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Photo: Patrick McCully

The Sardar Sarovar Dam under construction.

## The Greater Common Good

**Editor's Note:** As we went to press, monsoon-swollen waters backing up behind the Sardar Sarovar Dam had risen to just a few meters from the lowest houses behind the dam. Villagers and protesters in these houses ready to drown rather than be forcibly resettled. Thousands of people in the Narmada Valley and all over India have been holding marches, rallies and hunger strikes over the past few months to protest the dam. The New Delhi Supreme Court lifted a four-year-old stay on construction of the dam in February. The following article made waves all over India when it appeared in national magazines earlier in the year. Herein we reprint an excerpt.

by Arundhati Roy

I stood on a hill and laughed out loud.

I had crossed the Narmada by boat and climbed the headland on the opposite bank from where I could see, ranged across the crowns of low hills, the tribal hamlets of Sikka, Surung, Neemgavan and Domkhedi. I could see their airy, fragile homes. I could see their fields and the forests behind them. I could see little children with littler goats scuttling across the landscape like motorised peanuts. I knew I was looking at a civilisation older than Hinduism, slated – sanctioned (by the highest court in the land) – to be drowned this

monsoon when the waters of the Sardar Sarovar reservoir will rise to submerge it.

Why did I laugh?

Because I suddenly remembered the tender concern with which the Supreme Court judges in Delhi (before vacating the legal stay on further construction of the Sardar Sarovar dam) had enquired whether tribal children in the resettlement colonies would have children's parks to play in. The lawyers representing the government had hastened to assure them that indeed they would, and, what's more, that there were seesaws and slides and swings in every park. I looked up

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**F**or over half a century we've believed that Big Dams would deliver the people of India from hunger and poverty. The opposite has happened. Big Dams have pushed the country to the brink of a political and ecological emergency. They have uprooted 40 million people, most of them Tribal and Dalit, from their forests and rivers, from lands and homes where they and their ancestors have lived for thousands of years. They have lost everything. Everything. It is their children that you see begging on the streets. It is they and their children who pay our food and electricity bills.

Not a single Big Dam in India has delivered what it promised. Not the power, not the irrigation, not the flood control, not the drought-proofing. Instead, Big Dams have converted huge tracts of agricultural land into water-logged salt wastelands, submerged hundreds of thousands of hectares of prime forest, and pushed the country deep into debt.

The era of Big Dams is over. All over the world they are being recognized as technological disasters. As Big Mistakes. Yet in India, our government refuses to review the situation.

In February 1999, after a four-year stay, the Supreme Court allowed the construction of the Sardar Sarovar Dam to continue – even though every single one of its claimed benefits is scientifically questionable. It's true that Rs.7,500 crores (US\$1.74 billion) has been spent on the project already. However, studies say that to complete it as planned would cost the Indian public an additional Rs.35,000 crores (US\$8.14 billion). If it is completed, according to the NGO Narmada Bachao Andolan, it will uproot almost half a million people. So far, only 25 percent of the submergence has taken place. If we act now, we can still save 300,000 people from certain destitution. We can still save Rs.35,000 crores of public money and put it to better use. (It could probably finance far more effective local water harvesting schemes for every single village in India).

This monsoon, when the reservoir of the Sardar Sarovar Dam fills, 12,000 tribal people from 60 villages will lose their lands and homes permanently.

Despite everything project authorities say, the truth is that these people have nowhere to go.

Can we, as citizens, look away while people are being driven from their homes?

As the century comes to a close, it's time to own up to our mistakes. Time to say "No" to these massive, obsolete, human-crunching, money-guzzling, technological disasters. Time to learn to step lightly on the earth. Time to insist on Hope. For our own sake, for the sake of our children, for the sake of the planet we live on, let's begin by saying "No" to the Sardar Sarovar Dam, "No" to the dams on the Narmada.

Arundhati Roy

## Update on the Narmada River Struggle

**A**s we went to press, hundreds of activists and journalists from around India and abroad were gathering in Delhi to begin a week-long trip to the Narmada Valley. This "Rally for the Valley," organized by the "Free the Narmada" campaign initiated by author Arundhati Roy, will visit the villages at the core of the struggle against the Maheshwar and Sardar Sarovar dams. To coincide with the rally, International Rivers Network is organizing protest vigils at the Indian Embassy in Washington, DC, and the Indian consulate in San Francisco.

Roy's high-profile involvement in the Narmada struggle has provoked a fierce backlash from pro-dam political parties in Gujarat. Threats have been made to "stop" the Rally for the Valley, and the youth wing of the Congress opposition party in Gujarat in July organized public burnings of Roy's book *The Greater Common Good* (from which our cover story is extracted). This group also threatened to demonstrate against any book stores in the state which sell her "irresponsible, anti-development and anti-Gujarat books." Not to be outdone in their pro-dam passion, the youth wing of the state's ruling party, the BJP, have declared they will publicly burn effigies of Roy. Earlier, the Rotary Club in Gujarat's largest city, Ahmedabad, withdrew an invitation for Roy to speak due to the threat of violence from dam supporters.

Roy and leading NBA activists are also facing possible prison sentences for contempt of court. At a July 22 hearing on the NBA's comprehensive case against the Sardar Sarovar Dam, the New Delhi Supreme Court warned that remarks made by Roy and the NBA "undermine the dignity of the court and influence the course of justice." The Court was to rule again on the matter just after we went to press.

Patrick McCully

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International Rivers Network is an affiliate organization of Friends of the Earth International.

# NGO Threatens UK Government with Legal Action Over Turkish Dam

by Tony Juniper

**F**riends of the Earth in London is presently locked in a battle with the UK's Export Credit Guarantee Department (ECGD) over that agency's consideration of £200 million in support for the controversial Ilisu Dam in southern Turkey. The group has threatened to take the government to court over its refusal to respect the nation's freedom of information laws.

If built, the Ilisu Dam will forcibly remove up to 20,000 Kurds from their homes. No public consultation has taken place, not least because a civil war has raged in this area for years. Most people will receive no compensation and be resettled in the slums of Turkey's larger cities. Hasankeyf, one of the oldest human settlements in the world, will be destroyed, even though it received "protection" from the Turkish government in 1978.

The proposed dam would give Turkey more control over the Tigris River, upon which Iraq and Syria depend for fresh water. Turkey has refused to sign a UN Convention aimed at preventing wars between nations that share water resources. Water is one of the most precious natural resources in the region, with northern Iraq presently trapped in the depths of the worst drought in living memory. Both Baghdad and Damascus have complained about the amount of water they have been getting since the completion of the first Turkish dams in the 1990s.

**"Water is a weapon. We can stop the flow of water into Syria and Iraq for up to eight months without overflowing our dams, in order to regulate the Arab's political behavior."**

**Supervisor of Turkey's Ataturk Dam  
(upstream of Ilisu), quoted in  
The Christian Science Monitor  
(July 14, 1999)**

The project would violate five World Bank guidelines for development projects, including those on involuntary resettlement and environmental impact assessment. The UK's ECGD has no rules requiring formal environmental or social impact assessments. It is a secret organization that has no standards for public transparency. Indeed, in late June, Friends of the Earth was forced to threaten legal action against the UK government over its failure to even respond to requests for access to basic information, especially the environmental impact assessment that the ECGD says has been completed.

A recent article in the UK *Guardian* states, "It is widely believed that the environmental impact assessment that [the government] refuses to release is so inadequate that the

government will be castigated for being prepared to back the project. The Treasury has already expressed doubts about risks the ECGD is apparently prepared to take with taxpayers' money and Department of International Development officials who have seen the secret assessment believe it is grossly inadequate." Given this, it is perhaps unsurprising that the Trade Minister is so reluctant to even respond to freedom of information requests, let alone provide information.

Having now successfully pressed the ECGD to formally say why it won't release basic documents, Friends of the Earth is considering possible challenges to force the release of documents that are presently kept secret for reasons of "commercial confidentiality." That a citizen's organisation should be placed in the position of threatening legal action to even find out why key papers are being kept secret not only underlines the secretive nature of ECGD but places in question the alleged commitment by Britain's Labour Government to freedom of information.

It also fundamentally undermines UK government claims to have an "ethical" foreign policy. The Turkish army is active in this mainly Kurdish area and the UK Foreign Office says the region of the proposed dam site is too dangerous for British citizens to visit. Under these circumstances, what possible motivation lies behind the government's consideration of this secret project? Clearly there are the economic benefits of British exports through UK firm Balfour Beatty leading the construction consortium, but even then there are questions as to whether these possible benefits should be promoted at the taxpayer's risk.

But irrespective of these economic issues, could there also be wider foreign policy issues linked to future influence over Iraq? Could this be yet another pressure point on the beleaguered Saddam? Until proven otherwise through the release of documents showing how downstream conflicts are to be avoided, these unanswered questions damn the Ilisu project as dangerous political machinations. ■

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Photo: Jennifer Bates/Friends of the Earth

Activists protest the UK's approval of loans for Turkey's Ilisu Dam outside the Department of Trade and Industry.

# Bakun Dam Rises From the Ashes

by Wick Pancoast & Harlan Thompson

**T**he once-postponed Bakun Dam project in Sarawak, Malaysia appears to be moving forward again – only this time as a scaled-down version of the original mega-project. The Malaysian government originally planned to build a US\$5.2 billion dam that would have flooded an area of rainforest the size of Singapore. It was supposed to generate 2,400 megawatts (MW) of electricity for Peninsular Malaysia via undersea power cables laid across the floor of the South China Sea. However, due to its lack of financial viability and the 1997 Asian financial crisis, many investors backed out and the dam was postponed indefinitely.

In early June, the Malaysian government announced its intention to resume the controversial project, calling for a \$1 billion dam that will generate 500 MW. Instead of costly cables exporting power to west Malaysia, the energy would be used within Sarawak and Sabah to fuel future industrialization projects, such as a proposed aluminum smelter to be located downstream.

Although there is as yet no set date to resume construction, the government is proceeding with a hasty campaign to relocate nearly 10,000 indigenous people from the area, despite the fact that many of these villages would not be submerged by the smaller project's reservoir. One group of affected residents, the Bakun Region People's Committee, declared the evictions "unjustified, unnecessary, untimely, and shortsighted." The relocation, called "Operation Exodus," is supposed to be completed by August.

One explanation for the premature relocation program may be to hasten logging efforts in the reservoir area. The company Ekran Berhad – the primary investor for the original dam scheme – had already logged some 2.8 million cubic feet of timber from 2,500 acres

of the flood zone by last November, according to a November 11, 1998 Reuters news story.

With more than half of the villages now removed from the original flood zone, observers say logging operations in the area have increased significantly.

In addition to reaping wealth from cutting down the region's forests, Ekran is also pushing for a cash settlement from the financially strapped government. According to a June 15, 1999 US Foreign Commercial Service press release, Ekran has pressed the government for \$52.6 million in compensation for cancelling the original project.

## Resettlement Realities

While Ekran will likely get a huge settlement, indigenous Kenyah and Kayan people who have been forced into new lives and livelihoods will most likely get little or no financial help for their troubles – in fact, they are likely to slide into resettlers' poverty, common to such projects the world over.

According to a recent report by the Coalition of Concerned NGOs, employment opportunities in the resettlement town of Asap are virtually nonexistent. The land given to resettlers is not enough to sustain the families now moving there, let alone future generations. Living on meager lands away from the forest and river, traditional livelihoods such as swidden agriculture, fishing, hunting and harvesting forest products will be severely limited.

Homes built by government contractors at Asap are so structurally unsound that the government itself will not issue Certificates of Fitness. They are also costly: resettlers must pay US\$13,700 for a house in the resettlement area, with payments starting after a five-year grace period. For residents with smaller farm holdings, the cost of housing actually exceeds the amount they will receive in compensation. Their new life in Asap will begin in debt to the government.

During a recent visit to Batu Kelau, a village that was being relocated, a young man named Jok explained that this is a particular-



Villagers being resettled for the Bakun Dam pack up to leave Batu Kelau.

Photo: Borneo Project

ly tumultuous time for the people of his village. "Most of them, especially the older ones, have little if any formal education. They know no other existence than the one they live here in the forest."

The government is intent on making these people rely on jobs in the modern cash economy rather than subsist on the products of the rainforest. This switch might not only destroy traditional cultures, but could also fail miserably, resulting in increased poverty. Batu Bagi, the headman of Batu Kelau, expressed his concerns: "We are promised three acres of land for farming, but that is not enough to feed my family. There is no fishing in Asap. There is no hunting in Asap. People are proud that they have iceboxes in Asap. But what good is an empty icebox? Here, with fish in the river and animals and plants in the forest, we are rich. We can always find food."

To deal with longhouse residents opposed to relocation, the government established an organization called the Bakun Resettlement Committee (BRC). Five members of the BRC stayed at the village of Batu Kelau during the eviction, encouraging people to move. They explained that residents choosing not to move would no longer have access to schools or clinics and would forfeit the remaining 70 percent of compensation owed to them by the government. Half the families of Batu Kelau still refuse to move.

## Small-scale Alternatives

From the outset, the Bakun Hydroelectric Project has been criticized by environmentalists, social justice groups and economists.

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### What You Can Do

For more information about how you can support the micro-hydro project near Bakun, contact:

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# A Thousand Stars Light Up Thailand

by Aviva Imhof & Teerapong Pomun

Communities affected by large dams and other development projects in Thailand have embarked on a new organizing strategy to bring the government's attention to their problems. As part of this strategy (called "Dao Gra Jai" or "movement of a thousand starlights"), the people's movement called the Assembly of the Poor has organized dam occupations and demonstrations all over Thailand to pressure the government to discuss community demands for reparations for livelihoods lost to development schemes.

Since March, three dam sites in the north and northeast of Thailand have been occupied by thousands of villagers, who have established temporary villages on the banks of the dammed rivers and settled in for the long haul. Demonstrations and sit-ins have also been organized at city halls and ports across the country.

The new wave of organizing was prompted by the frustration of poor villagers over the refusal of Prime Minister Chuan Leekpai to follow through with promises which go back to the past administration. In 1997, over 20,000 people camped outside the government house for 99 days demanding that the government correct 121 problems raised by six different networks of affected peoples. The former government negotiated with the villagers and agreed to many of their demands, including compensation for communities affected by nine completed dams. However, the subsequent government has refused to honor these commitments.

For months, more than 5,000 villagers have occupied the Pak Mun Dam site, the last hydropower dam to be built in Thailand. The protestors include people affected by Pak Mun, Sirindhorn and two other completed dams, as well as two planned dams and one development project. They are demanding compensation of 15 rai (2.4 hectares) of land per dam-affected family and a review of the planned projects. The demonstrators have set up a temporary village on the riverbank and intend to stay until their demands are met.

"Here at least they can find some fish, maybe plant some vegetables on the riverbank, possibly find some casual work. And they can rotate back to their homes every now and then," says Wanida Tantiwitthayaphitak, adviser to the Assembly of the Poor.

The 136 MW Pak Mun Dam was completed in 1994 and funded by the World Bank.

Villagers have been fighting for over 10 years for reparations for lost fisheries income as a result of the dam, which impeded fish migration up the Mun River. Even though the project only satisfies 0.04% of Thailand's power demand, more than 20,000 people have been affected, whole communities have been disrupted and people forced to move to the slums of Bangkok to earn extra income.

"We, the poor, have given more than enough time to the government and now it's time to call for justice," says Thongchareon Sihatham, leader of the villagers affected by Pak Mun.

## War-Era Dam

Sirindhorn Dam was built in 1971 during the Vietnam war to supply power to the US Airforce Base at Ubon Ratchathani. More than 2,500 families were moved to a resettlement site with poor quality land unsuitable for cultivation. The only compensation received amounted to the cost of dismantling their houses plus a little money for lost farmlands. Many moved away from the resettlement site, onto public lands that were subsequently taken from them to make way for eucalyptus plantations. Many families are now forced to eke out a living on small plots of land, and have been fighting since 1994 for 15 rai of land in compensation.

Boonmee Kamroung, a village leader, said: "The construction of Sirindhorn Dam has affected our generation, because our parents were relocated to very poor land. We have no food, no chance for education, and no employment. It is very difficult for us to survive."

On April 20, 2,300 villagers affected by Rasi Salai and Hua-na dams occupied the Rasi Salai Dam site. Rasi Salai is located on the Mun River, upstream from the Pak Mun Dam. The dam forms the first part of the Kong-Chi-Mun Water Diversion Project, which includes plans to build 13 dams on the Chi and Mun rivers. The project aims to solve the water shortages in Northeast Thai-



Protestors in Bangkok at an Assembly of the Poor demonstration.

land by diverting water from the Mekong River to the Chi and Mun rivers. However, for the time being the scheme has run out of steam, and Rasi Salai serves no purpose. Despite this, the reservoir has been filled, and more than 3,000 families have lost their farmland through inundation. Only 1,154 families have received any compensation.

"We demand that the government determine how many people have been affected by the dam through a participatory process, and pay compensation to the affected villagers as well as fix the environmental problems. In the near future, more and more people will join us," says Boonmee Sopang, the leader of Assembly of the Mun River Basin.

In Lampang province, more than 400 people from four villages occupied Maemog Dam on June 14, to demand that the government pay compensation of 15 Rai of land for 170 families, as well as compensation for land and property loss for 1,045 families. The environmental impact assessment for the project was conducted after construction began, and as a result there was no compensation or mitigation budget allocated, and affected families have received nothing.

"We don't want to occupy the dam, we don't want to protest, but we have no choice," says Don Sueksa, leader of affected villagers.

Demonstrations under the Dao Gra Jai strategy are being staged not only by dam-affected communities, but by villagers affected by other development projects and government policies. Activists say the stars will continue burning until the government sees the light. ■

# Environmental Groups Protest Approval of Cape Town Dam

by Mike Taylor

Less than a week before the second general elections in South Africa, Professor Kader Asmal, then Minister of the Department of Water Affairs and Forestry (DWAF), announced he had given the go-ahead for the first large dam to be built by the new government. The dam, proposed for the Berg River, will supply water to the Western Cape region. The project approval comes despite the fact that the nation's Water Act requires that better alternatives be given priority over dams – alternatives which environmental groups and scientists say have not been given full attention by Cape Town water officials.

River ecologist Bryan Davies, a professor at the University of Cape Town, said the project is premature. "The go-ahead for Skuifraam flies directly in the face of Professor Asmal's oft-stated policy of saying no to water-supply developments unless water-demand management mechanisms are demonstrably in place. For Cape Town, such mechanisms are most certainly not in place. The dam approval gives the message to everyone in the Cape that it's okay to continue growing in an ecologically unsustainable manner."

Like much of post-apartheid South Africa, Cape Town is beset by water inequities and wasteful water habits in the upper income brackets. In a July 1996 speech, Asmal said, "How do we explain that half of the water used in Cape Town homes is used by only 20 percent of the households? ... I always find myself wondering if a decimal point has been left out when I'm told that the average consumption in Upper Constantia is 1,750 liters per person per day. It is such users who are primarily responsible for our need to seek additional sources of water." Many poor South Africans use less than 50 liters per day.

In that same speech, Asmal noted that a water-conservation project to clear out alien vegetation was more economic than building the dam: "The proposed Skuifraam Dam would cost 44 cents per kiloliter of water over a 45 year period, at a discount rate of 8 percent. But the clearing of invading alien plants is projected to yield water at a cost of approximately 6 cents per kiloliter over the same period, at the same discount rate. That is just 14 percent or about one-seventh of the cost of one of the most attractive dam options. On water yield alone, clearing alien plants wins." The dam project is expected to cost R780 million (US\$130 million).

Clearing alien vegetation has been the primary focus of Cape Town's water conservation program, along with a small leaks repair program. The water department has not performed a full analysis of how much water is lost in the Cape Town system, so it cannot estimate how much water can be saved. In other urban parts of South Africa, "unaccounted uses" of water run as high as 50 percent. Opponents of the Skuifraam Dam do not believe that Asmal's criteria on reducing water demand and managing catchments more effectively have been achieved. Indeed if they had, the dam would not be needed for many years to come, by which stage other more sustainable ways of augmenting water supplies might become economically competitive.

The project is expected to harm important downstream ecosystems. Prof. Davies noted that the Berg River Estuary Workshop, held by DWAF a few years ago, stated that the removal of yet more water from the already severely over-utilized system would be exceptionally harmful for the river's coastal fisheries. According to Davies, "The Berg River's floodplain is the most important avifaunal and fish nursery on the Southern African coast between Angola and St. Lucia in Kwazulu/Natal." The Berg River floodplain is now before the international Ramsar convention for placement as a wetlands of international importance.

## Groups Press for Demand Management

A July statement by the Wildlife and Environment Society of South Africa/Western Cape calls on authorities in the Western Cape to undertake the following demand-management practices instead of building Skuifraam Dam:

- Increase the clearing of alien vegetation in the catchment areas.
- Implement a water restriction strategy incorporating industry, agriculture, and excessive household users. The strategy should be an incentive-based water reduction system possibly targeting particular groups.
- Concurrently undertake an aggressive awareness campaign on water management and water reduction measures. Initiate comprehensive and far-reaching education programs to encourage all sectors of the population, but mainly the more affluent, to conserve water. These programs should encourage harvesting and storing water from roofs, covering domestic swimming pools, installing fine-

- spray domestic showers, efficient garden irrigation schemes and establishing indigenous gardens. The agricultural sector should ensure more efficient use of agricultural water. The industrial sector should ensure a more conservative use of water and recycle where applicable.
- Enforce annual water audits in the agricultural and industrial sectors.
- Continually re-assess new technology that would allow unconventional water sources to be tapped.
- Undertake municipal water recycling more aggressively.

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## NGOs Speak Out

A number of NGOs have issued statements denouncing the dam approval and calling for DWAF to quit the project. The Wildlife and Environment Society of South Africa/Western Cape said, "The decision to go ahead with the Skuifraam Dam is particularly untimely and contradictory ... We are opposed to further exploitation of the country's water resources through mass storage until existing supplies are managed more efficiently ... The World Commission on Dams, of which South Africa is a participant, is still deliberating the impacts of and alternatives to the construction of large dams."

And a July 15 statement endorsed by a number of environmental organizations, including the Environmental Monitoring Group, Earthlife Africa Cape Town Branch and the South African Rivers Association, called upon the Cape Metropolitan Council and DWAF to retract their decision to build Skuifraam Dam and to instead instigate a

*continued opposite*

# Chile's Energy Crisis Reveals Dangers of Relying on Hydroelectric Power

by Ignacio Fernandez

Over the past year, Chile has experienced the most severe drought in its history. In a country that depends on hydroelectric power for 80 percent of its energy, the drought forced intermittent blackouts that lasted up to three hours from November through June. Since then, winter rains have partly alleviated the energy shortage, but they have not changed two underlying problems. The first is that, because of government support, Chile's energy sector sees far more profit in hydroelectric power, despite its instability, than in alternative sources. And secondly, the privatized energy sector is not accountable to consumers and only moderately regulated by the government.

The drought has had a drastic effect on the nation's economy, which was already in the midst of the worst recession since the early 1980s. Each hour of rationing is estimated to decrease the country's economic output by US\$11.5 million dollars.

Although Chile has experienced energy rationing in previous years – 1968, 1989 and 1998 – it was voluntary and affected non-vital consumers, such as television stations. In this year's rationing, essential sectors of the country were left without power, such as schools, hospitals (which turned to generators) and urban street lights. The lack of stop lights has led to a dramatic increase in commute times and fossil-fuel consumption, especially in Santiago.

The drought has been especially hard on the agricultural sector, because its emergency water sources are now being tapped by hydropower companies. Several years ago,

the energy utilities signed an agreement with the government of President Eduardo Frei to be able to use these water sources to resupply hydropower facility reservoirs. The Ministry of Public Works has granted water removals for hydropower generation which did not specify how much water the power companies could take. The result has been major drops in reservoir levels in these agricultural emergency water supplies.

## Who is Responsible?

Although some would call Chile's energy crisis a natural disaster, the human factor looms large. Critics say Endesa has not acted wisely, citing the fact that it did not begin working soon enough on alternative energy sources, even after the drought was officially declared. Instead of developing non-hydro alternatives, Endesa chose to accelerate its construction plan for the Ralco Dam, aiming to finish it by 2002, three years earlier than originally planned. Analysts say that if Ralco were in operation, it would have made little difference. Maria Isabel Gonzalez, the former executive secretary of the National Energy Commission, said in April, "Endesa moved its plans ahead in order to beat competitors and as a result, other energy alternatives have been delayed."

Ironically, say analysts, Chile's Central Interconnected System already contains enough energy to avoid rationing. But that energy did not belong to Endesa or Colbun, but to smaller energy companies that are not on the same grid. In order to get access to this extra energy, the two corporations would have been forced to declare a deficit

and pay three times more than what it costs them to generate their own power. Adds Gonzalez, "It was cheaper for them to accept rationing and pay a fine of 13 million pesos (about US\$26,000) than to buy energy at the higher price."

The government has expressed frustration with the energy utilities, which were privatized during the Pinochet regime. President Frei declared, "It is unacceptable to always want to privatize the utilities for the profits and make society pay for the losses." Critics say the privatization of the energy sector took place under conditions that were extremely favorable for investors. According to Pedro Maldonado, a researcher in the engineering department at the University of Chile, "Privatization was completed without an adequate regulatory framework or a strong fiscal agent. The changes were made to promote the interests of investors, but consumers' rights were never considered."

Despite the president's frustration, Frei's government does not escape blame either. When the first signs of a serious drought appeared in September, the government adopted a laissez-faire attitude and allowed the energy companies to seek a solution to the impending deficit by themselves. Those negotiations broke down and it wasn't until March that Frei decided to impose fines on them. Also, over the past few years, government policies have continued to promote the development of hydroelectric power. This policy has at the same time created disincentives for the development of alternatives such as solar, wind and natural gas. ■

## Cape Town continued from page 6

full demand management study in Greater Cape Town.

Liane Greeff of the Environmental Monitoring Group said, "The dam is being imposed on us as blackmail, as insurance against low rainfall years. But if the situation is so bad, where are the water restrictions? Why isn't Cape Town's daily 400 million liters of treated sewage water being used for golf courses and municipal gardens, instead of going out to sea? Why not introduce a water tariff that actually reflects the social and ecological value of the water that runs down our drains?" Greeff noted that the

South African town of Hermanus achieved over 30 percent reductions in peak water demands through an active demand-management campaign, and could be a role-model for Cape Town.

The South African Municipal Workers' Union also spoke out in support of the environmental groups' call for demand-management instead of a new dam. "It is SAMWU's position that there will be a drastic increase in water tariffs as a direct result of this project that will hit the poor of Cape Town, who are battling to pay for water, very very hard ... The only solution to what is,

according to the Department of Water Affairs and Forestry, a water crisis, is to introduce a pricing system whereby a lifeline amount of 50 liters water is given to every person every day free of charge. Any amount of water above this amount that is used should be charged according to a rising block tariff whereby the people who are really guilty of massive water wastage will pay for this." ■

*The author is a member of Environmental Justice Networking Forum in Cape Town, South Africa.*

# The Greater Common Good

continued from page 1

at the endless sky and down at the river rushing past and for a brief, brief moment the absurdity of it all reversed my rage and I laughed. I meant no disrespect.

In India over the past 10 years the fight against the Sardar Sarovar Dam has come to represent far more than the fight for one river. Some years ago, it became a debate that captured the popular imagination. From being a fight over the fate of a river valley it began to raise doubts about an entire political system. What is at issue now is the very nature of our democracy. Who owns this land? Who owns its rivers? Its forests? Its fish? These are huge questions. They are being taken hugely seriously by the State. They are being answered in one voice by every institution at its command – the army, the police, the bureaucracy, the courts. And not just answered, but answered unambiguously, in bitter, brutal ways.

In the 50 years since Independence, after Nehru's famous "Dams are the Temples of Modern India" speech (one he grew to regret in his own lifetime), his footsoldiers threw themselves into the business of building dams with unnatural fervor. Dam-building grew to be equated with Nation-building. Their enthusiasm alone should have been reason enough to make one suspicious. Not only did they build new dams and new irrigation systems, they took control of small, traditional systems that village communities had managed for thousands of years, and allowed them to atrophy. According to the Central Water Commission, we have 3,600 dams that qualify as Big Dams, 3,300 of them built after Independence. Some 1,000 more are under construction. Yet one-fifth of our population – 200 million people – doesn't have safe drinking water and two-thirds lack basic sanitation.

## Lost Luster

Big Dams started well, but have ended badly. There was a time when everybody loved them, everybody had them – the Communists, Capitalists, Christians, Muslims, Hindus, Buddhists. There was a time when Big

Dams moved men to poetry. Not any longer. All over the world there is a movement growing against Big Dams. In the First World they're being decommissioned, blown up. The fact that they do more harm than good is no longer just conjecture. Big Dams are undemocratic. They're a Government's way of accumulating authority (deciding who will get how much water and who will grow what where). They're a brazen means of taking water, land and irrigation away from the poor and gifting it to the rich. Their reservoirs displace huge populations of people leaving them homeless and destitute.

Ecologically, they're in the doghouse. They cause floods, water-logging, salinity, they spread disease. There are more drought-prone areas and more flood-prone areas today than there were in 1947. Despite the disturbing evidence of irrigation disasters, dam-induced floods and disenchantment with the Green Revolution (declining yields, degraded land), the government has not commissioned a post-project evaluation of a single one of its 3,600 Big Dams to gauge whether or not it has achieved what it set out to achieve, whether or not the (always phenomenal) costs were justified, or even what the costs actually were.

For all these reasons, the dam-building industry in the First World is in trouble and out of work. So it's exported to the Third World in the name of Development Aid, along with their other waste like old weapons, superannuated aircraft carriers and banned pesticides.

On the one hand the Indian Government, every Indian Government, rails self-righteously against the First World, and on the other, actually pays to receive their gift-wrapped garbage. Aid has destroyed most of Africa. Bangladesh is reeling from its ministrations. We know all this, in numbing detail. Yet in India our leaders welcome it with slavish smiles.

The Government of India has detailed figures for how many million tons of foodgrain or edible oils the country produces and how much more we produce now than we did in 1947. It can tell you how much bauxite is mined in a year or what the total surface area of the national highways adds up to. But the Government of India does not have a figure for the number of people who have been displaced by dams. Isn't this astounding? How can you measure Progress if you don't know what it costs and who paid for it? How can the "market" put a price on

The war for the Narm  
is not just some remote  
or even an exclusively  
war. It's a war for the  
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things when it doesn't take into account the real cost of production?

According to a study of 54 large dams done by the Indian Institute of Public Administration, the average number of people displaced by a large dam is 44,182. Admittedly, 54 dams out of 3,300 is not a big enough sample. But since it's all we have, let's try and do some rough arithmetic. To err on the side abundant caution let's take an average of just 10,000 people per large dam:

$$3,300 \times 10,000 = 33 \text{ million.}$$

That's 33 million people displaced by India's big dams alone in the past 50 years. What about those that have been displaced by the thousands of other Development Projects? N.C. Saxena, Secretary to the Planning Commission, said he thought the number was in the region of 50 million (of which 40 million were displaced by all dams, big and little). You have to murmur it for fear of being accused of hyperbole.

50 million people. I feel like someone who's just stumbled on a mass grave.

50 million is almost three times the population of Australia. More than three times the number of refugees that Partition created in India. Fifty times the number who fled Kosovo.

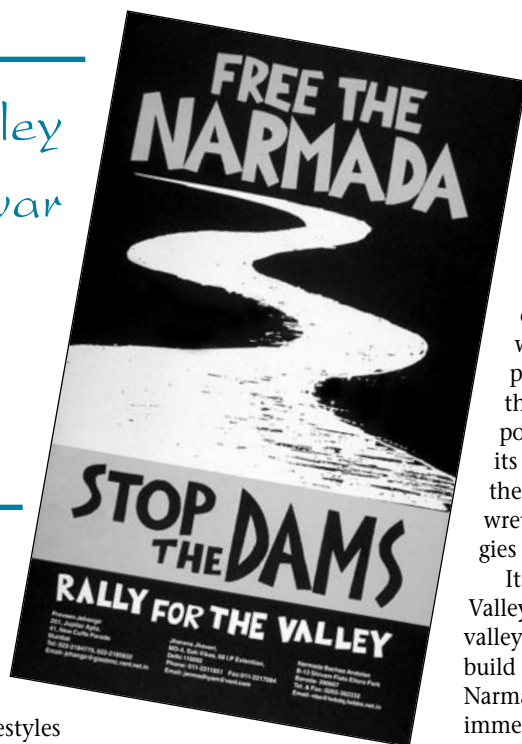
A huge percentage of the displaced are tribal people (57.6 per cent in the case of the Sardar Sarovar Dam). Include Dalits (previously known as Untouchables) and the figure becomes obscene. According to the Commissioner for Scheduled Castes and Tribes it's about 60 per cent. If you consider that tribal people account for only eight per cent, and Dalits 15 per cent, of India's population, it opens up a whole other dimension to the story. The ethnic "otherness" of their victims takes some of the pressure off the Nation Builders. It's like having an expense account. Someone else pays the bills. People from another country. Another world. India's poorest people are subsidising the



The Goddess Narmada.

Photo: P. McCully





lifestyles  
of her richest.

What has happened to all these millions of people? Where are they now? How do they earn a living? Nobody really knows. The millions of displaced people don't exist anymore. Some of them have subsequently been displaced three and four times – a dam, a power project, another dam, a uranium mine. Once they start rolling there's no resting place. The great majority is eventually absorbed into slums on the periphery of our cities, where it coalesces into an immense pool of cheap construction labor (which builds more projects that displace more people).

The millions of displaced people in India are nothing but refugees of an unacknowledged war. And we are condoning it by looking away. Why? Because we're told that it's being done for the sake of the Greater Common Good. Therefore gladly, unquestioningly, almost gratefully, we believe what we're told.

It's true that India has progressed. In 1947, when Colonialism formally ended, India was food deficient. In 1950 we produced 51 million tons of food grain. Today we produce close to 200 million tons.

It's true that in 1995 the state granaries were overflowing with 30 million tons of unsold grain. It's also true that at the same time, 40 per cent of India's population was living below the poverty line. That's more than the country's population in 1947.

Indians are too poor to buy the food their country produces.

India lives in her villages, we're told, in every other sanctimonious public speech. That's just another fig leaf from the government's bulging wardrobe. India doesn't live

in her villages. India dies in her villages. India lives in her cities.

India's villages live only to serve her cities. Her villagers are her citizens' vassals and for that reason must be controlled and kept alive, but only just.

This impression we have of an overstretched State, struggling to cope with the sheer weight and scale of its problems, is a dangerous one. The fact is that it's creating the problem. It's a giant poverty-producing machine, masterful in its methods of pitting the poor against the very poor, of flinging crumbs to the wretched, so that they dissipate their energies fighting each other.

Its proponents boast that the Narmada Valley Project is the most ambitious river valley project ever conceived. They plan to build 3,200 dams that will reconstitute the Narmada and her 41 tributaries into an immense staircase of amenable water. Of these, 30 will be major dams, 135 medium and the rest small.

The Narmada Valley Development Project will alter the ecology of the entire river basin of one of India's biggest rivers, and will affect the lives of 25 million people who live in the valley. Yet, even before the Ministry of Environment cleared the project, the World Bank offered to finance the lynchpin of the project – the Sardar Sarovar dam. The Bank was ready with its check-book before any costs were computed, before anybody had any idea of what the human cost or the environmental impact of the dam would be!

The \$450 million loan for the Sardar Sarovar Project was sanctioned and in place in 1985. The Ministry of Environment clearance for the project came only in 1987! Talk about enthusiasm. It fairly borders on evangelism.

### The Iron Triangle

If you follow the trails of big dams the world over, wherever you go you'll rub up against the same story, encounter the same actors: the Iron Triangle (the nexus between politicians, bureaucrats and dam construction companies), the racketeers who call themselves International Environmental Consultants, and, more often than not, the friendly, neighborhood World Bank. You'll grow to recognise the same inflated rhetoric, the same noble "Peoples' Dam" slogans.

In keeping with Big Dam tradition, concurrent with the construction of the Sardar Sarovar Dam began the elaborate government pantomime of conducting studies to estimate the actual project costs and impacts. The World Bank participated whole-heartedly in the charade – occasionally they raised fee-

ble requests for more information on issues like the resettlement of what they call PAPs – Project Affected Persons. (These acronyms help mutate muscle and blood into cold statistics. PAPs soon cease to be people.)

In 1979 the number of families that would be displaced by the Sardar Sarovar reservoir was estimated to be a little over 6,000. In 1987 it grew to 12,000. In 1991 it surged to 27,000. In 1992 the government declared that 40,000 families would be affected. (The reservoir isn't the only thing that displaces people. Critics believe the actual figure is 85,000 families – that's half a million people.)

The official estimated cost of the project bounced up from under 50 billion rupees (\$1.2 bn) to 200 billion rupees. Critics say it will cost 440 billion rupees (\$10.5 bn).

Construction work on the Sardar Sarovar Dam began in earnest in 1988. Also in the late 1980s the full extent of the horror the dams would cause began to surface. The Narmada Valley Development Project came to be known as India's Greatest Planned Environmental Disaster. The various peoples' organisations which had been questioning government promises about resettlement and rehabilitation massed into a single organisation and the Narmada Bachao Andolan (Save the Narmada Movement) was born.

For more than a decade the extraordinary NBA – a rag-tag army of the poorest people in one of the world's poorest countries – has fought with its weapons of hunger strikes and threats of drowning against the might of three state governments, the national government, and even the World Bank. There has been no army quite like this one anywhere else in the world. The war for the Narmada valley is not just some remote rural war or even an exclusively Indian war. It's a war for the rivers and the forests of the world.

In March 1993 the World Bank admitted defeat and pulled out of the project. Sacking the Bank was and is a huge moral victory for the people in the valley. The euphoria didn't last. The government of Gujarat announced that it was going to raise the \$200 million shortfall on its own and continue with the project. In May 1994, the NBA filed a writ petition in the Supreme Court questioning the whole basis of the Sardar Sarovar Dam and seeking a stay on the construction.

In early 1995, on the grounds that the rehabilitation of displaced people had been inadequate, the Supreme Court ordered work on the dam to be suspended. The case pending in the Supreme Court led to a palpable easing of repression in the valley. Construction work stopped on the dam, but the rehabilitation charade continued. Forests slated

*continued on page 14*

# Revival on the Kennebec

by Elizabeth Brink

A small dam made big news on July 1. Three days before the US celebrated its own independence, Maine's Kennebec River was freed from the confines of the 162-year-old Edwards Dam.

Church bells pealed as a torrent of water rushed through a newly created gap in the 917-foot-long structure. The event represents the culmination of a long struggle by national and local environmental groups to remove the dam and begin to restore the river's fisheries.

This occasion is historic not only because Edwards is the longest dam breached to date, but because of the precedent-setting 1997 federal decision that led to its removal. That decision, by the Federal Energy Regulatory Commission (FERC), stated that the environmental and economic benefits of a free-flowing Kennebec outweigh the economic benefits of continued operation of the Edwards hydroelectric project. It was the first time FERC had refused to relicense a dam that its owners wanted to continue operating.

The dam was built to provide mechanical power to saw mills in the Augusta area. When the mills closed and other power sources were built, the Edwards Dam no longer produced a significant amount of power. Before its turbines were shut down in January, the dam generated only one-tenth of one percent of Maine's electrical power.

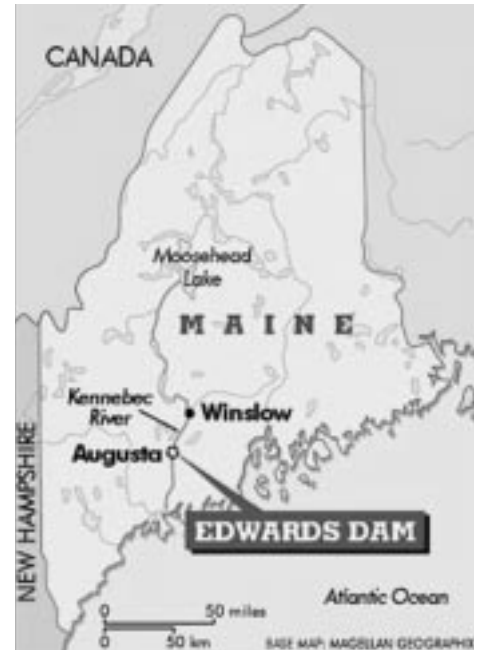
What the dam did do was block 10 species of fish – including sturgeon, Atlantic salmon, and striped bass – from reaching ancestral spawning grounds. The entire dam will be dismantled and removed by Thanksgiving, creating "potentially the strongest sea-run fishery in the eastern United States," says Maine Planning Director Evan Richert, whose agency is overseeing the project.

Although FERC ordered the dam's owner, Edwards Manufacturing Co., to pay for the dam removal and the restoration of the land surrounding the dam site, the company struck a deal that disturbs many environmentalists.

The deal takes the dam's owner off the hook for the cost of the project. Instead, Bath Iron Works, a US Navy contractor 25 miles downriver, and upstream dam owners agreed to shoulder the cost, putting up more than \$7 million. In exchange, the iron works received the right to fill in wetlands downstream and upstream dam owners got to delay construction of fish ladders that enable fish to get upstream.

"Environmental gains minus environmental losses equals zero environmental gains," said Jonathan Carter of the Forest Ecology Network, who said he was still glad to see the dam go.

Hundreds of supporters gathered at the river on July 1 to cheer the dam's demise. The celebratory nature of the gathering clearly disturbed the pro-dam lobby. "Our



concern is the level of celebration and whether we're going to get caught up in a sort of dam hysteria that would lead to the removal of other projects without doing the thorough analysis that's necessary," said Linda Church Ciocci, executive director of the National Hydropower Association, which represents 140 licensees. The group is trying to get the Edwards removal order rescinded even though demolition has begun. ■

# Russian River Revival Takes Off

by Owen Lammers

The international movement for dam removal took a step forward in May when the Russian government officially accepted the need to review the operational viability of existing dams and their impact on the environment.

A resolution passed at "Great Rivers - 99," Russia's first international conference on rivers, specifically addressed the fact that dams are not permanent, and as they age, safety and other considerations must be taken into account in determining their future operations. Dam safety takes on special significance in Russia, where sediment contained in many of its reservoirs is severely contaminated with heavy metals.

Great Rivers - 99 was a key event for rivers in Russia, representing the first time that the Russian Federation elevated river management to such importance. Russia's former Prime Minister, Victor Chernomyrdin, took a break from his Balkans diplomacy to open the four-day event, attended by some 700 officials and academics, including about 100 from outside Russia. The conference theme of ecological revitalization and sustainable development indicates a shift in approach from the past 50 years, during which Russia's rivers suffered severe devastation from dams, pollution and other insults.

NGOs were cautiously optimistic. "This conference alone will not bring about significant changes, but it does demonstrate to officials and the public the importance of reviving our rivers," said Elana Kolpakova of Let's Help the River (Volga).

Indeed, while Kolpakova and the Let's Help the River network is advocating dam removal and river restoration, they still must fight new dams. For example, on the Belaya River in the upper part of the Volga basin, construction has begun on a water supply and flood control dam that will create an 87km long reservoir running through a national park. Three villages will

*continued opposite*

# News from the Columbia River Basin

The Columbia River Basin, a huge US watershed which contains the Columbia River and its many tributaries – and more than 200 dams – is home to some of the biggest dam decommissioning battles in the United States. At least three dams have been breached to date and two are scheduled to be removed within the next two years. Public and media attention has thus far focused on four large dams on the Lower Snake River, the largest tributary of the Columbia. The following is a compilation of the latest news on this front.

## Catholic Church Calls Columbia River “Sacred,” Urges Protection

Catholic bishops in the Northwestern US issued a 65-page document in May urging people to view the Columbia River as a “sacred source of life and a symbol of our connection to the divine.” This publication is a precursor to a pastoral letter, a document which applies the teachings and beliefs of the church to a concrete issue.

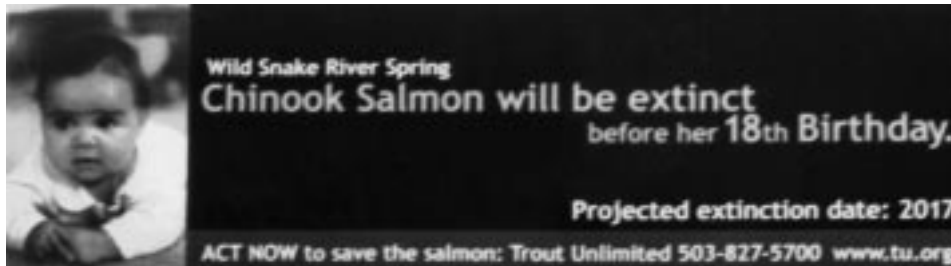
This pastoral letter, set to be finalized in 2000, will be the first written about a river. Writing the letter was a collaborative process involving a committee of 20 authors, 25 resource consultants and the input of hundreds of people who have economic and cultural ties to the Columbia watershed. The letter puts forth 12 responsibilities that residents should keep in mind regarding the Columbia River. The responsibilities outlined are diverse, ranging from saving the salmon to honoring treaties with Native Americans.

Spokane Bishop William Skylstad, a contributor to the church document, told the Spokesman-Review, “The image of flowing water has strong significance in Scripture ... But the symbolism of water in general is life-giving, cleansing and nourishing.”

## Sonar Helps Track Salmon

The Columbia and Snake Rivers provide habitat for a wide variety of fish, including the endangered chinook and sockeye salmon. The dams along the Columbia and its tributaries pose a serious threat to the lives of the young salmon (called smolt) trying to make the trip down-river after hatching.

To study the behavior of the salmon as they approach the dam opening and pass



A billboard in the Columbia River Basin state of Oregon. Photo: Phil Williams

through the dam turbine, fisheries researchers have set up multi-beam sonar on a barge at Bonneville Dam in Oregon. The sonar tracks the movement and location of the fish. Because there are multiple sonar devices, scientists can collect enough data to create three-dimensional representations of the fish routes.

The goal of the project is to reduce the mortality rate of young salmon moving down-river towards the Pacific. Many environmental groups and scientists suggest that the only way to achieve this is to remove the dams. However, some believe that using a system of screens, ladders, and pipelines, the dams and the fish can coexist successfully.

Blaine Ebbertz of the US Army Corps of Engineers said, “Ideally, we’re looking for 85 percent non-turbine passage, and a 95 percent survival rate. This project will tell us how to do that better.”

## Two Oregon Dams to Be Removed

In the Sandy River Basin near Portland, Oregon, a collaborative effort involving Portland General Electric (PGE), the City of Portland, the State of Oregon, the National Marine Fisheries Service and other agencies

has produced a plan to remove two dams on the Sandy river, a tributary of the Columbia. The \$22 million project, funded by the state, the City of Portland, and PGE, is expected to take approximately two years to complete.

The removal of the Marmot and Little Sandy dams is expected to provide valuable habitat for endangered salmon and steelhead in the Little Sandy and Sandy rivers, both located in the Columbia River Basin. When the main stem of the Sandy River is unobstructed, there will be a clear passage for fish from the Pacific Ocean all the way to Mount Hood.

Approximately 22 miles of river is expected to return to almost natural conditions; water temperature will lower and stream flow will improve. However, dam removal is not the only component of river restoration. Habitat restoration must be a part of the pre- and post-dam removal process. All agencies involved in the Sandy River project have indicated that they are dedicated to the ongoing process of habitat restoration. ■

## Russian Rivers continued from page 10

be affected, as well as valuable forests and 30 species of birds.

Another immediate threat is the plan to raise of the level of the Cheboksary Hydro-power Station, which was completed in 1981. Originally planned to be filled to a level of 68 meters, filling was halted at 63 meters when groundwater levels in the city of Nizhny Novgorod, 130 km upstream, rose to the point of flooding low-lying areas. Filling the reservoir to capacity is again being discussed, which could not only exacerbate these prob-

lems but also partially submerge the famous 15th century Makaryev monastery.

To address these and other threats to Russia’s rivers, Let’s Help the River organized a parallel conference during Great Rivers - 99 specifically for river advocates. Most activists were from the Volga basin, where eleven hydropower stations have transformed Europe’s largest river into a chain of reservoirs whose sediment deposits are dangerously contaminated with lead, mercury, cadmium, DDT and PCBs.

Let’s Help the River’s campaigns have successfully eliminated some pollution sources, and are now also looking toward cleaning up the sediment so that dams can be removed and the Volga’s once extensive fisheries can return. ■

For more information, contact:  
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E-mail: dront@glas.apc.org

## SHORTS

At least someone is finding good news in global warming. The Swiss company EOS ran an advertisement in the newspaper *Neue Zuercher Zeitung* in June with this happy message:

*"Temperatures are rising. So are our energy stocks.*

*The heat makes us spend less energy. At the same time, it causes the glaciers, which feed our hydroelectric reserves, to melt. Indeed, nature treats us well.*

*EOS. We bring energy into life."*

For a second time in seven months, one of the largest dairies in Washington state in the US has been fined for spilling animal waste into a local creek. The Black River Ranch of Littlerock, with 2,400 cows, has been fined \$60,000 for threatening groundwater, water quality and trout and salmon habitat in Mima Creek with bacteria from animal waste. The creek drains into the Black River, where cutthroat trout are proposed for listing under the federal Endangered Species Act. The state Department of Ecology found bacteria in a drainage area at 2,300 times the state's maximum limit. The inspectors also found liquid waste covering and pooling on and alongside a road on the site. The agency ordered the owner to either obtain additional land or reduce the size of his herd. In October 1998, the dairy was fined \$11,000 for water quality violations, but had not paid the fine by the time of the second violation.

The US Federal Emergency Management Agency said in July it is considering offering funds to states to target high risk properties that have suffered repeated flood damage. The funds would be used to help owners move properties to higher ground, either out of floodplains or above flood levels. Property owners that do not choose to move would have to pay higher premiums for National Flood Insurance. "We really don't do anyone any favors or confer genuine benefits to people under the flood insurance program when we don't help solve the roots of the problem — risky properties built without regard for the flood hazard," said Jo Ann Howard, administrator of the Federal Insurance Administration. About 40,000 buildings across the country now insured under the National Flood Insurance Program have been flooded more than once and received flood insurance claims payments of \$1000 or more for each loss. These properties have cost the National Flood Insurance Fund \$1.8 billion.

## News Briefs



### UPDATE

**CHINA:** Several key bridges erected as part of a plan to resettle people for the Three Gorges Dam will have to be rebuilt after inspectors said they were no more solid than bean curd. "Tofu scum' construction related to Three Gorges resettlement will be resolutely demolished and rebuilt," the *Beijing Daily* quoted officials in Hubei province on June 7. Inspectors in the central Chinese province discovered construction flaws in 17 of 20 bridges examined along a 14-km stretch of highway near the site of the unfinished dam. "Related departments have determined that five large bridges with grave quality problems will be blown up or torn down and rebuilt," the article said. Inspectors blamed the inferior quality of the bridges on official corruption in contract bids, poor planning and supervision, and the misallocation of one-third of marked funds.

The inspection, sparked by the collapse of the nearby Jiaojiawan Bridge in February 1998, was reported after Premier Zhu Rongji called on officials last month to improve resettlement of the estimated 1.4 million people being forced to make way for the dam.

**NAMIBIA:** A long-delayed meeting between Namibia and Angola to decide the fate of the Epupa hydropower project, scheduled for early July, was postponed after officials from Angola did not show up. *The Namibian* reported on July 8: "The ongoing war in Angola has been blamed for the officials' failure to arrive for the key two-day meeting, which is scheduled to discuss crucial differences between the two countries on the energy project." The meeting has already been postponed several times. Angolan officials have not rescheduled.

The two countries are at odds over where to build the dam on the Kunene River. The Angolans favor the Baynes option, whereas Namibia wants a dam at Epupa Falls — a project that would drown the scenic oasis and create a 380-sq.-km. reservoir with its 163-meter-high dam. The Himba people, who

would be badly impacted by the project, have stated they are against either option.

*The Namibian* stated: "The two countries have disagreed about which location should be used for the billion-dollar scheme since last year and there is a strong likelihood that [they] will remain deadlocked on the issue."

Angola favors the Baynes site in part because it is more dependent on proper regulation of Gove Dam in Angola's Central Highlands. The Angolans want to use the construction of the Epupa project to help them get funding to repair Gove which was damaged in the country's civil war. Namibia is adamant that the project should be built at Epupa Falls.

While government officials in Namibia push for the Epupa Dam, Namibian citizens continue to raise concerns about the project. In March, the local NGO Earthlife Namibia wrote in *The Namibian*: "Earthlife Namibia demands of the Government to recall their plans to construct the Epupa Dam. The disastrous effects on the Himba communities as well as the irreversible ecological damages and high financial risks totally outweigh the alleged socio-economic benefits. The Epupa plans should be abandoned because of Namibia's reported large reserves of Kudu gas which could satisfy more than our entire electricity requirements, including economic and technological spinoffs."

**HONDURAS:** The dam-building multinational Harza Engineering has pulled out of the Patuca II project, a 270MW, 105-meter-high dam on the Patuca River. Kevin Candee, vice president of the Chicago-based Harza, told newspapers in Honduras that the company has pulled out of the project because Harza does not want "to be part of financing projects that have negative effects on the environment." The project is not necessarily dead, but is clearly on hold for the time being. The government intends to get project documents from the construction consortium with the intention of resurrecting the scheme in the future.

The Patuca II Dam would create a 45-square-kilometer reservoir, which would



impact migratory fish and the habitat of other species such as the harpy eagle. Tawahka (population 950) and Miskito (pop. 30,000) indigenous communities living downstream from the dam site would have also been impacted by the project.

## DAM FIGHTERS

**NEW ZEALAND:** In Wellington, Maori tribes are claiming ownership of three rivers and are threatening to close hydroelectric dams and impose charges on waterway users. The Bay of Plenty Maori tribes, Te Ika Whenua, plan to charge farmers and recreational river users and dismantle the dams, according to tribe manager Maanu Paul. *The South China Morning Post* reported in April that the group had put its claim to the High Court, forcing the Government to file a full defense. Under the country's founding document, the Treaty of Waitangi, Maoris were guaranteed ownership of their lands, fisheries, forests and other assets. But since its 1840 signing, successive governments have administered resources, such as rivers, on behalf of all citizens. Maoris have laid claim to ownership of the country's seabed and shores, minerals, plants and birds and broadcast airwaves. The Te Ika Whenua move follows a finding of the Waitangi Tribunal, which adjudicates claims, that the tribes had a relationship with the rivers that was "akin to ownership." The tribunal said Wellington should negotiate compensation for their loss and give the tribes a say in how the rivers were managed.

**SPAIN:** More than 60 people went on hunger strike in Aragon on May 15 to protest the construction of six proposed large dams in the Pyrenees. Organized by the Coordination of People Affected by Large Dams and Diversions (COAGRET), the hunger strike lasted for three weeks. By the last day, nearly 2,000 people had joined the fast. The demonstrations culminated in a huge rally and fast in Zaragoza on June 6 which was attended by nearly 10,000 people.

According to COAGRET, the proposed dams (called Yesa, Biscarrues, Janovas, Santaliestra, Lechago and El Val) are unnecessary and are "a representation of the brutal assault on the Aragonese Pyrenees." According to the group, the Santaliestra Dam was approved by the Ministry of the Environment without first completing the necessary studies, and poses a serious safety risk to the 4,000 people living downstream should the dam fail. The protesters demanded that dam builders follow European legislation on impact assessment studies and that a mora-

torium on the construction of large dams and diversions be established.

## ALTERNATIVES

**TANZANIA:** Investors interested in developing this African nation's renewable energy resources will benefit from financial incentives now being offered by the government, as well as simplified procedures for investing in solar, wind and micro-hydropower projects, according to the *East African* (June 14). The incentives include a 100 percent depreciation allowance in the first year of operation, exemption from excise duty and sales tax and concessionary customs duty on the import of components used in renewable energy projects. In order to speed up rural electrification, the government is planning to enact a law compelling independent power producers to generate at least five percent of their electricity from renewables.

**US:** The Department of Energy (DOE) announced in June that it will provide more than \$45 million in grants to 16 states for weatherizing homes to reduce energy use. Along with \$85 million in grants awarded last April, the grants will help reduce energy bills of about 67,000 low-income families by supporting weatherization projects in every state and the Navajo nation. "For every dollar invested, the Weatherization Assistance Program returns about \$1.80 in energy savings and an additional 60 cents in employment and environmental benefits," said Energy Secretary Bill Richardson. Weatherization reduces the amount of energy used to heat a typical low-income household by up to one-third, saving about \$190 each year on a homeowner's heating bill. DOE-funded services include diagnostic testing, installing insulation and ventilation fans, sealing ducts, adding weatherstripping, insulating water heater systems and performing heating and cooling tune-ups. When appropriate, heating and cooling equipment may be replaced to improve energy efficiency and homeowner safety.

**GERMANY:** A group of private investors got government backing to build Europe's largest-ever wind farm in the coastal North Sea. Rated at 1,200 megawatts and scheduled to be completed by 2005, the farm would be comparable in scale with the largest conventional nuclear or coal-fired power stations. It would also mark a dramatic kick-start for offshore wind power. The only commercial offshore wind parks currently in existence are in Danish waters and have a collective capacity of just 11MW. Priced at

DM1 billion, the park would cover an estimated 200 square kilometers (49,420 acres) of the North Sea near Helgoland. The group of private investors behind the scheme says it hopes to start building an initial 100 4-5MW turbines in 2001, and have the entire 1,200MW in place by 2005. A state energy ministry official cautioned that some technical problems as well as issues arising from the site being near a national marine park still have to be resolved.

**US:** Santa Monica, California, has become the first city to be powered entirely by a renewable energy source – geothermal energy. City officials decided to take advantage of the competitive market created by electricity deregulation and switch from burning fossil fuels to a cleaner source with fewer environmental impacts. Geothermal steam plants owned by Commonwealth Energy Corporation will now supply all the power needs of city-owned buildings. Though the city will pay about two percent more for this power, officials say the costs will be offset by changes the city has made to become more energy-efficient. Santa Monica mayor Pamela O'Connor says, "By going green, Santa Monica is reducing smog-producing air pollution that degrades public health and moving forward with our Sustainable City plan." The city's decision was prompted by a Go Green Power campaign waged by a Santa Monica based environmental group, Global Green USA.

**THE WORLD:** California-based Ocean Power hopes to solve the problem of water scarcity in the next millennium by tapping the world's oceans for drinking water. The company has formed a joint venture with UK based Zero Emission Vehicle Company to help it develop seawater desalination plants powered by fuel cells. Ocean Power plans to build pilot projects in Greece, the Caribbean and the Maghreb, pending water quality certification from the World Health Organization (WHO) and the US Environmental Protection Agency. "Desalination is seen as an ideal application for fuel cells," said Ocean Power president Joseph Maceda. "It has the ability to use both the waste and product water." Fuel cells produce pure water as a by-product of power generation. That water is then re-circulated into the unit to increase energy output by 4 percent. Ocean Power hopes to produce pure water from seawater for less than \$1 per cubic meter (about 30 cubic feet) and electricity for less than \$0.05 per kilowatt hour. *Environmental News Service*

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**Narmada** continued from page 9

for submergence continued to be cut down, forcing people who depended on them for a livelihood to move out.

Even though the dam is nowhere near its projected height, its impact on the environment and the people living along the river is already severe.

Around the dam site and the nearby villages, the number of cases of malaria has increased six-fold. Several kilometers upstream from the Sardar Sarovar Dam, huge deposits of silt, hip-deep and over two hundred meters wide, has cut off access to the river. Women carrying water pots now have to walk literally miles to find a negotiable entry point. Cows and goats get stranded in it and die (in July this year the dam's silt claimed its first known human victim, 7-year-old Lata Vasave from Domkhedi). The single-log boats that tribal people use have become unsafe on the irrational currents caused by the barricade downstream.

Suddenly they can't trust their river anymore. It's like a loved one who's developed symptoms of psychosis. Anyone who has loved a river can tell you that the loss of a river is a terrible, aching thing. But I'll be rapped on the knuckles if I continue in this vein. When we're discussing the Greater Common Good there's no place for sentiment. One must stick to facts. Forgive me for letting my heart wander.

The government of Gujarat boasts of having the best rehabilitation package in the world. In practice, the resettlement story (with a few exceptions) continues to be one of callousness and broken promises. Some people have been given land, others haven't. Some have land that is stony and uncultivable. Some have land that is irredeemably water-logged. Some have been driven out by landowners who sold land to the government but haven't been paid yet. Some who were resettled on the peripheries of other villages have been robbed, beaten and chased away by their host villagers.

In some resettlement sites, people have been dumped in rows of corrugated tinsheds which are furnaces in summer and fridges in winter. Some of them are located in dry river beds which, during the monsoon, turn into fast-flowing drifts. When the waters recede they leave ruin. Malaria, diarrhea, sick cattle stranded in the slush.

Forty households were moved from the village of Manibeli to a resettlement site in Maharashtra. In the first year, 38 children died. In one week nine deaths were reported in a single rehabilitation site in Gujarat. That's 1.2875 PAPs a day, if you're counting.

Many of those who have been resettled are people who have lived all their lives deep in the forest with virtually no contact with money and the modern world. Suddenly they find themselves left with the option of starving to death or walking several kilometers to the nearest town, sitting in the marketplace (both men and women), offering themselves as wage labor, like goods on sale.

Land for land sounds like a reasonable swap, but how do you implement it in a country where every inch of land is fought over? How do you uproot 200,000 people (the official blinkered estimate) and relocate them in a humane fashion?

In circumstances like these, to even entertain a debate about Rehabilitation is to take the first step towards setting aside the Principles of Justice. Resettling 200,000 people in order to take (or pretend to take) drinking water to 40 million – there's something very wrong with the scale of operations here. This is Fascist Maths. It manages to blind perfectly reasonable people with its spurious, shining vision.

To slow a beast, you break its limbs. To slow a nation, you break its people. You make it clear that ultimately it falls to you to decide who lives, who dies, who prospers, who doesn't. To exhibit your capability you show off all that you can do, and how easily you can do it. How easily you could press a button and annihilate the earth. How you can start a

war, or sue for peace. How you can snatch a river away from one and gift it to another.

Day by day, river by river, forest by forest, mountain by mountain, missile by missile, bomb by bomb – almost without our knowing it, we are being broken.

Big dams are to a nation's "development" what nuclear bombs are to its military arsenal. They're both weapons of mass destruction. They're both weapons governments use to control their own people. Both 20th century emblems that mark a point in time when human intelligence has outstripped its own instinct for survival. They're both malignant indications of civilisation turning upon itself. They represent the severing of the link, not just the link – the understanding – between human beings and the planet they live on. They scramble the intelligence that connects eggs to hens, milk to cows, food to forests, water to rivers, air to life and the earth to human existence.

Can we unscramble it?

Maybe. Inch by inch. Bomb by bomb. Dam by dam. Maybe by fighting specific wars in specific ways. We could begin in the Narmada valley.

This July will bring the last monsoon of the 20th Century. The ragged army in the Narmada valley has declared that it will not move when the waters of the Sardar Sarovar reservoir rise to claim its lands and homes. Whether you love the dam or hate it, whether you want it or you don't, it is in the fitness of things that you understand the price that's being paid for it. That you have the courage to watch while the dues are cleared and the books are squared.

Our dues. Our books. Not theirs.  
Be there. ■

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*© Arundhati Roy 1999. This is an edited extract of an essay first published in the Indian magazines Outlook and Frontline. The essay will be published in the US by Random House later this year. Arundhati Roy is the author of The God of Small Things.*

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**Bakun** continued from page 4

The revived dam raises new questions about the government's long-term vision for development in Malaysian Borneo. Instead of enacting energy-saving measures, which the national Energy Minister has suggested could save Malaysia up to \$180 million a year, the government is investing in power production which is not yet needed in the hopes of luring new industry.

A June 10 statement by Dr. Kua Kia Soong on behalf of the Coalition of Concerned

NGOs on Bakun states: "The country has to have an energy-needs inventory, not just electricity consumption projections. This means the collection of reliable data on types of energy [the country can] produce and the amounts used; optimising the match between energy sources and uses to avoid wastage, and tapping more renewable sources."

The Borneo Project and Sahabat Alam Malaysia (SAM) will be installing a demonstration micro-hydro generator later this year

near Bakun. Capturing energy from a small stream without blocking the stream's flow, this system will provide 100 Kenyah families with sustainable, environmentally safe power. It will generate social development, increase self-reliance, help people improve their living conditions and create work opportunities. If successful, it will be the first community-owned and operated green-energy system in Sarawak. ■

**About IRN**

IRN was formed in 1986 by hydrologists, engineers and environmentalists to address the worldwide prevalence of unsound, destructive river-development schemes. Our mission is to halt and reverse the degradation of river systems; to support local communities in protecting and restoring the well-being of the people, cultures and ecosystems that depend on rivers; to promote sustainable, environmentally sound alternatives to damming and channelling rivers; to foster greater understanding, awareness and respect for rivers, and to support the worldwide struggle for environmental integrity and social justice.

**Reports**

**The Asian Development Bank's Role in Dam Building in the Mekong Watershed** by Aviva Imhof, 1997. 19 pp, \$10.

**Proceedings of The First International Meeting of People Affected by Large Dams.** 1997. \$15.

**The Relationship Between Primary Aluminum Production and the Damming of the World's Rivers,** by Jenny Gitlitz. 1993. 150 pp, \$20.

**Considering the Hidrovia – A Preliminary Report on the Status of the Proposed Paraguay/Paraná Waterway Project** by Owen Lammers (IRN), Deborah Moore (EDF) & Kay Treakle (BIC). 1994. 60 pp, \$15.

**River Dolphins –Can They be Saved?** by Elizabeth Carpino. 1994. 42 pp, \$15.

**Damming the Rivers: World Bank Lending for Large Dams** by Leonard Sklar & Patrick McCully, 1994. 89 pp, \$20.

**Lessons Unlearned: Damming the Mekong River,** by Steve Rotherth. 1995. 70 pp, \$15.

**Technical Review of the Mekong Mainstream – Run-of-River Hydropower Report,** by Philip Williams & Steve Rotherth, 1995, 7 pp, \$3.

The following campaign information packets are available for \$15 each: Three Gorges Dam (China) • Pangu Dam / Biobio River (Chile) • Arun III Dam (Nepal) • Nam Theun 2 (Laos) • Xiaolangdi Dam (China) • Lesotho Highlands Water Project (Africa) • Mekong Hydroelectric Development (Southeast Asia) • Hidrovia Dossiers I-5 (South America) • Bakun Dam (Malaysia) • Epupa Dam (Namibia)

**Other Resources**

**World Rivers Review** subscriptions are automatic for IRN members. Back issues are \$5.

**Large Dams, False Promises,** writer and producer, David Phinney; executive producer, Andrea Torrice. 33 min. video, \$35. Features the stories of three dams: Sardar Sarovar (India), Three Gorges (China) and Balbina (Brazil). The stories illustrate the destruction that large dams are causing to ecosystems and riverine communities worldwide.

**Silenced Rivers: The Ecology and Politics of Large Dams,** by Patrick McCully. 1996. 350 pp. \$20/members, \$25/non-members. This book covers the environmental and social effects of large dams around the world.

**River of Words Teacher's Guide.** 1996, 50 pp, \$6. Classroom and field activities on watersheds for grades K-12. Supports IRN's international environmental poetry and art contest, conducted annually in partnership with The Library of Congress.

**Rowing Partners: 101 Ways to Build Community Partnerships,** by Pamela Michael. 1998, 19 pp, \$5. Idea-packed booklet offers strategies and concrete steps to help create local support and enthusiasm for River of Words (or any community project).

**Beyond Big Dams: A New Approach to Energy Sector and Watershed Planning,** edited by Juliette Majot. 1997. 126 pp. \$20. Explores small scale hydro.

**Information Services**

**World Wide Web:** IRN's web site has hundreds of items on river campaigns around the world, links to other sites of interest, WRR articles, maps and much else. Visit it at [www.irn.org](http://www.irn.org)

IRN's resources are used to support the information needs of non-profit organizations as well as individuals and institutions. General research fee per hour is \$50 (\$25 minimum per request, plus photocopy and mailing charges).

**For more information about IRN's activities and publications, or to order our more detailed publications brochure, contact:**

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# Uganda Dam Mired in Problems Again

by Stephen Linaweaver

**T**he Bujagali Falls Hydropower Project in Uganda, a 290-megawatt, 30-meter high dam proposed by the US-based AES Corporation, continues to face major setbacks on several fronts. On July 7, the *Monitor*, a Ugandan daily newspaper, reported that the Ugandan government had asked Parliament to approve the controversial AES power deal, only to be rejected for the third time.

The major sticking point is the terms of a 30-year power purchase agreement between AES and the Uganda Electricity Board. While the Ugandan government is seeking permission to guarantee electricity capacity payments to AES, Parliament has argued that the government cannot give any guarantees without an existing law regulating the power sector. All discussion concerning the power deal has now reportedly been put on hold until an Electricity Act is devised.

It has also recently surfaced that there may not be enough internal demand for the power produced from the Bujagali Falls Project. The industry magazine *Hydropower and Dams* (Issue 3, 1999) stated that domestic demand

in Uganda is "only expected to increase to 320 MW in the year 2000." Uganda's current power source, Owens Falls Dam, has a capacity of 180 MW, and the Owens Falls Extension Scheme will produce another 200 MW when completed next year. The magazine states that the Bujagali Project is now "feared excessive for the country's investment capacity."

Uganda's Finance Minister has called on Kenya to purchase more electricity from Uganda, but if Kenya's imports do not increase, the Bujagali Falls Dam could end up producing unused power.

## Competing Projects

AES is also facing stiff competition from a second power project on the Nile, proposed by Norpak, a consortium of Norwegian power producers. According to an article in *Hydropower and Dams* (Issue 2, 1999), the Norwegian scheme, proposed for Karuma Falls, would be "cheaper, more flexible, and because it would involve mainly underground works rather than a dam, have less impact on the environment." Since it is unlikely that there will be enough demand

in Uganda for even one of these hydropower projects, let alone two, Norpak and AES appear to be battling head-on for the right to build in Uganda.

The lingering controversy over the Bujagali project has forced the International Finance Corporation (IFC), the private-sector lending arm of the World Bank and a potential funder of the Bujagali Dam, to enlarge the scope of its efforts to develop Uganda's rivers. In April, the IFC began a review of all potential hydropower projects and all available alternative sources of power in Uganda. Acres International, a Canadian hydropower firm, has been tapped to make the assessment, with Kagga and Partners, Ltd, a consulting firm based in Uganda. A formal document is expected in September. ■

## What IRN Is Doing

IRN has written the IFC and Acres, detailing our concerns about this project. The document is available on our web site: [www.irn.org](http://www.irn.org).

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