

# Lesotho Corruption Trials Keep Rolling Along

## World Bank to Make Debarment Decision on Acres International

by Ryan Shen-Hoover

**F**ew would have predicted that a small, impoverished mountain kingdom in southern Africa would set new precedents in the global fight against corruption, but, against all odds, the government of Lesotho continues to do just that.

For the past five years, Lesotho has been doggedly prosecuting multinational companies who paid approximately US\$2 million in bribes to the former chief executive of the World Bank-funded Lesotho Highlands Water Project, a massive dam scheme that affected thousands of rural families. Their efforts have been remarkably successful. The former chief executive was sentenced to 12 years in prison; a South African man pled guilty to acting as a conduit for the bribes; and, most importantly, three multinational companies have been convicted and fined.

The latest company to be brought to book, Schneider Electric (formerly known as Spie Batignolle), pled guilty in February to all charges and was fined US\$1.5 million. The appeal hearing of Germany's Lahmeyer

International, which was convicted of paying over half a million dollars in bribes, was underway at press time. Prosecutions against additional companies, including Italy's Impregilo, could begin shortly.

But the cost of prosecuting these companies has been high. According to the Lesotho Attorney General, Fine Maema, the court cases have cost the government \$4.3 million thus far – 2% of the country's annual budget for public services. Lesotho believed that international donors like the World Bank had promised to provide financial assistance to fund the cases, but no such funding has been given to date, and the World Bank denies that it ever promised to help in that way. To make matters worse, Acres International, a Canadian engineering firm convicted of bribery in 2002, has thus far failed to pay its fine of \$2 million, insisting that it be allowed to pay in installments, a condition unacceptable to the Lesotho government. In 2002, Acres posted revenue of US\$83 million.

Fortunately for Lesotho, the South African Minister of Water Affairs, Ronnie Kasrils, has recently pledged to provide funds to Lesotho to continue its prosecution. These costs will come out of the LHWP budget.

As convicted companies like Acres and Lahmeyer lose their appeal hearings in Lesotho, attention is quickly turning to the World Bank and other international donors. World Bank policy prescribes debarment from future World Bank contracts for companies that are found to have acted corruptly, but never before have such large, renowned companies been convicted. It is unclear if the Bank can muster the political will to debar some of its most favored contractors (Acres has participated in 15 World Bank contracts since 1995).

After initially declaring that there was too little evidence to debar Acres International, the Bank re-opened its debarment investigation in August 2003. It is unclear when it will reach a final decision, but the world is watching with interest. ■

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# World Rivers Review

Volume 19, Number 2 / April 2004

Published by International Rivers Network

## World Bank Investigation Confirms Serious Problems at Yacyretá as Presidents Push to Complete Project

by Glenn Switkes

Following an 18-month investigation of the troubled Yacyretá Dam on the Paraguay-Argentina border, the World Bank's Inspection Panel has confirmed there is a wide gulf between social and environmental mitigation programs planned by the Yacyretá Binational Entity (EBY) and actual measures taken to protect populations and ecosystems affected by the dam. The completion of the Panel's investigation comes at a time when the new presidents of Argentina and Paraguay have publicly declared their intention to press ahead and complete the controversial project, a decision that puts 50,000 more people at risk of flooding from a raised reservoir level.

The Panel's report criticizes the Bank's ability to bring the project into compliance with its institutional norms, and confirms most of the complaints brought by Paraguayan affected people. Among the Panel's findings are that EBY's census of affected people omits a significant number of people who should be eligible for compensation, and that compensation measures adopted by the company are insufficient to restore affected peoples' livelihoods. Brick and tile makers who lost their access to clay deposits were, in many cases, not adequately compensated, and often resettlements were located far from urban areas, making it impossible for residents to find employment. The Panel also found Yacyretá resettlement homes to be shabby, with poor quality roads and storm drainage systems. Consultation with affected people has also been insufficient, according to the panel report.

The Panel concluded that "a number of essential social and environmental activities have yet to be completed in order to raise the water level beyond the current 76 masl (meters above sea level)," and said "the governments' decisions as to whether, how

much, and when to raise the operating level of the reservoir will directly affect the ability of the Bank to bring this project into compliance with its operational policies and procedures."

Yacyretá was intended to operate with a reservoir level of 83 meters, and with an eventual installed capacity of 3,200 MW. In 1994, with civil works completed but environmental and social protection measures still in the planning stages, the World Bank and Inter-American Development Bank, which together financed nearly US\$2 billion of the project's cost, agreed to permit EBY to close Yacyretá's floodgates, and to fill the reservoir to an initial level of 76 masl, so the plant could begin operation. Filling the reservoir to a higher level was subject to Bank approval. At its design level, Yacyretá would flood 1,663 square kilometers, and could displace as many as 80,000 people. A decade later, with mitigation measures still largely unimplemented, the reservoir remains at 76 meters, and Yacyretá generates only 60% of its potential.

The Inspection Panel also confirmed what riverbank communities had charged for some time – that the reservoir has been routinely operated at one meter above its "official" level. Since EBY has been paying the Argentine and Paraguayan governments for energy generated at 76m, Paraguayan inspectors are investigating whether this means that millions of dollars in energy generated by the project has failed to be



Argentine and Paraguayan activists protest on the Day of Action at the site of the proposed Corpus Christi Dam, just downstream from Yacyretá. This dam would flood the last free-flowing stretch of the Paraná, between Itaipú and Yacyretá dams.

Photo: Sobrevivencia

accounted for. In addition, the financial windfall expected to come from the operating the project at its design level – which the two countries say is necessary to pay for social and environmental mitigation efforts – may be far less than previously calculated.

Estimates of the cost of completing the project range from \$900 million to nearly \$2 billion, including civil engineering works and relocation of infrastructure, resettlement and compensation, and environmental mitigation measures. The two countries had contemplated privatizing Yacyretá under an arrangement where they would absorb all losses and grant a private company the right to sell Yacyretá's energy in exchange for providing the capital needed to complete the project. This proposal was rejected in the Argentine and Paraguayan congresses.

### Presidential Push

The Panel report comes only weeks after the new presidents of Argentina and Paraguay – Néstor Carlos Kirchner and Nicanor Duarte

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# (Un)Happy Birthday, World Bank

Imagine: you have billions of dollars per year at your disposal. The projects you have supported have displaced millions of people from their homes and land. Many of them have never recovered from this loss, yet you do nothing to remedy the situation. The policies you have pushed have forced poor governments to cut spending for health care and education, and have increased their national debts. And guess what? You can do all of this with impunity! That's right – no citizen or government can take you to court. You have no legal responsibility to the people whose lives you tamper with. Sound like a bad dream? Unfortunately for the world's poor, it is all too real. Welcome to the World Bank Group.

The World Bank turns 60 this year. Activists are converging in Washington, DC this month for a series of protests around the Bank's Spring Meetings. Their message? Sixty years of World Bank funding has left a legacy of forced displacement, debt and destruction. Yet despite this legacy, the Bank is set to repeat its mistakes all over again. Over the past year, the Bank has announced a return to funding big infrastructure projects – it's so-called "high risk, high reward" plan. Yes, big is back at the World Bank. But is this appropriate behavior for an institution that's reaching its twilight years?

Let's take a look at some of the institution's achievements over the past 60 years (especially regarding large dams). The record is a sorry one, prompting us to ask: Is it time for early retirement?

- Number of dams funded: at least 552
- Amount of money invested in those dams: more than \$86 billion (in 2004 dollars)
- Number of people evicted by Bank dam projects: at least 10 million
- Number of World Bank-funded dams that improved income of oustees according to a 1994 Bankwide Resettlement Review: 1
- Number of people that the 1985 appraisal of Sardar Sarovar Dam failed to count as losing their livelihood to the project's canals: 140,000
- Average percent increase in number of people to be displaced at completion, compared to estimates at time of appraisal: 47
- Average construction cost overrun on World Bank-funded dams: 30%
- Percentage of IDA (International Development Association) projects that failed to meet their development objectives in the period 1994-2000: 65
- Amount of money the World Bank has invested in fossil fuels since the Climate Change Convention was signed in 1992: \$26.5 billion
- Amount of money the World Bank has invested in renewable and energy efficiency projects since 1992: \$1.5 billion
- Amount of lifetime emissions of carbon dioxide from Bank fossil fuel projects financed since 1992: +40 billion tons

Aviva Imhof

Sources available upon request.

- Number of times the World Bank's Board of Directors has rejected a project: 1
- Number of fish species eliminated upstream of Thailand's Pak Mun Dam: 56
- Amount of money lost to corruption for Yacyretá Dam (Argentina/Paraguay): more than \$6 billion
- Number of internal reviews conducted by the World Bank to analyze actual performance of its large dams: 0
- Number of World Commission on Dams recommendations that the World Bank has incorporated into its safeguard policies: 0
- Number of companies debarred by the Bank for corruption on dam projects: 0
- Amount of money UK companies receive for every taxpayer dollar invested in the World Bank by the UK Government: \$1.53
- Amount of money US companies receive for every taxpayer dollar invested in the World Bank by the US Government: \$1.01
- Amount of money UK companies received in procurements in 2003: \$185 million
- Number of countries that received less World Bank money than UK companies in 2003: 59 (the World Bank lends to 88 countries)
- World Bank net income for 2003: more than \$5 billion

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**Printing:**  
West Coast Print Center

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# Day of Action Reflects Triumphs and Tribulations of Large Dam Struggles

by Jill Lambird

From river banks to international development banks, the world was once again flooded with action on March 14, the seventh annual International Day of Action against Dams and for Rivers, Water and Life. Thousands of people around the world mobilized for the annual event in protest of large dams and in celebration of rivers.

Supporters marched, sang, chanted, created art, screened films and took over dam sites. From farmers in Panama to university students in South Africa, people of different backgrounds united under a shared vision of healthy rivers, indigenous rights, ecological restoration, and sustainable water and energy planning.

This year, more than 75 actions in 26 countries resonated the message that healthy rivers are worth fighting for. Here are a few highlights of the day.

## Action Central

As always, the Brazilian Movement of Dam Affected Peoples (MAB) mobilized thousands to take action on March 14, this year in partnership with the Landless Movement and progressive groups of the Catholic church. In Mato Grosso, 1,200 people affected by Manso Dam took over the dam to protest inadequate compensation and resettlement for the dam. Participants said, "The situation in Manso is of hunger and misery. It has been two years with nowhere to go; affected families are living in a makeshift encampment next to the dam. At the time of the expulsions, the families were removed from their homes and their houses burned down to prevent them from returning."



Chilean activists say no to an aluminum dam.



Photo: Jill Lambird

In Northern California, tribes want the Trinity River restored.

MAB activists also locked the gate that provides access to the Estreito Dam worksite. In the state of Goiás, families affected by the Serra de Mesa and Cana Brava dams blocked the Belem-Brasília highway. Some 300 families affected by Itauba and Dona Francisca dams blocked roads to protest the lack of effort to compensate affected peoples. MAB also occupied the Campos Novos substation, through which the electricity for the city of Porto Alegre passes. They left the facility only when guaranteed a meeting with the Energy and Mines Minister.

On March 15, 800 families traveled to the Tucuruí Hydroelectric Plant and occupied the dam to protest the ill treatment of affected people by Eletronorte, the national energy company, and the Ministry of Mines and Energy. The Tucuruí Dam, located on the Tocantins River, was constructed in the 1970s and is one of the biggest hydroelectric plants in Brazil. Thousands of families had been dislocated without receiving adequate compensation.

Activists in the Philippines also organized many exciting actions

nationwide. Kalikasan, an environmental and human rights group, organized communities affected by the Laiban Dam to protest in front of the Asian Development Bank in Manila. Cordillera People's Alliance protested dams on the Agno River with a march through Baguio City. The march, which drew 200 people, ended in front of the Department of Environmental and Natural Resources where they presented demands for sweeping policy changes.

The Peasant Movement to Free the Agno River (Timmawa) held an event to strengthen the struggle against San Roque Dam, where problems with resettlement remain unresolved. A caravan of affected people traveled to major cities for educational events. The group's event in the city of Dapitan included a town rally and the burning of the dam in effigy.

## Linking Hands, Linking Lives

Human chains provided symbolic protection for dam-targeted rivers in Europe and Mesoamerica. In a breathtaking mountain canyon in Serbia, participants stood together in protest on a bridge crossing the Temstica

*continued on page 7*

# Fighting For a Free Drava River

by Helena Hecimovic

From its source in the Italian Alps, the River Drava flows for over 750 kilometers through Austria, Slovenia, Hungary and Croatia to its confluence with the great Danube River. Although the river has been dramatically altered by 23 dams built along its course, its lower half still retains much of its natural character and beauty, providing shelter for numerous otherwise endangered plant and animal species. This lifeline for Europe's threatened species, which also provides a riverine landscape of rare beauty, has over the past decade been threatened by the construction of yet another dam, in Croatia. The planned US\$500 million project would turn the living river into a lifeless reservoir. The value of the dam's proposed electricity production – 640 GWh/year, equivalent to 4% of Croatia's electricity needs – is worth less than the agricultural production and wood reserves of the land the dam would flood.

In 2001, Hungary was officially informed of Croatia's intention to build the Novo Virje hydroelectric project. In Croatia, the news went practically unnoticed, due to a total lack of civil participation in the decision-making process.

Environmental groups from the Drava region's five counties reacted immediately by forming a regional association, the Drava League. Its first and most immediate aim was to stop the Novo Virje project, but also to promote the sustainable development of the region. The group has managed to raise awareness of the impending threats to the river, to the point that it is conceivable that the dam could be shelved indefinitely.

The Drava League's activities ranged from educational programs in local schools and communities, media campaigns, and participation in conferences and public debates with national electric and water-management authorities. The vision of regional development based on sustainable use of natural resources and active support of ecotourism was presented at the First International Drava Day in Koprivnica, one of the region's central towns, in 2001. The Town Council of Koprivnica was the first ally of the Drava League in the long process of raising public awareness of the values of the river's heritage and strengthening public participation in decision-making about it. So far, three Drava Days have increasingly raised local awareness and

ensured the support of schools, scientists, artists, nature-lovers, fishermen, local and regional businesses and the general public. They have also led to considerable development of the initial vision, which now includes plans for the Drava Route, a 88-km cycling route along the river; promotion of a network of Croatian naive art galleries in communities along the Drava, and the Drava Ecotourism Zone project, for enhancing tourism in the region.

A large gravel-extraction and river regulation project started by Croatian water authorities in 2002 also required attention of the Drava League members, and took time away from efforts to stop the dam. Being a highly motivated but completely volunteer organization with practically no financial support, the Drava League eventually brought in the support of WWF and other international environmental organizations and gradually started gaining public support throughout the region. The strategy also involved lobbying members of Parliament, ministers in the national government and political leaders at the local and regional level. At this time, the Drava League members also worked on an inventory of species that lived in or near the river, and continued environmental education efforts.

The autumn of 2003 saw an important change in the relationship of the Ministry of Environment and the Drava League, the former officially sponsoring the Drava Day conference and supporting the League's aims. The international character of the event was strengthened by the participation of numerous partners of the Drava League on the international level, including groups from the Republic of Slovenia and Hungary. The Drava Mayors Declaration, initiated by the Mayor of Koprivnica, ensured the support of 15 mayors and county heads from Croatia and Hungary. The Drava conference, as usual, proved a wide difference of opinion between representatives of the national electric and water-management authorities on one side and Drava League experts and local citizens on the other. When the Prime Minister visit-



Photo: Nikola Wolf

*A community day to support a healthy Drava River featured children's drawings.*

ed Koprivnica he was presented with more than 1,700 postcards of the river, asking for his support in stopping the dam project. At the same time, the process of transboundary negotiations between Hungary and Croatia was reaching its final stage. The Drava League and its Hungarian and international partners decided not to wait until the final decision but to start a anti-dam petition along the Drava in both countries.

The petition was a great success. In less than a month, 9,000 Croatian signatures and over 3,000 Hungarian signatures were collected. Moreover, WWF's "panda passport" campaign aimed at the Hungarian Minister of Environment showered his e-mail address with more than 5,000 messages from all over the world. The Minister quickly responded, stating that he would turn down the dam project. In Croatia, several parliamentarians in the region also publicly supported the petition. The local government of the county where the dam would be constructed repeatedly requested that the dam proposal be permanently removed from the national plan. The national electric authority has recently declared that the Novo Virje project is not included in their master plan until 2020. At long last, alternative methods of producing electricity are being discussed.

While the new national plan is now on the Parliament agenda, it is with considerable optimism that the Drava League awaits its decision. The Koprivnica-Krizevci county authorities, fully aware of the public opinion against the dam, threaten to press for a public referendum in case Parliament decides not to change the national plan.

The big effort to protect the river and ensure sustainable development of the Drava River basin does not seem so far away any more. ■

*The author is the President of the Drava League.*

# Dam Demolition Frees the Rappahannock River

by Elizabeth Brink

An enthusiastic crowd of over 5,000 people cheered as a military demolition team placed hundreds of pounds of explosives to blast a 100-foot section out of Virginia's Embrey Dam in February. The cheers were soon drowned out by the roar of the Rappahannock River surging through the new opening. A local environmental group that had worked for 20 years to remove the dam quickly sold out its supply of "Let the River Run Free" commemorative T-shirts.

The demolition heralds a new era for Virginia's Rappahannock River, which once again flows unimpeded for 184 miles from its headwaters in the Blue Ridge Mountains to its mouth at Chesapeake Bay. The Rappahannock – now the longest free-flowing river in the Chesapeake Bay watershed – had been obstructed since 1854, when a wooden crib dam was built to power mills.

The 22-foot-high Embrey Dam, completed in 1910, provided water supply for the city of Fredericksburg and later, electricity, but no longer served any purpose. The aging structure had become a safety hazard and a barrier to fish migration.

With Embrey Dam out of the way, fish species such as striped bass, American shad, American eel, and river herring will have access to hundreds of miles of new spawning habitat. Rebounding populations of these species will significantly enhance the river's ecological health while bolstering recreational and commercial fisheries in the river and on the Chesapeake Bay.

While anglers are already enjoying the benefits of improved fish passage just a few short weeks after removal, boaters will have to wait a bit longer to reap the full rewards



*The Embrey Dam bites the dust.*

Photo: Robert A. Martin/The Free Lance-Star

of restoration. Removal of the entire 770-foot-long structure is expected to be complete by February 2006. Challenging white-water rapids, once submerged in the pool behind the dam, are expected to draw paddlers from throughout the region.

## Persistence and Passion

Local conservation group Friends of the Rappahannock (FOR) recognized 20 years ago that Embrey Dam was the single most important barrier to productive fish spawning in the Rappahannock, and its removal has been one of the group's major goals.

FOR undertook extensive community outreach to educate the public about the costs of maintaining the dam and the benefits of removal. For the past few years, the

group has led springtime "bucket brigades" – chains of 50-60 people passing buckets of fish hand-to-hand – to carry migrating fish around the dam.

A key breakthrough in the fight to restore the Rappahannock came in 1996, when FOR hosted Senator John Warner for a roundtable discussion and fishing trip below the dam.

FOR Executive Director John Tippet recalls the day: "As we fished below the dam, it was a great opportunity to talk one-on-one with the Senator about the dam and the river. As we walked down the canal road at the end of the day, he said to me, 'If you all can demonstrate that there is community consensus to take down this dam, I will take it on as a personal project.' That was the turning point."

Once FOR demonstrated that community consensus for dam removal had been achieved, the Senator acted quickly to arrange the appropriation of \$100,000 for a US Army Corps of Engineers study of the project. The study concluded that there was "significant federal interest" in the removal of the dam. He then persuaded Congress to authorize and fund the agency to demolish it.

"This is the culmination of nearly two decades of grassroots advocacy," said Tippet. "It's a true testament to the power of persistence and the influence of constructive community partnerships." ■

For more information on Friends of the Rappahannock see <http://for.communitypoint.org/>

## News Flash! Spanish Water Plan On Hold

The new government of Spain will review the outgoing government's controversial national water plan, a massive scheme that if fully built would include more than 120 dams on the Ebro River and 560 miles of pipelines. The multi-billion-dollar project, which would divert water from the Ebro basin to the nation's dryer southern areas, has been greeted with widespread opposition, drawing hundreds of thousands of citizens to the streets to protest. Prime Minister-elect Jose Luis Rodriguez Zapatero said in March that he would revise the plan, but stopped short of saying he would scrap it altogether. "We've said it's not a good hydrological plan... We want a much more advanced and modern water policy," Zapatero said.

Economists report that the water from this huge scheme would cost twice what desalination of seawater currently costs. Ecologists have said it will destroy the wetlands of the Ebro delta and have other serious impacts.

For more information on this project, see WRR, June 2003 (available at [www.irn.org](http://www.irn.org))

# Chixoy Dam's Deadly Legacy

by Monti Aguirre

**C**arlos Chen, an indigenous Maya-Achi from Guatemala's highlands, offered some of the most shocking testimony to be heard by the World Commission on Dams during its worldwide public hearings in 1999. His story of how his family and 400 members of his community were massacred in 1982 because of their opposition to the construction of the Chixoy Dam on the Rio Negro provoked cries of outrage and horror in the steamy, packed auditorium in Sao Paulo, Brazil. Among the victims of this atrocity were his wife and children. "We want reparations from the damages and for what we lost because of the dam," he said then.

The Chixoy Dam was built with World Bank financing in the context of civil war and severe human rights abuses. The 100-meter-high dam flooded 1,400 hectares of land and affected the livelihoods of 3,400 mostly Mayan people. After the massacre, the Bank provided an additional loan to Guatemala for the project. Despite sending numerous missions to oversee the project, the World Bank remained silent on the massacres until 1996 when human rights groups pressured it to undertake an internal investigation. The Bank's own 1996 investigation found that the massacres had indeed taken place, and concluded that massacre survivors were never adequately compensated. The Bank urged Guatemalan authorities to provide survivors with more land, but did not step forward with its own plan for reparations. The Bank now publicly states that "almost all relocated communities have

reached the level they had in 1976 [when relocations began] or are about to reach it."

To the Rio Negro community, the World Bank's position of "no remaining obligation" denies the immense suffering of survivors during the years of violence and the subsequent years of deprivation and continuing terror. From the community's point of view, the financial institutions, by funding the dam in partnership with the military, sustained the military presence and tacitly condoned the use of violence to displace the human population. Now that the project is completed, the people of Rio Negro feel that they do not enjoy anything close to the standard of living before the dam was built. Housing is substandard; inadequate replacement of land has produced widespread hunger; downstream villages are flooded by dam releases occurring without warning; and the reservoir and lack of a bridge or reliable boats has resulted in the loss of access to communal lands. The institution responsible for implementing resettlement and other compensatory agreements has been privatized, and the new power companies refuse to recognize prior agreements. The resettlement village has been threatened with the loss of their electricity for failure to pay utility bills and, with the loss of power, the loss of potable water.

IRN talked with Cristobal Osorio Sánchez, another survivor of the Chixoy massacres, about the community's quest for reparations.

**WRR: You were 19 years old when construction of the Chixoy Dam began. Tell us what you saw.**

**COS:** In 1976 when government representatives arrived in our community and engineers began conducting studies, we formed a committee to deal with the dam issues. We were first told that we had to abandon our lands, and they offered us many things – good housing, good lands, a truck, boats, and a tractor. I am a witness to the unfulfilled promises.

All those promises were written up as an agreement and recorded in a book. But later, INDE [Guatemala's national electricity agency] sent a letter calling all the members of the board to meet with them in Guatemala City. We did not have resources so we sent only two representatives, the president and the secretary. They took with them the record book. When they were on the road, the dam security guards kidnapped



A museum devoted to the Chixoy Massacre victims.

Photo: Monti Aguirre

and disappeared them along with the book with the agreements. They took the lives of two of our people and took the book that contained all their promises. They knew it was going to be very difficult for us to make demands without any written agreement.

We decided that we did not want to abandon our lands, our life, our resources, and our source of income. We had a military government and when we pressured too much they said we were guerrillas. Our rights were violated. We were born there, our ancestors are buried there, there is where we had our sacred sites, our fruit trees and fish. We lived well.

**WRR: How has your life and your children's lives changed, compared to that of your father?**

**COS:** The lives of my parents were such beautiful lives. My father was a farmer; he cultivated corn, chiles, tomatoes, beans and more. Life was easier because they cultivated everything they needed; they did not have to buy food. They had good and extensive lands. He owned a piece of land that was flooded. They didn't need a pharmacy because they had their own medicines. He also fished with nets, and had cattle and animals. He lived a good life.

He is 87 years old now. Just a couple of months ago he told me that he is so sorry that the government did not think about how they were going to destroy our lives. He said that here in the resettlement of Pacux

*continued opposite*



Cristobal Osorio Sánchez, with his grandson.

Photo: Monti Aguirre

we are very confined. And he expressed sorrow for his grandchildren and great grandchildren. "They are the ones that are going to suffer even more," he said. "We did not used to be sad."

We can't have chickens and other animals here in the resettlement. Before, every family's house was 300 or 400 meters apart. Here we are all squashed together. It is going to be worse later – the children will grow up, there will be more people, and we will be poorer.

**WRR: Tell us what you are doing now.**

**COS:** In view of the needs and suffering caused by the dam, we formed the Peasant Association of the Community of Rio Negro Maya-Achí to address the development of our community and to seek reparations for the damages caused by the dam. We made lots of connections with legal groups here in Guatemala, other peasant and human rights organizations and with international groups. We know that we can't do this alone.

We are demanding that the World Bank, the Inter-American Development Bank and the government of Guatemala repair the damages. That is the objective of our organization. We demand that those banks send a commission to investigate the situation in our community, and personally assess our situation here.

We are preparing a study of the damages caused by the dam. This is a tool that we can use to arrive at a negotiation table with the World Bank, the Inter-American Development Bank, the INDE and the government.

**WRR: Don Cristóbal, what do reparations mean for you?**

**COS:** Reparations allows us to get back our dignity – respect for our culture and our rights. Reparations is be able to provide for our families and live well again, to develop projects to benefit the community, to increase capacity and intelligence of the people, to take advantage of things that are useful to all. For the people to be able to think, to feel good, to feel that there is a sense of future. To feel good about life.

Reparations means documenting the massacres. To remember brings us peace, with the knowledge that we have not abandoned the people who were massacred. Every year we have ceremonies to remember the death and what happened so this won't happen again. So our children won't let this happen again.

**WRR: What is your message to other people who are facing displacement by dams?**

**COS:** My recommendation is that they should stay firm working with their organizations and communities against govern-

ments or anyone who wants to trick them. The dam did not bring us any benefits. The dam brought us death, destruction and poverty. Perhaps if the World Bank and the governments would bring reparations to all the people that have been affected by the construction of dams, maybe an agreement could be reached. But, no, it is better that there is no more construction. It has brought us poverty. ■

## What Is IRN Doing?

IRN, along with international NGOs Rights Action Guatemala, Reform the World Bank-Italy and the Center for Political Ecology, is working with affected communities to document Chixoy's legacy of environmental degradation, resource alienation, poverty, and malnutrition. Affected people hope these efforts will encourage financial institutions and governments to take responsibility in the form of reparations and environmental restoration programs. Establishing legal and ethical precedents for reparations liabilities will help ensure that the mistakes made in the past are less likely to be repeated in the future.

**DOA** continued from page 3

River in the village of Temska, which is directly affected by a Serbian dam project.

In the Peten region in Guatemala, more than 500 people blocked highways running from the oil region in the north to the nation's capital. Participants obstructed traffic for over eight hours, demonstrating against a system of dams proposed for this biologically diverse and culturally rich area. Indigenous and campesino organizations demanded that all information about the projects be made public. Two of the demonstrators were shot and injured during a hit-and-run paramilitary style attack; at press time, the crime remained unresolved.

Farmers, indigenous peoples and local communities in Panama gathered to protest dam development on the Tabasara, Santa Maria, and Cobre rivers. They created a human chain blocking a bridge on the Cobre River that connects Panama to the rest of Central America. Participants chanted, "Do not build more dams, do not sell our rivers, do not take our lives."

In Northern California, IRN joined Friends of the River and over 100 members of the Hoopa and Yurok tribes to picket in front of the Northern California Power Agency.

The group chanted, "Please grant our wish, don't kill our fish," and called for support of a Trinity River restoration plan currently being challenged in court by the NCPA.

"I watch the river, dream of the river and in my dreams the river is always dying," said Laura Peters, member of the Hoopa Valley Tribe.

Many groups chose to hold informational events to raise awareness. Alianza Mexicana Por La Autodeterminacion De Los Pueblos along with the Farmers Against La Parota Dam hosted a public workshop to discuss the government's decision to build La Parota, a billion dollar hydroelectricity project in southern Guerrero state. This dam would flood 42,750 acres and 22 towns, displacing at least 25,000 inhabitants.

Ghana's Volta Basin Development Foundation organized 700 people affected by dams to attend a church service and march to the town of Akosombo and its nearby dam site, followed by an open forum. In South Africa, communities reported on reparations for those affected by Inanda Dam and celebrated the Mngeni River with a blessing ceremony.

## Celebrating Nature and Culture

Many groups turned to the arts or simply enjoying the company of a river to celebrate the day. Groups organized river excursions, treks through sacred canyons, art exhibitions, film festivals, and dramatic performances.

In Kunming, China, a "Rivers for Life" photo exhibition helped raise peoples' awareness of the importance of preserving natural rivers. Photos portrayed the biodiversity, ecology and communities along the Lancang-Mekong, Nu-Salween, Yuan-Red and Jinsha rivers, now targeted for a series of dams by the Chinese government

India's Environmental Support Group hosted an event to celebrate the Cauvery River through art; about 50 children used canvas, paper, cloth, clay, song, dance, stories and poetry to express their feelings about the river.

"Our common struggle is the only thing that guarantees the health of our rivers and respect for the people who depend on them," said Segundo Gelci Faggion, an organizer in Brazil's Rio Grande do Sul. "We hope you will stand with us in 2005 to demand 'Water For Life, Not For Death – Aguas Para a Vida, Não Para a Morte.'" ■



# A Culture Drowned

## Sudan Dam Will Submerge Historically Rich

by Ali Askouri

The Merowe Dam, proposed for the Nile in Northern Sudan, demonstrates how not to plan and build a dam in the post-World Commission on Dams era. This project appears to violate virtually all of the WCD's strategic priorities. It will displace more than 50,000 people (mainly small farmers living along the Nile, whose lives will never be the same), have far-reaching environmental consequences, and inundate a historically rich area. The dam's impacts are expected to be great, and yet any environmental impact studies have been kept secret. Project planning has been non-transparent, and people who will be directly affected by it have not had their voices heard. Dissent against controversial dam projects in Sudan has been met with harsh government repression, and this project is no exception.

The government maintains strict censorship on any news about local resistance to the project. But reports of incidents have leaked out through various channels. In one peaceful protest at Korgheli Village, for example, police dispersed men, women and children with tear gas and live bullets. Organizers were arrested, detained and tortured. In another incident, when 200 families were forced to resettle from riverside lands to the inhospitable Nubian Desert, Sudanese television showed government agents posing as affected people agreeing to move peacefully and receiving money as compensation. The reality is that eking out an existence in completely barren lands could mean the extinction of the Hamadab people.

The US\$2+ billion multipurpose project – a price which includes transmission lines, flood engineering works, the dam itself, and resettlement – is being financed mainly by Middle Eastern financial institutions. A Chinese firm is the main contractor on the dam, along with the French company Alstom, and the German firm Lahmeyer. The 60-meter-high dam is expected to have an installed capacity of up to 1,250MW, almost twice the nation's current total installed capacity.

Merowe would be the first dam on the mainstem of the Nile River in Sudan. The idea of building a dam at Merowe has been circulating in Sudan for more than 50 years. However, due to a combination of economic and political factors, it remained shelved until 1992, when it was exhumed by the gov-

ernment. At that time, the government hired a Canadian Consultant (Monenco) to carry out a project feasibility study. This study advocated building a 1,250 MW hydropower dam. The project was unable to attract funders at the time.

In August 1999, Sudan became an oil exporting country, and its newfound wealth helped its credit rating among financiers. Consequently the government was able to re-present the project for finance. To date an estimated \$1.3 billion – mainly from Middle East financial institutions – has been secured.

Sudanese civil society groups and individuals have for years argued that this project should be postponed until peace is achieved, human rights and democracy are restored, and the project's cultural, social and environmental impacts have been fully evaluated. Such critical scientific evaluation and assessment cannot be undertaken under the current authoritarian government.

### Social impacts

The project will necessitate the resettlement of more than 50,000 people, mainly small farmers living on the river banks. Some people are already being resettled, with poor results. In a petition addressed to the German firm Lahmeyer, Dr. Alfadil Mohammed Osman writes, "I belong to the Hamadab area. My people are now in the desert, except for those who were fit and moved to a shanty town on the outskirts of Khartoum. They have no water, no health services, no hope. It is a disastrous situation."

The original study by the Canadian consultants proposed that all affected people be resettled 250 km away from the riverbanks



into the midst of the Nubian Desert. The government at first accepted this proposal, but due to continuous campaigning by the affected people, this option has mostly been dropped, though not completely. The government is still considering resettling the people from the southern part of the affected area into the desert.

While not in the middle of the desert, the proposed resettlement sites are barren, windswept places with no groundwater supply – quite different from the villagers' current situation along the Nile. Soils in the resettlement area where one of the groups has already been moved has proven to be barren and infertile by soils laboratories in Sudan and the UK. In September 2003, a group of farmers returned from the resettlement site to their original villages when they realized the uselessness of the area for farming; the government met them with unprovoked violence, using live bullets against them and injuring many. They were forced to go back to the resettlement site by the police and security agents.

Resettlers are also expected to meet resistance by communities that are expected to host them. In northern Sudan, where the

# h Area, Destroy Nile Communities

land on the river bank is extremely scarce, a movement of a different group to a land owned by another community will no doubt trigger social unrest among those communities. Earlier experiences in Sudan attest to this.

The affected population has offered to negotiate over the years, but the government

has categorically refused to meet with their representatives.

Instead, the government opted to appoint its own agent to represent the affected people. The affected population has conditioned their acceptance for the project with three options for resettlement:

- Resettlement on the river bank in Northern Sudan

- Resettlement in central Sudan in one of the major agricultural schemes

- Resettlement in the same area on the outskirts of the reservoir.

The affected population also has stipulated that they should be moved to one place as a group in order to maintain the social fabric of their communities. Instead, the government divided affected people into three groups on a tribal basis and intends to resettle them into three separate areas separated by hundreds of kilometers.

Such imagined divisions, in fact, do not exist. All, three of the groups are of Arab descent, all are Muslims, and all have the same culture and mode of life. All are strongly linked by inter-marriage and there is no barrier of any type between them. However, the government has deliberately chosen to break the unity of the affected people, to facilitate its policy of divide and rule, by emphasizing minor tribal divisions.

The government's approach will inevitably lead to the disintegration of these communities, which have been living next to each other in harmony for hundreds of years. The government has categorically denied these communities any chance to discuss the issue of resettlement with each other.

Within the government bureaucracy, everything related to this project is decided solely by one man, the State Minister for Irrigation. Numerous calls have been made by the affected people and national organizations to ensure the participation of the

affected people in the resettlement process. Such calls have been categorically rejected, and the individuals or organizations that made them were suppressed and prosecuted.

When some of the affected people opted to take their grievances about compensation and resettlement to court, they were denied access to justice. This was immediately followed by prosecution where a number of these people were arrested, detained and tortured.

## Unhealthy Ecosystems

A health impact study for the dam, documented in the book *Dams and Disease* by William Jobin (1999), has identified 20 major negative health impacts that will result from the project. "Without considerable effort and expenditures, the overall health impact will be strongly negative," Jobin writes. The dam is expected to increase or introduce serious deadly diseases such as malaria, schistosomiasis, river blindness, Rift Valley Fever and AIDS.

The reservoir will also affect wildlife in the area. There is a sizable gazelle population living in the surrounding desert. No provision was made to study the effects of the reservoir on the gazelle population or other wild animals which call the desert home.

The effects of the dam on the downstream population have not been addressed, and were completely ignored. Thousands of small farmers living downstream will face

difficulty in irrigating their plots due to the reduced water level. The area behind the dam down to the southernmost reach of the reservoir of the Aswan High Dam will be deprived of the annual silt brought by the river floods. The magnitude of these effects has been totally ignored.

The ecological and climatic changes that will result due to the presence of this huge body of water have also been completely ignored. Without an Environmental Assessment Study, it is impossible to know what other environmental damage might occur.

## Drowning History

The area where the dam is located is one of the oldest areas in northern Sudan and has known human civilization since the dawn of history. According to the Sudanese National Corporation for Antiquities and Museums (NCAM), the project will destroy archeological sites both directly (through engineering and construction works) and indirectly, through environmental changes in the region. NCAM states that the affected area runs for about 170 km on both banks of the Nile, and associated islands. According to the Merowe Salvage Project website, "Very little archaeological work has ever been undertaken in this region but what has indicates the richness and diversity of human settlement from the Palaeolithic period onwards."

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ert resettlement  
proposed by  
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area to be covered  
the reservoir

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## What You Can Do

More efforts are needed to bring pressure on the government to postpone the dam until peace and democracy have been restored and all alternatives for power have been exhausted. Two European companies are playing a key role in this project. Write them, asking them to postpone any further involvement until the project can be evaluated for human rights, environmental and cultural-heritage impacts. Remind them that this project violates international standards on human rights, resettlement, environmental assessment and cultural protection, including those of the UN, World Bank and others. It is also not in compliance with the strategic priorities and core values of the World Commission on Dams. Tell them that this project should not move forward until the dam-affected people have given their free, prior-informed consent to the project, and are allowed to share in its benefits.

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# China Takes a Great Leap Forward in Sustainable Energy Supply

by Doris Shen-Hoover

**W**hat do China's next generation of refrigerators, light bulbs and scooters have in common? All of these seemingly mundane products, and the local leaders who are implementing efficiency improvements to them, are playing a big role in helping China move toward a more sustainable future.

Take, for example, China's refrigerator industry, the largest in the world. As such, it has historically contributed a significant share of ozone-depleting chlorofluorocarbons (CFCs) into the environment, and produced inefficient appliances that used more energy than was necessary. The CFC-Free Energy-Efficient Refrigerator Project is using market-oriented measures for manufacturers and consumers to encourage the production and consumption of CFC-free energy-efficient refrigerators. It is expected to reduce greenhouse gas emissions from China by a total of over 100 million tons of carbon dioxide over the 15-year lifetime of the new refrigerators. Because 75-80% of China's electricity is generated by dirty coal-burning plants, the project will also lead to reduced emissions of other air pollutants.

"Refrigerator production in China jumped from 1.4 million units in 1985 to 10.6 million in 1998," says David Fridley, an energy researcher in the California-based Lawrence Berkeley Lab, and manager of the refrigerator project. "In 1985, only 7% of urban households had refrigerators. By 1998, 76% had them, a 21% annual growth rate." Prior to the launch of the efficient refrigerator project, he notes, China's refrigerators were using about 66% more energy than they needed to: at the time, the average Chinese refrigerator used 2.5 kilowatt-hours per liter of volume per year, compared to 1.5 kWh per liter for European refrigerators. Today, however, the project has helped launch a boom in efficient refrigerators. Currently, the best models in the Chinese market consume about 1 kWh/liter of volume per year, and about half of the 220 liter refrigerators being sold in China are considered "energy efficient."

## Green Lighting

In addition to refrigerators, China is the world's largest lighting products producer, with output reaching 7.4 billion light bulbs in



A PV-powered school in Beijing.

Photo: Debra Lew/NREL

2001, including 1.3 billion fluorescent ones. But because of the low prices of incandescent lamps, most Chinese families were choosing to use the inefficient incandescent bulbs.

With subsidies from local governments and international organizations such as the Global Environment Fund and UN Development Programme, the Demand Side Management Green Lighting Project is promoting energy savings at a time when the nation is facing an ever-growing energy crunch. The project helps consumers buy and use comparatively expensive energy-saving fluorescent lamps rather than incandescents. Trials are being conducted in seven major cities, including Shanghai, Beijing and Nanjing.

China has a huge need for such efficiency measures. The nation has been experiencing power shortages in many of its major urban areas for the past two years. With Chinese demand for energy soaring, government officials are working to add 30 gigawatts of power generation in the coming year. In Shanghai, China's largest city, the electricity demand was expected to reach 12.8 million kilowatts this winter, leaving a shortage of two million kilowatts. Facing the shortage, China has promised to give priority to power supply for daily use, in residential quarters and schools.

In Shanghai, lighting accounts for 10% of the city's total electricity consumption. A recent survey in the city shows that 45% of lamps used in Shanghai are incandescent and another 15% are non-energy-saving fluorescent ones.

"By 2010, if we could replace 20 million incandescent lamps with energy-saving fluorescent ones in Shanghai, it would save US\$50 million in new power station construction," said Chen Jinhai, director in charge of energy-saving and environmental protection under the Shanghai Economic Commission.

## Why Now?

As a developing country, China is not bound by the Kyoto Protocol on greenhouse gas emissions. But because of its large population and reliance on coal, China is the world's second-largest producer of greenhouse gases. Its cities have daunting urban air pollution problems, and health impacts from that pollution are increasingly costly. According to Doug Ogden, director of the China sustainable energy program, the central government is seriously looking at its longterm development and is very concerned about the quality of air, growing oil dependence and energy shortages.

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## For More Information

NREL's work in China:  
[www.nrel.gov/china](http://www.nrel.gov/china)

NRDC's China Clean Energy Program:  
<http://www.nrdc.org/air/energy/china/>

Lawrence Berkeley National Lab's  
Water and Technology team:  
<http://water-energy.lbl.gov/>

Wind power in China:  
<http://www.pnl.gov/china/ChinaWnd.htm>

Since the 1990s, the Chinese government has given greater emphasis and support for environmental protection, sustainable development, and renewable energy. The government expanded support for small hydropower, wind power, solar energy, and biomass technologies. Instead of supply subsidies, the government began to give more support to tax reduction or exemptions for technology, preferential pricing, and credit guarantees.

Chinese leaders hope to change the nation's course, and are now developing a national renewable energy policy (expected in 2005) that is intended to double the amount of electricity produced by renewables such as wind and solar. (Without such programs, China could overtake the United States as the world's leading greenhouse gas emitter by 2030, according to some estimates.) The policy's efforts to support renewable energy development will include a "renewable portfolio standard" that mandates utilities to buy a certain amount of electricity generated from renewable energy sources. The policy is also expected to mandate that buildings built with public funds must use solar water heaters, geothermal heat pumps, and environmentally minded designs.

The news that China is developing a renewable energy plan is exciting, and many hope it will lead the nation to finally tap its huge wind-energy potential, one of its greatest underutilized resources. China is already the world's largest manufacturer of small wind turbines, with roughly 170,000 small turbines installed in rural areas, totaling 42 megawatts of capacity. But it has only a few hundred megawatts of wind power installed to power its national grid, which is quite a tiny percentage of its wind potential. According to a 2001 article by two US Department of Energy experts, "If China develops even one-half of its conservatively estimated wind resources, it could generate about 275 billion kilowatt-hours of power each year – about one-fifth the country's cur-

rent demand – displacing the need for 125 million tons of coal and the accompanying two million tons of sulfur dioxide and 65 million tons of carbon emission." The authors note that "technical, commercial, and regulatory barriers restrain expansion of wind power in China" and believe that costs could be lowered by "extensive manufacture of large, high-quality turbines in China."

### Village Power

The Township Electrification Program *Song dian dao xiang* ("sending energy to the townships") is possibly China's most ambitious renewable energy program to date. Committed to using renewable sources of energy for power production, the program focuses on providing electricity to residents in villages that are far from the main grid.

Launched in 2001, the program goal was to establish 1,000 village power systems based on renewable energy in less than two years. Seven hundred townships without access to electricity have been outfitted with photovoltaic (PV) systems or, for those with adequate wind resources, PV-wind systems. The remaining townships were fitted with small hydro systems. Each system was installed with a mini-grid to distribute power to nearby homes and businesses in the township seat, with enough capacity to supply basic needs such as lighting, television and public facilities.

Few residents of the townships have ever worked with electricity before this program. However, technical and economic realities will require that technicians be fully responsible for operating and maintaining these new systems. Therefore, the training and certification process is vital to the success of

these energy systems. Beijing Jikedian Renewable Energy Development Center, together with the US government's National Renewable Energy Lab (NREL), the Institute for Sustainable Power, the German Technical Co-operation (GTZ), the UNDP, and other groups will support, develop and implement the instruction of local trainers and service engineers at the national level. The local trainers will then carry out training courses in seven provinces of the program, training at least two village operators per township – about 1,400 village operators altogether.

Currently, these renewable energy systems are limited to meeting basic lighting and communication needs. They have not necessarily taken advantage of the potential that electricity has to provide income-generating opportunities. The ability to do so will require larger systems that could include PV-wind, biomass power, micro-hydro or PV-diesel systems. This is why it is so important to incorporate the villagers' needs and ability to pay into system design. Project implementers are realizing that consulting with village representatives should be a first step in system design.

Taken together, all of these measures have contributed positively to China's renewable energy future, says Jean Ku, China Project Leader for NREL. Ku hopes that ultimately, with proper government policies and market opportunities, industry and the private sector will be able to further expand and open markets for renewable technology and services. China is the world's largest market for goods and services, which makes it increasingly promising that shifts towards sustainable products in this region could truly change the world. ■

## All Vroom and No Fumes

In addition to China's coal-fired air pollution, the nation's growing love affair with personal vehicles are increasingly harming air quality in China's biggest cities. The Natural Resources Defense Council (NRDC) notes that the number of vehicles in China is growing at about 15% per year. The group is working with the government of Shanghai to bring clean fuel-cell powered scooters to market; the program is set to begin selling the scooters next year.

The new scooter, which can travel 60 miles on a single hydrogen canister, look no different than a typical two-wheeler (which are normally powered by highly polluting 2-stroke engines), but these

new green machines will be virtually non-polluting. The presence of these vehicles in China is revolutionary. Wide-spread use of fuel-cell vehicles would greatly improve China's poor urban air quality, and urban dwellers' health. With support from NRDC, the Shanghai Municipal People's Government backed a partnership between Chinese manufacturers and Canada's Palcan Fuel Cells Ltd. to manufacture the scooters, which are powered by a two-kilowatt fuel cell which will use no oil and discharge water vapor as its only exhaust. Compare this to the standard 2-stroke engine, which emits 10-20 times the hydrocarbons of a typical car.

## A BETTER WAY

**KENYA:** With financial help from the World Bank and other international donors, Kenya's main utility will double its geothermal energy production by adding up to 70 megawatts in new geothermal wells in the next three years. The move marks a shift from hydropower to renewable geothermal power for the country. "We believe our hydro capacity is limited while our geothermal capacity stands at 2,000 MW," the managing director of Kenya Electricity Generating Company (KenGen) told the *Financial Standard* (Nairobi).

KenGen plans to drill nine new wells, at a cost of US\$60 million. According to the *Financial Standard*, the World Bank has set aside \$125 million to jump-start stalled geothermal projects. Kenya has plans to add another 576 MW of geothermal plants to its grid by 2019, according to experts working in the region.

A recent article in the *EastAfrican Standard* stated that "During the drought of 1998-2000 that crippled Kenya's hydropower plants, geothermal came to the rescue with the country's two geothermal power plants offering continuous base-load power ... unaffected by the prevailing weather. In Kenya's case, geothermal is also one of the lowest-cost sources of power supply." The article states that geothermal already accounts for 10% of the nation's installed electricity capacity.

**WAVE POWER:** The power of ocean waves is estimated to be 2-3 million megawatts, but wave energy is still in its infancy compared to other renewables. Recent pilot projects and technological improvements may help convince governments to catch the wave for this clean energy source, however.

The world's first offshore wave power station was placed off the coast of Cornwall, England last year, and now a regional utility is looking into building a field of wave-power devices, to be linked to shore with underwater cables. A study will look at the viability of a "wave hub" as part of the UK's plans to increase the percent of its power supply that comes from renewables. If the results are positive, the Wave Hub could be positioned about nine miles off the north Cornwall coast in two years' time.

An Irish company is also working to refine the Wavebob, a high-powered wave device similar in design to a heaving buoy which produces energy by moving up and down with the waves. An array of around 200 devices, each generating around 1MW, could be deployed far out in the North Atlantic in a similar way to an offshore wind farm, according to Wavebob managing director William Dick. This would generate much more electricity than shore-based or near-shore devices. "Much less power is available inshore because waves lose energy as they enter shallow water," he said. "Our aim is to develop a device that produces power at least as well as an offshore wind turbine, and we think we are within that envelope."

And Ocean Power Technologies (OPT), a wave power firm based in the US, has announced that it has entered into a deal with Spanish electricity utility Iberdrola to build a pilot wave power project off the north coast of Spain. The project will initially generate a total of 1.25 megawatts. OPT has a similar pilot project in Hawaii. The pilot project will consist of 10 buoys that will be anchored to the ocean floor and extend to just beneath the water's surface. OPT plans on replacing the buoys used in the pilot project with its larger, 500-kilowatt "PowerBouys" by 2006. The company claims that once the wave power station is upgraded with the PowerBouys it will have a production capacity of 100 megawatts and operate at a cost of 3-4 cents per kilowatt-hour. *Elizabeth Sabel*

**SOLAR:** In a new twist on clean energy, a Canadian laundromat has reduced its energy use through solar panels and efficiency measures. Alex Winch, owner of the Beach Solar Laundromat in Toronto, has turned his establishment into a green business by installing solar thermal panels on the roof, which reduced the building's natural gas consumption by 30% per load of laundry, and installing more energy-efficient fluorescent lighting, which lowered his lighting costs by C\$650 a year. An oil-fired boiler was also replaced with a heat exchanger, which draws thermal energy from the solar panels and a natural gas boiler to heat the building. The energy changes have reduced the shop's greenhouse gas emissions by an estimated



The Beach Solar Laundromat.

Photo: Corey Diamond

118 tons per year. Winch states his revenues have doubled as a result of these changes.

The Beach Solar Laundromat is part of Toronto's Cool Shops program, a project created by the local non-profit organization Greenest City to help small business owners reduce energy consumption. Business owners participating in the Cool Shops program receive a free energy audit followed by energy savings recommendations tailored to the individual owner's needs. For more information on the Cool Shops program see [www.coolshops.ca](http://www.coolshops.ca) *Elizabeth Sabel*

## UPDATES

**INDIA:** According to the leading daily newspaper in Gujarat state, a group known as Save Narmada Waters intended to burn effigies of Medha Patkar and Arundhati Roy, both outspoken critics of the Sardar Sarovar Project on the Narmada River, on March 6 in Mumbai. The protest was to take place on the day of the Holi festival, which is the symbolic celebration of burning the "evil one" so that goodness may prevail. The organization's secretary called it "a surprise program" to prevent police from trying to halt the demonstration. It is not known whether the demonstration took place. The newspaper article stated that the effigies would be "burned completely" and, "after a prayer for the peace of their souls, the ash will be drowned in the sea so that it reaches their foreign agents."

While the dam is already partly built, those who planned the demonstration say they are angered by delays in taking the dam to its full height. Last May, Indian authorities approved raising the level of the dam by five meters, to 100 meters; this puts 12,000 more people at risk of flooding by the reservoir during the monsoon. The government of Madhya Pradesh has said it does not have enough land to resettle the 33,000 families it

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## News Briefs continued

must relocate for the dam, and activists have pressed for delays in construction until oustees can be properly resettled. Now the Gujarat government is pressing for the height to go up to 110m before the next monsoon starts (late June) despite project authorities' failure to resettle even families affected by the last height increase.

**CANADA:** Hydro-Quebec, the state-owned energy company of Quebec province, will spend an estimated US\$2.6 billion over the next five years to add more than 2,000 megawatts of new capacity, more than half of which will be from hydropower. The company, which already has more than 30,000 MW of hydropower capacity online, is eyeing the profitable US market for exports of some of its power.

Large hydropower projects now under construction by Hydro-Quebec include the 220 MW Grand-Mere (expected to enter service later this year), the 526 MW Toulnois-tou (2005), the 51 MW Mercier (2005-6),

and the 480 MW Eastmain 1 (2007). The proposed 770 MW Eastmain 1A/Rupert would follow these projects.

The Eastmain/Rupert river system made Canada's "10 most endangered rivers" list last year (see [www.endangeredrivers.net](http://www.endangeredrivers.net)). "Hydro-Quebec's ill-conceived expansion plans for the Rupert and Eastmain Rivers represent the Jurassic approach to our energy future," says environmental lawyer David Boyd, who is on the board of the endangered rivers project. "Reams of contemporary scientific evidence proves that the environmental, social, and economic costs of such energy megaprojects are too high. Instead of choking magnificent rivers to increase supply, Hydro Quebec should be aggressively investing in demand management."

**BRAZIL:** Recent outbreaks of piranha attacks on swimmers in Brazilian rivers may have been caused by damming of rivers, the BBC reports. Piranha numbers have increased in dammed rivers because the fish favor slow stretches of water for breeding, and other

ecological changes caused by damming.

"It's a direct consequence of damming, which creates ideal conditions for the piranha population to rise," Professor Ivan Sazima, a zoologist at the Universidade Estadual de Campinas in Sao Paulo, Brazil, told the BBC. He says damming may cause as much as a ten-fold increase in piranha numbers.

Piranhas lay their larvae in water weeds such as water hyacinth, which collects in slow-moving rivers. Undammed rivers sweep away this vegetation during flood season.

One recent outbreak occurred in the town of Santa Cruz of Conceicao, whose main river is the Mogi Guacu. The town never had piranha attacks until a dam was built four years ago. Since then, 38 piranha attacks have been recorded.

Two more outbreaks were recorded at the towns of Itapui and Iacanga, close to dams on the Tiete River in southeastern Brazil. Over 50 attacks were recorded over two weeks at the sites. Neither of the towns previously reported a high frequency of injuries from piranhas. ■

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## Yacyreta continued from page 1

Frutos, respectively – met to discuss the Yacyretá project. While Kirchner called Yacyretá "a photograph of how you should not do things," and Duarte Frutos assured that "both governments will prioritize the social aspects of the project," in the end, the presidents announced their joint intention to complete the project. Following the pattern of prioritizing engineering works before social and environmental mitigation plans are in place, the presidents invited bids to construct new protection dikes, a prerequisite for raising the reservoir level, while money for mitigation plans remains unavailable.

In response to the presidential announcement, a coalition of Argentine and Paraguayan environmental groups sent a letter to their presidents asking them to reconsider the decision. "The economic gain that will be obtained by the generation of a greater amount of energy does not compensate for the immense loss that thousands of families will suffer, nor for that which the Paraná river and its associated ecosystems, which have already been seriously modified by Itaipú and Yacyretá dams, will suffer forever," they said in a letter to the presidents.

Elias Diaz Peña of Sobrevivencia – Friends of the Earth Paraguay placed the presidents' declaration in perspective: "This is not the first time that the presidents of Argentina and Paraguay have stated their determination to finish the project. The problem is that raising the reservoir level will directly

affect an additional 50,000 people, and EBY has been shown to be incompetent and unwilling to fairly compensate these families for their losses."

## Monumental Corruption

Although the World Bank Inspection Panel report dodged the issue, Yacyretá's sordid history of corruption has arisen again as well. New charges have been leveled by local officials, public attorneys and others of compensation payments paid to people who were not affected by the dam, salaries paid by EBY to fictitious workers, and collusion between government officials and international consultants to pad expenses.

The notoriously corrupt project, conceived and constructed principally under military dictatorships, was called "a monument to corruption" by then-presidential candidate Carlos Menem during its early days. Now, it is recognized as one of the most crooked dam projects ever built, and its budget has ballooned from \$2.3 billion when construction began to over \$14 billion today.

Paraguay's new president Duarte Frutos has announced he wants the help of international agencies to investigate corruption surrounding Yacyretá. It is hard to explain how the World Bank and Inter-American Development Bank, who bear responsibility for monitoring the project, have failed to encounter the trail of corruption. The World Bank gave a green light to the Yacyretá project less than a year after a military coup

overthrew Argentina's democratically elected government. Under loan contracts, the Bank had to approve all contracts with consultants and construction companies. Between 1976 and 1983, under military rule, Argentina's foreign debt ballooned from \$8.3 billion to \$44.5 billion.

The incalculable damage to the Paraná river environment from the dam includes the possibility that water from Yacyretá reservoir is seeping into the Iberá wetlands, a hot spot of biodiversity, adversely affecting wildlife (see *WRR*, August 2003). EBY, under pressure from local officials and environmental NGOs, has now agreed to consider contracting an independent reviewer to evaluate the situation.

Yacyretá remains a nightmare for the 80,000 Paraguayans and Argentines who face the loss of their homes and livelihoods as a result of the dam; and an embarrassment for the World Bank and Inter-American Development Bank, who financed and managed the project for the past 25 years. Everyone agrees that leaving the fate of Yacyretá in limbo is not the answer. According to Elias Diaz Peña of Sobrevivencia, "The reservoir must be permanently frozen at the 76m level so that the social and environmental problems Yacyretá has caused may be solved. EBY should invest in programs, with participation of communities, to restore riverine ecosystems, revitalize towns and cities in the region, and reactivate depressed local economies with sustainable alternatives." ■

# Group Works to Right Wrongs at Kariba Dam

by Basilwizi Trust

**T**he Kariba Dam on the Zambezi River is one of Africa's largest dams, and one with a particularly sorry legacy for those forced to make way for it. Just miles from the huge reservoir in the Zambezi Valley live several tribes who are among the poorest, most remote and least developed in the country. Their predicament is largely attributed to their forced removal from their riverside communities in the late 1950s for the construction of Kariba. For almost 50 years, they have lived in isolation and with few significant development initiatives.

At least 57,000 Tonga people living along both sides of the river were moved for the dam. These people were not compensated for their removal and have never directly benefited from the project. Their lives have been dramatically changed by the harsh environment of the resettlement areas. Their new places are marred by low and erratic rainfall, poor soils and tsetse fly infestations.

Kariba's resettlement process has been called a "poorly conceived and trauma-ridden crash program" by experts familiar with the case. A report on Kariba by the World Commission on Dams (WCD) notes, "It was reported that the people to be resettled 'were treated like animals or things rounded up and packed in lorries' to be moved to their new destination ... The racist attitude of the time did not consider the resettlement of

Africans as a problem." The dam's poor record of resettlement left a huge black mark on the project, which has never been adequately addressed by the parties responsible for building the dam. The colonial and post independence governments and the major funders and beneficiaries of the dam have especially neglected the relocated people on the Zimbabwean side of the reservoir.

Basilwizi Trust is an NGO in Zimbabwe committed to building the capacity of the people affected by Kariba Dam to help them change the conditions under which they live. We work towards empowering these communities – men and women, young and old, abled and disabled – with knowledge and resources required to enhance their self-reliance and self-determination.

## Telling their Story

Scores of people who experienced the inhuman displacement are still alive today and still narrate the story. Between 1957-1962 the entire population that lived along the Zambezi River was resettled onto the rocky and infertile plateaus on either side of the Zambezi River to make way for the Kariba Dam and its reservoir. About 23,000 people on Zimbabwean side and 34,000 on Zambian side were relocated by the Kariba Dam. These figures could be a major underestimate, as they were derived from a census five years before the flooding. Some have suggested the figure of displaced persons could be more than 100,000.

As with many other large dam projects, more attention was given to the technical feasibility and national economic gains than to the well-being of displaced people. Families were separated. Homes, livelihoods, and traditions were lost to the reservoir. According to the WCD report, about 57% of the land swallowed by the reservoir was arable land, previously owned by the Tonga people.

In Zimbabwe, dam-displaced people were moved into areas where crop production was very difficult due to low rainfall, poor soils and destruction by wild animals. At the time of the move, the then government promised that it would provide water and other social services. To date, little has been done to address these issues.

Today, the traumatic experiences of their forced relocation still grips the communities and the sad story of their inhuman relocation has been passed from one generation to the other. However, this does not imply that absolutely nothing has been done for the peo-

ple in the Zambezi Valley. The post independence government, through the local authorities and other government departments in the districts, has made some developmental inroads in these areas. However, these fall far short of mitigating the dam-induced problems that the communities still face.

## Laying a Case for Reparations

In 1994 a Catholic priest named Father Mike Tremel, who was stationed in Binga among the relocated people, wrote a book on the experiences of the Tonga people and their forced removal from the Zambezi River. His book, *The People of the Great River*, revived the memories of the Tonga and revealed the socio-economic conditions the people are still experiencing because of the relocation. This was the first step toward uniting the Tonga around the issue.

In 1996 the Zambezi River Authority (ZRA) – a bi-national governmental body created to develop and administer the Kariba Dam and reservoir – acknowledged the need for reparations. While not accepting any liability for the forced relocation, the ZRA recognised that the resettlement did not take cognisance of the needs and concerns of the affected people, and that insufficient time and resources were made available for the massive relocation exercise. ZRA further acknowledged that compensation was not provided (the case of those displaced in Zimbabwe) or was grossly insufficient (the case of those displaced in Zambia).

On the basis of its own assessment of the chronic problems in the Zambezi Valley, the ZRA established the Zambezi Valley Development Fund (ZVDF) in 2000, and made recommendations to both the Zambian and Zimbabwean governments for the implementation of development projects to address basic needs in the region.

However, the funds raised by ZRA have been grossly inadequate compared to the development needs of the communities. To date, only a few grinding mills have been provided from monies raised through golf tournaments and the sale of books and videos. Tarriffs on water usage and electricity generated by the dam – originally meant to form part of benefit sharing with the local communities – have never been implemented.

Moreover, although genuinely sympathetic to the Tonga plight, the ZRA did not have the mandate of the affected peoples, and effectively excluded them from the

*continued opposite*

## Reparations By Any Other Name...

The World Bank was the largest single financial supporter of Kariba Dam. Today, with increased attention on the legacy of large dams it has funded, the Bank has at least begun to acknowledge the problems on this particular case. Though it is not called such, the World Bank has provided reparations of a sort to dam-affected people on the Zambian side of Kariba in the form of the Gwembe-Tonga Development Project. This on-going project is aimed at mitigating the impacts of displacement through the provision of water infrastructure, clinics, electricity, roads, and agricultural development – all of which would also be welcomed on the Zimbabwean side of the reservoir.

Ryan Hoover



Forcible resettlement underway for Kariba.

advocacy processes. As a result, the ZRA efforts died a natural death without achieving any meaningful results in Zimbabwe.

The study conducted by the WCD among the affected communities also inspired the Tonga to take up the challenge. The WCD report provides invaluable insights into the social and ecological impact of the Kariba Dam in Zambia and Zimbabwe. (See [www.dams.org](http://www.dams.org) for the case study.)

The study conducted by ZRA and its failure to spearhead the issue of reparations, coupled with the WCD study, inspired the Tonga in 2002 to form their own organization that would represent them effectively. Then Basilwizi Trust was formed. Basilwizi is a Tonga word meaning "People of the Great River."

Basilwizi Trust believes that the affected people should take the lead in the advocacy process and Basilwizi should act as facilitator for empowering the people through training in advocacy and lobby skills, negotiation and conflict management skills which are all key to the success of the reparations issue.

Firstly, empowerment through advocacy and lobby skills is crucial to enable them to determine their own destiny by influencing

decisions and national practices that have a bearing on them, and also have control over their resources for the development of the Valley. This is being done through Basilwizi's Advocacy & Lobby Programme. Secondly, we work to enhance the capacity of local communities to meet their basic material needs like economic justice, food security, water, etc., through the Commu-

nity Development Programme. The group's objectives include the following:

- Secure reparations in the form of sustainable development programmes/projects for the people who were displaced by the Kariba Dam;
- Assist beneficiaries to improve their economic well-being through people-centered projects, and by helping them utilize and control their natural resources;
- Promote the cultural development of the beneficiaries;
- Improve the quality of education of the beneficiaries by providing modern education infrastructure and services;
- Provide an education fund for professional training of the beneficiaries.

Our Advocacy & Lobbying Programme is working to obtain national and international recognition of the fundamental injustice of the project's forced relocation, and of its continued negative impact on the livelihoods of the affected peoples; to empower affected people to successfully advocate for developmental changes in their areas, and to press for legislation and policies which ensure that the affected peoples have access

to, and benefit from, the resources generated by the Kariba Dam.

For Basilwizi to accomplish these objectives, it has to advocate from a well-informed position in as far as the Kariba Dam Project is concerned and all the facts that are needed to convince the national government and the international stakeholders like the World Bank. To accomplish this, Basilwizi commissioned a desk study in late 2003. This study analyzed the legal implications of the relocation process and also the socio-economic impacts of the displacement on the people. We are now following up with a Field Study to collect primary data from affected communities. The Field Study should be complete by May and then the lobby process will begin.

### The Education Programme

Basilwizi promotes the empowerment of the beneficiaries by providing access to education through sponsorships for both formal and non-formal education. The Programme provides scholarships to disadvantaged children, orphans and those from low-income families.

The communities affected by the Kariba Dam are among the poorest in the country, hence they cannot afford to send their children to school. Illiteracy has been always one issue that even delayed the process of advocating for the reparations because it was not until the 1990s that the first university graduates emerged among the Tonga people. Before that, educated people among the Tonga were very few. Thus, Basilwizi would like to overcome this problem by assisting as many children as possible. Schools are very few among the resettled people. This has led to many Tonga lacking formal education as they have to travel long distances to schools and in some cases outside their districts. ■

### Sudan continued from page 9

An internal memo by NCAM states: "Over the last 13 years a number of excavation campaigns were conducted by various international archaeological experts, including UNESCO. These activities have thrown more light on the archaeological potential of the region and resulted in the recording of hundreds of sites. They consist of cemeteries and tombs, rock drawings, remains of settlements, and monumental fortress of the medieval period."

In conclusion, the Merowe Dam project was proposed, designed and implemented by an influential group within the military government of Sudan to serve its own purposes in

monopolizing the electricity sector (now being privatized). Two leading European companies – Lahmeyer of Germany and Alstom of France, which has a 250 million Euro contract for equipment on the project – are playing major roles in the construction of this project, turning a blind eye to the fact that internationally accepted standards on human rights, resettlement and the environment have been ignored.

A group of activists from the affected people supported by the Sudanese civil society organizations are calling for the postponement of the project until it has been subjected to rigorous scrutiny and its effects

on both people and the environment have been thoroughly investigated and assessed. The project design needs to be upgraded to match internationally accepted standards such as the World Commission on Dams. An overall updated review of the project's most troubling components by an internationally reputable firm to review the work done since 1992, especially in light of the findings of the WCD, is of vital and critical importance. ■

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