



INNOVATIONS FOR SUCCESSFUL SOCIETIES

TURNING ON THE LIGHTS IN FREETOWN, SIERRA LEONE: COMPLETING THE BUMBUNA HYDROELECTRIC PLANT, 2008 - 2009

SYNOPSIS

In 2008, Freetown faced one of the worst energy crises among the world's major cities, as two aging generators met less than 5% of the Sierra Leone capital's needs. Residents had electricity for only two or three hours every few days, and businesses struggled with the high cost of maintaining private generators. To make matters worse, efforts toward a solution were creeping at a snail's pace. Construction of a massive hydroelectric plant at Bumbuna, about 200 kilometers from Freetown, was far behind schedule because of mismanagement and political obstacles. President Ernest Bai Koroma assigned a top adviser, Victor Strasser-King, to get the project back on track by breaking through bottlenecks, facilitating coordination between ministries, and regaining the trust and confidence of the donor community to renew their support for the project. By closely monitoring progress through a system of performance tracking and personal inspection and verification of tasks, Strasser-King steered the project to completion in November 2009.

Jonathan Friedman drafted this case study on the basis of interviews conducted in Freetown, Sierra Leone, in March 2011. Case published September 2011.

INTRODUCTION

Seated in an air-conditioned conference room at Sierra Leone's Ministry of Energy and Water Resources, known as Electricity House, Abdul Jalloh, director of the Bumbuna Project Implementation Unit, in early 2011 recalled the working conditions in Freetown upon his arrival in 2007. "We would be here in this building, the nerve center of the National Power Authority; we would be here for days with no electricity—in Electricity House," Jalloh said. "In the afternoons, we would have to open our shirts

because it was too hot; there was no air conditioning. We would have to leave early. Now, I stay and work until eight at night."

When Sierra Leone emerged from an 11-year civil war in 2002, the West African nation was the poorest in the world, according to United Nations data, with 80% of the population living on less than US\$1 per day. During the war, an estimated 150,000 people were killed and an additional two million displaced out of a prewar population of five million. Among other challenges, Sierra Leone faced an energy crisis

that stifled economic development and diminished the quality of life of its citizens.

Freetown residents had electric light for only two to three hours every few days, and many factories in the eastern part of the city, which had produced construction materials and other products before the war, shut down due to the high cost of maintaining private generators. Jalloh recalled, “Quite a lot of factories closed in this country because of the cost of electricity. ... Generators fell into disrepair, prices went up; people couldn’t afford the products, and eventually these companies folded.”

According to World Energy Assessment guidelines, Sierra Leone required 600 megawatts of electricity to effectively meet the needs of its postwar population of about six million, including residential and industrial use. Freetown alone required 100-120 megawatts. In 2007, Freetown received only five megawatts from two aging and poorly maintained diesel generators—what remained from a group of generators that collectively had produced 35 megawatts before the war.

When President Ernest Bai Koroma took office in September 2007, he set energy at the top of the five policy priorities in his “Agenda for Change,” which also included agriculture, infrastructure, health and education. Koroma recognized that increasing power production was crucial to attracting foreign investment and spurring economic growth. Central to his energy policy was the completion of the Bumbuna hydroelectric plant, located on the Seli River about 200 kilometers northeast of Freetown.

The Bumbuna project began in the 1970s with feasibility studies, which were scaled down in the 1980s, that envisioned the production of 50 megawatts of electricity, mainly for the capital city. The effort progressed slowly until work was suspended in 1997 because of the civil war. Construction resumed in late 2007 after Koroma appealed to donors for assistance and the government put US\$5 million into the project.

However, another crisis developed in 2008 when donors—including the U.K. Department for International Development, the African Development Bank and the World Bank—threatened to suspend funding because poor coordination between government ministries and contractors left gaps in the project, both physical and administrative.

Koroma in May 2008 assigned an experienced administrator and former consultant on the Bumbuna project, Victor Strasser-King, to get the job done. Strasser-King’s official title was energy and infrastructure adviser in the Strategy and Policy Unit, an elite advisory team within the Office of the Presidency. Orchestrating regular interministerial meetings, developing his own performance tracking system and making deft use of presidential backing, Strasser-King managed the project to completion and commissioning in November 2009.

This case provides insights into how the effective use of performance-management systems can motivate employees, facilitate cooperation within government, and improve overall effectiveness.

THE CHALLENGE

In 2008, under threat of another work suspension, the Bumbuna project was in trouble. A lack of coordination among government ministries resulted in administrative bottlenecks, poor communication between contractors and ministries left several gaps in the project, and political pressure was growing as Koroma’s completion deadline of April 2009 approached.

No effective forum or process existed to facilitate coordination of legal and financial issues between the Ministry of Energy’s Bumbuna project unit and several other ministries that had a say in such matters. At the energy ministry, Jalloh had no authority over officials at other ministries. Additionally, ambiguities in contracts between the government and private construction companies created confusion regarding who was responsible

for various tasks as well as who had ownership and operating rights after the project was completed. The resulting uncertainty over roles and responsibilities worked against accountability and hampered progress.

A lack of leadership at the political level in the Ministry of Energy undermined donor confidence in the Bumbuna project, which was heavily reliant on donor support. Koroma's first appointee to the post of energy minister, Haja Afsatu Kabba, drew the ire of donors for making decisions that they feared would undermine the engineering integrity of Bumbuna and open the door to corruption. A contract she signed with a Nigerian company, Income Electrix, to temporarily provide power to Freetown until the commissioning of Bumbuna was extremely favorable to the company and failed to ensure that the company used equipment that was compatible with the grid in Freetown. The contract cost millions of dollars, and the generator never produced more than 40% of its installed capacity of 10 megawatts. An investigation by the attorney general's office found that standard procurement processes had been ignored in the deal with Income Electrix. Afsatu also opposed important engineering tests and other measures that she thought would slow progress. Bumbuna donors demanded a leader who was better acquainted with sound engineering processes. Mustapha Kargbo, consultant to the Bumbuna Project Implementation Unit until 2008, said donors "were crying for an engineer to replace her who knew the engineering issues."

Since work began at Bumbuna in 1980, the public had become openly skeptical of repeated presidential assurances that the project would be completed soon. For years, an image of the planned Bumbuna dam had adorned the back of the 5,000 Leone bill (worth roughly US\$1.20). A movement founded in May 2005, called "Jus gi we di light" ("just give us the light"), reflected the mixture of hope and doubt. When describing

something that was highly unlikely to ever happen, Sierra Leoneans often used the idiom, "When Bumbuna is completed." As Jalloh explained, "The project had a credibility problem."

FRAMING A RESPONSE

When he became energy and infrastructure adviser in the Strategy and Policy Unit in 2008, Strasser-King moved to restore credibility to the Bumbuna project—an important step toward regaining and sustaining the support of donors. He conducted a detailed evaluation to assess what needed to be done. Strasser-King, in his early 60s at the time and a geologist by training, knew the Bumbuna project well, having worked on its design for five years during the late 1970s and early 1980s for the Italian company Salini Construction while he was a professor at Fourah Bay College in Freetown. He also had studied hydroelectric projects in neighboring Liberia and in Mali prior to 2008.

"I knew the design of Bumbuna. I knew the people in Bumbuna. I knew everything about the project," Strasser-King said. "I did a proper evaluation of the progress, where they were, how feasible it would be for them to deliver and commission Bumbuna by April [2009]. I advised the president immediately that based on my assessment it would not be possible to deliver by April. ... I told the president that I was sure we could deliver by December, so I had to make sure that we delivered by December."

Although he had no statutory authority over other arms of the government, Strasser-King was able to get his foot in the door of ministries because he was viewed as the "eyes and ears of the president" for the Bumbuna project. In order to meet the December 2009 deadline, Strasser-King developed a performance tracking system with the support of advisers from the Africa Governance Initiative of the office of former U.K. Prime Minister Tony Blair. This system identified individuals responsible for particular action items

and allowed Strasser-King to closely monitor progress against specific targets and to intervene as needed.

This system reflected Strasser-King's hands-on management style, which he said avoided "relying on delegating tasks" and stressed the "value of personal involvement to ensure things are working." Strasser-King had studied management in France in the early 1990s and had cultivated his management style as principal of Fourah Bay College for more than a decade and during several stints in the private sector with mining and petroleum companies. Michael Conteh, a lecturer in mechanical engineering at Fourah Bay, said, "Wherever he [Strasser-King] works, he asserts his authority."

In working with Strasser-King as the head of the technical committee within the Ministry of Energy that oversaw the Bumbuna project, Jalloh brought a similar wealth of experience, both academic and professional. He had studied mechanical engineering at the University of Arizona-Tucson in the United States and later taught at Alabama A&M University, also in the U.S., and at Fourah Bay. He worked as a design engineer at the Johns Manville Technical Center in Colorado and later as a project manager at the Superconducting Super Collider project in Texas, where he managed a staff of engineers.

GETTING DOWN TO WORK

Under threat of a donor suspension of funds in mid-2008, Koroma named Ogunlade Davidson to replace Afsatu as minister of energy, a move that boosted Strasser-King's efforts to restore donor confidence in the stewardship of the Bumbuna project. Davidson was a respected engineer and academic who had worked on the Intergovernmental Panel on Climate Change and taught at Fourah Bay.

Together, Davidson and Strasser-King inspired donor confidence. "They knew my track record as head of the university," Strasser-King said. "I am not a politician. I am not a civil

servant. So, they see me as someone quite neutral, with no vested interest." Strasser-King set out to improve workers' performance by closely tracking their progress toward specific goals, to facilitate coordination among ministries, and to steer Bumbuna to completion.

Motivating workers

Strasser-King's performance tracking system aimed to accelerate the pace of work and improve the performance of both government officials and contractors. Constant monitoring, he believed, also would allow him to identify and clear bottlenecks quickly.

The system consisted of a simple tracking table organized in the Microsoft spreadsheet program Excel. The table listed 10 or so action items at any given time, identifying the person or unit responsible for each, the required activities, the resources allocated, and the target date for completion. Strasser-King used a color-coded system to assess progress on each action item. Green meant the item was on track to be completed by its target date, and amber indicated relatively minor problems. Red items required immediate attention.

To monitor progress, Strasser-King communicated daily with officials responsible for action items and personally verified their reports by frequently visiting worksites at Bumbuna, the transmission line connecting the project to Freetown, and the link to the Freetown grid at the King Tom power station in Freetown. He made the journey to Bumbuna, about four hours by car in each direction, at least once a week and sometimes twice, throughout 2009. Monitoring King Tom was less onerous because "it was on my way to work," said Strasser-King. Without engineers on his staff, he had to monitor progress personally, saying, "It's not a question of someone coming to tell me. I would go there myself and see it happen. I didn't delegate. I wanted to see it myself."

Jalloh said Strasser-King was on the phone

with him every day asking, “What, how and how soon, because people wanted it done yesterday. ... It was trust, but verify.” Jalloh said that although Strasser-King’s insistence on day-to-day progress sometimes made Jalloh’s job difficult, Strasser-King’s hands-on approach was effective. “There were times when ... it was irritating, because one felt one was doing the best you can,” Jalloh said. “But ... if I put myself in his shoes, his job was to keep the president informed, and he didn’t want to report the same thing to the president every day. He wanted every day to report some progress.” Jalloh and Strasser-King maintained an effective working relationship, fostered during their time together on the faculty at Fourah Bay.

As an additional motivation to staff and to help persuade donors and the public that Bumbuna had strong support at the highest level, Strasser-King encouraged Koroma to visit the project site on several occasions. The president visited the site four times between February and November 2009. Each time, Strasser-King arrived the day before as Koroma’s “advance party” to provide the president with the most current briefing. All told, Koroma visited Bumbuna more often during his first two years in office than all previous presidents combined.

“He (Koroma) had this committee and asked all these questions, but he also wanted to go out and see,” Jalloh said. “It lit a fire under us. It put additional pressure on us to get results and get results quickly.”

Coordination of ministries

Strasser-King identified a lack of coordination among government ministries as a primary factor behind the slow progress of the Bumbuna project. As head of a unit within the Ministry of Energy, Jalloh had difficulty negotiating issues that required the involvement and cooperation of other ministers and ministries. Asahi Takano, a former adviser with the Africa Governance Initiative, described the situation: “You needed a very senior figure with the

authority of the president to be able to walk into a minister’s office.”

One interministerial logjam in late 2008 involved a project to upgrade the local grid in Freetown to handle Bumbuna’s output. The National Power Authority, a semi-autonomous unit of the energy ministry that was responsible for maintaining the grid in Freetown, failed to secure a deal with a contractor, Intersaf, because of a lack of funds. Even though upgrading the grid in Freetown was not technically part of the Bumbuna project, any failure to upgrade the grid would essentially waste production from Bumbuna. The U.K. DFID threatened to suspend Bumbuna funding if the contract with Intersaf was not signed. The power authority needed support from the Ministry of Finance, which refused to cooperate, citing the poor financial situation at the power authority. Strasser-King, with the implicit backing of the president, intervened with the minister of finance on behalf of the power authority and succeeded in getting the needed funds disbursed quickly.

In part as a result of this confrontation, Strasser-King suggested to Koroma that the president should convene regular meetings of his ministers to facilitate progress on issues that required cooperation. “I realized that the implementation [of Bumbuna] could not be left entirely in the hands of the Ministry of Energy, that there were other ministries involved such as Finance or Lands,” Strasser-King said. “So I thought, now instead of dealing with them periodically, we should all meet together, and the president accepted the idea. He asked who should be in the committee. I made my suggestions, and the committee was set up as the Bumbuna Completion Committee.”

The president chaired meetings of the Bumbuna Completion Committee beginning in February 2009. Strasser-King made sure that the Koroma was well informed about the project, briefing the president before each meeting and giving him a lists of significant benchmarks

achieved or issues that arose during the previous week. The briefings “intended to put [the president] in the picture, so that he knows what the problems are when he goes to the meetings and is not taken by surprise,” Strasser-King said. “He was able to ask the probing questions because I ... set the stage.”

Takano, of the Africa Governance Initiative, stressed that Koroma’s intimate knowledge of the Bumbuna situation helped to hold ministers to account. “This was the power of information provided by Strasser-King. Ministers quickly realized they couldn’t get away with it anymore,” he said.

Jalloh said the Bumbuna Completion Committee served an important function. “It made life ... a lot simpler, because it was a one-stop shop,” he said. “I could go there and present my issues ... some of the issues I used to take to individual ministers ... and once the president made the decision, the decision was made. There was no second-guessing ... because the relevant ministers were all around that table. If you had a financial issue, the minister of finance was there. If you had a legal issue, the attorney general was there. If you had a lands issue, the minister of lands was there.”

Coordination with contractors

Jalloh and Strasser-King faced a challenging task in trying to coordinate operations because different components of the Bumbuna project were contracted to different companies. Ambiguities in contracts caused disagreements about where contractors’ obligations began and ended, as well as which contractor or government agency was responsible for maintaining and operating equipment after construction was completed.

The most significant gap in the project occurred at the King Tom power station in Freetown. A Bumbuna substation was intended to link with the King Tom station, which would

distribute electricity throughout the city. Less than a kilometer separated the Bumbuna substation from King Tom, but it was unclear who was responsible for connecting the two. The general manager of the power authority argued that it was the responsibility of the contractor, while the contractor argued it was the authority’s responsibility. When Strasser-King asked the contractor to complete the link, the contractor balked because it hadn’t received payment. The funds could not be taken from the Bumbuna budget because this link wasn’t part of the project. Strasser-King appealed to the president to secure an additional source of funds, and the African Development Bank agreed to help. To expedite the contractor’s resumption of work, Strasser-King negotiated with the Ministry of Finance to release the funds to the contractor immediately. The ministry was compensated later when the African Development Bank money arrived.

Other issues arose with the primary contractor, Salini Construction, which was responsible for building the dam and powerhouse at Bumbuna. Twice during 2009, Salini slowed construction and threatened to suspend work because of disagreements with the government arising from ambiguities in its contract. The first related to a dispute over the distribution of ownership shares in the facilities at Bumbuna. Other disputes arose regarding the operation and management of the Bumbuna facility and a right of first refusal on future hydroelectric projects. Salini argued that the refusal rights were promised in its contract, but the government wouldn’t go along, in part because of donor concerns about giving any company an advantage in bidding for future contracts. Strasser-King intervened each time and organized negotiations between Salini and the energy minister to resolve the disputes. Salini resumed construction after the two sides agreed that the company would operate the facility for a number of years but would not have the right of first refusal on future projects.

Securing the Bumbuna project

The transmission line from Bumbuna to Freetown had been nearly completed before the war but had sustained substantial damage during and after the fighting. Theft rather than combat accounted for most of the damage, as citizens stole about 150 kilometers of aluminum cable to make pots and clothes hangers, and used pylons and columns for home construction and other purposes.

Jalloh appealed to Koroma at a meeting of the Bumbuna Completion Committee to take action to protect the transmission line from further damage. “If we lose one meter of cable,” he recalled telling the president, “we do not manufacture them locally, so we will need to import them and it will take six weeks, two months to get them,” a costly period of delay. Koroma agreed to deploy troops to guard the transmission line and the dam.

With Bumbuna designated a high-security area, only officials with written permits from Jalloh were allowed to visit the dam site or the transmission line. On one occasion, a delegation of six ministers was refused entry because the group did not have permits.

OVERCOMING OBSTACLES

Diplomacy and tact were useful tools for Strasser-King in dealing with the resistance he initially encountered in seeking cooperation from ministers and from staff at the Ministry of Energy. “It’s difficult to get ministers to coordinate because they’re like empires: ‘I have my territory, this man has his territory,’” he said.

At the Ministry of Energy in particular, “there was resentment,” Strasser-King said. “They thought I was some kind of policeman.” He had particular trouble at first with the energy minister, who thought of Strasser-King as a “Big Brother” who “will go to the president to tell him that this minister is not performing,” he said.

Strasser-King said he always stressed that his role was not to report on others’ mistakes but to

offer support when others ran into obstacles.

“When you move into these ministries, you have to make it clear that you are there to help them, to support what they are doing and not to lord over them,” he said. “Once they realized that was not the case, I ended up getting a very good working relationship with them.”

The performance tracking system posed a particularly sensitive challenge because officials whose action items received red marks feared reprisals. Strasser-King stressed over time that his aim was not to punish red marks but to turn them to green. “What [officials] really want to see is results,” he said. “Once they figured out that I am someone who can help them when they have problems, our relationship improved.”

ASSESSING RESULTS

On 6 November 2009, Koroma commissioned the Bumbuna hydroelectric plant with much fanfare. The influential Sierra Leonean newspaper *Cocorioko* described the commissioning as “a dramatic leap from darkness to light.” Abdul Fonti, editor of the *Sierra Leone Awareness Times*, described the commissioning as “bringing light to the darkest city in Africa.”

Even after the electricity started flowing to Freetown, public skepticism remained, and some even doubted that the power was actually coming from Bumbuna. Jalloh recalled a rumor “that the government in fact built a 30-megawatt generator outside Freetown and had mobilized half the military to protect it. A lot of it was just disbelief.”

However, Freetown still could not utilize the full 50-megawatt capacity of the Bumbuna plant. While the National Power Authority had increased the capacity of the grid in Freetown above its 2007 levels, it still could not carry more than 35-40 megawatts. The project also was constrained by its reliance on rain to fill the reservoir that provided the waterpower for the project. Though Bumbuna could produce 50 megawatts during the rainy season, the plant was

limited to 18-20 megawatts during the dry season. As Conteh pointed out, “It [Bumbuna] is providing us regular power. Life has improved dramatically. But it’s still insufficient.”

To supplement Bumbuna’s production in the dry season, the government in March 2011 commissioned an 18-megawatt generator in Freetown, donated by the Japan International Cooperation Agency. Additionally, the government announced plans to build a second hydroelectric plant upstream at Eben, which would produce its own energy and regulate the flow of the river to keep Bumbuna operating at full capacity during the dry season. The project promised to go further toward meeting Sierra Leone’s energy needs but was still in the planning phase in early 2011 as the government sought financial support.

Several innovations introduced by Strasser-King, including the performance tracking system and regular ministerial meetings designed to facilitate specific policy outcomes or projects, became standard practice for all projects managed by the Strategy and Policy Unit. A United Nations Development Programme assessment in 2010 highlighted the Bumbuna completion as the unit’s most notable achievement and recommended a greater role for the group. The unit was expanded to 12 expert advisers from its original five, each managing a performance tracking system designed to achieve a specific policy outcome.

Additionally, with the success of the Bumbuna Completion Committee in facilitating interministerial cooperation as a model, advisers of the Strategy and Policy Unit set up regular ministerial meetings involving stakeholders for each of 12 priority policies, to be chaired quarterly by the president. This framework of regular ministerial meetings and performance tracking became the primary method for organizing government ministries to implement priority policies.

Deputy Minister of Energy Alex Martin Bash Kamara credited the performance tracking system with accelerating the completion of Bumbuna. “Without setting performance targets, Bumbuna [construction] could still be going on and on,” Kamara asserted. “It was time we set targets.”

Although the completion of the Bumbuna project substantially improved the energy situation in Freetown, the government raised public expectations for the project above what it could actually deliver. Though infrequent, blackouts continued in Freetown, and some new neighborhoods of Freetown remained in the dark because they were not yet connected to the grid. Fonti, editor of the *Sierra Leone Awareness Times*, said, “People are skeptical because of the promises the government made of electricity 24 hours a day, which is not the case. ... Now we hear about phase two, the same promises, and we are still hopeful.”

REFLECTIONS

Although Victor Strasser-King succeeded in getting the Bumbuna hydroelectric plant completed on schedule, some who were involved in the project expressed reservations about his credentials for the technically demanding job. Michael Conteh, an engineering lecturer at Fourah Bay College, was critical of the selection because of Strasser-King’s lack of a formal engineering background.

And although Abdul Jalloh, who was director of the Bumbuna Project Implementation Unit, thought Strasser-King “did a very good job,” he also thought that “maybe an engineering background would have helped.”

Mustapha Kargbo, former consultant to the Bumbuna Project Implementation Unit, identified the separation of politics from engineering as essential for the completion of Bumbuna. He said the previous minister of energy, Haja Afsatu Kabba, endangered the project through her

“impatience” and insistence on “finishing the project now.” Similarly, Jalloh cited the “over-exuberance” of some people in government about when the project would be completed. “People were impatient, Jalloh said. “You need to test, and when you find problems, you must investigate the problems and repair them.”

Finally, the president’s personal involvement in Bumbuna helped raise the profile of the project and motivate staff to accelerate the pace of progress. Jalloh recalled President Ernest Bai Koroma’s visit to the dam during a rainstorm

during July 2009. “I jumped out of my car and waited for the president as security opened the door,” he said. “It was raining the proverbial cats and dogs. The president stepped out in the rain. That showed me all the commitment that I needed to see from him. He stepped out in the rain and walked around in the rain. That showed me how focused he was on the project. All of us around at that instant knew that we needed to do whatever we could to make sure we completed that project.”

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