

# Uganda's Bujagali Dam: A Case Study in Corporate Welfare

By **Lori Pottinger,**  
**International Rivers Network**

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### Introduction

Uganda is one of the world's poorest countries, and its poverty is a key reason why less than 5% of the population has access to electricity. A World Bank study states, "No more than 7% of the total population [in Uganda] can afford unsubsidized electricity... It is unrealistic to think that more than a fraction of the rural population could be reached by a conventional, extend-the-grid approach. A more promising course is to rely instead on 'alternative,' 'non-conventional' approaches to electrification."<sup>1</sup> And yet, the IFC is now evaluating a 250 megawatt hydropower project,<sup>2</sup> the Bujagali Dam on Uganda's White Nile, whose electricity would be out of reach to the vast majority of Uganda's citizens. The project will almost double Uganda's grid-based electricity supply, at a time when energy experts are questioning reliance on national grids.

This project is a good example of how the IFC's evaluation process is often skewed toward predetermined outcomes that favor large corporations over the poor. Thus far in its evaluation, it appears that the IFC has not evaluated how Bujagali will improve the lives of the poor.

IFC sponsorship of the dam project is expected to demonstrate the viability of

hydropower on the Nile in Uganda, which could open up the river for sale to the highest bidder in a plan to build as many as 6 dams and export the power. Project documents claim this dam will be relatively benign, but there is inadequate information about cumulative impacts (Bujagali Dam would be the third dam on one short stretch of the river; the two previous dams did not have environmental impact assessments).

Finally, this case highlights a potential conflict of interest between the Bank's public and private lending operations. The World Bank's public sector arm is pressuring the Ugandan government to restructure its energy sector to ensure the smooth functioning of the private sector. The IFC is supporting a major project that stands to directly benefit from World Bank-sponsored reforms. The Bank's zeal to support the private sector is translating into projects that meet the needs of multinational corporations rather than the citizens of the countries it is supposed to help.

### Project Background

The U.S.-based AES corporation, the largest independent power producer in the world with assets of US\$11 billion, proposes to construct \$530-million dam near Bujagali

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Falls on the Nile. AES enjoys a close relationship with the IFC. In an interview in the Uganda daily *New Vision*, Dennis Bakke, President and CEO of AES Corporation, says: "We [AES] are the biggest private users of World Bank money through the IFC."<sup>3</sup> One of AES' directors is John McArthur, described in AES materials as "a senior advisor to the president of the World Bank." Another director is Hazel O'Leary, former US Secretary of Energy.

## IFC Involvement

The IFC is currently evaluating whether or not, and under what conditions, it will financially support the project. AES is in line to receive a \$70m partial-risk guarantee from the World Bank, and \$85m from the IFC. Other funds would come from various export credit agencies (\$225m),<sup>4</sup> commercial loans, the African Development Bank and the company itself. The IFC appraisal is expected to be complete by the end of 2000, at which time the IFC could begin to negotiate terms of a loan for the project with the Ugandan government. The Board date is tentatively scheduled for April 2001.

The Project Information Document (PID), a project summary jointly issued by the World Bank and the IFC, states that the project objective is "to promote increased growth through the provision of adequate, reliable and affordable power in line with Uganda's comparative advantage. The project would help catalyze private investment to develop the country's significant hydroelectric potential, and potentially increase export of electricity to neighboring countries."<sup>5</sup> The PID also says the project will improve Uganda's inequitable access to energy, and

that demand for electricity is growing rapidly.

## Project Impacts

The dam would be built 8 miles below two other large dams, the existing Owen Falls Dam and the Owen Falls Extension Project, now under construction. Environmental harm goes beyond that of these three dams, since, according to the PID, the project is expected to "catalyze" further hydro development along the Nile. The Ugandan government has plans to build up to six more dams on the Nile. The cumulative impacts of the existing dams is unknown, since there was never a full EIA for either of the Owen Falls projects, and no post-construction monitoring.

**Social Impacts:** Descriptions of the project's social impacts are inconsistent in AES documents. According to AES' "draft final" environmental impact assessment (1999), Bujagali Dam would permanently displace 820 people, and affect an additional 6,000 (more recent information from the company shows a much lower number of people to be displaced). Replacement land is practically non-existent in the area. The record of large dams worldwide, and especially in Africa, indicates that those displaced will be left permanently poorer as a result of the project.

The project will permanently submerge highly productive agricultural land as well as islands supporting valuable natural habitats. The changes to the river could permanently harm fisheries. The area around Bujagali Falls supports a substantial number of subsistence and commercial fisherman, who depend on the resource for both food and income.

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Thus far, AES' record in planning for project resettlement has been fraught with problems and misinformation. According to the Uganda Parliamentary Research Centre, "The developer has handled the issue of resettlement and compensation very lightly in the case of the Bujagali hydropower project ...The resettlement plan was not available and there was no program for it."<sup>6</sup>

**Tourism:** The project will also drown Bujagali Falls, a national treasure. The "Source of the Nile" corridor is one of the most spectacular river stretches in the world, say rafting experts. Whitewater rafting is already the biggest draw for foreign tourists in Uganda. Tourism is the second largest source of foreign exchange in Uganda, earning the country over \$90 million in 1996. According to rafting companies in Uganda, over 6,000 people raft the Nile each year near Bujagali, spending nearly \$4 million a year in Uganda on activities not related to rafting, much of which goes directly to local communities. NGOs have written, "The opportunity cost in terms of revenue from tourism that will be lost to a dam at Bujagali was essentially ignored in the Bujagali planning documents. ... How will the IFC and World Bank evaluate the lost revenue from a thriving tourism industry in the Jinja area?"<sup>7</sup>

**Risk:** A major concern is the dam's hydrological risk. The project design is based on optimistic flow assumptions, which means the projected electricity output may be overstated. The project's power purchase agreement (PPA) reportedly is written so that Uganda assumes most of the risks of reduced flow, forcing Uganda to buy a set amount of power even if the dam is unable to produce its full output. Since the region is expected to endure increasingly severe

droughts due to climate change, and because there is major disagreement on how much flow the Nile reliably can be expected to produce, the project is considered quite risky compared to other hydro options. This same problem has dramatically affected another World Bank-funded dam, Pak Mun in Thailand. Pak Mun Dam was supposed to generate 136MW of electricity, but barely generates 40 MW in high-demand months due to insufficient water to turn the turbines in the dry season.<sup>8</sup>

Another serious risk for the project is that the primary customer for its power, the Uganda Energy Board (UEB), has a poor record for collecting payments and its performance after World Bank-instigated privatization remains unknown. The IFC notes, "While the proposed Bujagali PPA presently contemplates UEB as the power off-taker, a fully privatized sector in which ideally multiple distribution companies will act as off-takers is crucial to the sustainability of the project."<sup>9</sup> However, such a private sector does not currently exist.

The possibility that electricity demand projections are exaggerated is another risk. In more than 100 national demand forecasts used by the World Bank, actual demand seven years after the forecasts were made was on average one-fifth lower than had been projected.<sup>10</sup> In a confidential report on the glut of electricity caused by building too many dams in Colombia, the World Bank's Operations Evaluation Department concluded that the high cost of overcapacity highlights "the vital importance of having more flexible investment programs" with smaller projects to ensure "better responses to the vicissitudes of demand uncertainties."<sup>11</sup>

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**Concerns about Grid Expansion:** Energy research jointly carried out by the World Bank and UNDP argue that Uganda cannot reach most of its population with the grid: "The prospects for UEB to significantly strengthen its national coverage to non-grid areas in the next 20 years are remote. Even if all of Uganda's urban consumers were connected to the grid, it would still leave 75% of Ugandans without UEB grid electricity. The lack of generating capacity is not UEB's main problem. It is poor bill collections and lack of distribution capacity."<sup>12</sup> A report prepared for Parliament states, "Transmission arrangements from the Bujagali project are being directed toward export ... with few new additions of lines to benefit the local population."<sup>13</sup>

While Uganda considers adding large, inflexible power projects to fuel its inefficient national grid, energy experts are promoting a decentralized approach to power generation, using technologies such as fuel cells, microturbines and solar roofing. According to a new report by Worldwatch Institute,<sup>14</sup> this approach avoids costly investments in new power plants and grid systems, reduces price fluctuations, can be brought online more quickly, is more reliable, easier to scale up as the economy requires it, and more efficient than extending existing transmission lines. "[Developing] nations have a golden opportunity to get the rules right the first time, and set up markets that support power systems suitable for the 21st century," the report notes.

There is some confusion over whether the project is even intended for Ugandans (AES says it is, but the IFC mentions exports). If the project is primarily for export, there is a

risk that Kenya will negotiate for a price that does not cover Uganda's costs (there are no advance contracts with Kenya for the project's power at this time, but Uganda has already agreed to a price for its power). Kenya has also started negotiating to import power from Tanzania. Kenya may also look to projects that will increase its internal energy security and reduce the need for imports.

**Participation and Transparency:** The project has been characterized by political pressure, both from the Ugandan president and the US government, both of which favor the project. While Parliament was still in the process of evaluating the project last year (having already rejected it several times), the US government added to the already intense political pressure coming from the President of Uganda. Local newspaper accounts reveal that both the US Ambassador in Uganda and another prominent government official contacted the Ugandan President on the project, and stated that US-Uganda relations could suffer if the dam were not approved quickly. Shortly thereafter, Parliament approved the project.

A recent field visit revealed that many government officials still have doubts that this project is the best way to meet Uganda's needs at this time. One official, who asked to remain anonymous, said, "[The] Government should have first done a strategic assessment of Uganda's power needs, and of all the dams proposed and their impacts. It should also have tendered each site for competitive bidding. This type of analysis would have led to Uganda making a more informed decision. Instead, we were told that the Bujagali project was the preferred option, and so now all we can do is mitigate."

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Public participation has been driven by AES, with the IFC relying on the corporation to document how informed and meaningful its consultations were with local communities. In the project area especially, political pressure to favor the project has kept discussions about the dam at the level of a popularity contest. Those who have ventured to speak out have been threatened with arrest, and in some cases told their businesses would be shut down if they continued to raise concerns about the dam. One expatriate was arrested and told to leave the country for talking to project-affected people about the dam.

Talks with citizens in Uganda revealed that many people still have concerns about the project but are too intimidated to raise them publicly, due to intense pressure from the President to support the dam. Major concerns heard repeatedly include the following:

- There was no competitive bidding for the project, and corruption rumors are rampant.
- The destruction of Bujagali Falls is a serious cultural loss that cannot be mitigated.
- The lost potential revenue from river-based tourism does not appear to be factored into the choice of Bujagali over other dam sites. Some local leaders felt that tourism had a much greater potential to address the needs of local communities than this dam.
- The project appears to expose Ugandan citizens to significant economic risks; yet there has been inadequate public discussion about this issue.

## The Wrong Project for Uganda?

Local NGOs also say the project will not help solve Uganda's biggest problem: poverty. Save the Bujagali activist Martin Musumba says, "The real issue in Uganda is not electricity but poverty. Currently the majority of Ugandans have no money for electricity. Production of more electricity will not reduce the use of fuelwood and charcoal until deliberate programs are evolved to reduce poverty and the cost of power." The Uganda Parliamentary Research Centre estimates the maximum consumer tariff for Bujagali electricity to be "12 US cents in current dollar terms. The cost of transmission lines is not clearly stipulated in the available information on the project."<sup>15</sup>

The benefits of Bujagali will not, NGOs believe, trickle down to Uganda's poor majority. Nor does the project appear to meet key goals in the World Bank's 1997 Uganda Country Assistance Strategy (CAS). For example, the CAS states: "The Poverty Eradication Plan (PEAP) is designed to ensure that growth is sustained and that its benefits are spread more widely ... [Participants in the CAS indicated] a strong desire for redirecting public investment towards the poorer and remoter districts and to redouble efforts to ensure that poor people benefit from government programs." Yet the Bujagali Dam will benefit urban areas – primarily industry, and likely Kenyan industry.

On ecosystem protections, the CAS is clear: "The costs of reckless natural resources management in the 1970s and early '80s are often borne by the rural poor who are dependent on these resources for their livelihoods... There seems to be a strong

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link between environmental degradation and poverty ... The 1994 National Environmental Action Plan (NEAP) calls for alignment of sectoral strategies to address priority concerns relating to land degradation, deforestation, loss of wetlands and dwindling fish stocks." NGOs note that large dams like Bujagali will degrade land and forests, wetlands and fisheries, and will certainly harm the rural poor who are dependent on rivers for the resources they provide.

## Alternatives

Activists working on this issue are pressing for a national energy plan that takes into account the needs of the poor and emphasizes true renewables like solar, micro-hydro and biomass. They believe a commitment to big hydropower now will come at the expense of the rural poor and may preclude Uganda from pursuing better options.

Solar does not require connection to the national grid, which in Uganda has very limited reach and is expensive to expand. While solar energy may not be able to power large-scale industry, a widespread use of solar roofing materials, for example, could more than offset Uganda's "energy deficit," thus eliminating the need for large hydro at this time. Emphasizing solar would also open up opportunities to collaborate with Kenya, whose highly regarded private-sector photovoltaic (PV) industry has caught the eye of the world. In Kenya, more households get their electricity from the sun than from the national grid, according to "The Economist." Some 50 local companies now manufacture or assemble PV systems in Kenya. Unlike the region's big hydro projects, Kenya's solar industry has

developed without significant aid, subsidies or government support, according to renewable energy experts working in the region. It has also created longterm employment opportunities which the construction of large dams does not.

Project proponents have downplayed solar for Uganda, stating that it is not financially viable, but regional energy experts believe Uganda is favorably endowed for solar, and would like to see lenders help break down financial barriers that are in part responsible for the resistance to this decentralized technology. Instead, the IFC commissioned Acres International, an engineering firm with a major focus on hydropower, to assess grid-based electricity generating options. The report primarily compares a number of large dam options. Renewables like solar were dismissed in a few short paragraphs, and decentralized generation approaches were similarly dismissed.

There is also a belief that this project is too big and inflexible to meet Uganda's energy needs. Large dams are frequently criticized for being inflexible (because they take so long to build, their economic viability depends on longterm power projections which often prove to be overestimations) and "lumpy" (which means they bring a large amount of power online at once, as opposed to smaller power generators which bring power online incrementally, as the economy requires it). Bujagali suffers from both of these flaws.

Uganda has less risky options that could carry it through its immediate energy crunch, and buy time to evaluate the best course for the nation's development. The national distribution system currently loses 20-30% of its electricity through "technical

losses" which could be recovered through improvements in the utility grid. There are also a number of companies using biomass to create electricity, which could be sold back to the grid.<sup>16</sup> The country also has 400-500 MW of small-hydro potential, and up to 450MW of unexplored geothermal reserves. An August 17, 2000 letter from Ugandan students to the IFC states, "Small dams are not only affordable, environmentally friendly and socio-culturally acceptable, but also spread national development."

## **IFC Response to NGO Concerns**

**Poverty Alleviation:** On concerns that the project does not adequately address World Bank goals on poverty alleviation, the IFC responds that the dam will boost the economy generally, thus reducing poverty. The PID states: "Recent surveys indicate that the quality and adequacy of power supply is the most binding constraint to private investment ... Current electricity shortages are estimated to cost Uganda annual economic losses in the order of \$100 million."<sup>17</sup>

**Project impacts:** IFC believes that project monitoring by a company-appointed panel of experts will resolve outstanding environmental and social problems before they get out of hand, but NGOs believe the process of appointing the panel was faulty and prevents it from being independent. According to the IFC, "We required AES to appoint an independent panel of experts for an objective viewpoint with regard to environmental, social, public consultation and siting issues. The panel of experts include: Lee Talbott, former Director General of IUCN; Jason Clay, Senior Fellow at the World Wildlife Fund (the chair of AES' board of directors is Roger Sant, who

also chairs WWF's board); and William Jobin of Blue Nile Associates."<sup>18</sup>

## **Conclusions and Recommendations**

The World Bank's 1996 Energy Sector Management Assistance Programme (ESMAP) report called for better analysis of energy options that meet Uganda's needs: "It is therefore suggested that all previous energy projects and activities be reviewed, inventoried, and analyzed in an in-depth study. Stock should be taken of all activities in the traditional and renewable sector to rank results and their outputs. The objective of this exercise should be to establish some objectively verifiable indicators to help form a rational base for future activities by ranking and prioritizing projects and investments, on which basis donor support can be channeled. The study should compare in-country projects and programs to similar studies and projects already enjoying regional success." Such analysis should be required now.

Before the IFC proceeds with funding for this project, local NGOs believe, there should be a national dialogue in Uganda on the proposed course of hydropower development on the Nile, a public forum on the nation's energy needs and a full assessment of all available alternatives. Students at Uganda's Makerere University wrote in an August 2000 letter to the World Bank, "A study of alternative energy sources, in the context of an overall energy assessment for Uganda, should be mounted as a matter of urgency." The students also state that "The Bujagali Dam should not be rushed ahead of results of the work the World Commission on Dams (WCD). We think the debate in the energy sector in Uganda will gain immensely from WCD

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work since this has the potential to move Uganda towards a new paradigm of energy and water management." (The WCD will launch its final report in November 2000.) Other citizens have asked for a "sectoral environmental impact assessment" for the river, given the number of dams planned.

The World Bank Group should consider financing demand-management and energy conservation measures in Uganda *before* it evaluates major energy projects like large dams. The Bank should also evaluate smaller scale, decentralized energy systems for Uganda that can be locally built and managed, and brought online in phases as needed. Delays in choosing large-scale energy projects not only preserves the Nile, but allows Uganda the time to take advantage of coming technologies (such as fuel cells) and lower prices of existing renewable technologies.

## KEY CONTACTS

Save Bujagali Crusade:  
Web site: [www.uganda.co.ug/bujagali](http://www.uganda.co.ug/bujagali)

International Rivers Network:  
Web site: [www.irn.org](http://www.irn.org)

Dennis Bakke, President and CEO  
Roger Sant, Chairman of the Board  
AES Corporation  
1001 North 19th Street  
Arlington, VA 22209  
Tel: (703) 522.1315  
Fax: (703) 538.4510

AES Bujagali  
Project Director: Bob Chestnutt  
E-mail: [bujagali@aesnilepower.com](mailto:bujagali@aesnilepower.com)  
AES web site: <http://www.aesc.com>

Project-specific web site: [www.bujagali.com](http://www.bujagali.com)

IFC Bujagali project contacts:  
Ronald B. Anderson  
International Finance Corporation  
Principal Environmental Specialist  
Eml: <[roanderson@ifc.org](mailto:roanderson@ifc.org)>

Haran Sivam  
International Finance Corporation  
Investment Officer  
Eml: <[hsivam@ifc.org](mailto:hsivam@ifc.org)>

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<sup>1</sup> "Uganda Energy Assessment," ESMAP/World Bank, 1996.

<sup>2</sup> Bujagali Dam is currently slated by the IFC to be built at a 200 megawatts capacity; however, AES documents refer to the dam as having either 250 or 290 MW capacity.

<sup>3</sup> *New Vision* (September 6, 1999)

<sup>4</sup> From Project Information Document (PID), Bujagali Hydropower Project, World Bank.

<sup>5</sup> From Project Information Document (PID), – See [www.worldbank.org/pics/pid/ug63834.txt](http://www.worldbank.org/pics/pid/ug63834.txt)

<sup>6</sup> "Comparison of Bujagali Hydroelectric Power Project and Karuma Falls Hydroelectric Power Project." By Uganda Parliamentary Research Centre (October 1999)

<sup>7</sup> Letter from Makerere University students to IFC, August 17, 2000.

<sup>8</sup> Pak Mun Case Study by the World Commission on Dams (2000)

<sup>9</sup> PID

<sup>10</sup> "A View of Multilateral Financing from a Funding Agency," by J. Besant-Jones (1994).

<sup>11</sup> "Colombia: The Power Sector and the World Bank, 1970-87," by the World Bank/OED, 1990.

<sup>12</sup> "Uganda: Rural Electrification Strategy Study", by Energy Sector Management Assistance Programme (ESMAP), Report 221/99, September 1999. ESMAP is a joint UNDP/World Bank project.

<sup>13</sup> "Comparison of Bujagali Hydroelectric Power Project and Karuma Falls Hydroelectric Power Project."

<sup>14</sup> *Micropower: The Next Electrical Era* by Seth Dunn (Worldwatch Institute, Washington, DC, 2000).

<sup>15</sup> "Comparison of Bujagali Hydroelectric Power Project and Karuma Falls Hydroelectric Power Project."

<sup>16</sup> The World Bank estimates that at least 20 MW could be produced by this method (Uganda: Rural Electrification Strategy Study," ESMAP 1999).

<sup>17</sup> PID.

<sup>18</sup> Personal correspondence, April 4, 2000