come to a screeching halt. But the report's far-reaching recommendations are sending shockwaves through the industry, and change is occurring, if incrementally. The WCD's findings have generated a broad spectrum of reactions and official responses, some encouraging, some disappointing. What is clear is that the WCD has made an impact, and its circle of influence is widening. But it is also clear that more work needs to be done to encourage the industry, funders and governments to adopt its recommendations.

The Commission itself was disbanded with the report's publication, but a small secretariat remained until this September to promote and disseminate the report. So far, the secretariat has distributed around 4,600 hard copies of the report and more than 15,000 copies of a CD-ROM that includes the report and thousands of pages of background materials. The entire report has been translated into Spanish (downloadable from www.dams.org) and negotiations are underway to publish it in Chinese and French. An overview of the report is available in 10 languages.

The former Commissioners and secretariat staff have presented the report at meetings in some 25 countries. NGOs in many parts of the world have spearheaded informational meetings and "multi-stakeholder dialogue sessions" to bring the findings to a local, regional or national level. Individual groups working on specific dams have begun to use the WCD guidelines to bolster their campaigns against destructive projects.

Most recently, in November, the UN Environment Programme announced the establishment of a "Dams and Development Project" (www.unep-dams.org) with a man-

date to disseminate the report, coordinate translations, and support dialogues on the WCD's findings between governments, companies, NGOs and other stakeholders.

Mixed Reactions

Many important players in the dam industry have rejected the WCD report outright, most notably the relevant government agencies in India, China and Turkey, the countries that are currently building the most dams. The main international dam industry associations – the International Commission on Large Dams (ICOLD), the International Hydropower Association (IHA) and the International Commission on Irrigation and Drainage (ICID) – have all condemned the report's conclusions and have been lobbying governments, the World Bank and others to reject it. But these positions are not unambiguously embraced and there are chapters within ICOLD and IHA that support the WCD report.

There have been other positive reactions to the report among other governments and agencies, many of which provide financial and technical support for dam building. The German and British governments have been most forthright in their support. Both have committed to promoting dialogues between government agencies, NGOs and the private sector on how best to respond to the report. The Dutch have also broadly endorsed the report.

Eric Stather, Vice-Minister in the German Development Ministry, told ICOLD's annual meeting in Dresden in September that his government strongly supported the WCD report and would promote the implementation of its recommendations by German aid agencies and at the World Bank. Stather noted that following the WCD's recommendations on participative planning processes would make decision-making more difficult and expensive but should lead to better decisions. He explained that citizen participation in energy planning in Germany had led to a

decision to greatly expand renewable generation.

Official German support does seem to be putting at least some pressure on its dam industry. Egon Feiler of the engineering firm Lahmeyer International, which has received huge amounts of aid money to help build some of the world's most destructive dams, complained to the ICOLD meeting in Dresden that "when I talk to export credit agencies and donors they say, 'haven't you read the WCD report and don't you know dams are out?'"

The British Department for International Development (DFID) co-sponsored a meeting on the WCD with the British Dams Society in February. Deputy aid minister Chris Mullins told the meeting that the British government has established a cross-departmental group to review the WCD report and assess its implications for UK support of dams overseas, including its controversial Export Credit Guarantee Department. Mullins also said that DFID would offer support to developing countries wanting to implement the Commission's report.

The Swedish International Development Agency (SIDA) has also promised to support Southern governments' efforts to implement the WCD's findings, and to help dissemi-

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ion on Dams

MAKING REPORT

nate the report. SIDA has stated that the WCD's report "will constitute important reference material prior to deliberations and collective assessments on support to dam projects in the future." It has committed to reviewing the controversial Pangani

Dam in Tanzania against the WCD's recommendations on the basis of the WCD's call for donors to review dams that they funded in the past. But SIDA says that it sees little need for policy changes, as it believes its current policies are close to those recommended by the WCD. SIDA has largely stopped its once substantial support for large dams.

The reaction from the Norwegian government has been less enthusiastic. Norway's Ministry of Foreign Affairs coordinated a review of the WCD report among various government agencies which said the report was "extremely interesting and useful, and will be a valuable contribution to the further debate about large dams." But it went on to criticize the report for giving insufficient attention to the benefits of dams and the impacts of alternatives. The review makes no commitments to any changes in government policies although it does say that Norway will "put a special emphasis" on addressing the environmental and social impacts of the country's existing dams, as recommended by the Commission.

The section of the review on development cooperation states that Norway agrees with "the main principles set out in the Commission's report on public participation in and transparency relating to planning processes." However it criticizes the WCD for proposing to weaken the rights of national governments to take decisions on natural

resources. "Norway will support public participation in decision-making processes to ensure that all interests are identified and taken into consideration," the review states, without further elaboration on how it will ensure that this happens.

The federal agencies that have built most of the big dams in the US have not officially responded to the WCD. The US export credit agency ExIm had early on committed to including language on the WCD in a new set of environmental guidelines, but the Bush administration suspended the revision of these guidelines. The final communiqué of the meeting of G8 environment ministers in Italy in March called for export credit agencies to "adopt common measures to increase the transparency of their decision-making process including . . . consideration of relevant elements of the recommendations of the World Commission on Dams." But overall progress among the ECAs in adopting common standards has been glacially slow.

The UN agencies that have been most supportive of the WCD have been the UN Environment Program and the World Health Organization. Klaus Töpfer, Executive Director of UNEP, has strongly praised the WCD for its "significant contribution to the ongoing discussion and for its unique insights for future policy decisions." UNEP has shown its support for the WCD by agreeing to host the new Dams and Development Project.

WHO has congratulated the WCD for "a landmark report for all development stakeholders" that "provides a roadmap for a leap forward in development planning, through its rights-and-risks concept." WHO calls for a "strong endorsement" of the report "by the relevant UN specialized agencies."

The Asian Development Bank has given a generally positive response to the WCD, though it remains to be seen how the report will change its practices. ADB official Preben Nielsen says that the report "provides a roadmap to move from the present, often unsatisfactory process for planning, design construction, and operation of dams, to a more equitable and sustainable one." In a draft response to the report issued in August (www.adb.org/ngos/adb_responses.asp), the ADB says that it "supports the Commission's guidelines and intends to consider them in all future projects." However, it also states that key WCD recommendations such as those requiring negotiated agreements with affected people are the responsibility of governments and that the ADB will not adopt them. A new environment policy under consideration by the ADB fails to include any mention of the WCD contrary to earlier commitments it made.

The ADB hosted a multi-stakeholder meeting on the WCD in the Philippines in May. Senior officials from ministries and

agencies in Manila dealing with water and energy attended, as did NGOs and bank officials. Joan Carling of the Cordillera People's Alliance says that the meeting was useful in educating government officials about the contents of the WCD report and in providing a basis for further dialogue between NGOs and the government on the issues raised by the WCD. The ADB has said it will facilitate other national workshops on the WCD next year, in Vietnam, India, Bhutan and Nepal.

While the official attitude to the WCD from the international dam industry associations has been strongly hostile, there are some industry insiders who are open to the messages of the WCD. Geoff Sims, a member of the British Dams Society and Vice President of ICOLD, says that "as engineers we have a duty to use this document and the guidance it contains for the betterment of mankind. It is our duty to communicate with people who have no technical education but whose lives are deeply affected by our projects." Sims has called on ICOLD to promote a "culture of evaluation and self-learning."

Phillip J. Cummins, Chairman of the Australian National Commission on Large Dams, has welcomed the WCD report and encouraged ICOLD "to not only accept the report but to actively promote it." The generally positive reaction to the WCD from the Dutch, German, and South African national chapters of ICOLD also contrast strongly with the ICOLD leadership's rejection of the report.

There have also been some positive reactions to the WCD from the private sector. Swedish construction company Skanska issued a press release on the day of the WCD's launch announcing that it "intends to apply the guidelines." Edward Carter, a director of the Chicago-based Harza Engineering Company, consultants on some of the world's most controversial dams, wrote to the *Wall Street Journal* soon after the Commission's launch calling the report "a sound approach to the future development of a very old, yet important water resource technology." Carl Vansant, editor-in-chief of trade journal *Hydro Review Worldwide*, has editorialized that the WCD's "landmark efforts" deserved "thoughtful, open-minded consideration."

Slow Going at World Bank

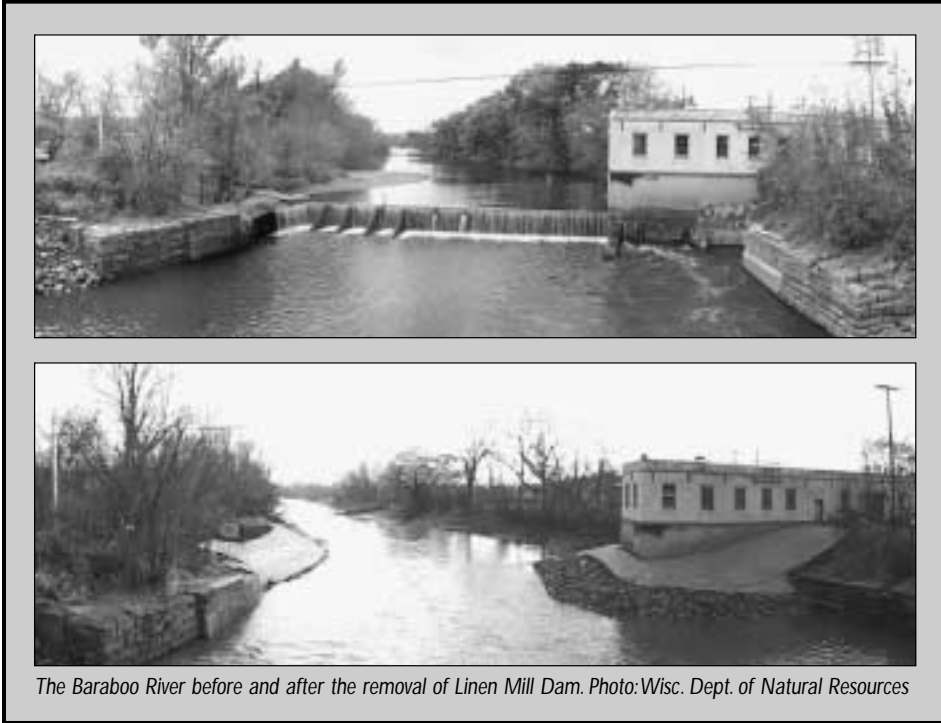
The World Bank's response to the report has been tepid. The Bank says that it will use the report "as a valuable reference to inform its decision-making process," but has not yet adopted any of the WCD recommendations into its binding policies.

The Bank was one of the two sponsors of the WCD. During the establishment phase

continued on page 15

Fish Rebound As Dams Come Down in Two US Watersheds

by Elizabeth Brink



The Baraboo River before and after the removal of Linen Mill Dam. Photo: Wisc. Dept. of Natural Resources

With more than 500 documented dam removals across the United States in the past century, the idea of taking out old, unsafe or uneconomic dams is neither new nor rare. But some recent striking successes in restoring rivers through dam removal highlight the benefits of this course of action.

Most of the dams removed from US rivers so far have been small structures, but in several cases the removal of a series of small dams on a river has yielded dramatic results. Taking a watershed approach, which recognizes that significant stretches of unobstructed river are needed for the recovery of threatened anadromous fish, has sparked a revival of riparian species and habitats from the West Coast to the Great Lakes. Below are two recent examples.

Baraboo River, Wisconsin

In October, history was made in Baraboo, Wisconsin. With the clank of backhoe against concrete, the Linen Mill Dam, the final dam blocking the Baraboo River, was dismantled. The removal restores the entire river – all 115 miles of it – to free-flowing conditions for the first time in 150 years.

The Baraboo River is now officially the longest mainstem of a river restored to

free-flowing condition through dam removal in US history. There is a lot to celebrate in this achievement. The Baraboo River restoration project was a six-year campaign involving a long list of stakeholders, including the City of Baraboo, the Wisconsin Department of Natural Resources, River Alliance of Wisconsin, the US Fish and Wildlife Service, Sand County Foundation and other agencies and groups who worked tirelessly to purchase and remove the final four dams on the river.

It is being held as a model of dam removal where everyone wins and all parties play an important role in the process. “This was a long time in coming and is a tribute to all of the hard work of many partners,” said Todd Ambs, executive director of River Alliance of Wisconsin. “The free-flowing Baraboo River is rapidly healing itself, proving what we have often said – if you remove the dams, the fish will come. Selective dam removal is one of the best tools we have for restoring the health of rivers throughout Wisconsin.”

Changes have come indeed, with documented increases in fish diversity from 11 to 26 species and larger populations of darters and smallmouth bass upstream of the dams. Wisconsin leads the country in dam

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Making Progress on “The Big Fish”

by Elizabeth Brink

Thus far, the majority of dams decommissioned in this country have been fairly small. The larger fish in the decommissioning stream, such as the two below, take much longer to remove. Below are updates on two such campaigns.

Oregon: Parties battling since 1988 over Savage Rapids Dam’s impact on Rogue River salmon may finally have found a solution. An October 12 agreement dissolves lawsuits against the irrigation district over harm the dam has caused threatened coho, and calls for removal of the dam by 2006. The dam serves no purpose, and its removal would result in an increase of about 114,000 more salmon and steelhead each year, providing approximately \$5 million annually in economic benefits, according to the US Bureau of Reclamation. The deal depends on Congress approving as much as \$22.2 million for the removal project. “We have been battling a long time,” said Bob Hunter of WaterWatch of Oregon. “People have finally put aside their differences and forged a plan that is good for the river, good for the district, and good for the local community.”

Washington: The House and Senate passed a bill on October 17 that appropriates millions of dollars to improve the habitat for endangered Pacific salmon. The bill contains more than \$14 million for the Fish and Wildlife Service to enhance fish habitat and protect salmon runs in the Northwest. Almost \$26 million is devoted to the Elwha River project to restore what were once the most robust salmon runs on the Olympic Peninsula. It will allow for the design of a plan to remove the Elwha and Glines Canyon dams, an important step in implementing a 1992 agreement between the federal government and the Lower Elwha Klallam tribe.

removal, with 100 deteriorating structures taken down in the last 35 years.

Butte Creek, California

Over the past century, Butte Creek in Northern California was dammed and diverted by ranchers, rice farmers and the electric utility Pacific Gas & Electric Co. (PG&E), which generates hydroelectricity on the upper portion of the creek. Until recently, salmon were either given no consideration or considered something of a nuisance. One of the dams near a PG&E power plant, for example, was built solely to hold salmon back so the company could dry the creek upstream as part of its operations.

For 25 years, the annual return of chinook salmon to Butte Creek brought waves of anxiety to game warden Lt. Gayland Taylor. He watched the 20-pound fish throw themselves against concrete dams, knowing the abuse would kill many before they could spawn. He and his sons splashed in the creek, scaring salmon away from the irrigation canals that would have carried them to certain death in the rice fields of the Sacramento Valley. And he hesitated to go home at the end of a shift, knowing that 300 salmon of a run of only 500 were backed against a dam. "It was absolutely critical that you treat each fish as the last one," Taylor said.

Today, with the fall-run chinook salmon powering up Butte Creek again, Taylor sees something he said he could not have dreamed of 10 years ago. Salmon move freely, spawning where dams once stood. Four dams are gone. The remaining five dams on the creek, a tributary of the Sacramento River, are equipped with modern fish ladders that ease passage. Since Butte Creek's dams were taken down in 1999, the number of adult spring-run salmon returning to Butte Creek has averaged nearly 6,000 fish. That's a big jump from the previous 40 years, when an average of fewer than 1,000 fish returned. In some years, as few as 10 spring-run salmon were counted.

Butte Creek is just one stream, but the effort to restore the salmon here is the first sign of success from a massive project to restore the environment of the Sacramento-San Joaquin Delta. Overall, the area's Metropolitan Water District has put \$30 million toward environmental restoration projects in the basin, including \$4 million toward the cost of restoring Butte Creek (about one-third the total cost of the project). The money has helped pay for restoration on other salmon streams. On Battle Creek, for example, five dams are proposed to be torn down in the next several years. ■

New Resources for River Protectors

New Edition of *Silenced Rivers*

International Rivers Network in association with Zed Books/St Martin's Press has just published an expanded edition of *Silenced Rivers: The Ecology and Politics of Large Dams*. This new edition of Patrick McCully's now classic study shows why large dams have become such a controversial technology in both industrialized and developing countries. The book explores the wide-ranging ecological impacts of large dams, their human consequences, the organization of the dam-building industry, and the role played by international banks and aid agencies in promoting large dams. In this new edition, the author tells the story of the rapid growth of the international anti-dam movement, and suggests alternative methods of supplying the services supposedly provided by large dams.

The book is available from IRN for \$25 plus shipping and handling (see www.irn.org), and from bookshops.

River Restoration Grants

American Rivers is seeking proposals for US community-based river restoration grants as part of its new partnership with the National Oceanic and Atmospheric Administration (NOAA) Community-Based Restoration Program. These grants are designed to provide support for local communities undertaking dam removal or fish passage to restore and protect the ecological integrity of their rivers and improve freshwater habitats important to migratory fish. Grants will be limited to projects in the Northeast, Mid-Atlantic and California. The non-renewable grants will assist in the technical application of fish passage or dam removal. We encourage potential applicants to contact American Rivers to discuss potential projects prior to submitting an application.

For more information on the NOAA program, visit www.nmfs.noaa.gov/habitat/restoration/community/

For a complete application and eligibility guidelines, see: www.amrivers.org/feature/restorationgrants.htm or contact Peter Raabe, Tel: (202) 347-7550 x3006; Fax: (202) 347-9240; Email: river-grants@amrivers.org.

River Basin Development Program

Dams, large irrigation schemes, centralized river basin authorities: these mainstream river basin management approaches often disregard the sustainability of local livelihoods and ecosystems. In the past, NGOs have focused on effectively opposing unsustainable interventions in riverine ecosystems. But there's a new trend: local organisations are developing and implementing innovative river basin management

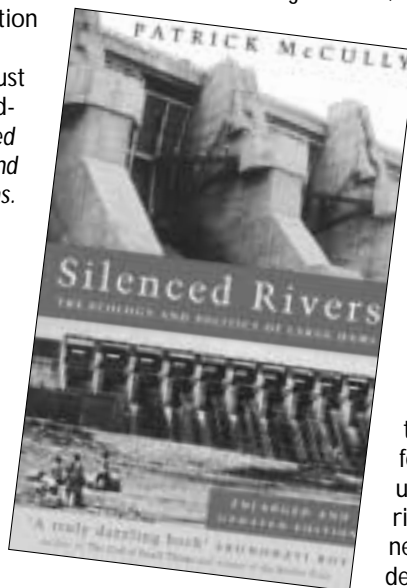
strategies, demonstrating that there are realistic and inspiring alternatives to conventional, top-down and unsustainable management models.

Recognising the power of these alternatives, two NGOs, Both ENDS (the Netherlands) and Gomukh (India), have launched the program River Basin Development: A Negotiated Approach. The objective of this initiative is "To develop, discuss and promote alternative management approaches that will effectively compete with mainstream management systems, inspired by existing restoration and development strategies that are characterised by participatory, negotiated decision-making and appropriate technologies."

The project will document and analyse six case studies of decentralised river basin management and promote these as viable alternatives to mainstream management approaches. The six cases will present bottom-up strategies that can be scaled-up to the river basin level and include larger geographic areas and complex socio-political institutional structures.

Gomukh and Both ENDS seek organisations with experience in river basin development and management that are interested in meeting the challenges of this project. A Call for Proposals in both English and Spanish is available at www.bothends.org

For more information contact: water@bothends.org.



Ilisu continued from page 3

Resettlement Action Plan for Ilisu, concerning the fate of the tens of thousands to be uprooted by the dam, has not been published. The UK government claims that this report belongs to the Turkish government.

In addition, people were outraged that the dam would visit further oppression on the Kurds, an already uprooted and traumatized people. Indeed, half of the 78,000 people to be affected by the dam had previously been displaced, their villages burned by security forces during the 15-year conflict between the Turkish state and the Kurdistan Workers Party (PKK). The area where the dam would be built is under State of Emergency Rule. The majority Kurdish population is denied basic freedoms of expression, organization and association and is subject to gross human rights abuses, including torture and extra-judicial killing. Recent reports by Amnesty International and Human Rights Watch have damned Turkey's human rights record, while the Human Rights Association in Diyarbakir, one of five provinces to be affected by Ilisu, notes that torture is on the rise in the region.

Despite the difficulties in organising and the justified fear of reprisals, local groups and individuals courageously resisted the Ilisu project. Focusing popular support on the "Save Hasankeyf" platform (the reservoir would flood the culturally important town of Hasankeyf), campaigners avoided expressing outright opposition to the dam, instead calling for preservation of cultural sites.

The groundswell of public outcry in the UK helped make Ilisu so controversial that even a huge multinational like Balfour Beatty was forced to listen. Nicholas Hildyard, a director of the Ilisu Dam Campaign, explains the campaign's broad appeal: "We worked on the basis that everyone is a campaigner."

Given the wide range of issues raised by Ilisu – human rights, the Kurdish question, geo-politics, corporate responsibility, government transparency and accountability, environmental issues, cultural heritage – the campaign also had widespread appeal. This enabled it to reach out beyond the usual constituency of human rights and environmental campaigners to build a unique and groundbreaking alliance of supporters, including eight of the UK's major trade unions, leading archaeologists, academics, writers, journalists, politicians and more than 5,000 members of the public.

This movement building was reflected in a demonstration that campaign supporters organised in North Wales, at the site of a dam built 40 years ago. Local people whose families had been displaced by the Tryweryn dam, Welsh language activists and environ-

mentalists joined Kurdish refugees and campaigners in a rally on the banks of the dam's reservoir. A Welsh choir sang while Kurdish dancers performed traditional dances, finding common cause in the repression of their culture and language and in the struggle for expression that united them.

The campaign's targeting of Balfour Beatty also reflected this strategy of movement building. In 2000 and 2001, Balfour Beatty saw its Annual General Meetings dominated by awkward questions from irate shareholder activists. The campaign had distributed hundreds of shares to its supporters, but also to others campaigning against the company's activities – from a railway workers' union to anti-road protesters. This helped build solidarity between diverse campaigns. Janine Booth of the railway workers union says, "We saw a link between Balfour Beatty's profiteering in the UK railway industry and its planned profiteering in the Kurdish area of Turkey. We took part in each other's protests. Solidarity can win!" It also highlighted one of the campaign's key arguments: that the lack of adequate corporate standards embroiled the company in reputation-damaging projects.

It was this argument that campaign member organizations The Cornerhouse and Friends of the Earth took to Balfour Beatty's institutional investors, building support for their resolution for the company to adopt the guidelines of the World Commission on Dams (WCD). At the 2001 annual meeting, more than 40% of investors abstained on the resolution – comparable to one of the most successful shareholder actions ever in the UK, a Greenpeace resolution against BP which saw

Tehri continued from page 5

data by Tehri Hydro Development Corporation shows only about 67,500 to be resettled. It is clear that a large number of those affected have not been included in rehabilitation plans. The report also points to the paucity of land, which is available for only a minority of project affected persons. It is also clear that the Tehri project authorities have not provided mechanisms to facilitate community participation in the rehabilitation processes.

The Tehri project is also under investigation by the Indian government's Central Bureau of Investigation, for charges of corruption in construction and resettlement issues.

Given all the controversies surrounding the project, plus the fact that it violates the key recommendations of the World Commission on Dams and the conditions laid out by the Government of India in its clearance for

45% abstentions. For the Board to "fail to win the support of more than 40% of institutional shareholders," in the words of the *Financial Times*, was a major blow to Balfour Beatty. Essentially, a huge minority of the company's shareholders had signalled that they were unhappy with Balfour Beatty's current policy on dam building. The message seemed to get through: on the day of the AGM, Balfour Beatty announced that it had "committed itself to taking the WCD principles, criteria and guidelines into account in determining whether and how it should be involved in any future hydroelectric projects."

Many other factors helped the campaign to succeed. But one core campaign objective still remains to be met – besides that of seeing the dam stopped once and for all – which is to force the UK and other export credit agencies (ECAs) to take on board the lessons of Ilisu. The campaign will continue to push for ECAs to adopt binding standards on human rights and the environment. Until they do, there will continue to be more "Ilisus" to fight in the future. ■

The Ilisu Dam Campaign in the UK was founded by The Cornerhouse, the Kurdish Human Rights Project, Friends of the Earth and activist comedian Mark Thomas. For more information, please see: www.ilisu.org.uk or contact: ilisu@gn.apc.org, Ilisu Dam Campaign, Box 210, 266 Banbury Road, Oxford OX2 7DL, UK. For more on the shareholder activism campaign against Balfour Beatty, and for information on how to launch such a campaign, see the new report 'The Campaigners Guide to Financial Markets, by Nicholas Hildyard and Mark Mansley, available from cornerhouse@gn.apc.org

the project, the approval of the Hermes guarantee by the German government is hard to justify. Recently, on permission from the Prime Minister of India, tunnels have been closed, backing up water into Tehri town where 10,000 people live. The approval came despite the fact that a committee appointed by the Prime Minister to investigate resettlement and rehabilitation conditions is still working on its report.

As the SANDRP report states, "In this sense, the Tehri Project would be a monument to destruction and not development."

"The apathy towards peoples' grievances, combined with the reckless enthusiasm of builders, contractors and financiers to go ahead with the completion of the dam, would only result in the destitution of over a hundred thousand people," said Vimalbhai of the Committee to Oppose Tehri Dam. ■

Argentine Activists Gear Up To Fight "Another Yacyretá"

by Glenn Switkes

A group of Argentinian organizations has filed a lawsuit designed to halt the plans by the Argentine government to build the huge Corpus Christi Dam. The proposed 2,880 MW dam would destroy the only remaining natural stretch of the upper Paraná River, just upstream from the existing Yacyretá Dam. The Corpus Dam could flood as much as 287 square kilometers.

The Center for Human Rights and the Environment (CEDHA), based in Córdoba, Argentina, together with a coalition of Argentine organizations, brought the case before the national ombudsman in November. The goals of the suit are to force the government to make all project information publicly available, to comply with the results of a provincial plebiscite that prohibits any action to be taken regarding Corpus, and, ultimately, to suspend the environmental impact studies.

In 1996, the population of Misiones province, where Corpus would be sited, soundly voiced its opposition to plans for the dam, voting 88% against the project in a plebiscite. Still, Argentina has said that, together with neighboring Paraguay, it will move ahead with plans for the dam, which

would be a privately built project. According to Juan Picolotti, legal advisor for CEDHA, "to ignore the will of the people of Misiones...is a violation of the basic principles of democracy."

Alberto Kipen, of the Ecological Forum of Paraná, added that the government is withholding information which would enable the public to come to an informed opinion about new plans for Corpus. "In this way, they hope to avoid growing opposition to the project," he said.

US Company Gets Contract

In November, the Mixed Paraguay/Argentine Binational Commission for the Paraná River (known by its acronym COMIP), a parastatal agency given power "to carry out studies and evaluations aimed at making use of the Paraná River," awarded the contract for the dam's environmental and social impact studies to the US-based Harza International, in partnership with the consulting firms Latasa (Argentina) and Tecma (Paraguay). The studies are expected to take about one year to complete. Construction of Corpus would take at least eight years, and is expected to cost US\$3.5 billion.

Jorge Cappato, of the Proteger Foundation of Santa Fe, said, "This mega-dam would have an enormous environmental impact, forming a large reservoir adjoining that of Yacyretá's, and hastening the demise of fish species such as the dorado, surubi, and others of irreplaceable value for the economy and livelihood of the entire river basin." Raúl Bregagnolo of the Misiones Network of Ecological Groups said, "A new dam on the river will contribute to the destruction of wetlands and forests with endemic species such as the timbó and the lapacho."

In their petition, the activists state: "The irreparable damages caused by Yacyretá Dam should serve as an example of something that should not be repeated." The mitigation and resettlement programs for Yacyretá, scheduled for completion in 1994, have still not been concluded, and those affected by Yacyretá are still fighting for their rights. The World Bank acknowledges that Yacyretá has been one of the most controversial hydroelectric dams it has financed anywhere in the world.

Much of the electricity from Corpus would probably be destined for neighboring Brazil, now in the midst of a serious energy crisis caused by drought and its over-reliance on hydroelectricity.

Elba Stancich, of the group Taller Ecologista, said, "Corpus is being designed to enrich private investors. They are not the ones who will suffer the consequences of the dam - local communities will have to deal with the social problems that will result." Romina Picolotti, Director of the Justice Program at CEDHA, added that dozens of indigenous families, such as the Mbyá-Guaraní, who live in the area that would be flooded by the dam, will be victims of human rights violations. "Their right to life, among others, will be threatened by the spread of water-borne diseases such as schistosomiasis and malaria. We shouldn't forget that snails infected with schistosomiasis have been found at Itaipú dam, in Brazil, only a few kilometers from Argentina. The Corpus reservoir will favor the spread of the disease into Argentina." ■

Amazon Group Demands Halt to Big Developments in Basin

The Amazon Working Group (Grupo de Trabalho da Amazônia, or GTA), a coalition of 200 organizations from the Brazilian Amazon, has called for the Brazilian government and multilateral aid agencies to suspend large-scale projects in the Amazon until it can "come to an understanding" with civil society organizations in the region. In its declaration, the GTA cited large dams, industrial waterway projects (hidrovias) and infrastructure for soy production. (See back page for a related story.)

In November, a caravan of 80 leaders of the Javaé, Xerente, Apinajé, Krahô, Tapi-rapé, and Karajá indigenous communities traveled to the capital, Brasília, to affirm they will not accept dams and hidrovias which impact their territories. During a week-long visit they met with federal deputies, the attorney-general's office, and the head of the nation's environmental protection service, IBAMA. In Brasília, they received the help of the Pastoral Land Commission, the Missionary Indigenist Council, and the Movement of Dam-Affected People.

According to the GTA, "the national government and most state governments are at the service of an accelerated process whereby our forests, soils, waters, and sub-soil wealth are being privatized, impacting the conditions for the natural and social reproduction of the region." Singled out for criticism was the federal government's "Advance Brazil" program, which focuses on large-scale infrastructure projects to facilitate the export of the region's natural resources.

The next step, according to GTA President Claudionor da Silva, who is with the National Fishermen's Movement, would be "a democratic dialogue regarding the economic, social, environmental, and cultural impacts" these projects imply.

For more information, contact: Romina Picolloti, CEDHA, romina@cedha.org.ar or Rulo Bregagnolo, Red de Asociaciones Ecologistas de Misiones, ecofotr@vallevision.com.ar

Cahora Bassa continued from page 7

authorities prevented peasants from carrying rifles and severely restricted their movement.

The negative social effects of Cahora Bassa were linked to its hydrological and ecological impacts. While many of these effects became apparent only after several years, some of the detrimental processes the dam's construction set in motion occurred almost immediately. Rapid completion of the dam was made a high priority by the colonial state due to the tenuous security situation. For example, the hasty filling of the reservoir – against the advice of scientists involved in ecological impact studies – effectively cut off river flows downstream of the dam from December 1974 to March 1975. Despite knowledge of the fact that the Lower Zambezi downstream of Cahora Bassa was highly dependent on the main channel for continued flows, dam operators refused to allow compensatory releases during reservoir filling. The flow rate of less than 60 cubic meters per day for over three months had catastrophic results on aquatic life below the dam. In addition, government officials did little to offset the rapidly swelling reservoir's direct effects on wildlife.

By June 1975, the Zambezi was being channeled through the turbines of Cahora Bassa on a daily basis, directed according to the power generation needs of HCB engineers. The transformation of the river's annual cycle from a punctuated, season-specific flow regime with a fairly regular pattern of flood timing, magnitude and duration to one with irregular floods, relatively constant flow rates and unpredictable high flow durations – without regard to the agricultural cycle – was complete. Downriver communities began to suffer as well. Unpredictable discharges from the dam “destroyed our fields on the banks of the river,” complained Caetano Francisco Figuerido and his fellow villagers living in Inhangoma, near the confluence of the Shire and Zambezi rivers. Cahora Bassa turned the Lower Zambezi into a regulated river, one whose principal function was to provide cheap energy to South Africa.

Taming the White Elephant

With independence and state power, FRELIMO was ostensibly in position to instigate policies which might, over time, transform Mozambique's distorted economy and reduce the new country's dependence on South Africa's apartheid regime. Under an agreement signed at the time of the dam's completion, all electricity produced by the dam was earmarked for Eskom, a South African parastatal electricity utility. Cahora Bassa figured prominently in the FRELIMO regime's new agenda. Mozambican state planners, commit-

ted to large scale social engineering, were confident that the dam would play a pivotal role in developing the Zambezi Valley and improving the lives of millions of Mozambicans across the country who lacked electricity. Together with the organization of a network of state farms and communal villages, Cahora Bassa would, in the Marxist parlance of FRELIMO, be instrumental “in the socialization of the countryside.”

Domesticating the “white elephant” was not an easy task. Under the 1974 Lusaka Peace Accord, Lisbon assumed responsibility for the massive debt incurred in building the dam. Until it was repaid, Portugal rather than the Mozambican state retained effective control over Cahora Bassa. Moreover, the cash-starved nation lacked the capital to develop the agricultural and industrial sectors that could utilize the dam's energy.

Despite these constraints, the government did undertake a number of new economic initiatives so that Cahora Bassa would not simply be a source of cheap energy for the apartheid regime. In 1978 it began building power stations to provide energy from the dam to the provincial capital Tete and nearby coal mines. At the same time, the National Water Commission announced plans to use the dam's water to irrigate more than 210,000 hectares of choice farmlands in the valley. In the early 1980s, Mozambique signed an agreement with India to process bauxite from that country at an aluminum plant using power from the dam. State planners also proposed developing commercial fishing, tourism and a shipping industry on the reservoir.

Before most of the projects could get underway, South Africa intensified its destabilization campaign directed at the FRELIMO regime, effectively paralyzing these projects. The apartheid regime's undeclared war against Mozambique was part of a broader strategy to ensure Pretoria's hegemony over the region in order to defend the political and economic interests of the apartheid state and to insulate the African National Congress from linkages to sympathetic regional regimes.

Within six months of Mozambique's independence in 1975, South African security forces working with their Rhodesian counterparts had created RENAMO and trained and armed the insurgents. Between 1976 and 1979 Mozambique suffered from more than 350 RENAMO and Rhodesian attacks. Although the dam itself was left unscathed, these forces periodically targeted regions adjacent to Cahora Bassa and regularly sabotaged power lines.

With the fall of the Rhodesian government in 1980 and the independence of Zim-

babwe, the apartheid regime transferred RENAMO bases from Rhodesia to the northern province of South Africa. South Africa treated the guerrillas as a surrogate army. By 1981 RENAMO forces were being transported into Mozambique by South African helicopters and re-supplied by airdrops and naval landings along Mozambique's expansive coast. RENAMO's renewed offensive was part of a broader campaign that South African security forces orchestrated to destroy Mozambique's infrastructure, paralyze the economy and bring the young nation to its knees. The guerrilla forces sabotaged bridges and railroad lines, mined roads and attacked state farms.

Cahora Bassa's power lines were a particularly inviting target. At first glance such a strategy might seem counterproductive since they transported energy to South Africa. But within Pretoria's broader destabilization strategy, it made perfect sense. After all, FRELIMO had placed great importance on Cahora Bassa's potential to transform the countryside. Paralyzing the scheme underscored the country's vulnerability. That Cahora Bassa power lines provided only 8% of South Africa's energy meant that domestic consequences for the apartheid regime were relatively minor.

The results of the attacks on power lines were both predictable and devastating. The Mozambican government lacked the capacity to protect the 4,000 pylons which cut across 900 kilometers of remote country. As early as 1981 RENAMO forces had dynamited pylons, reducing electricity exports by 50%. It took six months to repair the lines. This pattern was repeated on a regular basis. Guerrillas destroyed power lines and towers and mined the adjacent areas making it virtually impossible for the government to repair them. By 1988, 891 pylons had been destroyed; that number doubled again over the next three years. The cost of repairing the power lines was estimated at \$500 million – almost three times the total value of Mozambican exports. RENAMO's military campaigns in Tete and Zambezia provinces, moreover, had effectively blocked plans to develop the Zambezi Valley and electrify the northern part of the country. The dam remained a white elephant of benefit to neither the national economy nor local economies of a struggling Mozambique.

In addition to paralyzing Cahora Bassa and destroying many other strategic economic targets, RENAMO initiated a reign of terror throughout the riverine zone particularly in areas considered loyal to the govern-

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Cahora Bassa continued

ment. Among the most vulnerable communities were the peasants who had been displaced by the dam and been herded into strategic hamlets during the colonial period. With independence, the barbed wire surrounding their villages was taken down and the guards removed, leaving them defenseless. Since their original homes were under water, most had little alternative but to remain where they were. They were easy prey. According to Vernácio Leone, "When RENAMO would come into a village, they would call all the people together. Then they would go into the house and steal all that was inside. They ordered the people back into their homes and set them on fire."

Overall, South Africa's destabilization campaign had devastating consequences on the riverine communities. Throughout the region, the social fabric of rural society was destroyed. At the same time the apartheid regime and its RENAMO allies managed to paralyze electricity production so that Mozambique derived no economic benefits whatsoever from the dam. From 1982 to 1997, Cahora Bassa's five massive generators stood idle.

Cahora Bassa is deeply implicated in the same political and economic processes – the struggles, first, between FRELIMO and the colonial state and, later, between the Mozambican government and RENAMO rebels – that gave rise to military conflict. The dam was initially conceived to bolster the capacity of the colonial state to retain power over its territory. As evidenced by the selective character of pre-dam investigations and the active suppression of proposed research, social and environmental considerations were effectively subordinated by colonial planners intent on transforming the river. Upon inheriting Cahora Bassa, the newly independent government attempted to use the dam to spur economic development, a goal that South Africa-backed RENAMO sought to thwart by all means. Both the civil strife and Cahora Bassa had severe and confounding impacts on the ecological and human locales of the Lower Zambezi Valley, yet both originated in the dynamics of national and regional political economies.

Today, serious consideration is being given to building a new dam at M'panda Ncuca, 50 miles downstream from Cahora

Bassa. This suggests that lessons of the past are still being obscured in the name of development. Construction of a dam at M'panda Ncuca would complicate current discussions about the possibility of restoring the Lower Zambezi's ecological systems through controlled flood releases from Cahora Bassa. Controlled releases would, according to ecologists, confer livelihood benefits to the residents of the Lower Zambezi Valley by restoring pre-Cahora Bassa levels of floodplain fisheries and agricultural production. Despite the history of Cahora Bassa, the Mozambican government's desire to harness economic benefits from the Zambezi, above all other social and ecological goals, appears to be pushing towards the construction of what could very well be another white elephant. ■

Allen Isaacman is the director of the Interdisciplinary Center for the Study of Global Change at the University of Minnesota. Chris Sneddon is with the Environmental Studies Program at Dartmouth College. Their research was supported by the John D. and Catherine T. MacArthur Foundation's program on global security.

WCD continued from page 9

and the Commission's deliberations it frequently highlighted its role in the process to show that it was willing to listen to its critics and to be an honest broker between the interests of government, the private sector and NGOs. At the launch ceremony, Bank President James Wolfensohn said the report showed that "there is common ground that can be found among people of good faith coming from very diverse starting points."

It was therefore anticipated that the Bank would incorporate the WCD's findings into its policies and practices and encourage others to do so. What has followed instead has been a tug-of-war between some staff members who are opposed to incorporating WCD guidelines into Bank policy, and other staff members, Executive Directors and members of civil society who believe the Bank has an obligation to implement the guidelines.

The tug-of-war began aggressively. At a February WCD meeting in Cape Town, John Briscoe, the Bank's senior water advisor, stated explicitly that the Bank would not adopt the WCD guidelines, but would merely "review how the principles of these guidelines may be put into individual use in the context of specific projects."

But since then, there have been hints that some within the Bank are unhappy with this defiant stance, and wish to bring

the WCD more fully into Bank policy and projects. One promising sign came when a weak preliminary action plan for implementing the WCD was rejected by a Board subcommittee as being too vague and lacking detail (Management is expected to release a more detailed plan by the end of the year). The Bank is also in the process of developing a Water Resources Sector Strategy that could be an important vehicle for implementing WCD recommendations. It remains to be seen whether this strategy will have teeth, and result in changes to operational policies. Finally, donor countries, in negotiations for replenishing funds for the International Development Agency (IDA), recently "asked that IDA take into account the core values and strategic priorities suggested by the WCD for preparing and evaluating dam projects," according to a November IDA report. IDA is the arm of the World Bank that supports the poorest nations.

One major opportunity – to strengthen the Bank's resettlement policy with language based on the WCD – has already slipped away. The WCD arose largely because of the controversy provoked by resistance to forced resettlement at World Bank-financed dams and the suffering caused to those evicted from their homes. It is thus particularly discouraging that in its "reformatted" policy on

involuntary resettlement, which was approved by the Bank's Board in October, the Bank refused to incorporate the WCD's recommended approach to negotiating with affected communities. The Bank also appears determined to ignore the WCD's recommendations in the ongoing revision of its indigenous people's policy.

It is frustrating for dam critics – although hardly surprising – that so many important industry players have refused to accept the WCD report. Yet dam builders will not be able to escape the key message of the report – that the large-dam era is drawing to a close. The more prescient members of the industry realize that to have a future they need to change their focus from construction of big projects to managing existing infrastructure and helping plan and build decentralized water and energy systems. Ultimately, the most important mechanism through which the WCD will constrict dam building will be in the way it changes perceptions of the costs and benefits of dams and their alternatives among the public, investors, funders and governments. Without a sea of public support, even the biggest fish in the industry will be unable to survive. ■

For more information on responses to the WCD report, see www.unep-dams.org.