



**International Rivers Network**  
Linking Human Rights and Environmental Protection



## **Analyzing Bujagali Hydroelectric Project's Compliance with the Strategic Priorities of the World Commission on Dams**

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### **Introduction**

Uganda is currently in an energy crisis that is affecting its entire economy. Until recently, nearly all of the nation's electricity supply has come from two hydroelectric dams, which for the past year have been crippled by reduced flows from a dramatically shrinking Lake Victoria. The operation of these dams has been shown to be responsible for at least half of the drop in the lake's water levels<sup>1</sup>. One of these dams, Kiira, was a World Bank project.

For the past decade, Uganda's energy ministry has focused its efforts to increase supply on building more large dams, with the priority project being the Bujagali Dam just a few kilometres downstream of the existing dam complex on the Nile River. The Bujagali project came close to being built in 2002, but was put on hold after corruption was uncovered. The original sponsor, the US-based AES, pulled out at that time.

Today, a new sponsor, the Kenya-based IPS Ltd. (an affiliate of the Aga Khan) has taken up the project. The World Bank Group is again considering financial support (with a decision expected in the first quarter of 2007) as is the European Investment Bank and other investors. The project is also being considered for carbon credits by the Dutch government, which would require compliance with the framework of the World Commission on Dams (WCD).

This paper examines Bujagali's compliance with the WCD's seven strategic priorities. The analysis shows that the project fails to fully comply with most of the strategic priorities outlined in the WCD report.

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<sup>1</sup> See *Bujagali Hydropower Project Social and Environmental Assessment Main Report*, by Burnside International, p. 363; and *Connections Between Recent Water Level Drops in Lake Victoria, Dam Operations and Drought* by Daniel Kull ([http://www.irn.org/programs/nile/index.php?id=060208vic\\_pr.html](http://www.irn.org/programs/nile/index.php?id=060208vic_pr.html))

## **Strategic Priority 1 - GAINING PUBLIC ACCEPTANCE**

*1.1 Recognition of rights and assessment of risks are the basis for the identification and inclusion of stakeholders in decision-making on energy and water resources development.*

*1.2 Access to information, legal and other support is available to all stakeholders, particularly indigenous and tribal peoples, women and other vulnerable groups, to enable their informed participation in decision-making processes.*

*1.3 Demonstrable public acceptance of all key decisions is achieved through agreements negotiated in an open and transparent process conducted in good faith and with the informed participation of all stakeholders.*

### **Bujagali Compliance:**

The overall thrust of the WCD's approach is that there needs to be a "fair, informed and transparent decision-making process" in order to be "socially legitimate and produce positive and lasting outcomes." The project has had a mixed record on this issue, especially regarding transparency. Compared to many projects, there was a fair amount of consultation with affected people during the original project's decision-making process. But the project proponents confuse consultation with true participation in a decision-making process. This pattern is being repeated as the new project moves forward. It is clear that on many critical aspects of the project, transparency has been an issue. For example, critically important documents such as hydrological data and analysis, the economic risk assessment, and the Power Purchase Agreement have been withheld, despite repeated requests from civil society for their release.

Similarly, previous dealings with project-affected communities were extensive, but suffered from unequal power relationships, with too little support for vulnerable groups in the negotiating process. The Panel of Experts on the first project states that AES shared "a lot of information [with] affected people and other stakeholders," and followed Ugandan law in negotiating compensation packages.<sup>2</sup> It is a matter of some debate whether affected communities at that time were actually informed of their rights and risks by the dam-building company representatives tasked with the consultation process. Rather, it appears they were "sold" the project based on promises for compensation and benefits that, in the end, failed to materialize. People who were moved in 2002 were not given legal title to their new lands, which caused great uncertainty. Problems that arose with the resettled communities were left unresolved for years after the original project sponsor, AES, left Uganda. It took strenuous lobbying on their behalf by local NGOs to get the government to respond to the problems.

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<sup>2</sup> Seventh Report of the International Environmental and Social Panel of Experts for the Bujagali Hydroelectric Project: Compliance with the Guidelines of the WCD," [http://www.bujagali.com/technical\\_resources/panel\\_of\\_experts/index.html](http://www.bujagali.com/technical_resources/panel_of_experts/index.html)

On the first project, the IFC and World Bank held a number of public meetings to discuss the decision to build Bujagali. However, these meetings cannot be said to have fully addressed all risks and rights issues that were brought up throughout the planning process. To date, many key concerns brought up at those meetings remain unresolved.<sup>3</sup> More critically, virtually all meetings to discuss project impacts were held after Bujagali had been chosen as the preferred option, not as part of a participatory planning process. That remains true today, as Bujagali's momentum continues to carry it forward at the expense of all other energy development projects. At this writing, the World Bank Group had yet to meet directly with the key group critical of the project in Uganda, NAPE, despite their written requests for such a meeting.

Also at this writing, NAPE had been trying for months to secure a release of the PPA, but the document is still being made available to them. NAPE also said that reports on cumulative impacts, comprehensive options assessment and hydrological issues were not part of public review process for the environmental impact assessment. It is not clear if these documents will be released in time to allow meaningful debate (much less informed decision-making). The World Bank has also recently refused to publicly release information on the Nile hydrology and the impacts of Kiira Dam's operations on the levels of Lake Victoria,<sup>4</sup> as has the Ministry of Energy and Mineral Development (MEMD). New analysis of the Lake Victoria hydrological situation has been commissioned by the Bank<sup>5</sup>, but it is unclear if this study (and the data it relies on) will be made public. Ugandan agencies are already being asked to approve the project EIA without benefit of having seen these studies.

### **How to Bring the Project into Compliance:**

The project-affected people should be made project beneficiaries through a process that closely follows the WCD framework. The project should not proceed without clear agreement on this point between project-affected people and the Government (GoU) and project developers. Due to the previous abandonment of project-affected people after AES pulled out of Uganda, a clear chain of responsibility for following through on commitments should be required of both the project developer and the GoU.

Greater effort must be undertaken to ensure that "demonstrable public acceptance of all key decisions is achieved through agreements negotiated in an open and transparent process conducted in good faith and with the informed participation of all stakeholders." The first step is to release key documents such as the project economic assessment, Power Purchase Agreement, and hydrological data and assessments, with adequate time to be analyzed by the lay public, and publicly debated.

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<sup>3</sup> For example, compare old concerns at <http://www.irn.org/programs/bujagali/index.php?id=031124.rethinking.html> and <http://www.irn.org/programs/bujagali/index.php?id=020520.reconsider.html>, and new ones at <http://www.irn.org/programs/bujagali/index.php?id=061204letter.html> and <http://www.irn.org/programs/bujagali/index.php?id=051223concern.html>

<sup>4</sup> Personal conversation with Vijay Iyer, Karen Rasmussen, et al, July 26, 2006.

<sup>5</sup> "Victoria Nile - Independent Hydrological Review," [http://www-esd.worldbank.org/bnwpp/index.cfm?display=display\\_activity&AID=439&Item=10](http://www-esd.worldbank.org/bnwpp/index.cfm?display=display_activity&AID=439&Item=10)

## **Strategic Priority 2 - COMPREHENSIVE OPTIONS ASSESSMENT**

*2.1 Development needs and objectives are clearly formulated through an open and participatory process before the identification and assessment of options for water and energy resource development.*

*2.2 Planning approaches that take into account the full range of development objectives are used to assess all policy, institutional, management, and technical options before the decision is made to proceed with any program or project. A multi-criteria assessment was used to screen and select preferred options from the full range of identified alternatives. The screening of options covered all policy, program and project alternatives.*

*2.3 Social and environmental aspects are given the same significance as technical, economic and financial factors to assessing options.*

*2.4 Increasing the effectiveness and sustainability of existing energy systems is given priority in the options assessment process.*

*The WCD also calls for a "needs assessment" to ensure that a project will actually meet local needs: "In countries where a large proportion of the population does not have access to basic services, a key parameter should be the extent to which basic human needs will be met."*

### **Bujagali Compliance:**

The Ugandan economy is in crisis due to over-dependence on hydropower from the Nile and minimal efforts to develop other energy alternatives. There is no doubt that more supply is needed to keep the lights on in Kampala and Entebbe, but Bujagali will not only bypass the 95% of Ugandans who have never had modern energy services, it could also usurp resources that could go toward more sustainable new grid supply and for expanding rural energy supply.

The process used to evaluate Bujagali has, from the start, been fueled more by political momentum for the project than by a clear indication that it is the best of many alternatives for Uganda's development. Local and international groups have been lobbying for a full and fair review of the various energy options available to Uganda ever since the Bujagali Dam site was first granted to AES in the mid-1990s. However, the World Bank Group, like the Ugandan government, has skewed its research efforts to consistently promote Bujagali above other options. In the project's first incarnation at the Bank, data was manipulated to justify Bujagali as the "least-cost" option for Uganda after its consultants pointed to other projects as cheaper. While the World Bank's 2002 appraisal of the Bujagali project was over-optimistic in many instances, the analysis of alternatives to the project was consistently pessimistic. This is still a problem.

The Bujagali Dam will not meet the basic energy needs of the majority of Ugandans who are now without power and live far from the national grid. Biomass – burning wood

– continues to account for more than 90% of the nation's primary energy use, and only a fraction of the population can afford unsubsidized electricity. Bujagali will feed into a very limited national grid, its power bound mainly for urban centers of Kampala, Jinja and Entebbe. The high cost of the project will further limit funds available for rural electrification, and is expected to lead to reductions in subsidies for electricity tariffs for grid-connected users. Uganda already has the most expensive power in the region, and tariffs have more than doubled in recent months (in part due to the high cost of imported fuels), thus pushing more people out of the already limited market for electricity. And yet the project EIA dismisses various energy alternatives because they cannot easily be connected to the national grid. When 95% of Ugandans are without modern energy services, rural energy supply should not be treated as a secondary goal by the World Bank or other donors whose primary concern is the alleviation of poverty. Decentralized projects and mini-grids will in fact reduce the burden on the national grid over the long run, and such projects could prove more beneficial to the majority population than the current approach to rural electrification and big dam development.

Bujagali was not picked through the kind of "energy competitive bidding process" envisaged by the WCD to determine the next best project(s) for meeting energy needs. Although Uganda has excellent renewable energy potential, little has been done to develop it, while all eyes in government have been on developing large dams. Most of these alternatives could be either grid-tied or developed for rural mini-grids. Some would also be able to provide "base load" power. Some examples:

- **Bagasse:** Although it has been discussed for years, the country has developed only a few megawatts of its currently estimated 40MW potential<sup>6</sup>.
- **Small hydro** (less than 10 MW): Of at least 46 MW at 16 sites that has been identified, only 13MW have been developed.
- **Micro-hydro** (less than 100 kilowatts): A limited number of sites have been developed, despite there being at least 40MW of potential<sup>7</sup>.
- **Karuma Dam** (150 MW) is considered to be less socially and environmentally destructive than Bujagali (and in fact than all currently proposed large dams in Uganda). This run-of-river project would have the added benefit of bringing electricity to the northern part of the country, whose development has been marred by the continued rebel conflict. Karuma was previously compared directly to Bujagali, but lost out over economics. Later, Karuma's project sponsors in Norway discovered that the economic analysis used to justify Bujagali was based on a greatly inflated cost for building Karuma.<sup>8</sup>

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<sup>6</sup> "Review of Norwegian support to the Energy Sector in Uganda," 13 June 2006, by the Nordic Consulting Group. The report notes that in 1998, Kakira Sugar Works planned to install a 30MW bagasse-fueled electricity plant, which could have been installed in 2 years' time. Instead, the government focused on the "presumably less expensive power generation options at Owen Falls Extension and Bujagali."

<sup>7</sup> Ibid

<sup>8</sup> "Confidential report over-prices competing Karuma Falls project," *Development Today*, December 3, 2003. The article states that "a World Bank report comparing Uganda's energy options operates with cost figures for the Norwegian backed Karuma hydropower project that are some US\$200 million higher than those the developer, NORPAK, has presented to the Ministry of Energy in Uganda. In a comparison of Karuma with Bujagali, the Canadian consultant firm Acres International has used its own design concept for Karuma ... Bank management has insisted on keeping the Acres report secret, even though the Bank's Inspection Panel states that not making it public is 'not in

- **Geothermal:** Uganda has significant potential, with estimates ranging up to 450 MW, but support for geothermal has lagged behind that for large dams. Although the Bujagali EIA by Burnside International Ltd. states that only 45 MW is feasible, this seems premature and pessimistic since some of the sites they refer to as having a poor chance of commercial development are still being studied. Experts we have talked with who are working directly on such studies say potential for specific sites is much greater than the project EIA indicates. In addition, new advances in lower-temperature geothermal should be explored for Uganda.<sup>9</sup>
- **Municipal Solid Waste:** Uganda has an estimated 10-30 MW potential.
- **Solar:** The *East African* recently reported: "The government's plan to save 46MW of grid power during peak hours using solar photovoltaic and solar water heaters has not taken off. It had estimated that a total of 100,000 grid connected consumers would install solar PV systems and use solar lighting instead of grid electricity."<sup>10</sup>). Energy used for water-heating is a significant contributor to the electricity demand, accounting for almost 50MW. Experts estimate that 10MW of peak power could be saved immediately (and more in future) with solar water heaters for grid-connected customers.
- **Efficient Lighting:** The bulk of Uganda's peak demand is used for lighting, which consumes up to 92MW, according to a World Bank study. If all lights were replaced with energy-efficient light bulbs, local experts state, the country's peak demand could be cut to below 20MW.<sup>11</sup> (At this writing, local media report that a new program to distribute up to 800,000 CFLs was being put in place, and could reduce demand by 25-40 MW.<sup>12</sup>)
- **Transmission Losses:** According to the 2006 Bujagali EIA by Burnside International Ltd., "Another option to reduce demand is to reduce technical losses, which for Uganda is high at 21 percent. Acres (1999) estimated that improvements to the country's failing distribution infrastructure, could eliminate as much as 30 MW of losses from the grid." On 3 October 2006, the *East African* reported that Uganda was applying for a \$180 million loan from the World Bank to cover a variety of investments in the energy sector; only \$10 million from the project is expected to go toward demand-side management and energy efficiency measures.<sup>13</sup>
- **Wind power:** Uganda's potential needs further exploration, as wind speeds have only been recorded at low heights, not the 10 meters that is standard for wind power analysis.<sup>14</sup>

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compliance with the World Bank Disclosure Policy. The report was the key document in the Bank's decision to support the Bujagali project in December 2001."

<sup>9</sup> A new geothermal plant in Alaska is the lowest temperature geothermal resource to be used for commercial power production in the world. The plant uses resources at 165 degrees F. See <http://tinyurl.com/2ad9zs>

<sup>10</sup> <http://allafrica.com/stories/200610100044.html>

<sup>11</sup> "Reduce your power costs, use energy saving bulbs," *New Vision*, January 22, 2007.

<sup>12</sup> "Govt to Give 800,000 Free Bulbs", *The Monitor*, Feb. 5, 2007 <http://allafrica.com/stories/200702040095.html>

<sup>13</sup> The Energy Ministry has identified preliminary needs to improve efficiency, including educational programs to increase awareness on energy conservation and efficiency; a program to reduce the cost of efficient lighting; a program to subsidize energy efficient technologies; a national building code based on energy efficiency concepts (and a program for compliance); and a host of other important needs.

<sup>14</sup> "Investing in Uganda's Energy Sector," <http://www.ugandainvest.com/energy.pdf>

- **Basic Needs:** Improved, efficient stoves and biogas digesters, and a sustainable fuelwood program are key to bringing cleaner energy to the rural poor, and to reducing deforestation.

As of this writing, it is clear that the various alternatives have not been assessed in either a comprehensive or balanced way as part of the evaluation leading up to Bujagali. The East African Commission, in a report on the decline of Lake Victoria's water levels<sup>15</sup>, states: "Partner states should make deliberate efforts to reduce dependency on hydropower by developing alternative sources of energy like geothermal, wind, solar, thermal and natural gas within 5 years."

The government, project developer and World Bank are proceeding with Bujagali as the least-cost option, yet this has been effectively disputed in the past<sup>16</sup>. Other factors critical to the decision-making process about "best options" – for example, the risk that drought will cripple the economy – have not been adequately assessed. It is not clear whether the World Bank's "Independent Hydrological Review" of the Victoria Nile or studies on the risk from climate change will be publicly released and debated in time for an informed decision-making process.

### **How to Bring the Project into Compliance:**

In recent years, various efforts to analyze Uganda's renewable energy potential have been discussed or begun, yet there is very little to show for the effort<sup>17</sup>. A comprehensive, independently facilitated and participatory options assessment process should have taken place before the project got this far. It would still be a valuable tool for energy planning, especially if it incorporates a rights and risk analysis. More importantly, there needs to be concerted action to develop these energy resources.

More transparency is needed on how various options have been evaluated. At minimum, project proponents should release all documents on the project's economic viability, including **all** studies and data on the Lake Victoria/Nile hydrology, the PPA, and options analysis. The information must be released with adequate time for civil society to review it before further action is taken on Bujagali.

## **Strategic Priority 3 - ADDRESSING EXISTING DAMS**

*3.1 A comprehensive post-project monitoring and evaluation process, and a system of longer-term periodic reviews of the performance, benefits and impacts for all existing large dams are introduced.*

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<sup>15</sup> *Special Report on the Declining of Water Levels of Lake Victoria*, April 2006, by the EAC Lake Victoria Basin Commission ([http://www.eac.int/lvdp/lake\\_victoria\\_waterlevels\\_apr\\_06.pdf](http://www.eac.int/lvdp/lake_victoria_waterlevels_apr_06.pdf))

<sup>16</sup> See for example the study by the Prayas Energy Group, titled "The Bujagali Power Purchase Agreement: A Study of Techno-Economic Aspects of the Power Purchase Agreement of the Bujagali Hydroelectric Project in Uganda" available at [http://www.prayasenergy.org/energy/34\\_BujagaliPPA-Review.pdf](http://www.prayasenergy.org/energy/34_BujagaliPPA-Review.pdf)

<sup>17</sup> For example, see a description of Uganda's Ministry of Energy and Mineral Development's "Support of Renewable Energy Development in Uganda" (<http://www.ren21.net/iap/commitment.asp?id=127>), which had as a goal "By 2006: solar PV systems equivalent to 320 kWp sold to households and institutions; a comprehensive database of Uganda's renewable energy resources developed; feasibility studies for the development of an additional 60 MW completed."

*3.2 Programs to restore, improve and optimize benefits from existing large dams are identified and implemented. Options to consider include rehabilitate, modernize and upgrade equipment and facilities, optimize reservoir operations and introduce non-structural measures to improve efficiency of delivery and use of services.*

*3.3 Outstanding social issues associated with existing large dams are identified and assessed; processes and mechanisms are developed with affected communities to remedy them.*

*3.4 The effectiveness of existing environmental mitigation measures is assessed and unanticipated impacts identified; opportunities for mitigation, restoration and enhancement are recognized, identified and acted upon.*

*3.5 All large dams have formalized operating agreements with time-bound license periods; where re-planning or re-licensing processes indicate that major physical changes to facilities or decommissioning, may be advantageous, a full feasibility study and environmental and social impact assessment is undertaken.*

*WCD guidelines stipulate that: "Environmental impacts from past projects should be evaluated and incorporated into the needs assessment."*

#### **Bujagali Compliance:**

Because of the ongoing concerns about unsustainable water releases from existing dams, addressing this issue is key to the long-term health of Lake Victoria and the viability of Bujagali Dam. The only document released in time for inclusion in this report, the project EIA by Burnside International Ltd. (dated December 2006), does not address the overall issue of Lake Victoria's long-term health, other than to assert that Bujagali Dam will be designed based on the "Agreed Curve," and could lead to more sustainable flows out of the lake as it will "make use of the same water" released by the existing dams. **Neither the EIA nor the documents it is based on explore the opposite scenario – that a new dam will provide more incentive to release higher flows, in order to maximize electricity sales.** In fact, the project EIA admits that the Bujagali project sponsors cannot dictate how Nalubaale and Kiira dams will be operated by the Government. The EIA suggests that if these power stations are operated outside the Agreed Curve, Bujagali will also operate outside the Agreed Curve.

The EIA also does not discuss what changes to the existing dam complex would be required to begin to restore the Lake's level, and how such changes would affect Bujagali. **There is no guarantee that a sustainable outflow through Nalubaale and Kiira power stations will be sufficient for the economic operation of Bujagali, and hence its viability.**

Adding to the hydrological risk is the risk that climate change will further reduce outflows in the basin. The Dec. 2006 EIA does not mention the issue of climate change at all. Without a thorough analysis of the climate change risks on Bujagali and the greater

Ugandan economy, it is impossible to evaluate the project's economic viability, and to compare it to alternatives that would not be impacted by a changing climate.

### **How to Bring the Project into Compliance:**

The new EIA does not answer the questions of hydrological risk to Bujagali, nor does it address the problems caused by the existing dams. It remains to be seen if other analyses for the project will properly address these topics. Generally, the ongoing debate over the existing dams' role in the draining of Lake Victoria should be settled in a transparent, participatory way. This requires the timely release of relevant data about water releases through the dams, information about hydro-logical assumptions (and the related economic analysis based on hydro-logical assumptions), and commitments from the Government on future dam operation and water releases. **There is also need for an analysis of these dams' legacy of environmental damage and disruption to the livelihoods of lakeside dwellers and businesses.** It is critical to involve stakeholders from neighboring countries to address the problems caused by the over-releases of water, and to come up with long-term workable solutions.

#### **Hydrological Data: State Secret?**

At an Oct. 2006 public meeting in Kampala about drops in Lake Victoria's water levels, the Uganda Ministry of Energy disputed that the dams were a primary cause of the problem, and promised to release data to prove it. To date, despite numerous written requests, the data has not been released. Hydrologists are asked to see the following:

- Annual Net Basin Supply (NBS) for the Lake Victoria Basin for all years on record.
- Daily outflow from both the Nalubaale and Kiira dams since construction of Nalubaale, however most importantly since construction of Kiira, until the present.
- Daily Lake Victoria water level, measured at Jinja, since construction of Nalubaale, although again most importantly since the construction of Kiira, until the present.
- Daily Agreed Curve prescribed Owens Falls outflows since construction of Nalubaale, although again most importantly since the construction of Kiira, until the present.

An analysis by climate-change experts of the risks of climate change on Uganda's energy sector and its economy should be undertaken and publicly released.

### **Strategic Priority 4 - SUSTAINING RIVERS AND LIVELIHOODS**

*4.1 A basin-wide understanding of the ecosystem's functions, values and requirements, and how community livelihoods depend on and influence them, is required before decisions on development options are made.*

*4.2 Decisions value ecosystems, social and health issues as an integral part of project and river basin development and prioritize avoidance of impacts in accordance with a precautionary approach.*

*4.4 Project options are selected that avoid significant impacts on threatened and endangered species. When impacts cannot be avoided viable compensation measures are put in place that will result in a net gain for the species within the region.*

**Bujagali Compliance:**

The problems of the affected people have not been resolved. Thus far, there has been no commitment by the developer to address either outstanding or new issues. Affected people report that buildings at the resettlement site are in poor condition, just five years after construction. They also report that boreholes have dried up because of receding water tables (and that some boreholes never worked at all). The community reports that it lacks adequate health and education services, and that it is harder to make a living than before. Communities have been deprived of income from fishing activities since now they have no access to the river, because of a perimeter fence at the dam site that is monitored by government officials.

The lowering level of Lake Victoria and its serious impacts on livelihoods reveals that too little attention has been given to developing a "basin-wide understanding of the ecosystem's functions, values and requirements, and how community livelihoods depend on and influence them." **The lake's receding shoreline has affected millions in the region who depend on the lake for food, fisheries, transport and water supply.**

**How to Bring the Project into Compliance:**

In addition to analysis on impacts of the shrinking lake on the environment and local livelihoods (described under "addressing existing dams"), a comprehensive cost-benefit analysis of river-based tourism and the loss of Bujagali Falls should be carried out and publicly discussed in Uganda before the project proceeds.

**Strategic Priority 5 - RECOGNISING ENTITLEMENTS AND SHARING BENEFITS**

*The WCD states that the risks for all people affected by the project should be assessed prior to the project being approved.*

*5.1 Recognition of rights and assessment of risks is the basis for identification and inclusion of adversely affected stakeholders in joint negotiations on mitigation, resettlement and development related decision-making.*

*5.2 Impact assessment includes all people in the reservoir, upstream, downstream and in catchment areas whose properties, livelihoods and non-material resources are affected.*

*5.3 All recognized adversely affected people negotiate mutually agreed, formal and legally enforceable mitigation, resettlement and development entitlements.*

*5.4 Adversely affected people are recognized as first among the beneficiaries of the project. Mutually agreed and legally protected benefit sharing mechanisms are negotiated to ensure implementation.*

*It further states: "[Risks] must be identified, articulated and addressed explicitly. Most important, involuntary risk bearers must be provided with the legal right to engage with risk takers in a transparent process to ensure that risks and benefits are negotiated on a more equitable basis." It goes on, "Determining what is an acceptable level of risk should be undertaken through a collective political process."*

### **Bujagali Compliance:**

The project entails significant **hydrological risk**, due to its reliance on Lake Victoria for flows, and from climate change. Reductions in the river's flow could affect the dam's economic viability, and reduce its projected benefits.

A workshop on Lake Victoria's declining levels in Kampala in Oct. 2006 revealed widespread agreement that the lake will not quickly recover from the impact of excessive dam releases and drought, and that this will continue to have negative hydrological implications for power generation from the existing Nalubaale and Kiira dams. At that same workshop, Ugandan government representatives agreed that Bujagali will not realize its projected hydropower capacity if the lake level continues to decline. There is a great risk that the recent drop in the lake's level will not be quickly resolved even with an end to a regional drought.

As for the long-term risk from climate change, a Sept. 2005 report<sup>18</sup> by Water Resources and Energy Management International Inc. (a US consultancy commissioned by the Uganda Ministry of Energy) predicts that climate change could dramatically reduce the lake's levels and therefore outflow to the Nile. The report states:

*"Lake evaporation shows a steadily increasing trend, a direct consequence of temperature increase. From 2025 on, lake evaporation becomes consistently higher than lake rainfall with this deficit exceeding 20 billion cubic meters per year toward the end of the century. It thus appears inevitable that, if the rainfall process remains stationery, climate warming will disturb the historical balance of lake rainfall and evaporation, and will create serious deficits."*

No study released thus far analyzes the risks to Bujagali's performance from climate change-induced drought and other hydrological changes. Related to this, no publicly released economic analysis clearly defines the risks to Uganda's economy of being entirely dependent on Lake Victoria flows for its energy supply, in a warming world.

Bujagali's economic risks are not limited to the impacts of a changing hydrology. Past studies on the project's risks have been seriously flawed. Newer studies have not been released to the public. The cost of Bujagali to Uganda has long been a contentious

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<sup>18</sup> Study on Water Management of Lake Victoria: Technical Report 10, Climate Change Impact Assessment, by WREM International, September 2005. Available at <http://tinyurl.com/y2hbkx>

issue, and questions have been raised about citizens' ability to afford its tariffs, the high cost of the first design of the project (the stated costs for the new design have varied considerably), issues of indebtedness, and studies showing Bujagali as the "least-cost" project available to Uganda's energy sector.

The key document that assigns economic risks – the power purchase agreement – has been kept secret (both in the original project and the new one). The previous PPA was eventually released publicly and shown to pose unjustifiable risks to the Ugandan government, consumers and taxpayers. Uganda's High Court ruled in 2002 that a Power Purchase Agreement is a public document, and so there is a precedent in having the Bujagali PPA made public. Uganda laws require that Parliament must approve the state's obligations under the PPA. To date, it has neither been made public nor debated in Parliament. As the Inspection Panel stated in 2002, "It seems evident that full disclosure of the PPA is vital if the intent is to place the public in a position to analyze, understand, and participate in informed discussion about viability of the Project and its impact on the economy and well-being of Ugandans." The World Bank stated in a December 2006 letter that it is "encouraging the Government and Project Sponsor to disclose information" about the PPA, but implies it will not commit to a public release of the document before project appraisal.

The project also poses significant **livelihood and social risks** to dam-affected people including regarding the mitigation of their losses. Affected people have already experienced some setbacks to their lives, as a large community was resettled away from the river a number of years ago, while the project was still under consideration for World Bank financing the first time. At this writing, the only resettlement action plan was out of date and considered insufficient by local NGOs.

The impacts to tourism are inadequately assessed in the Burnside environmental impact assessment. This report does not include a comprehensive cost-benefit analysis of the tourism industry as a whole in relation to Bujagali. It does not assess the opportunity cost of building the dam in relation to tourism. The report does not describe the compensation for economic loss of the tour operators and the whole tourism industry as the result of the loss of Bujagali Falls.

#### **How to Bring the Project into Compliance:**

Affected people must be "provided with the legal right to engage with risk takers in a transparent process to ensure that risks and benefits are negotiated on a more equitable basis," as required by the WCD. This will require not just the public release of documents previously withheld, but binding agreements should the project proceed to ensure that the directly affected people are primary beneficiaries of the project.

The issue of livelihood losses from the existing dams' over-releases should also be publicly addressed.

Project proponents must reveal how a detailed hydrological analysis was used to project power benefits from the project.

A comprehensive cost-benefit analysis of the tourism industry as a whole should be undertaken.

## **Strategic Priority 6 - ENSURING COMPLIANCE**

*6.1 A clear, consistent and common set of criteria and guidelines to ensure compliance is adopted by sponsoring, contracting and financing institutions and compliance is subject to independent and transparent review.*

*6.2 A Compliance Plan is prepared for each project prior to commencement, spelling out how compliance will be achieved with relevant criteria and guidelines and specifying binding arrangements for project-specific technical, social and environmental commitments.*

### **Bujagali Compliance:**

There are a number of issues that raise red flags over ensuring compliance on this project.

First, Lake Victoria is now suffering ill-effects due to the release of more water than is allowed under the "Agreed Curve." Not only have these releases continued long after alarm bells were sounded about the lake's falling levels (and may be continuing even at this writing), but the Ministry of Energy has continued to deny any connection between the over-releases and the lower lake level. The Burnside EIA for Bujagali (which acknowledges that the dam releases account for half of the lake's drop) states that the dam will be designed according to the Agreed Curve. But the report says nothing about what will be done to ensure that Kiira and Nalubaale conform to the release requirements. In fact, the EIA seems to imply that meeting the Agreed Curve is optional. It states, "Nevertheless, it is believed that joint operations of the two projects' releases strive to be in accordance with the 'Agreed Curve.' [page 361] Striving is not the same as complying, and at any rate, it can hardly be called "striving" when **the dams let out double the water allowed under the Agreed Curve for many months.** Such practices should properly be called "ignoring" the Agreed Curve. (**N.B.:** The Agreed Curve is being rewritten at this writing.)

Second, the fact that people previously resettled for the project found themselves in a legal limbo and basically abandoned after AES left Uganda does not bode well for the project's social compliance.<sup>19</sup>

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<sup>19</sup> Having stricter policies at the World Bank Group does not give comfort, as their policies have already been violated on the first version of this project, as described in the 2002 Inspection Panel report. And there is a limit to the WBG's ability to ensure compliance even when good intent is there. When asked about the wisdom of allowing AES to resettle people even before funding was in place for the project, an IFC staff person said "That is their risk, we don't recommend it but we can't stop it."

Finally, compliance on the previous project was supposed to entail protecting the downstream Kalagala Falls as an offset for the Bujagali project, but the agreement between the Ugandan government and the World Bank stated only that, should Uganda "contemplate hydropower development at Kalagala" the project must have a "satisfactory EIA" – hardly a guarantee that this sensitive area would be set aside in perpetuity. The Inspection Panel noted: "Not only is there no obligation to preserve the Kalagala Falls as an offset, but also the Agreement contains a *direct expression* of potential development of the Kalagala site subject to the joint clearance of the EIA with IDA ... The Panel finds that Management is not in compliance with OP 4.04 because the Projects entails a significant conversion of natural habitat and IDA has failed to ensure the establishment and maintenance of the appropriate and technically justified mitigation measures."

### **How to Bring the Project into Compliance:**

The Agreed Curve was undergoing revision at the time of this writing. Whatever flow agreement is reached, it must be followed to ensure that unsustainable releases are curtailed. If new release criteria are adopted, they should be subject to an independent and transparent review. Hydrological data should be released in real-time to ensure compliance with the water-release agreement. Any future agreement on water releases should include an arbitration mechanism under which violations of the agreement can be dealt with. Those participating in further dam building on the Nile should ensure that agreements are followed and that there is no chance for a repeat of unsustainable dam releases.

All parties involved in this project should develop a workable compliance system for addressing the needs of the dam-affected people. As recommended by the WCD, the plan should include benchmarks for success, an evaluation of capacity for project authorities to carry out the plan, and the use of financial guarantees, performance bonds or trust funds to ensure there are sufficient funds to undertake commitments and obligations to affected people. Compliance with promises on resettlement and rehabilitation would be strengthened if a truly independent monitoring body, which includes members of civil society, is created. The choice of such a body should be left to the affected communities, not the developer.

Compliance with the Kalagala offset will require a strengthening of the legal language of the offset agreement.

The cost of all compliance measures should be incorporated into the project budget.

## **Strategic Priority 7 – SHARING RIVERS FOR PEACE, DEVELOPMENT AND SECURITY**

*7.1 National water policies make specific provision for basin agreements in shared river basins. Agreements are negotiated on the basis of good faith among riparian states.*

*They are based on principals of equitable and reasonable utilization, no significant harm, prior information and the Commission's strategic priorities.*

*7.2 Riparian states go beyond looking at water as a finite commodity to be divided and embrace an approach that equitably allocates not the water, but the benefits that can be derived from it. Where appropriate, negotiations include benefits outside the river basin and other sectors of mutual interest.*

*7.4 For the development of projects on rivers shared between political units within countries, the necessary legislative provision is made at national and subnational levels to embody the Commission's strategic priorities of 'gaining public acceptance,' 'recognizing entitlements' and 'sustaining rivers and livelihoods.'*

### **Bujagali Compliance:**

By ignoring the Agreed Curve and over-releasing water from Lake Victoria, the Government has had a huge impact on the other countries sharing the Lake and, in so far as they may have lowered the lake's level for the foreseeable future, to downstream countries sharing the Nile River. A recent study by the East African Legislative Assembly reportedly states that the drop in Lake Victoria's water level is costing an estimated US\$60 million annually in loss of services and fish sales<sup>20</sup>. Those suffering such losses do not derive any benefits from either the existing or proposed dams.

It appears likely that the Government did not notify other nations in advance about its intentions to ignore the Agreed Curve and its possible impact on Lake Victoria's water levels. As the WCD report states, "Openness and information sharing are key first steps in any transboundary water sharing situation."

### **How to Bring the Project into Compliance:**

The first requirement should be for the government to stick to the agreements with other governments that it has committed to in the past.

Before any new dam projects go forward, there should be a basin-wide evaluation of the dams' impact on Lake Victoria, based on a full disclosure of hydrological data, and the results of a cumulative impact assessment.

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*\*This paper was written in consultation with the National Association of Professional Environmentalists (NAPE).*

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<sup>20</sup> The Tanzania "Daily News", Oct. 24, 2006.