

WORLD RIVERS

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Indigenous People Confront Industry on Sarawak Dams

By Zachary Hurwitz and Kirk Herbertson

The Malaysian state of Sarawak, located on the island of Borneo, is rich with tropical forests and powerful rivers. Five years ago, Sarawak's authoritarian ruler Abdul Taib Mahmud said that he plans to "transform Sarawak into a developed state" by building 12 large dams, mostly to power neighboring states. The forests are home to tens of thousands of indigenous people who have suffered human rights abuses for decades as Taib's government has seized native lands for the benefit of his family's timber and palm oil companies.

When the International Hydropower Association (IHA) held its biennial congress in Sarawak in May, indigenous people mobilized to ensure that visiting companies and investors learned the truth about the Sarawak dams.

Unprecedented Protest

On May 22, 300 Penan, Kenyah, Kayan, and Iban indigenous people arrived at the meeting site by bus from their longhouses in remote parts of the state. They had traveled long distances to protest the destructive dams that are affecting their native lands. The protest was organized by SAVE Rivers, a local network of people who have already been affected by three existing dams, and others who would be impacted by nine more planned dams.



Indigenous people protest at the International Hydropower Association congress in Sarawak. Photo: SAVE Rivers Network

The demonstration was unprecedented for Sarawak. Here, public protest is severely discouraged and often repressed. Local media is almost entirely controlled by the government. In the past, several indigenous rights activists have been jailed or harassed. Some have had their passports taken by the government to prevent them from leaving the country. Many have had their communications monitored by the government. An intelligence police force, called the Special Branch, tracks protesters or anyone who criticizes the government.

On the morning of May 22, as the protesters gathered outside the IHA congress, chanting and delivering a statement of opposition to the dams, Special Branch officers took photos of the protesters for their database of citizens critical of the government. Indigenous activists lined the entrance to the event to

welcome the IHA delegates with bracelets that read "We don't want mega-dams in Sarawak," while singing traditional indigenous songs and wearing shirts that read "Stop Baram Dam." The protesters were monitored closely by five Special Branch officers.

Earlier in the week, Peter Kallang, chairman of SAVE Rivers, was prevented from attending a "stakeholder workshop" organized by the World Bank Group, Asian Development Bank, Inter-American Development, and the IHA. The workshop was held at the headquarters of Sarawak Energy, the government's energy company.

On the closing day of the IHA Congress, Sarawak Energy commissioned a front-page story on how the company has "placed its social obligations first." During the Congress, the head of Sarawak's state planning unit

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World Rivers Review

Volume 28, Number 2
ISSN Number 0890 211

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post-consumer recycled waste
paper with vegetable-based inks

Commentary

REFLECTIONS ON 16 YEARS OF DAM BUSTING

This week I will be leaving International Rivers after 16 years with the organization. I'm moving back to my native Australia and taking on the position of Pacific Coordinator for a new international anti-coal network. While I'm excited for the fresh challenges that lie ahead, it's a bittersweet time for me.

International Rivers has been central to my world for much of my adult life. While it's not hard for me to imagine International Rivers without me, it's harder to imagine me without International Rivers. In so many ways I have grown up at International Rivers: as a woman, a mother, an activist, and a leader. When I joined in 1997, International Rivers Network was a small, scrappy outfit of a little more than a dozen people perched on top of a parking lot in Berkeley, California. I was hired as the first full-time coordinator of our Mekong work. At the time, the battle over the massive Nam Theun 2 Dam in Laos was heating up for the first time, and together with IRN's Patrick McCully — the person who taught me more about dam-fighting than anyone else — we were engaged in an epic battle with the World Bank over financing for the project. While we defeated the project several times in the next eight years, ultimately the World Bank gave the green light and the project was built. In 2011 when I went back to see the completed project, I wept at the sight of the massive reservoir with its dead trees poking out where there was once a meandering free-flowing river. It's an image that I will never forget.

Here are some lessons I've learned in 16 years of dam fighting:

- The biggest success stories come from a strong local movement fighting for their rights. Local communities have enormous power to effect change if they are united, persistent and have the necessary tools. That's what I will always love about International Rivers: we provide so many tools to so many people around the world. We've heard of dam victories that we weren't even closely involved in, only to be told the communities attributed part of their success to a guide they received from International Rivers, a video they saw, or an activist they met. That's the power of a real movement.
- Big dams rarely die. I can name so many projects that we've defeated countless times over the years that unfortunately seem to always come back, in a new form, sometimes with a new name, and almost always with a gentler, green-washed image.
- Victory is not only measured by stopping a dam. Each campaign must be seen as part of the larger goal of protecting rivers and ensuring that local voices are included in the decision-making process. By providing consistent and strong opposition to nasty dam projects, many projects have been unable to get off the ground. As Peter Riggs, a beloved former funder of International Rivers, once told me: "A lot of terrible things didn't happen because International Rivers was there to talk sense and wake people up. A lot of people have not been displaced from their homes. A lot of people continue to be able to grow vegetables on riverbanks in the expectation that those crops can be harvested. A lot of people in the Mekong Basin are able to continue to live in the ways in which their ancestors wanted them to, and to raise their children in ways that are consistent with their community values, because you guys – unseen, unknown – were on the job."

While it is time for me to move on, I will miss so much about International Rivers – our incredible staff, amazing partners, dedicated board and, perhaps most of all, the rivers. Waking up in a hammock by the side of the free-flowing Xingu River in the Amazon to see the sun rising over the riverbanks; traveling down the Xe Bang Fai in Laos in a small fishing boat and waving to the children swimming along its banks; hearing the mighty roar of the Pascua in Chilean Patagonia as it makes its treacherous descent out of Lago O'Higgins.

International Rivers will continue to be the go-to group for protecting the world's rivers for many years to come, and I look forward to staying involved and watching the organization grow and thrive. In the meantime, I've got a coal plant or two I need to stop...

Aviva Imhof

MAKING WAVES

In the News

“We’re talking about a cascade of dams that will fundamentally alter the ecosystems and resources for downstream communities that depend on the river,” said Katy Yan, China program coordinator at International Rivers, an advocacy group. ”

“Plans to Harness Chinese River’s Power Threaten a Region,” *New York Times*, May 4, 2013

“The Brazilian government is making political decisions about the dams before the environmental impact assessment is done,” said Brent Millikan of the International Rivers environmental group. “The recent military operations illustrate that the federal government is willing to disregard existing legal instruments intended to foster dialogue between government and civil society. ”

Amazon tribe threatens to declare war amid row over Brazilian dam project, *The UK Guardian*, April 3, 2013

New Standards for Chinese Dams Overseas

China is now the biggest dam builder in the world, involved in some 300 projects in 70 countries. Given China’s association with disastrous projects such as Bakun Dam in Malaysia and Merowe Dam in Sudan, Chinese banks and dam builders have long been perceived to be accountable to no one when it came to dam building beyond its borders.

Now there is a new source of leverage for holding Chinese companies responsible for their environmental and social impacts overseas: the Chinese Ministry of Commerce and the Ministry of Environmental Protection’s “Guidelines for Environmental Protection in Foreign Investment and Cooperation.” The Guidelines, released on February 28, cover key issues such as legal compliance, environmental policies, environmental management plans, mitigation measures, disaster management plans, community relations, waste management, and international standards.

Ren Peng from China’s Global Environmental Institute said that Chinese government officials “realize the environmental, political and economic risks faced by China’s enterprises operating abroad” and are concerned about China’s reputation in other countries. While the guidelines are non-binding, they are still government policy and create a new window for civil society to engage with Chinese companies working abroad, obtain project information and documents, and hold them to a higher level of responsibility for their negative impacts. International Rivers has translated the guidelines into Burmese and Spanish (available here: <http://bit.ly/YjCSwk>).

Grace Mang



An indigenous protester at the Belo Monte Dam site occupation. Photo: Ruy Sposati

Occupy Belo Monte!

Some 200 indigenous people affected by the construction of large dams in the Amazon launched an occupation on May 3 at the Belo Monte Dam construction site. They demand that the Brazilian government adopt effective legislation on prior consultations with indigenous peoples regarding projects that affect them. Until then, they are demanding the immediate suspension of all construction, technical studies and police operations related to dams along the Xingu, Tapajós and Teles Pires rivers.

An open letter from the occupiers states: “We want dialogue, but you are not letting us speak. This is why we are occupying your dam-building site. You need to stop everything and simply listen to us.”

In March, President Dilma Rousseff signed a decree allowing the use of armed forces to ensure that dam projects are not interrupted by indigenous protestors. In April, upon request from the Ministry of Mines and Energy, approximately 250 troops were dispatched to the Tapajós region to ensure continuation of technical studies for the first two large dams scheduled for construction, São Luiz do Tapajós and Jatobá. Known as “Operação Tapajós,” the military operation came in response to protests from the Mundurucu people whose traditional lands would be directly affected by the two large dams.

Initial reports indicate that up to 6,000 workers at the Belo Monte construction site ceased operations as a result of the protest, and greeted the occupiers with applause. The protesters say the occupation will continue until the federal government meets their demands.

Brent Millikan

Laos Greenwashes Dirty Dams

By Tania Lee and Katy Yan

According to mainstream international financial institutions, foreign aid agencies, and national government planners in Laos, the way to lift up underdeveloped villages and to meet regional energy needs in an environmentally sustainable way is to dam its rivers and export the hydroelectric power to its neighbors.

This short-sighted economic program, which is meant to attract foreign investors and bring a steady flow of revenues, overlooks the very real long-term impacts of large dams, including: inundation of productive lands, decimation of downstream fisheries, and livelihood losses for thousands of people living in the surrounding areas. Calling Laos' dams a clean source of energy also ignores research demonstrating the significant contributions of greenhouse gas (GHG) emissions from dam reservoirs.

Nam Theun 2: World Bank 'Model of Success'

Nam Theun 2 Dam, located on the Theun River (a Mekong tributary) in the Nakai Plateau in central Laos, exemplifies Laos' hydro-power development program. The US\$1.3 billion dam, completed in 2009 with financial support from the World Bank and Asian Development Bank, had a primary objective of exporting electricity to Thailand. Water is directed to a powerhouse before being diverted to the Xe Bang Fai River. Approximately 6,300 people were displaced to make way for the 450 square kilometer reservoir. More than 120,000 downstream villagers have been harmed by increased water flows in the Xe Bang Fai and significant losses of fish populations. Yet, Nam Theun 2 continues to be staunchly defended as a success by those who helped build it.

A more troublesome picture is being painted by a diverse group of actors, including community-based researchers, academics, NGOs and former Nam Theun 2 consultants. These groups have been talking directly to affected villagers, documenting changes on the rivers themselves, monitoring the density of the surrounding forest cover, and observing border crossings at the nearby checkpoints to Vietnam.

Displaced villagers on the Nakai Plateau have newly built homes, but many say they are without sustainable livelihoods, due to the poor quality of land available for farming. Many families are considering buying land in other parts of the country or working as laborers on plantations or in nearby urban centers. Meanwhile, the Nam Theun 2 Panel of Experts (PoE) reported in February that the community forestry program, promoted as a flagship project to help generate jobs and earnings for dam-affected people, is in a "crisis situation" because the timber resources upon which the program depends are forecast to be close to exhaustion by 2015. The PoE also raised concerns about rampant poaching of timber and wildlife, which has been facilitated by the new access routes for the dam, stating that "there is real danger that much of the NPA [Nakai Nam-Theun National Protection Area] will become an 'empty forest' without wildlife under the trees that remain."

Downstream, many villagers have told International Rivers that they have gone into debt trying to engage in small income-generating projects promoted by the World Bank and Asian Development Bank to replace the loss of earnings from the bountiful fish catches upon which they once relied.

Nam Theun 2 is only one sobering example of the dam building trend being replicated across the country. More than 100 new dams are planned on the tributaries of the Mekong River in Laos. A cascade of seven dams is already under construction

on the Nam Ou, a major tributary river of the Mekong in northern Laos renowned for its significant biodiversity. There are also close to 20 dams planned in the Sekong River Basin in southern Laos. Alarming patterns of deforestation and clearing of land for plantations in areas designated for dam building has been noted by a wide range of academic scholars and other international NGOs. This situation was evident in February 2013, when International Rivers was conducting informal interviews with villagers to be displaced by dams in southern Laos, who pointed out vast swaths of cleared land and told us that they are being resettled into workers' compounds and will be hired on new rubber tree plantations.

Contributing to Climate Change

The construction of reservoirs and related deforestation has shifted Laos from a net carbon sink to a net emitter of greenhouse gas emissions (GHGs), according to the EU Global Climate Change Alliance. Preliminary research on reservoir emissions at Nam Theun 2 and a 2011 study on the Nam Ngum and Nam Leuk reservoirs showed these reservoirs to be significant sources of methane, which is 25 times more potent than carbon dioxide over 100 years.

While reservoir emissions studies are limited in Southeast Asia, the study of the Nam Leuk reservoir revealed that "GHG emissions are still significant 10 years after impoundment" and that the emissions values were comparable to other tropical reservoirs such as those in Brazil, whose reservoirs have been studied the most.

The preliminary results of a study on Nam Theun 2 by researchers at Duke and Toulouse universities indicate that Nam Theun 2 is responsible for massive amounts of GHG emissions. A life-cycle analysis by a researcher at Duke estimates that the reservoir is producing as much as one million tons of methane and carbon dioxide per year, while the study by Toulouse researchers indicated that Nam Theun 2 produces in excess of 40% of the GHG emissions that would be emitted from a coal fired power plant of equivalent energy output, and far more than a natural gas-fired plant. Both studies have yet to be peer-reviewed, but the Toulouse researchers have produced a poster describing the main results from their study.

Through an examination of methane emissions from both upstream in the reservoir (through surface diffusion and bubbling up of gases from the bottom) and downstream degassing, the Toulouse study concludes that the methane emissions from Nam Theun 2 is about two orders of magnitude greater than pre-impoundment emissions, which made it a net emitter in 2010-11.

Why is this significant? Brazilian researchers estimated in 2007 that methane from dams is responsible for around 4% of human-caused climate change. Today, global estimates continue to be variable, partly because almost no information is available for the subtropics and especially from Asia, where according to the Toulouse researchers, two-thirds of reported dams are located.

The construction of reservoirs and related deforestation has shifted Laos from a net carbon sink to a net emitter of greenhouse gas emissions.

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Thai Dam-Affected Villagers Demand Fair Compensation

By David J.H. Blake

Decades after several large dams were built in the lower Mun River Basin in northeastern Thailand, affected villagers continue to organize protest camps near the dam sites to demand just compensation for lost land and livelihoods. For years, people displaced by dams built on Mekong tributaries have organized protests, but some have recently stepped up their campaigns for justice. Across Thailand, dam projects have long been resisted by peoples' movements demanding their rights to land, access to water and sustainable livelihoods.

Coordinated actions were made possible through the networking of grassroots groups such as the Assembly of the Poor, the Northern Farmer Network and the Assembly of the Mun River Basin, all of which emerged in the 1990s. For example, in March 1999, more than 5,000 villagers from sites affected by existing and planned dams spanning eight provinces occupied the Pak Mun Dam site and established an encampment to pressure the authorities to meet their demands. The camp remained for three years until destroyed by forces alleged to be in the pay of the dam operators, the Electricity Generation Authority of Thailand (EGAT). The spirit of resistance to destructive development, however, lived on and has been mobilized on numerous occasions since.

Faced with persistent protests and demands for reparations by the coordinated action of these groups, the Thai government has since shied away from constructing domestic large-scale dams and instead encourages state and private enterprises to build dams on the rivers of neighboring countries, such as Burma and Laos. The protesters' tireless mobilizations to seek compensation, reparations and dam decommissioning serve as a potential warning to Thailand's neighbors in the current context of rising regional tensions over damming the Mekong. Here is a roundup of recent events from these peoples' movements.

Rasi Salai Dam

In February, thousands of villagers impacted by the Rasi Salai Dam gathered near the dam site to protest a lack of state compensation. When the dam was built in the 1990s the reservoir flooded productive land they used for both agriculture and wetlands-based livelihoods, and destroyed the seasonally flooded forest (known locally as *paa boong paa thaam*). In the past, this ecologically important forest covered much of the Mun River's floodplain, providing a rich source of fish, aquatic animals, wild vegetables, herbal medicines, firewood, and a wide range of other benefits.

The project was built in the mid-1990s, as part of an ambitious regional irrigation development plan called the Khong-Chi-Mun Project (KCM). The KCM was supposed to transfer water from the Mekong River to irrigate large tracts of land in the Northeast. In the face of strong opposition from civil society and local villagers concerned about the project's socio-environmental impacts, the



The failed fish ladder at Pak Mun Dam. Photo: David Blake

KCM was never completed. However, individual sub-projects such as the Rasi Salai Dam have since advanced.

Local communities affected by Rasi Salai hosted the Second International Meeting of Dam Affected People in late November 2003. This was a time of hope for the villagers because the dam gates were opened for a time and the river was allowed to flow freely. It seemed that it could be possible to rehabilitate some of the lost *paa boong paa thaam* habitat. The poorly conceived original plan to close the dam gates each dry season to store

water for irrigation in a shallow, ecologically impoverished reservoir has been followed, resulting in the flooding of the remaining stands of forest and former paddy fields.

Where a decade ago approximately 300 grassroots activists from 62 countries met to exchange views and share lessons on opposing destructive large-scale dam development, the site is now inundated by the still waters of the reservoir. There is nothing to mark the spot where so much positive energy flowed from the participants gathered under the banner of "*Rivers for life, not for death!*" The ironic fact is that far more productive land was lost to the reservoir than has ever been irrigated by water from the dam. Today, most land surrounding the reservoir is not irrigated, in part due to the low economic potential, salinity problems and poor soil quality.

Pak Mun Dam

Just five kilometers upstream of the Mun's confluence with the Mekong River at the site of one of the most productive fishery habitats in the whole Northeast region, the Pak Mun Dam was constructed in the early 1990s. It is the most controversial dam built in the history of Thailand, and has been the subject of a protracted struggle for rights, resources, compensation for lost livelihoods and environmental justice. A World Commission on Dams case study on Pak Mun concluded that the project was highly damaging to aquatic resources and fisheries-based livelihoods, but only marginally economic as a power producer. Other predicted benefits, such as irrigation and tourism, failed to materialize. During a recent visit to the site, the author found that the fish ladder built to mitigate the passage of migratory fish has essentially been abandoned by the state authorities. Similarly, the houses provided by the developers for resettled families have been largely abandoned.

Meanwhile, local people who remain in the area have had to seek alternative means of livelihood or wait for remittances sent by relatives to survive. The bitter struggle for rights, compensation and justice has also taken its toll on Pak Mun communities. Some still fight on doggedly to demand the government permanently open the dam gates and allow the river to resume its natural seasonal ebb and flow. They claim that EGAT has reneged on an order from the Cabinet to open the gates for four months at the start of the rainy season to allow fish to swim upstream to spawn

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Zambezi Basin Dam Boom Threatens Delta

By Yolanda Machena and Sibonginkosi Maposa

For years plans have been on the table within the Zambezi basin countries to boost their energy supply by building additional hydropower dams on the river. In the past year, plans for building the Batoka and Mphanda Nkuwa hydropower dams have been advanced by the Zambian and Zimbabwean governments; and the Mozambican government respectively.

The 2,574 km Zambezi River – the largest in Southern Africa – rises in the Kalene Hills in northwest Zambia and flows south and then eastward to the Indian Ocean. The river's watershed encompasses globally important features, including the vast floodplains (Barotse and Kafue), the world-renowned Victoria Falls, wildlife reserves, spectacular gorges, and one of the largest natural lakes (Lake Malawi). The basin is home to hundreds of thousands of people. The Zambezi became a huge tourist destination following the end of wars in Zimbabwe and Mozambique.

Mphanda Nkuwa Dam is to be located about 60 km downstream from the Cahora Bassa Dam in Mozambique. The Batoka Dam is to be located 50 km downstream of Victoria Falls at Moemba Falls, on the stretch of the river shared between Zambia and Zimbabwe. Construction work on Mphanda Nkuwa was supposed to commence in 2011 after planning dating back some years. Although construction has not yet commenced, the Mphanda Nkuwa Development Authority has been established, headquartered in Maputo, with staff and all the paraphernalia that goes with huge infrastructure projects. Plans for the Batoka Gorge date back to the early 1990s and energy ministers from Zimbabwe and Zambia met earlier this year to discuss their implementation.

Mphanda Nkuwa's reservoir will flood 97 square kilometers and have a total energy capacity of 1,500 MW. Batoka Gorge will be a 181m high dam with a total energy capacity of 1,600 MW.

The Zambezi already has two of Africa's biggest dams on its mainstem (Kariba and Cahora Bassa). Significant large dams on its tributaries include Kafue Gorge and Itezhi-tezhi on the Kafue River.

Ownership and financing

The Mphanda Nkuwa project was approved by the Mozambican government in 2010 and was estimated to cost US\$2 billion, with promised financing from the China Exim Bank; the publicly owned Electricidade de Mocambique (EDM); Camargo Correa, a Brazilian company, and the Mozambique company Energia. With only 5% government shareholding to mitigate political risk, uncertainty persists over the mega-investment's net benefit to tax revenues and national development. The Batoka Gorge scheme, on the other hand, is a joint initiative by the governments of Zambia and Zimbabwe, overseen by the Zambezi River Authority (ZRA). It is expected to be supported with funding from the World Bank and



Batoka Gorge would be flooded if the proposed dam goes ahead.
Photo: Tony Wasserman

other interested parties. The projected cost of this scheme is somewhere between US\$2.8 billion and US\$4 billion. It is reported that six companies have been shortlisted for construction of Batoka while a new EIA is currently underway.

The government says it hopes Mphanda Nkuwa Dam will attract more energy-intensive industries to Mozambique and that it will address rural electrification shortfalls, but the reality is that Mozambique's absolute consumption of electricity is very low (78kWh per capita per year). Less than 5% of the population currently has access to electricity, and half of these live in the capital Maputo. Extending a transmission grid

to those in need of electricity will be prohibitively expensive and unlikely to take place any time in the near future. Most of the electricity generated by Mphanda Nkuwa will be sold to South Africa.

Similar electricity generation objectives drive the Batoka Gorge project. It is anticipated that this scheme will increase electricity generation capacity, reduce reliance on imports, and boost inflows of foreign currency from electricity exports. The electricity generated is to be shared equally between Zambia and Zimbabwe.

Continued opposite

New Book Analyzes Legacy of Cahora Bassa Dam

The sad history of one of Africa's biggest dams is the topic of an engaging and important new book, "Dams, Displacement and the Delusion of Development: Cahora Bassa and its Legacies" (Ohio University Press, 2013), by Allen and Barbara Isaacman. The book, which is rich with first-hand quotes of people directly impacted by the massive Cahora Bassa Dam, built in Mozambique in the 1970s, analyzes the project's social, environmental and economic failures. A picture emerges of a river being used as a political football in a time of civil war and waning colonial power, and a project fraught with injustices. "Cahora Bassa not only changed the Zambezi forever, but it also affected the lives of every individual who lived adjacent to the harnessed waters," write the authors. This excellent study offers a cautionary tale for those who would build new large dams on the Zambezi River, and should be required reading for the region's river agencies and energy ministries.

Lori Pottinger

Governments Damp World Bank's Enthusiasm for Big Dams

By Peter Bosshard

The World Bank and many African governments love big dams. The Gibe III Dam on Ethiopia's Omo River is under construction, and new mega-projects on the Congo and the Zambezi rivers are in the pipeline. These projects are meant to serve mining companies and big cities, but will leave the poor high and dry. NGOs recently scuttled a World Bank attempt to divert aid for the poorest into these projects.

Donor governments are currently negotiating their contributions to the International Development Association (IDA), the World Bank's fund for the poorest countries. They have identified Inclusive Growth, Gender Equity and Climate Resilience as the special themes of the next round of IDA funding.

In March, the World Bank management proposed to make large regional infrastructure projects (or, in Bank jargon, Regional Transformational Initiatives) an additional focus of future IDA projects. The Bank argued that such projects could "catalyze very large-scale benefits to improve access to infrastructure services." It identified several projects as examples for the proposed approach, including the Inga 3 Dam on the Congo (with a cost of \$10 billion) and the Mphanda Nkuwa and Batoka Gorge hydropower schemes on the Zambezi (with a total price tag of \$8-9 billion).

As International Rivers' 2012 report *Infrastructure for Whom* documents, large dams have failed to meet the energy and water needs of Africa's poor in the past, and better options are usually available. In a letter to donor governments, International Rivers and several partner groups argued that the proposed projects would undermine the official IDA goals of inclusive growth, gender equity and climate resilience.

Inclusive Growth: The proposed hydropower projects are not designed to meet the needs of the poor, but to generate electricity for mining companies and urban centers, with the hope that some of their revenues will trickle down to the poor. In the Democratic Republic of Congo, development banks have in the past 40 years invested billions of dollars in the Inga 1 and 2 dams and associated transmission lines, yet today only 9% of the population has access to electricity. The situation is similar in Zambia and Zimbabwe, where the World Bank funded the massive Kariba Dam on the Zambezi River.

Large, complex projects such as the dams on the Congo and Zambezi rivers rely on imported technologies and know-how, and do not create a significant number of domestic jobs. In contrast, decentralized renewable energy projects such as solar, wind, micro-hydropower and improved cooking stoves are more effective at reaching the majority of the people in Africa and South Asia who are not connected to the electric grid. They also create jobs in manufacturing and maintenance, and in the local businesses (from agriculture to tourism) that they serve.

Gender Equity: Centralized infrastructure projects often have massive negative impacts on local livelihoods, and women bear the brunt of these impacts. In the case of the Inga 1 and 2 and Kariba dams, displaced communities are still struggling to regain a bare-minimum standard of living after more than 40 years, and women are particularly affected by the loss of land and communal resources. If the benefits of regional mega-projects do trickle down, they typically reach workers in the formal economy, but

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Zambezi *continued*

Cumulative impacts adding up

The Zambezi is already one of the most dammed rivers in Africa. As the climate warms, it is expected to experience more prolonged drought periods and more disastrous floods when the rains do fall. In the 2012 study "A Risky Climate for Southern African Hydro," Dr. Richard Beilfuss, a renowned hydrologist, assessed the impact of climate change on the Zambezi River Basin. The study reports that over the next century, rainfall will decrease by between 10% and 15% over the basin. The Zambezi River Authority has been criticized for basing the Batoka Gorge Dam on plans that were last reviewed in 1993, plans which do not take into account climate change risks. Similarly, the Mphanda Nkuwa scheme has been criticized for failing to adequately consider its socio-economic and environmental impacts. It has been argued that the effects of climate change, impacts on communities downstream, on river flows, sediment collection, and river bed agriculture have not been adequately considered.

The Batoka scheme will flood the gorge and drown the massive rapids that have made Victoria Falls a prime whitewater rafting location. All previous environmental impact assessments reported that the reservoir would stretch to the plunge pool of the Victoria Falls, which the developers deny. The International Rafting Federation considers Batoka as the "most famous stretch of white waters in the world."

Batoka Gorge is a significant part of the tourism industry. At its peak, Victoria Falls, Mana Pools and Lake Kariba received over

1.5 million visitors a year, with most going to Victoria Falls and the gorges. During the time of economic downturn in Zimbabwe, Victoria Falls has been the only area that offered returns in tourism revenue.

Both schemes will lead to the displacement of local communities. On March 14, 2013, Justiça Ambiental (JA!) – an organization based in Mozambique which works closely with communities on environmental issues – brought together over 50 communities on the banks of the Zambezi River to build awareness about the dam. This included communities that will be displaced from their homes when and if Mphanda Nkuwa is built.

With recent climate studies showing the risk of longer droughts, reduced flows and increased risk of extreme flooding events in the region, damming the Zambezi River is not a reliable or sustainable solution for power-deficit countries. Wind, solar and micro-hydro are viable options and especially well-suited to meeting the huge unmet demand for local electricity supply in the rural areas. Improving existing hydropower capacities at existing dams is another good option.

It also appears that each of the riparian countries is planning to export hydropower to South Africa. Meanwhile South Africa has huge plans to meet its future energy needs with projects including the Grand Inga and Inga 3 in the DRC, and domestic nuclear, coal and some renewables. The SADC countries would do well to integrate their energy demands with planned developments. ●

Every River Has a Story

TAKING ACTION FOR RIVERS ON MARCH 14TH



ALETA GEORGE The American River, United States

On a clear, warm Sierra day, one sunset before the summer solstice in 2005, poets Gary Snyder and Robert Hass were two of 16 people who climbed into rubber rafts for a rafting trip and poetry reading on the American River. Says Gary Snyder, "Running a river is a lot like poetry: You're in the flow, there's no time to stop and think before reacting, new vistas keep opening up, and in the end you're happy that you made it through, but not certain that you're glad it's over."



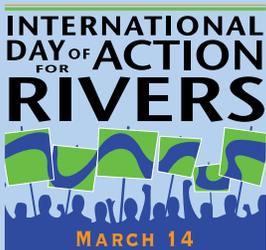
Europe

The Albanian Rafting Federation raised awareness about the importance of the Osumi River. In Krakow, Stop Przegradzaniu Rzek (Stop Partitioning Rivers) made a blue line symbolizing a border that will protect rivers from devastation, coining the slogan "Let the rivers be free, clean, beautiful, full of life, fish, plants and untouched stones! Let them be wild and natural!"



South America

Marches and protests by hundreds of dam-affected people took place in eight cities across Colombia. Protestors in Antioquia were illegally detained during a peaceful protest against the Ituango Dam, which carried on for weeks after March 14. In Brazil, more than 18 different actions took place throughout the country including protests, national assemblies, public hearings and seminars.



- ◆ = Actions
- ◆ = Stories



DR. YU:
The Nu River, China

The Nu River is not only an area of great biodiversity, it is also Yunnan's only undammed river and one of China's last two free-flowing rivers.



DANIEL RIBEIRO:
The Zambezi River, Mozambique

The place is a mix between the environment and its people and that interaction is something I have always loved about the Zambezi. There is this combination that is really special, and the energy of the place really moves me...



South Asia

More than 20 actions took place across South Asia. Hundreds of people protested the Chakpi Dam in Manipur, India. In Bangladesh, activists formed a 220-km human chain along the Baral River. In Pakistan, local river protectors celebrated a one-year movement for the restoration and freedom of rivers.



Southeast Asia

Villagers protested the Ban Koum Dam in Thailand, one of a series of dams planned on the Mekong River mainstream. Ceremonies were also held along the Salween River. Hundreds of volunteers participated in a Kampot River clean up in Cambodia. There were environmental educational activities for children, a mural unveiling, music, youth performances and a boat parade.

**Tell us your river story. Please email them to stories@internationalrivers.org.
Take action next March 14 in honor of the International Day of Action for Rivers.
See the full stories here: <http://www.internationalrivers.org/stories>**

Profile

Brent Blackwelder, Force of Nature

Brent Blackwelder is an icon in the US environmental movement. If his lifelong efforts to protect the planet were an ecosystem, it would take the form of a deep lake (the long history, the many issues, the depth of knowledge) flowing into a swift river (the boundless energy, the fast-flowing thought process, the “lead the charge” attitude). The first Earth Day inspired him to leap into early efforts to protect rivers, legislate clean water, and reform economic drivers that harmed the planet. He’s testified before Congress more than 100 times, was the president of Friends of the Earth for 15 years, helped launch the campaign to reform the World Bank, and helped establish the Green Scissors program, which reveals wasteful and environmentally harmful spending in the US federal budget. He helped launch American Rivers and International Rivers. Today, his “retirement” includes being on the Board for International Rivers (one of eight lucky groups who count him as a board member). Here are some of his thoughts on the state of the world’s rivers and the movement to protect them.

I was born in the Great Lakes watershed, and spent summers near three remarkable waterfalls in a 600-foot-deep gorge of the Genesee River. The entire zone received permanent protection by a local forward-thinking individual after he saw it threatened by logging. I was thrilled to be able to visit this special place. At that time there were superb fisheries in Lake Erie (the tenth largest lake in the world). By the 1970s, the lake was nearly dead, and filled with algae. It was one of the catalysts for the first Earth Day. These things inspired me to take action.

When we founded American Rivers in 1973, nearly all major rivers had big dams planned for them. The US Army Corps was going to engineer every body of water in the US. A few of us travelled to see the many threatened rivers in the 48 lower states so we could offer first-hand testimony about them. In 1973, the US had designated only eight Wild and Scenic Rivers. Today there are over 250.

The continued protection of rivers and ongoing removal of dams in this country is one of the bright spots in the US environmental movement. In the past 100 years we’ve taken down more than 1,200 dams – a whole lot of them in the past decade – and have defeated more than 200 destructive dam and dredging projects. The US is the world leader in the protection and restoration of rivers.

Developing countries should be looking at adopting some of the language of the Wild and Scenic Rivers Act while they still have some rivers to protect. Because once the dam is underway, it’s really hard to turn it around – sunk costs are our nemesis. The long-term challenge for our movement is to recognize that our most important environmental policy is economic policy.

What I find amazing is, we don’t find nations trying to replicate our current policies of dam removal, Wild and Scenic designations and river restoration. Instead, they’re copying our river engineering policies of 50 years ago. That’s like wanting to replicate the early house-sized computers, or weaponry from World War II. I think every US river group should reach out to grassroots groups working in the Global South, and get more involved in the fight to protect the world’s rivers.

Today we do not have a true-cost economy – all the health and economic costs of destructive projects are shoved off the ledger, as “externalities.” I call it cheater economics. We need to push for an economy that is based on long-term prosperity – and that requires a healthy planet.



Brent Blackwelder in action. Photo: Friends of the Earth

We need to recognize the nature of the fight we’re in and develop strategies to prevail. We need more groups willing to get electoral, get in the fray of politics. Coalition building is also extremely important – and it needs to be broad and deep to win.

Locally, we’ve had some good examples of this. For example, the campaign to defeat a uranium mine in Virginia brought together religious leaders, major environmental organizations, and many mayors and local officials from two states concerned about pollution of drinking water from the mine.

In 1976 people concerned about rivers came together to save the Delaware River from the Tocks Island Dam (in a watershed bordering New Jersey and Pennsylvania) and to formulate bigger strategies to save rivers. This gathering of dam fighters in the valley launched what turned out to be ten years of annual dam fighter strategy sessions, mobilizing people from many sectors – land owners, boaters, historians, fisheries people. Not only was the effort successful in stopping the Tocks Island Dam, but it also secured long-term protection scenic river protection for 80 miles of the river. I paddle these portions of the Delaware River to this day. ●

US Dam-Removal Season Off to a Good Start

By Elizabeth Brink



The top quarter of Glines Canyon Dam was removed from the Elwha River with a hydraulic hammer on a barge anchored upstream of the dam. Photo: National Park Service, courtesy Lower Klallam Tribal Library

Those whose passion is river restoration refer to summer as “dam removal season.” And this season, there is a lot to celebrate, with some very large dam removals on key rivers.

The final environmental impact statement on what would be the largest dam-removal project in California history was released in April by the US Department of the Interior. It supports removal of the dams on the Klamath River, which flows from Oregon through California to the Pacific. Although the removal of the fish-killing dams – Iron Gate, Copco 1 and Copco 2 in California, and J.C. Boyle in Oregon – is not imminent, this report takes another step forward to restoring the once-salmon-rich river.

In the meantime, 500 miles to the north, restoration on the Elwha River is proceeding much faster than expected. Removal of the Elwha and Glines Canyon dams began in September 2011. Instead of the anticipated two- to three-year process, removal proceeded quickly and the Elwha Dam was completely gone by late spring 2012.

Laos *continued from page 4*

Like their counterparts in Brazil, the Lao environmental ministry is seeking to take advantage of global mitigation funds such as the UNFCCC’s Clean Development Mechanism (CDM), which allows polluters in wealthy countries to offset their emissions by supporting supposedly clean projects in developing countries through the purchase of carbon credits. But with these dams expected to have cumulative emissions greater than those of fossil-fuel plants for decades to come, it is indefensible to promote these projects as mitigation solutions.

Despite the recent research on reservoir emissions, Laos is trying to push more projects through the CDM door, including the 120 MW Nam Ngum 5 Hydropower Project, which is already completed, and three other projects (another three have already been registered). If these projects are approved, it will mean over 10 million credits (each supposedly representing one ton of CO₂ emissions avoided by 2020) will be awarded for potentially polluting projects, while the credit buyers in Europe will be allowed to continue emitting GHGs thanks to these carbon offsets.

Work on lowering the Glines Canyon Dam is currently in process, and expected to be complete by this summer. A fourth webisode in a series by the National Park Service is called “The River Emerges” and focuses on the triumphs of rescuing the Elwha from 100 years of bondage.

“The dam is not coming down without a fight. But we’re winning,” remarks Chuck Antos of Barnard Construction about what he laughingly refers to as the coolest job he’s ever had. “I imagine what this looked like back 100 years ago when there was nothing here, I mean we’re now making it look like that again, and we’re the first ones to see it. Me and the crane operator, we always say, we don’t read about history, we make it.”

Defenders of the Klamath hope to make history themselves, by removing dams that block salmon migration and cause toxic algae blooms in stagnant lake water – and opening up 420 miles of historic habitat for the first time in a century.

Taking out the four Klamath dams would resolve various water-related problems among Indian tribes, farmers and utilities in the Klamath Basin while restoring the third-largest salmon run in the lower 48 states, behind the Columbia and Sacramento rivers.

“The scientific and common sense conclusion is clear,” said Rep. Jared Huffman, D-San Rafael. “We should tear down these dams.”

Dam removal is not a series of isolated incidents, but a logical progression of dealing with aging infrastructure. According to American Rivers, 65 US dams were removed in 2012, joining the nearly 1,100 dams that have been removed across the US since 1912. Nearly 800 of those dams were removed in the past 20 years.

Restoration certainly isn’t limited to the Western US. In fact, Pennsylvania removed the most dams in 2012, with 11 coming down and others following closely behind. In May 2013, a plan was announced to remove nine dams on Little Lehigh and Jordan creeks as part of a single, comprehensive project to improve fish passage.

The largest dam removal project in Michigan’s history is taking place on the Boardman River. The \$10 million project will remove three dams, restore natural conditions and improve the fishery in a large stretch of the popular river. ●

Large-scale hydropower dams in Laos have not brought prosperity to the people of Laos nor clean energy to the region. The opposite has occurred: dams built in Lao PDR have exacerbated poverty and food insecurity, threatened community cohesion, spurred unmitigated exploitation of natural resources, and are emitting high levels of greenhouse gases.

The current political context in Laos means that space for public participation and consultation are highly constrained. The international institutions backing the model of hydro-exploitation have never produced a comprehensive, consultative process to assess how to meet regional energy needs or Laos’ economic needs, while keeping rivers – and the communities that rely upon them – healthy. It is time that World Bank, Asian Development Bank, the CDM, and other international actors take responsibility for thoroughly assessing their investments. Until that day, they should refrain from supporting destructive dam projects on the tributaries of the Mekong River. ●

News Briefs

By Kate Ross



The Colorado River below Glen Canyon Dam. Photo: Wikimedia Commons

Colorado River named nation's most endangered

The iconic Colorado River tops this year's list of America's 10 Most Endangered Rivers, because demand for its water is outstripping supply. The list also includes the Flint River in Georgia, the San Saba River in Texas and the Little Plover River in Wisconsin. Compiled annually by American Rivers, the 2013 list shines a spotlight on rivers threatened by outdated water management practices.

The Colorado River flows for more than 1,400 miles across seven US states and two Mexican states. Thirty-six million people from Denver to Los Angeles drink Colorado River water. At least 29 large dams divert and evaporate its waters, including two of the biggest – Glen Canyon and Hoover dams. The river irrigates nearly four million acres of land, which grows 15% of the nation's crops. Such over-allocation of water has put significant stress on the river's health, on fish and wildlife in the river and on water supplies.

A report released in December by the Bureau of Reclamation states there is not enough water to meet current demand across the basin, nor future increased demand. Droughts have plagued the Colorado River in recent years, and according to scientists are likely to become the "new normal" due to an ever-warming, drier climate in the Southwest. Studies show that climate change could reduce the amount of water in the Colorado watershed by as much as 20%.

The Most Endangered Rivers report focuses on rivers at a crossroads, where key decisions in the coming months will determine their fates. Over the years, the report has helped spur the removal of outdated dams, the protection of rivers with Wild and Scenic designations, and the prevention of harmful developments. In the case of the Colorado River, American Rivers and its partners are calling on the federal government to take immediate action and supply funding for water conservation programs throughout the basin, investment in increased efficiency for water projects that are already built, and funds to restore the river's critical habitats.

Panama dam struggle turns deadly

On March 22, a Ngäbe-Bugle indigenous man named Onesimo Rodriguez was murdered, after he attended a protest rally against the Barro Blanco Hydroelectric Project, now under construction in western Panama. According to Manolo Miranda, a leader of the Movimiento 10 de Abril (or M10) – a resistance movement that has grown out of years of protest against the project and includes over 500 Ngäbe and campesinos who seek to defend the Tabasará river – the 20-year-old and a companion were viciously attacked by four masked men at a bus stop after participating in a protest rally in the nearby town of Cerro Punta.

As far back as the 1970s, the Ngäbe-Bugle indigenous people have been fighting to protect the Tabasará River and their lands from destructive dams and mining projects. The Barro Blanco Dam has been marked by human rights abuses and a lack of consultation with the Ngäbe-Bugle communities, whose territory is protected under Panama's Constitution and under international commitments on indigenous rights. In 2011 and 2012, the M10 and their supporters managed to block the Pan-American Highway and occupy the dam site. The government has responded in a number of cases with violence and by militarizing the area around the Barro Blanco Dam. A recent UN report confirmed that Ngäbe-Buglé lands and livelihoods would be harmed.

New solar dish a two-for-one

Researchers in Switzerland are developing a new solar dish which they hope will be a cheaper option to current panels, and will also serve a dual purpose by harnessing waste heat to generate fresh water. The new dish, called the high concentration photovoltaic

thermal system, is covered in small mirrors that concentrate sunlight on a small module of photovoltaic cells. This design is highly efficient, converting 30% of received solar radiation into electricity, according to the research team. To prevent the solar module from melting, the dish uses a liquid coolant system that absorbs waste heat. This waste heat can be used in a desalinization system to vaporize salty water, resulting in clean drinking water. The system is able to recover half of the waste heat to put to productive use. The solar dish is made from cheap materials – low cost concrete and pressurized metalized foils, rather than more costly steel and glass – making the per-area price of set up significantly lower than comparable solar systems. The developers hope the system will make electricity at a low enough cost to compete with coal.

Wind power surges

During 2012 an estimated 44,000 megawatts of new wind capacity was installed worldwide, setting a new record. The Global Wind Energy Council reports that wind farms are now generating electricity in more than 80 countries, 24 of which have at least 1,000 megawatts. Most of the world's installed wind capacity is land-based; just 2% is offshore. Almost a third of the newly installed capacity is in China, which is now home to more than a quarter of the world's total wind capacity. Wind power increased more than coal-fired electricity for the first time this year in China.

In the US, more new wind generating capacity was added in 2012 than any other generation technology. The US trails just behind China in installed wind capacity. Some states generate more wind power than entire countries – for example, Texas and California. The European Union has also been expanding its wind technology, and in 2012 installed more wind than it did natural gas, coal or nuclear. Unfortunately, Latin

America, Africa and the Middle East all have great wind potential but very little development so far. Only 100 MW of wind capacity was installed in all of Africa in 2012, split between Ethiopia and Tunisia. Plans for a 300MW wind farm in Kenya suffered repeated delays, but may begin construction in 2013.

According to Navigant Research, new wind installations worldwide will fall in 2013. However, the wind market is expected to recover in 2014 as costs continue to fall, major players recover, and as governments in Africa, the Middle East, and the Baltics begin to realize their wind ambitions.

Alaska dam stalled

A controversial study allowing geotechnical surveys for the

proposed 13 MW Chikuminuk Lake Dam in southwest Alaska has been denied by the state legislature. The dam would be located in Wood-Tikchik State Park, where the Chikuminuk Lake enters the Allen River. The total cost of the project is estimated at \$400-\$500 million. The park is an important resource for surrounding communities, and is used for subsistence and sport fishing, and tourism. Opponents of the project are concerned about the dam's environmental costs, particularly the downstream impacts, and doubt that its economic benefits outweigh its costs.

The Alaska state legislature approved \$10 million in funding for the project in 2011. The Federal Energy Regulatory Commission (FERC) then approved permits for the project

in 2012. However, because it is a state park, the legislature needed to pass a change to the park's management plan in order to allow special permits for the geotechnical survey. The proposal, which would have added Chikuminuk Lake as a potential hydro site, has been stalled in the legislature, and will likely be re-visited next year. The only work going on during this year will be "non-intrusive" studies on fish and wildlife.

Afghan forces foil Taliban dam attack

Afghan intelligence forces foiled a Taliban plan to attack the Salma Dam, now under construction in Herat province. According to a spokesman

from the Afghan spy agency, "the Taliban related to Quetta Shura in Pakistan planned to destroy the Salma hydropower dam ... with a large amount of explosives imported from Balochistan." India is helping to fund the dam and has contributed roughly \$200 million toward its construction. Local government officials claim that Pakistan was behind plans to destroy the dam because they do not want India to have a presence in Afghanistan. The dam, which is being constructed on the Hariod River, will have significant water impacts on downstream Iran. The project has been continuously delayed with locals blaming Iran's interference and officials in Kabul blaming the security situation.

REVIEW: New Field Guide on Community Based Adaptation

By Katy Yan

The destabilization of the earth's climate is threatening the water and food security of millions. The urgent need to address – at the same time – both "traditional" development issues like malnutrition and sanitation, and existing and emerging climate change impacts on livelihoods and community water supply is why Tim Magee's book, "A Field Guide to Community Based Adaptation" (*Routledge*, 2013), stands out as a critical tool for adaptation and development practitioners.

The field guide is centered around the concept of community-based adaptation, which is, according to the guide, "a community-led process based on a community's priorities, needs, knowledge and capacities, and which should empower people to plan for and cope with the impacts of climate change."

The guide recognizes the complexity of today's problems in a changing climate, and offers cross-cutting initiatives that combine disaster risk reduction, adaptation, and traditional development activities. It also includes a wealth of good resources and links, along with online components for downloading, including illustrated and easily adaptable field guides on common adaptation solutions to problems related to food security, water, agriculture, flood risks and livelihood diversification, such as how to build both individual and community-level rainwater harvesters and what goes into developing a community-based disaster risk-reduction plan.

The lesson plans on how to lead community-level assessments are clear and can be easily adapted for local contexts, while the recommendations are broad enough to cover a

variety of different cases. Flowing through it all is the clear message – translated into action – that in order to be successful and sustainable, your project must be community-oriented and absolutely transparent and inclusive, especially of marginalized groups.

There are a couple caveats to using this guide. For instance, its recommended times for accomplishing certain tasks seem optimistic. It suggests spending one hour for online research into scientific climate change information affecting a local region and one hour for meeting with a climate change expert. The first assumes that localized climate data is available, which is certainly not a given. The second assumes local people have ready access to credible experts and that all experts agree on the projected climate change impacts for a particular region. Communities will need to take ample time to talk with a range of experts who understand local complexities. The online resources that accompany the guide offer a starting point to such research.

In comparison with other climate adaptation tools, this guide is exemplary in its simplicity and its fundamental vision for community-driven adaptation. It is ideal for adaptation and development practitioners working with local communities, students of development, and with its recommended two-year project cycle, well-suited for Peace Corps volunteers who hunger to make lasting social change.

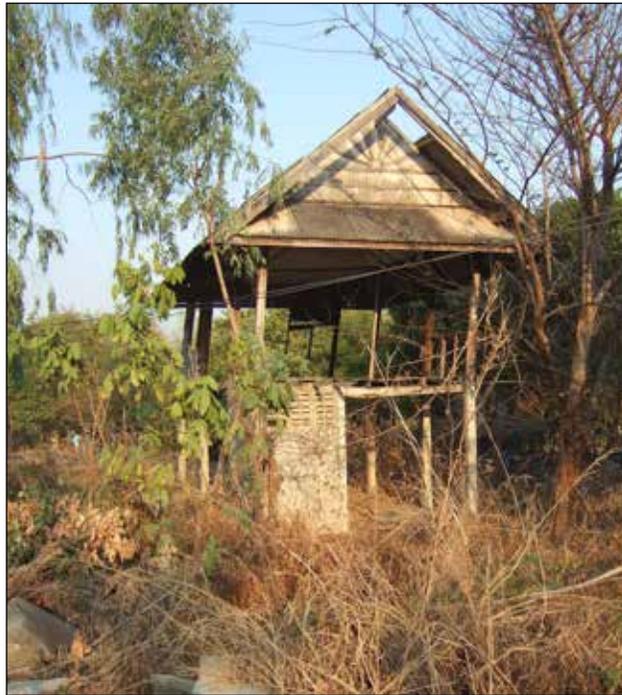
Download the guide at www.timmagine.net/field-guide-to-cba

and feed. As a result, the demands for compensation, reparations and dam decommissioning continue to resonate with many affected people.

Sirindhorn Dam

South of Pak Mun, close to the border with Laos, lies Sirindhorn Dam. While the dam itself is relatively small, the reservoir area is very large, covering 280 km². At the time it was constructed over four decades ago, this project required the resettlement of 1,365 households. The reservoir flooded ten schools, eight temples, and 6,880 ha of farmland. The affected families from dozens of small villages formerly made a living from subsistence farming, fishing, hunting and harvesting a vast array of forest products.

When the dam was built with financial support from the Japanese government, affected communities' self-sufficient way of life abruptly ended. They were forced to move into resettlement sites. Between 1969 and 1973, the Thai government reportedly spent a total of 18.8 million Thai Baht for resettlement and compensation (approximately US \$560 per household). Unfortunately, the land in the resettlement villages has extremely shallow, infertile soil, making it almost impossible for households to earn a living. Most of the resettled villagers became dependent on state welfare to survive. Many ended up clearing land plots in upland forested areas of the watershed or moving to Bangkok slums where they could scrape together an income, working as waste pickers or factory laborers.



An abandoned resettlement house at a village that was forced to move for Pak Mun dam and now stands testament to its failed resettlement process. Photo: David Blake

Of the thousands of dam-affected people who remained behind, many became aware of their rights to seek fair compensation from the government, after they joined the Assembly of the Poor movement and were able to meet with other villagers affected by dam-building. In joining the struggle for recognition of their rights and social justice, the villagers at both dams became more radicalized and made considerable personal sacrifices to seek collective justice.

A protest encampment of affected families (numbering up to several hundred) is currently set up directly opposite the main entrance to the dam. The villagers are demanding the state provide each household with plots of good agricultural land and some financial compensation for lost livelihoods. They claim that the government has repeatedly ignored their demands and been selective in only partially compensating some affected households.

In addition, the protesters are concerned that EGAT has plans to build a nuclear power station on forest land below the dam that is still relied upon by villagers for subsistence purposes. They are both vocal and visual in their demands to scrap the nuclear power plant plan and provide fair compensation for those people impoverished by the dam. ●

David Blake has worked and conducted research in the Lower Mekong Basin for the past two decades in water resources management. He is currently an M-POWER research fellow at the Mekong Sub-region Social Research Centre at Ubon Ratchatani University, Thailand.

World Bank *continued from page 7*

not women who are least integrated in the cash economy. Women, in other words, are the first to suffer and the last to benefit from large, complex infrastructure projects. Decentralized renewable energy projects are more effective at reaching the homes of poor rural families and easing the burden on women, who typically spend many hours gathering firewood and doing other domestic chores each day.

Climate Resilience: Reducing climate vulnerability requires flexible, decentralized and diversified energy and water infrastructure. As climate change makes rainfall less predictable, putting all our eggs into the basket of large, centralized reservoirs increases the vulnerability to climate shocks. Already, Sub-Saharan Africa is the world's most hydro-dependent region. World Bank and IMF experts have recommended that this dependence be reduced in the interest of climate resilience.

According to research by the Intergovernmental Panel on Climate Change, the Zambezi exhibits the "worst" potential effects of climate change among major African river basins. In spite of this,

the Mphanda Nkuwa and Batoka Gorge dams, which the World Bank proposes to fund, have not been evaluated for the risks of reduced annual streamflows, more extreme floods and extended droughts that are associated with a changing climate. They would increase the climate vulnerability of poor countries that can least afford it. Again, a mixture of decentralized and diversified renewable energy options would be more effective at strengthening the climate resilience of poor societies.

On March 20-21, governments rejected the World Bank's proposal to add regional infrastructure initiatives to the focus topics of future IDA projects. The World Bank could take this decision as an opportunity to change direction and prioritize decentralized, renewable technologies with a better potential to reduce poverty in Africa. Yet support for dams like Inga, Batoka Gorge and Mphanda Nkuwa remains strong among governments and at the Bank. We will not be surprised if these projects move forward through other channels, and will keep a watchful eye on them. ●

claimed that Sarawak Energy held 80 consultations with the people affected by the Murum Dam. Yet construction on Murum Dam began before the project's environmental and social impact assessments (ESIA) even started, and the ESIA remains inaccessible to the public. As a result, indigenous people affected by the dam were forced to negotiate the terms of resettlement without having access to information about how the dam would impact them.

Meanwhile, IHA paid a Penan leader and ten people from his community to participate in the session "Working with Project-Affected People" at the Congress, where the leader declared that the Penan supported Murum Dam as long as they were fairly compensated. Claims swirled during the Congress that the leader, after leading a blockade of Murum Dam in 2012, now receives a monthly allowance from the government in exchange for his tacit approval. Interestingly, leaders of indigenous communities are not selected by their own people, but are chosen by the state government. There is a risk that indigenous leaders will continue to be bought off by the government in exchange for compensation.

Sarawak Energy says it is learning and improving on past experiences, but no efforts have been made to fix past mistakes. SAVE Rivers has demanded that the Sarawak government clean up the mess it left at the notorious Bakun Dam and another dam built in the 1980s, called Batang Ai. More than 13,000 indigenous people were displaced by these dams, and years later, most struggle with unemployment, severe poverty, lack of farmland, and social tensions. Meanwhile, Bakun Dam's reservoir is highly acidic due to pollution from industrial projects upstream, and the dam's turbines are corroding. The reservoir's potent methane emissions can be smelled kilometers away.

Limits to Voluntary Accountability

The Sarawak government and the IHA claim that the dams are being built responsibly, and as proof, they say that the dams have been assessed using the IHA's Hydropower Sustainability Assessment Protocol (HSAP). But HSAP is proving an ineffective indicator of "sustainability" in a context with poor state and national governance, and very little independent oversight of the dam's human rights and environmental performance.

In the case of Sarawak, pessimism runs high. The dams cannot be separated from Sarawak's Chief Minister Taib. Corruption is rampant in the Sarawak government. Taib is not only Chief Minister but also Sarawak's Minister of Finance, Minister of Resource Planning, and Minister of the Environment. All changes to investment plans or environmental policy must be approved by him. Taib also tightly controls the project developer, state-run Sarawak Energy, by keeping family members and political allies in majority control of the company's board of directors. The ruling party of the Malaysian national government, which itself has been in power for 53 years, will not hold Taib accountable for any corruption allegations because the country's leaders depend on his political support to remain in power at the national level. Such a kleptocratic governance structure will likely prevent Sarawak Energy from incorporating any real reforms that could prevent dams that violate indigenous people's rights from being built.

Sarawak is not the only place where HSAP has proved to be a weak substitute for strong laws and policies on human rights and environmental protection. So far, none of the companies that have committed to use HSAP have done an assessment during the early preparatory stages of dam building, which would allow them to identify human rights and environmental gaps in national and local planning systems. To date, five official HSAP assessments have been made publicly available, and another six are reportedly

Background on Sarawak Dams

Once covered in lush forests, Sarawak, Malaysia now suffers from one of the world's highest rates of deforestation due to the rapid spread of logging and palm oil plantations. Only five percent of the state's primary forests remain. This rapid deforestation has placed great stress on the indigenous people who live in Sarawak's forests. Over the past three decades, their traditional lands have been taken and sold, often without their knowledge. Many have been displaced and lost access to natural resources.

Now Sarawak's rivers are on the auction block. The Sarawak government plans to complete 10-12 more dams by 2020 with the help of two Chinese state-run companies, China Three Gorges Corporation and Sinohydro. The dams will produce 450% more electricity than Sarawak currently needs. The government claims the extra electricity will attract heavy industry to Sarawak.

In 1998, the government evicted 10,000 indigenous people from their homes to make room for the Bakun Dam. Today, most of these people's livelihoods remain in limbo. In 2013, the government will complete the 944 MW Murum Dam, which will displace around 1,500 indigenous people. The project has already resulted in numerous human rights violations. The next project will be the 1,200 MW Baram Dam, which will displace up to 20,000 indigenous people. Together, the dams will flood 2,300 square kilometers of forest. The dam boom will cause irreversible damage to the people and biodiversity of Sarawak's forests.

More information: www.savesarawakrivers.com
www.internationalrivers.org/node/4565

in the pipeline. Yet, developers are fearful of publishing official assessments that have yielded low scores. This was the case with the Murum Dam, whose 2012 HSAP assessment has not been published, reportedly after receiving quite low scores.

What's Next?

The Sarawak government was thoroughly embarrassed at the IHA Congress – not only because affected communities told the truth about the government's bad practices, but because delegates from around the world were exposed to the stark contrast between government public relations efforts and the truth on the ground. Meanwhile, IHA is faced with the challenge of promoting its HSAP tool in the face of the limitations brought to light in Sarawak. The IHA approach is dangerous, because it advocates for having companies self-police their own human rights and environmental performance, without being accountable to independent monitoring. In places such as Sarawak, where domestic laws are undermined by corruption, this leaves local people without any real form of justice. International Rivers will continue to support dam-affected people whose rights go unprotected, whose grievances are being unmet, and who receive little more than payments and industry discourse to attempt to assuage their concerns. ●

Fighting Dam Greenwashing

A new International Rivers citizens' guide will help groups counter dam greenwashing by engaging with the Hydropower Sustainability Assessment Protocol (HSAP), the voluntary dam-auditing tool created by the International Hydropower Association (IHA).

The IHA is training dam builders around the world to make HSAP assessments on dams. Our comprehensive guide will help you “decode” the IHA’s complex scoring system and call attention to the green-washing of destructive dams. The guide explains how to read an HSAP assessment, how scoring works, and suggests actions you can take to engage with the IHA, the HSAP assessor, the dam builder and financiers. The guide can be downloaded from our website and is currently available in English, Spanish and Portuguese.

Almost 28,000 Rivers Disappear in China

By Katy Yan

More than half of the rivers previously thought to exist in China appear to be missing, according to China’s “First National Water Census Bulletin” published in March. Only 22,909 rivers were located by surveyors, compared with the more than 50,000 in the 1990s, according to a three-year study by the Ministry of Water Resources and the National Bureau of Statistics.

In an interview with the *South China Morning Post*, Huang He, China’s Deputy Director of the Ministry of Water Resources, blamed the discrepancy on “inaccurate estimates in the past, as well as climate change and water and soil loss.” However, water experts point to China’s notorious over-exploitation of groundwater withdrawal for industry and agriculture and the rapid development of rivers as the more likely culprits.

While climate change is likely an important factor (this three-year study coincides with a multi-year drought in central and southern China, where dramatic drops in lake levels and a shrinking Yangtze River have been well-documented), US and Chinese experts agree that the problem is largely man-made.

Peter Gleick, a leading international water expert and president of the Pacific Institute, told *The Atlantic*, “Climate change is a real threat to the world’s resources, and we already see evidence of impacts on water availability, quality, and extreme events. But the water challenges in China are far greater than just climate change.”

Ma Jun, a Chinese water expert at the Institute of Public and Environmental Affairs in Beijing, told *The Australian*: “One of the

major reasons [for the loss of rivers] is the over-exploitation of the underground water reserves, while environmental destruction is another reason, because desertification of forests has caused a rain shortage in the mountain areas.”

Some experts fear that the Yangtze River will run dry because dam developers are planning to build so many dams that their combined reservoir volume would exceed the Yangtze’s flow. (The situation is worse than an excessive amount of storage: reservoirs evaporate much more water than a natural river.) According to a study by Fan Xiao of the Sichuan Geology and Mineral Bureau: “There would not be enough water for all of the dam projects proposed for the Yangtze to operate simultaneously, ultimately leaving power consumers, river users and the environment to pay the price of unchecked, unwise development.” This does not bode well for the massive South-North Water Transfer Project, which is meant to deliver water from the Yangtze River and its tributaries to northern China. One of the source reservoirs for this project – Danjiangkou – fell four meters below its minimum level for operation in 2011.

China’s plans to launch an additional 60 large dams between now and 2015 will increase tensions between upstream and downstream users during the dry season, and between the often conflicting objectives of providing energy, irrigation, and flood control. Without better planning, China may lose even more of its rivers and lakes by the next water census. ●