

African Dams Briefing 2010

Dams are often the largest water and energy investments in Africa. Yet, African citizens rarely have access to critical information about these projects. Citizens have the right to hold their governments accountable for decisions they make and the use of public funds. The African Dams Briefing 2010 is intended to assist African and international civil society in holding their government officials accountable by providing greater transparency about dam projects, project decision-making, and companies and donors involved in specific dams.

Every large dam poses economic, social, and environmental impacts. Dams can increase a country's debt burden, displace whole communities, destroy livelihoods, alter ecosystems, and increase disease. Dams can also fall far short of achieving their purpose, especially in a warming world. Climate change and increasingly erratic rainfall can reduce energy and water benefits from dams and increase risks of deadly floods.

Today, billions of development dollars are earmarked for large dams and associated project infrastructure in Africa. Lucrative construction, power purchase and investment contracts can drive bribery and other corrupt business practices. The lack of transparency and limited legal enforcement to halt these practices allow shady deals to go forward. Funds required by dam projects can also eliminate alternatives that could foster good governance, community participation and decentralized service delivery.

This document is meant to provide a basic synopsis of large dams in Africa that have a status of Proposed, Under Construction, Rehabilitation, or Expansion. Dams that have become operational since the last update (2006) are noted as In Operation. Research is conducted by staff, interns and volunteers primarily through news searches on the internet. Special thanks to Jocie Bartlett, Berklee Lowrey-Evans, and Katy Yan for their assistance. Dam projects are listed alphabetically by country, then alphabetically by project name. All project costs are listed as US dollars.

We strive to provide an accurate summary of available project information and links to some of the most relevant sources and news stories. However, project information and status can change quickly. Media reports may also provide different or even conflicting information. We encourage you to review the provided references and verify the information provided in our summary from their original sources. Please send us any updates for the next version at africadb@internationalrivers.org.

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ANGOLA: In May 2008, the government outlined plans to increase production capacity by at least 1,250 MW by 2016 and invest US\$8.4 billion in building new hydro power stations on the Cuanza (Kwanza), Catumbela and Cunene (Kunene) rivers. Along the Kwanza River, the government intends to invest \$7.3 billion in seven new dams that would generate 5,000 MW, mostly for export to other countries in southern Africa. Government plans would also invest \$340 million on the Catumbela River and \$750 million in projects on the Cunene River. During Angola's civil war, its six main hydro dams (Cambambe, Lomaum, Biopo, Matala, Mabubas and Gove) were severely damaged and are now undergoing rehabilitation.

Links

“Angola / Construction of hydroelectric power will cost 8.4 billion dollars” (May 16, 2008):

<http://mercosulcplp.blogspot.com/2009/04/portugalcomissao-de-anistia-brasileira.html>

“Angola: Billions for Power Programs” (May 21, 2008):

<http://www.africanenergyintelligence.com/>

1. ANGOLA: Cambambe Dam, Cuanza (Kwanza) River Rehabilitation
INTERNATIONAL INVOLVEMENT: Alstom Hydro; Odebrecht (Brazilian company)

Coordinates: 9°75'S 14°48'E

The Cambambe Dam will be rehabilitated and extended from 180 MW to 260 MW and will include the heightening of the dam by 20 meters. Work includes four new 72MVA generators, new digital protection and control systems, and hydro-mechanical and lifting equipment. The rehabilitated units are to be commissioned between September 2009 and June 2010.

Alternate Project Names: Cambambe 1 Dam

Links

“Alstom awarded rehab contracts in DRC, Angola” (March 27, 2009):

<http://www.waterpowermagazine.com/story.asp?sectioncode=130&storyCode=2052562>

“Alstom to rehabilitate and modernise two hydropower plants in Africa” (March 19, 2009):

http://pepei.pennnet.com/display_article/356666/6/ARTCL/none/none/1/Alstom-to-rehabilitate-and-modernise-two-hydropower-plants-in-Africa/

2. ANGOLA: Cambambe 2 Dam, Cuanza (Kwanza) River Proposed

Construction of the \$772 million, 260 MW Cambambe 2 dam is part of the Southern Africa Power Pool (SAPP) 2008 work plan.

3. ANGOLA: Capanda Dam, Cuanza (Kwanza) River In Operation

INTERNATIONAL INVOLVEMENT: Odebrecht (Brazilian company); Technopromexport (Russian company)

Coordinates: 9°47'S 15°27'E

In 2007, Capanda Dam became operational with a capacity of 520 MW. The dam was completed by Brazilian company Odebrecht and Russian company Technopromexport. Capanda Dam is the largest ever civil construction project in Angola and provides power to the cities of Malange and Luanda. An estimated \$4 billion has been invested in the project. It was started in 1986 with a state investment of \$750 million paid in oil supplies to foreign companies. Capanda was supposed to start generating power in December 1993. However, the dam was attacked by rebels in November 1992, who occupied the area until December 1994. The dam was badly damaged, and rehabilitation started in 1998. Capanda was attacked again in 1999 and paralyzed once more. Construction resumed in January 2000. The total cost of war damage to Capanda is well over \$400 million.

Alternate Project Names: Kapanda

4. ANGOLA: Ganjelas Dam, Cunene (Kunene) River Rehabilitation
INTERNATIONAL INVOLVEMENT: Chinese financing; Sinohydro (Chinese company)

Rehabilitation of Ganjelas Dam and its two channels (\$28 million) in Huíla province began in November 2005 and concluded in January 2009. The infrastructure will irrigate its perimeter with an extension of 2,150 hectares.

Links

“Ganjelas Dam fully rehabilitated” (January 12, 2009):

http://www.portalangop.co.ao/motix/en_us/noticias/sociedade/Ganjelas-Dam-fully-rehabilitated.0430e12a-66f2-45f3-9061-1b35e57ecc99.html

5. ANGOLA: Gove Dam, Cunene (Kunene) River Rehabilitation
INTERNATIONAL INVOLVEMENT: Odebrecht (Brazilian company)

In Huambo province, Brazilian-based Odebrecht is rebuilding Gove Dam. In 2007, Odebrecht announced several new projects in Angola. The contract for rehabilitation of the Gove Dam in Huambo province, which consists of the building of a hydro-electrical center, installation of a sub-station and setting up of power transporting lines, was approved by the Angolan Government. The investment, in the amount of \$158 million, will allow for the regularization of water supply for the Xangongo-Ondjiva and Santa Clara-Namibe regions, for energy supply for the Huambo and Bie provinces, and for irrigation along the perimeters of the Cunene River. The project, which is set to be implemented within 30 months, will employ 600 workers.

Links

“Brazil’s Odebrecht announces launch of several projects in Angola” (September 18, 2009):
<http://www.macauhub.com.mo/en/news.php?ID=4066>

6. ANGOLA: Jamba ya Mina, Jamba ya Oma, Cunene (Kunene) River Proposed

Coordinates: 14°19'S 15°21'E

7. ANGOLA: Lauka Dam, Cuanza (Kwanza) River Proposed
INTERNATIONAL INVOLVEMENT: Technopromexport (Russian company)

Coordinates: 9°45'S 15°10'E

In 2007, the Government of Angola was reportedly considering contract negotiations for financing and construction with Chinese, Norwegian, and Russian interests. The Lauka Dam would be 1,000 MW and reportedly worth \$1.5 billion.

Links

“Russia wants to build two new hydropower stations in Angola” (March 16, 2007):
<http://de.rian.ru/business/20070316/62134936.html>

8. ANGOLA: Lomaum and Biopio Dams, Catumbela River Rehabilitation

Rehabilitation and expansion work, costing \$20 million, began in 2009 and will last until 2012. Lomaum Dam (65 MW) in the Benguela Province could be increased if Cacombo Dam is built.

Alternate Project Names: Lumaun

Links

“Angola: Rehabilitation of Lomaum, Biopio Dams Due in 2009” (December 24, 2008):
<http://allafrica.com/stories/200812250088.html>

9. ANGOLA: Matala Dam, Cunene (Kunene) River Rehabilitation
INTERNATIONAL INVOLVEMENT: Odebrecht (Brazilian company)

The 39 MW dam is undergoing rehabilitation. Partial rehabilitation work was undertaken in 2000 by Brazilian company, Odebrecht, for a reported \$6 million. Work includes installation of three new turbines. The government has reportedly discussed the project with Canadian interests.

Links

“Power dam soon enter the Matala in works of restoration” (November 28, 2008):
http://www.portalangop.co.ao/motix/pt_pt/noticias/ciencia-e-tecnologia/Central-electrica-

barragem-Matala-entra-brevemente-obras-recuperacao.e1b2a475-790c-49e2-9916-02e2346dbbb1.html

10. ANGOLA: Nyanga Dam, Cuanza (Kwanza) River

Proposed

Coordinates: 9°47'S 15°28'E

The Nyanga Dam is 450 MW. In 2006, Russian company, Technopromexport, expressed interest in the project.

Alternate Project Names: Nhange Dam

11. ANGOLA/NAMIBIA: Baynes Dam, Cunene (Kunene) River

Proposed

INTERNATIONAL INVOLVEMENT: German KFW; Environmental Resources Management (British company); Odebrecht, Electrobras, Furnas and Engevix (Brazilian companies)

Coordinates: 17°01'S 12°53'E

The governments of Angola and Namibia jointly plan to build the \$551 million Baynes Dam (360-480 MW). This project is an alternate site to the controversial, proposed Epupa Dam. The Baynes Dam would affect the indigenous Himba peoples, a nomadic tribe in northern Namibia. The bilateral Joint Permanent Technical Commission (PJTC) for the Cunene River Basin appointed British consulting company Environmental Resources Management (ERM) to undertake the environmental impact assessment. In July 2006, the PJTC appointed the Cunene Consortium (comprising four Brazilian companies: Odebrecht, Electrobras, Furnas and Engevix) to undertake an 18-month technical and economic viability study. The \$7 million study is funded by Germany's KFW and is divided into three phases. In July 2009, officials reported that the first stage of the technical, economic and social viability studies would be concluded by 2010.

Links

“Baynes Hydroelectric Project to speed up country's development” (June 29, 2009):

http://www.portalangop.co.ao/motix/en_us/noticias/economia/Baynes-Hydroelectric-Project-speed-country-development.d2ed18b3-00fc-475f-9426-1384aced487c.html

“Hydropower Plan in Spotlight Again” (February 11, 2009):

<http://www.tradingmarkets.com/site/news/Stock News/2171339/>

“Namibia: All Set for Power Station On Kunene River” (June 25, 2008):

<http://allafrica.com/stories/200806250860.html>

12. ANGOLA/NAMIBIA: Epupa Dam, Cunene (Kunene) River

Proposed

Epupa Dam was seriously studied in the late 1990s, but has since been shelved after the project's terrible impacts on the indigenous Himba tribal people, who have successfully lived as nomad pastoralists in the area for the past 500 years, received major international attention. Although

today the Namibian government is pursuing a major gas project (Kudu) and an alternate project downstream (Baynes), Epupa continues to receive occasional official mentions. The project would include a 163-meter high dam and a 380 square kilometer reservoir. This would displace 1,100 Himba and affect grazing lands used by 5,000 pastoralists. In addition, 95 archaeological sites and 160 Himba graves sites would be permanently lost.

Links

“Namibia: Uncertainty on the future of Epupa Dam” (January 2001):

<http://www.wrm.org.uy/bulletin/42/Namibia.html>

13. BENIN/NIGER: Dyodyonga Dam, Mékrou River

Proposed

Coordinates: 12°18'N 2°37'E

This private sector 26 MW dam on the Benin-Niger border would inundate archaeological sites and impact the “W National Park” in Niger, a World Heritage Site. According to the World Heritage Committee of UNESCO, “The project’s electrical production will not be assured all year long as the Mekrou River flows only four to five months a year. With the high rate of evaporation, erratic rainfall and cyclic droughts that affect the semi-arid countries on the periphery of Sahel, the sustainability of the dam is not assured. The dam would be built in an area that includes one of the most beautiful riverine forests in West Africa, which constitute the refuge and important habitat for many endangered animal species. It is estimated that more than 3,500 hectares of riverine forest will be flooded and permanently lost, as will a major tourist attraction in the region, the Mekrou gorges.” UNESCO reported in 2003 that archaeological finds of an old ancient city and a tomb thought to be several million years old had been discovered. The government hopes the dam would lead to the development of new industries and mineral resource exploitation in the Mékrou area. The possible consequences of this on the park are unknown and have not apparently been addressed.

Links

“Environmental Agreement between Benin and Niger” (2010):

http://iea.uoregon.edu/page.php?query=treaty_info&mitch_id=1178

‘W’ National Park, BirdLife IBA fact sheet (2009):

<http://www.birdlife.org/datazone/sites/index.html?action=SitHTMDetails.asp&sid=6719&m=0>

14. BENIN/TOGO: Adjarala Dam, Mono River

Proposed

INTERNATIONAL INVOLVEMENT: World Bank; China Export-Import Bank; Sinohydro (Chinese company)

Coordinates: 6°54'N 1°36'E

The 147 MW Adjarala Dam would be the second large hydropower dam on the Mono River between the countries of Benin and Togo. In June 2008, the World Bank approved a \$7 million loan to Benin’s electricity sector to finance a feasibility study for Adjarala. The Bank previously

planned to support Togo to finance \$30 million worth of project studies, but plans were halted when relations between the Bank and Togo soured after the country's flawed 2005 elections. In 2004, the China Exim Bank said it was ready to provide \$33 million to finance the project, but no final agreement was signed at the time. The World Bank's current role is unclear. An undated summary of the Environmental Impact Assessment notes negative impacts including displacement of over 8,000 people (75% in Togo, 25% in Benin), increased coastal erosion, and reservoir pollution from upstream factories. Greenhouse gas emissions will likely be high due to inadequate removal of vegetation in the area of the reservoir. In early 2009, the Benin Electricity Corporation (CEB), which is developing the project, signed a contract worth \$388 million with Chinese company Sinohydro to build the dam. The dam will be 40 meters high and create a reservoir 3.7 kilometers long. The project previously had a proposed output of 96 MW. The project has been considered for nearly 10 years and follows the Nangbeto Dam, which was commissioned upstream in 1987. Nangbeto Dam created disastrous impacts for resettled communities after World Bank financing was approved without a resettlement plan.

Alternate Project Names: Adjaralla

Links

“Sinohydro signs large-scale project contract in West Africa” (March 27, 2009):

<http://english.people.com.cn/90001/90778/90857/90860/6623944.html>

“Benin: New Loan for Adjarala” (July 2, 2008): <http://www.africanenergyintelligence.com/>

15. BOTSWANA: Chobe-Zambezi Water Transfer Scheme

Proposed

By 2020, the government would like to extract water from the Chobe-Zambezi River Basin to augment its water supply. In November 2008, Botswana's water minister discussed the project with other SADC country water ministers, as it would impact a transboundary river basin. A water pipeline would be built to draw water from the Chobe-Zambezi River for storage in the Dikgatlong Dam. The project would duplicate the National North-South Water Carrier pipeline scheme and has been called a second phase of the existing scheme. This project does not yet appear to have an official name.

Alternate Project Names: North South Water Carrier Phase 2

Links

“Water demand continues to rise PHK” (August 9, 2007): <http://www.gov.bw/cgi-bin/news.cgi?d=20070809>

16. BOTSWANA: Dikgatlong Dam, Shashe and Tati Rivers

Under Construction

INTERNATIONAL INVOLVEMENT: Sinohydro (Chinese company)

Coordinates: 21°50'S 27°43'E

In early 2008, construction of the \$153 million Dikgatlong Dam project began. The project is expected to be completed in 2011 and will be the largest dam in Botswana with a reservoir size of 400 million cubic meters. A 74-kilometer pipeline will connect the dam to the North-South Water Carrier Scheme. The dam is located at the confluence of the Shashe and Tati rivers. The dam will provide water mainly in the eastern parts of Botswana, particularly for the Mmamabula coal project and other thermal power generation as well as mining activities in the area. Demand for water in Botswana's mining sector continues to rise at a very high rate. People in the surrounding villages of Polometsi and Matopi, who were relocated to make way for the project, were compensated \$96,000. The construction of the dam also necessitated the reburial of 130 remains from both Robelela and Matopi. Government has approved \$179,000 to be used for exhumation and reburial. At the time construction began, local communities also raised concerns about health impacts, particularly the spread of HIV, due to the influx of migrant project workers.

Alternate Project Names: Dikgatlong, Lower Shashe

Links

“P1.2 billion Dikgatlong Dam project starts” (March 18, 2008):

<http://palapye.wordpress.com/2008/03/18/p12-billion-dikgatlong-dam-project-starts/>

“Botswana: Aids Scare At Dikgatlong Dam” (February 6, 2008):

<http://allafrica.com/stories/200802061064.html>

17. BOTSWANA: Lotsane Dam, Lotsane River

Proposed

Coordinates: 22°35'S 27°37'E

Lotsane Dam would hold 40 million cubic meters and supply water to 22 villages in the Tswapong and Mmadinare areas. In November 2008, exhumation began of burial sites. Communities have expressed concerns about losing the grasslands to be submerged, which are considered a livelihood and domestic resource asset for local communities.

Links

“Lotsane Dam to benefit 22 villages” (November 3, 2008):

http://www.gov.bw/cgi-bin/news.cgi?d=20081103&i=Lotsane_dam_to_benefit_22_villages

18. BOTSWANA: Lower Notwane Dam, Notwane River

Under Construction

Lower Notwane Dam is at its initial stages of implementation.

19. BOTSWANA: Moseitse Dam, Moseitse River

Proposed

Coordinates: 20°37'S 26°39'E

Construction of Mosetse Dam is planned for mid-2009. The dam's reservoir will have a capacity of 40 million cubic meters to supply water in the northeast district.

Links

“Fifth dam added in NDP 9” (February 4, 2009): <http://www.gov.bw/cgi-bin/news.cgi?d=20090204>

20. BOTSWANA: Ntimbale Dam, Tati River

In Operation

Coordinates: 21°22'S 27°26'E

Construction of \$9.9 million Ntimbale Dam by Haulcon in Francistown was completed in 2005. Ntimbale Dam is part of the government program to augment water supply in the country. Officials noted at the commissioning that some villages such as Maitengwe, Dagwi, Nkange, Senete and Changate in the Tutume Sub District were not being supplied from the Ntimbale Dam, as currently the scheme does not allow water to reach those villages. Officials said the department is currently investigating the problem to come up with more compatible measures so that eventually these villages would get water of the same quality.

Links

“Ntimbale Augments Water Supply” (July, 6 2006): http://www.gov.bw/cgi-bin/news.cgi?d=20081027&i=Ntimbale_augments_water_supply

“Haulcon Success Stories” (2007): <http://www.haulcon.co.za/stories.htm>

21. BOTSWANA: Thune Dam, Thune River

Proposed

Coordinates: 21°56'S 28°32'E

Construction of Thune Dam is expected to commence in February 2010 and be completed in 2012. Thune Dam will be the fourth largest dam in the country with a water holding capacity of 90 million cubic meters. The dam will supply water to the Tswapong area Tsetsebjwe, Bobonong, Mathathane, Lepokole, Mothabaneng, Molalatau and Tshokwe. The government has released funds for the project, but the project budget has not been disclosed as companies are currently bidding for the project contract. Eight graves will be exhumed and reburied.

Links

“Botswana: Thune Dam Construction for 2010” (June 1, 2009): <http://allafrica.com/stories/200906010811.html>

22. BURKINA FASO: Bagre Dam, White Volta River

Expansion

INTERNATIONAL INVOLVEMENT: French Aid Agency (AFD)

Coordinates: 11°28'N 0°32'E

The Bagre Dam has been renovated and expanded to prevent frequent spillage that has compounded the effects of floods in the Upper East Region of Ghana. The dam was raised by 1.5 meters and the reservoir banks reinforced, at a cost of \$18 million provided by the French Aid for International Development. According to officials, the dam irrigates 30,000 hectares of land and provides 10% of the country's electricity. The dam was originally built in 1994 and underwent a first renovation costing \$33 million. Ghana and Burkina Faso already have a Transboundary Committee to oversee management of the White Volta River Basin.

Links

“Bagre Dam in Burkina Faso expanded to prevent frequent spill over” (July 14, 2008):
<http://www.theghanaijournal.com/2008/07/14/bagre-dam-in-burkina-faso-expanded-to-prevent-frequent-spill-over/>

23. BURUNDI/RWANDA/TANZANIA: Rusumo Falls Dam, Akagera River Proposed INTERNATIONAL INVOLVEMENT: Nile Basin Initiative and European companies

Coordinates: 2°22'S 30°47'E

The Ministers of Energy of Burundi, Rwanda and Tanzania met in March 2006 and agreed on the construction of the Rusumo Falls Hydro Plant on the Akagera River. The Project would produce 61 MW for the three countries. In March 2006, it was reported that government agreements on the project were reaching a conclusion, and that funding may be secured but it is unclear where the funding is coming from. The World Bank has been approached for funding and may have funded studies. SNC-Lavalin completed a study on the project.

This is a program under the Nile Basin Initiative's Nile Equatorial Lakes Subsidiary Action Program (NELSAP). The cost is estimated at \$205 million. The implementing agencies are Regideso of Burundi and Societe Nationale de l'Energie des Grands Lacs, based in the DR Congo.

Even more hypothetical are construction plans for a third dam on the Nyabarongo river, which crosses the entire country and spills into the Nile via the Akagera River and Lake Victoria. Presently, the use of Nile water is regulated by an accord signed in 1929 and revised 30 years later. The accord gives Egypt and Sudan the right to determine if and how other countries located along the river and its tributaries may use the Nile's waters. Lake Kivu, which separates eastern DRC from Rwanda, has a reserve of some 55 billion cubic meters of methane gas, of which 39 billion can be extracted. Studies indicate that the gas could provide 700 MW of electricity annually. This would provide a lasting solution for the electricity woes of Rwanda and surrounding countries.

Links:

“Rusumo dam-social challenge in Kagera River Basin” (2003):
<http://www.essays.se/essay/265e02b0b6/>

24. CAMEROON: Bini à Warak Dam, Bini River Proposed
INTERNATIONAL INVOLVEMENT: United States Trade and Development Agency

A 75 MW hydropower dam is planned at Bini à Warak. In 2008, the USTDA requested proposals for a project feasibility study. The project could supply power exports to Chad and Nigeria. In 2007, Cameroon's Prime Minister mentioned this project in his address to the National Assembly.

Links

“Cameroun : les Etats-Unis vont financer à hauteur de 600 millions de francs CFA, deux études dans le secteur de l'énergie” (May 20, 2008): <http://www.riaed.net/spip.php?article1626>

25. CAMEROON: Edéa Dam, Sanaga River Rehabilitation
INTERNATIONAL INVOLVEMENT: AES-Sonel; International Finance Corporation (World Bank Group); VA Tech (Swiss company)

The Edéa Dam is over 50 years old and has never witnessed a major renovation. Renovation of the Edéa Dam is expected to cost \$124 million and include the renovation of the alternators of three turbines, control equipment and all other related mechanical and electrical equipment, and replacement of the mobile flush board with a standard spillway gate. Rehabilitation of the three turbines will increase production capacity from 35.3 to 48 MW. Rehabilitation work is expected to run through 2012. In 2008, AES-Sonel signed a contract worth \$150 million with Swiss-based VA Tech Hydro SA to launch rehabilitation work on the Edea and Songloulou dams. AES-Sonel will provide 30% of the funds and raise the rest through loans from local and international financial institutions.

AES-Sonel is contracted to add 50,000 new connections every year for the next 14 years. In 2006, the firm secured a \$405 million loan from the IFC. Additional funding has been provided by the European Investment Bank (EIB), AfDB, the Central African Development Bank, Deutsche Investitions und Entwicklungsgesellschaft (DEG), the Emerging Africa Infrastructure Fund, the Netherlands Development Finance Company, and Proparco (private arm of AFD).

Links

“AES Sonel to Create 800 Jobs (September 21, 2008)”:
<http://allafrica.com/stories/200809220546.html>

26. CAMEROON: Lagdo Dam, Benue River (tributary of Niger River) Rehabilitation
INTERNATIONAL INVOLVEMENT: World Bank; Nigerian Government

Coordinates: 8°53'N 13°58'E

A rehabilitation and possible heightening of the Lagdo Dam in northern Cameroon is foreseen as part of the second phase of a World Bank project known as the “Niger Basin Water Resources Development and Sustainable Ecosystems Management Project.” The intention is to increase

hydropower and irrigation capacity of the Lagdo Dam. In 2007, the World Bank approved the first phase of this project. In 2007, the Nigerian government reached an agreement with the Cameroon government to purchase electricity from Lagdo Dam. In the same year, it was reported that about 23 people perished in a flood in Nigeria's Adamawa State and a separate flash flood left at least three local government areas devastated following two days of torrential rainfall. The State Government traced the cause of the floods to the opening of Lagdo Dam release gates.

27. CAMEROON: Lom Pangar Dam, Lom (Sanaga) River Proposed
INTERNATIONAL INVOLVEMENT: World Bank; European Investment Bank; Agence Française de Développement (AFD); Rio Tinto Alcan (Canadian subsidiary of UK-based Rio Tinto); IUCN

Coordinates: 5°20'N 13°32'E

The World Bank's board is expected during the summer of 2010 to consider a major loan to finance construction of the \$450 million Lom Pangar Dam, located where the Lom and Pangar rivers meet up in eastern Cameroon. The exact amount of the loan hasn't been yet decided but it will range between \$75 million and \$100 million. The sum will finance construction of a 46-meter high reservoir that is to supply a 30 MW power plant. The African Development Bank and the Development Bank of the Central African States will, for their part, bankroll a 120-km long transmission line with a capacity of 90 kv to connect the dam to Cameroon's electricity grid. Construction of the Lom Pangar dam will leave a 12.5 km section of the Chad-Cameroon Pipeline under water, forcing a change in the pipeline's route.

Lom Pangar Dam would primarily serve as a reservoir dam (up to 7.5 billion cubic meters) to help regulate the flow of the Sanaga River for downstream hydropower production, and for the construction of additional, downstream hydro dams at Nachtigal (330 MW) and Songmbengue (1,000 MW), which would support plans by Rio Tinto Alcan for an 8-fold increase in aluminum production. Lom Pangar is located in an ecologically sensitive area and would flood part of the Deng Deng Forest Reserve. Project cost is now estimated at \$263 million.

In June 2008, the World Bank approved the \$70 million loan "CM-Energy Sector Development SIL" loan that provides more than \$13 million to support Lom Pangar Dam and the EDC. Bank documents acknowledge Lom Pangar's "substantial to high project risks." The World Bank has previously stated that Lom Pangar poses a reputation risk to the World Bank Group because of its promises under the Chad-Cameroon Pipeline.

In March 2008, a financing workshop for Lom Pangar took place in Paris at the headquarters of AFD. AFD has long been the lead financing agency involved in Lom Pangar planning. According to media reports, donors pledged over \$209 million for Lom Pangar. However, no formal project financing agreements are known at this time, and construction seems to be limited so far to associated works. In 2009, the access road to Lom Pangar was completed by the government of Cameroon. Industrial mining of the gold in the reservoir region, which had supported the livelihoods of several thousand miners, has been contracted to a Korean company. In 2005, the government of Cameroon released the environmental impact assessment for Lom

Pangar, but additional studies have been underway since. In 2007, the government released a cost-benefit analysis of the aluminum sector. The president of Cameroon has identified the construction of Lom Pangar Dam, Nachtigal Dam, and an expansion of the aluminum sector as priority projects.

In 2006, the Cameroon government set up the Electricity Development Corporation (EDC) to develop Lom Pangar. In 2008, EDC and Rio Tinto Alcan signed an agreement to start developing Lom Pangar Dam. The agreement includes Nachtigal (330 MW) and Songmbengué (1,000 MW) dams, an expansion of the Alucam smelter in Edéa, from 90,000 to 300,000 tonnes per year, and a new aluminum smelter. The total value of the agreement is \$1.5 billion (excluding Lom Pangar and the Edea smelter expansion). However, in 2009, the government reduced the authoritative powers of EDC.

In 2006, the Government degazetted part of the Deng Deng forest reserve, coinciding with the reserve area to be flooded by the Lom Pangar reservoir. A gorilla sanctuary was established to the north and south of the dam site, but gorillas are not known to cross rivers, therefore making the northern part of the sanctuary obsolete. In addition, the area of the Deng Deng reserve to the southeast of the dam site appeared to be part of the gorilla habitat, but has been regazetted for logging concessions. In April 2008, AFD gave \$1.2 million in support of the Gorilla Sanctuary.

Links

[Lom Pangar Hydropower Project](#) (World Bank project webpage)

“Cameroon President Urges Speedy Energy Plan For Mining Industries” (July 3, 2009):

<http://www.easybourse.com/bourse/actualite/cameroon-president-urges-speedy-energy-plan-for-mining-GB0007188757-696200>

“Cameroon XAF120 Billion Energy Plan Hit On Pwr Co Management Issues–Executives” (June 25, 2009): <http://www.easybourse.com/bourse/actualite/cameroon-xaf120-billion-energy-plan-hit-on-pwr-co-GB0007188757-691795>

“Lom Pangar Vote in Mid Year” (March 3, 2010):

<http://www.africaintelligence.com/AEM/financial-operations/2010/03/03/lom-pangar-vote-in-mid-year%2C81523266-BRE-login>

28. CAMEROON: Memve’ele Dam, Ntem River

Proposed

INTERNATIONAL INVOLVEMENT: Sinohydro (China); African Development Bank; Development Bank of Central African States; Dutch Development Bank; Arab Development Bank and Multilateral Investment Guarantee Agency (MIGA), a member of the World Bank Group.

Coordinates: 2°25'N 10°26'E

Sinohydro has taken control of the Memve’ele project, after Globeleq pulled out. The 200MW hydro will cost about \$300 million, with heavy DFI backing likely. AfDB, BDEAC, FMO, Arab Development Bank and MIGA had been looking at the Globeleq scheme.

In 2007, UK-based Globeleq, a subsidiary of the publicly-financed CDC Group, signed an agreement with the government of Cameroon to develop the 200 MW Memve'ele Dam in southern Cameroon, near the border of Campo Ma'an National Park and the border of Equatorial Guinea. The project would be developed under a build, operate, transfer (BOT) contract managed by the Actis Infrastructural Fund. The project's transmission line could cut through the Campo Ma'an National Park, and the dam's reservoir may also flood a portion of the park and affect the downstream ecology of the river that runs through the park. Preliminary technical studies were planned for 2008. The government will be responsible for feasibility studies on access roads and the transmission line. Memve'ele's capacity will be used to supply the Alucam smelter (50 MW), rubber company Hevecam (20 MW), and exports to Equatorial Guinea (50 MW) and possibly Gabon.

Links

“CDC backs Cameroon project” (April 3, 2008):

<http://www.waterpowermagazine.com/story.asp?sectioncode=166&storyCode=2049273>

“Globeleq and government of Cameroon sign development agreement” (August 27, 2007):

<http://www.globeleq.com/news/announcement/4/Globeleq-and-government-of-Cameroon-sign-development-agreement>

29. CAMEROON: Nachtigal Dam, Sanaga River

Proposed

INTERNATIONAL INVOLVEMENT: Rio Tinto Alcan (Canadian subsidiary of UK-based Rio Tinto)

Coordinates: 4°20'N 11°37'E

Rio Tinto Alcan intends to construct the 330 MW Nachtigal Dam in order to expand the Alucam aluminum smelter in Edea. However, Rio Tinto Alcan has made it clear to the government of Cameroon that construction of Nachtigal Dam is dependent upon the completion of Lom Pangar Dam as an upstream reservoir dam. In October 2005, Canadian based Alcan, part owner of Cameroon's Alucam aluminum smelter, signed a letter of intent with the government of Cameroon for an expansion of the aluminum sector worth \$900 million. The agreement includes that Alcan will build and operate Nachtigal Dam. All technical studies and the environmental impact assessment for Nachtigal are reportedly complete. Rio Tinto Alcan is now negotiating the terms of a power purchase agreement with AES SONEL, which is expected to operate Nachtigal.

30. CAMEROON: Songloulou Dam, Sanaga River

Rehabilitation

INTERNATIONAL INVOLVEMENT: AES-Sonel; International Finance Corporation (World Bank Group)

Renovation of the Songloulou Dam is expected to cost \$26 million and will include replacing the automatic control system of the plant, rehabilitating the joints of the pen-stock (pipes through which water flow into turbines), the channels of the spillway gates, and the civil engineering, electrical and mechanical work. Part of the renovation will have to do with safety reassessment studies of the plant. Rehabilitation work is expected to run through 2012. In 2008, AES-Sonel

signed a contract worth \$150 million with Swiss-based VA Tech Hydro SA to launch rehabilitation work of Edéa and Songloulou dams. AES-Sonel will provide 30% of the funds and raise the rest through loans from local and international financial institutions.

In 2009, communities living near Songloulou Dam complained to the Ministry of Public Works regarding the virtual privatization of two kilometers of roadway near their villages leading to the dam site, and the need to pave 60 kilometers of road between Kopongo and Massôk in order to benefit local communities.

AES-Sonel is contracted to add 50,000 new connections every year for the next 14 years. In 2006, AES-Sonel secured a \$405 million loan from the World Bank's International Finance Corporation (IFC). Additional funding has been provided by the European Investment Bank (EIB), AfDB, the Central African Development Bank, Deutsche Investitions und Entwicklungsgesellschaft (DEG), the Emerging Africa Infrastructure Fund, the Netherlands Development Finance Company, and Proparco.

Links

“Lettre Ouverte à Monsieur le Ministre des Travaux publics” (July 4, 2009):

<http://www.icicemac.com/actualite/lettre-ouverte-a-monsieur-le-ministre-des-travaux-publics-13317-38-26.html>

“Cameroun: L'actualité de ce jeudi 18 juin 2009 lue dans la presse camerounaise” (June 25, 2009): <http://www.camer.be/index1.php?art=5974>

“AES Sonel to Create 800 Jobs” (September 21, 2008):

<http://allafrica.com/stories/200809220546.html>

31. CAMEROON: Songmbengué Dam, Sanaga River Proposed
INTERNATIONAL INVOLVEMENT: Rio Tinto Alcan (Canadian subsidiary of UK-based Rio Tinto)

Shortly after Rio Tinto took over Alcan in November 2007, the new firm of Rio Tinto Alcan announced that it had signed a preliminary agreement with the Government of Cameroon for the development of the 1,000 MW Songmbengué Dam that will provide both power and water for a new greenfield aluminum smelter at Kribi with production capacity of 400,000 t/y. Technical and pre-feasibility studies for both the smelter and the power plant are underway, with the final investment decision expected by the end of 2009.

Links

“Rio Tinto Alcan and the Government of Cameroon sign an agreement for a potential hydro-power project and greenfield smelter” (November 29, 2007):

http://www.riotintoalcan.com/ENG/media/media_releases_1104.asp

32. CENTRAL AFRICAN REPUBLIC: Boali 1 & 2 Dams, Mbali River Rehabilitation
INTERNATIONAL INVOLVEMENT: World Bank; Agence Francaise de Developpement (AFD)

In 2008, an electricity shortage turned into a severe crisis when the Boali 1 and 2 hydropower stations broke down simultaneously. In light of this, AFD committed approximately \$5.7 million for the rehabilitation of Boali 1 (8.75 MW, commissioned in 1955) and Boali 2 (10 MW, commissioned in 1976) dams, followed in February 2009 by the World Bank's approval of an \$8 million energy sector grant to CAR, of which \$4 million is earmarked for the rehabilitation of the two dams. Boali 1 and 2 are the primary power supply for CAR's electricity grid, which is limited to Bangui, the capital. Boali 1 and 2 provide a total of about 18 MW, but current generation capacity is only 15 MW. This project suffers from a lack of maintenance and there are frequent power failures. Peak demand in 2008 was estimated at 27 MW. Boali 2 has the potential to be expanded by 10 MW, but requires available funding. In 2008, the Chinese Exim Bank sent a mission to the country to investigate financing the expansion of hydropower generation at Boali 2 and 3 dams. However, even though they have not submitted a formal response, their conclusion was that they would not fund this expansion for the time being as the government and the sector are not credit worthy. Two transmission lines connect Boali 1 and 2 to Bangui. Theft and the obsolescence of the lines reduce their load-flow capacity. The outdated distribution grid experiences up to 50% loss of electricity.

Links

“African Economic Outlook 2009: Central African Republic” (January 20, 2010):

<http://www.africaneconomicoutlook.org/en/countries/central-africa/central-african-republic/>

33. CENTRAL AFRICAN REPUBLIC: Boali 3 Dam, Mbali River Rehabilitation INTERNATIONAL INVOLVEMENT: African Development Bank possible

Boali 3 is a regulation dam located upstream of Boali 1 and 2. Some initial construction for a powerhouse was started and 10 MW of capacity could be installed if funding is available. The government is looking for ways of financing these investments in the medium term. In 2008, the Chinese Exim Bank sent a mission to investigate financing the expansion of hydropower generation at Boali 2 and 3 dams. However, even though they have not submitted a formal response, their conclusion was that they would not fund this expansion for the time being as the government and the sector are not credit worthy.

Links

“African Economic Outlook 2009: Central African Republic” (January 20, 2010):

<http://www.africaneconomicoutlook.org/en/countries/central-africa/central-african-republic/>

34. DEM. REP. OF CONGO: Busanga Dam, Lualaba River Proposed INTERNATIONAL INVOLVEMENT: MagEnergy; Ingerop (French company)

Coordinates: 5°31'S 13°37'E

In 2006, MagEnergy signed an agreement to develop the Busanga Dam in Katanga Province, following the appointment of MagEnergy as an independent power producer (IPP) in DRC. Busanga has been the subject of previous technical studies, with the site expected to support the

production of between 300 and 350 MW (although MagEnergy proposes 240 MW). MagEnergy intends to build, own and operate Busanga as an IPP, which will allow for the direct negotiation and sale of electricity to end users in Katanga province. In 2006, MagEnergy appointed French-based Ingérop to conduct a bankable feasibility study of Busanga. MagEnergy estimates dam commissioning in 2012.

Links

“MagEnergy acquires DRC hydroelectric site” (May 19, 2006):
<http://www.waterpowermagazine.com/storyprint.asp?sc=2036183>

35. DEM. REP. OF CONGO: Grand Inga, Congo River Proposed
INTERNATIONAL INVOLVEMENT: World Energy Council; World Bank; African
Development Bank

Coordinates: 5°56'S 12°46'E

Grand Inga is the heart of an \$80 billion mega-infrastructure scheme proposed for Africa's electricity development. The project would construct the world's single largest hydropower plant (44,000 MW) at the Inga Rapids. Far in excess of local or even regional demand, the Grand Inga scheme includes more than 10,000 kilometers of high-voltage transmission lines to connect to regional power grids in Africa, Europe and the Middle East by damming the Congo River and diverting much of the flow through the adjacent Bundi Valley. Feasibility studies and financing have not yet started. Proponents of Grand Inga are broadcasting that it will “light up Africa,” even having power left over to export to Europe. Concerns are growing that foreign and industrial interests will gain vast economic benefits from the project, with only cursory attention to easing the electricity needs of Africa's poor.

In October 2006, an international forum hosted by the African Development Bank was held to woo foreign investors for the Inga 3 and Grand Inga schemes. The forum was a follow-up to a March 2006 national-level forum organized by the government of DRC. In March 2007, the World Energy Council (WEC) held a two-day meeting in Gaborone, Botswana, to discuss the way forward for Grand Inga. In April 2008, the WEC hosted another two-day workshop in London. After the workshop, WEC intended to set up task forces for the creation of a promotional company (PROCOM) and for an “Inga Infrastructure and Services Integrated Zone.” In 2008, the AfDB approved \$15.7 million for a comparative study of the Inga 3 and Grand Inga projects.

Alternate Project Names: Inga 4

Links

“DRC Power Plant Holds Promise for Energy Supply to Millions across Africa” (April 6, 2009):
<http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/AFRICAEXT/CONGODEMOCRATICEXTN/0,,contentMDK:22132713~menuPK:349472~pagePK:2865066~piPK:2865079~theSitePK:349466,00.html>

36. DEM. REP. OF CONGO: Inga 1 and Inga 2, Congo River Rehabilitation
INTERNATIONAL INVOLVEMENT: World Bank; European Investment Bank; African
Development Bank; MagEnergy (subsidiary of Canadian based MagIndustries)

Coordinates: 5° 31'S 13° 37'E

Inga 1 (351 MW) was commissioned in 1972 and Inga 2 (1,424 MW) was commissioned in 1982. Poor maintenance and management during the Mobutu regime and the two Congo wars left the dams, which share a reservoir, heavily silted and operating at only about 30% of capacity. In May 2007, the World Bank approved the Regional and Domestic Power Markets Development Project, known by its French acronym PMEDE, which included rehabilitation of Inga 1 and 2 and building a second transmission line from Inga to Kinshasa. The World Bank originally budgeted the rehabilitation of Inga 1 and 2 at \$550 million. In December 2008, EIB approved a loan for \$150 million for DRC (\$75 million for the PMEDE and \$75 million for the SAPM APL 1, whose cost has increased considerably). This is the first EIB loan to the DRC since 1986. This amount was increased to help cover the funding gap for the rehab of the transmission line under the SAPM APL1 project. The AfDB was originally expected to provide approximately \$100 million for the PMEDE, but the amount was reduced for unknown reasons. In April 2008, the AfDB approved a loan of \$56 million. As of June 2009, however, the Bank reports that the total project cost is still under review and the rehabilitation effort remains underfunded.

The two dams share a single reservoir, which has also been neglected and requires a separate, costly rehabilitation before the dams will achieve their full power production.

In 2005, MagEnergy signed a two-phase Public Private Partnership agreement with SNEL for a rehabilitation program at Inga 2. Phase 1 included emergency repairs to four turbines (\$10 million) and the refurbishment of one previously non-functioning 168 MW turbine (\$12.6 million). The Phase 2 program included rehabilitation of four turbines at Inga 2 over a five-year period (\$110 million). MagEnergy intends to build a 200-kilometer transmission line from Inga to Pointe Noire, Republic of Congo, where MagIndustries operates its three other subsidiaries: MagMetals, MagMinerals, and MagForestry. These subsidiaries will undertake a magnesium smelter, potash fertilizer plant and a eucalyptus-chipping mill.

In May 2008, DRC parliament heard from SNEL that the utility wanted to end its agreement with MagEnergy for Phase 2, once SNEL was contractually required to begin monthly payments to MagEnergy of \$200,000 per month. MagEnergy contends that the rehabilitation has been unnecessarily held up by delays, which the government of DRC did nothing to reduce (such as long delays of parts being held at the port). The Phase 2 agreement was turned over to the Parliament's economic and financial committee for "close examination." In September 2008, SNEL and MagEnergy signed the agreement for Phase 2, but the agreement was frozen by DRC's economic planning minister a month later due to the secrecy surrounding the agreement, its unfavorable terms to DRC, and the lack of a bidding process. In October, SNEL's financial director was interrogated in October about a \$6.5 million loan from the Banque Internationale de Credit (BIC) meant to finance MagEnergy's rehabilitation of the G23 turbine at the Inga 2 power plant and spent a day in jail. In December 2008, the managing director of SNEL was questioned

by judicial authorities on the same matter. These inquiries led to a parliamentary decision to create a board of inquiry into SNEL's management and a recommendation for a general audit of SNEL.

As of late 2008, MagEnergy expected to complete Phase 1 by March 2009 and begin generating revenues from the sale of 84 MW, representing 50% of the fully restored 168 MW capacity, by late 2009. In January 2009, the Congolese parliament reviewed the contractual dispute between SNEL and MagEnergy, but due to delays in renovation work caused by the dispute, the Parliament nonetheless recommended that MagEnergy continue with its work.

In January 2009, Canadian-based First Quantum received a contract from SNEL to rehabilitate 2 generators at Inga 2.

Links

“Congo Seeks Regional Partnership to Build \$80 Billion Congo Dam” (October 13, 2008):

http://www.bloomberg.com/apps/news?pid=20601116&sid=arPP_zY5IF5o&refer=africa

“SNEL's Boss in the Hot Seat” (December 10, 2008):

<http://www.africanenergyintelligence.com/>

“SNEL/Mag Deal Under Scrutiny” (January 28, 2009):

<http://www.africanenergyintelligence.com/>

37. DEM. REP. OF CONGO: Inga 3, Congo River Proposed
INTERNATIONAL INVOLVMENT: BHP Billiton; Coyne et Bellier; Private Financing
possible; (formerly Westcor, a consortium of 5 African utility companies)

Coordinates: 5°56'S 12°46'E

In March 2010, a decision to dissolve Westcor confirmed that international mining giant, BHP Billiton, had effectively won a multi-year tug of war for rights to build and use Inga 3. In May 2010, BHP Billiton awarded a technical design study to French consultancy Coyne & Bellier for the Inga 3 hydropower scheme which could produce up to 3,500 MW. Nearly 1,600 and 2,500 MW will be used by BHP to supply its proposed, greenfield aluminum smelter. The smelter, with capacity of 800,000 tonnes, would partly use alumina imported from Guinea. BHP Billiton seeks to run the work in partnership with the Congolese government. If Kinshasa does approve the project, the next steps would involve signing an agreement, from 2011, covering electricity purchase and building the dam and the smelter. Aluminum could begin by 2016, but funds still need to be raised. The smelter is estimated to cost USD 3 billion, and a deep water port at Banana estimated at USD 1 billion. Costs for the hydroelectric power stations vary from USD 4 billion to USD 7.6 billion depending on whether an ordinary dam or tunnels leading to the turbines are to be built. South Korean firms like Busan Port Authority, Posco Group of Companies and Korean Water Resources Corporation (KRW), are interested in the energy aspect of the project.

Previously, Inga 3 was proposed as a massive tunnel scheme that would draw water from the existing reservoir used by Inga 1 and 2 through eight turbines located in eight parallel tunnels. Westcor was to connect the planned 4,300 MW Inga III to the grids of four southern African countries, Angola, Namibia, Botswana and South Africa. In June 2009, the DRC began seeking a consultant to undertake a feasibility study for Inga 3. The capacity and the cost of Inga 3 have both increased, from 3,500 MW to up to 5,000 MW and from \$5.23 billion to up to \$8.5 billion. (The cost includes a 3,000-kilometer HVDC transmission line to South Africa.) The study is expected to take 18 months and project developers hope to commission the project by 2015. It's not clear how the project will be financed.

In August 2005, the heads of the 12 SADC countries endorsed Westcor as a priority project of NEPAD, and in 2008, Inga 3 was named a priority project by the heads of DRC and South Africa governments. In 2008, Westcor presented its pre-feasibility study, conducted by Canadian-based SNC-Lavalin and funded by the Canadian International Development Association (CIDA), to the government of DRC. In February 2006, BHP Billiton signed a Memorandum of Understanding with the Congolese government to build a \$2.5 billion 2,000 MW aluminum smelter dependent on development of Inga 3 and construction of a nearby deep sea port. This second agreement by the Congolese government for Inga 3's power conflicted with the government's agreement with Westcor. By 2008, Westcor agreed to make BHP Billiton the first consumer of Inga 3 power. Regardless of the massive power capacity, the project is not clearly linked to any programs to increase access to electricity or to increase the rate of new connections in DRC or the SADC region.

Alternate Project Names: Inga III

Links

“Way is Clear for BHP Billiton Inga Project” (March 10, 2010)

<http://www.africaintelligence.com>

“Workshop talks help prepare way ahead for Inga III” (June 24, 2009):

<http://www.waterpowermagazine.com/story.asp?sectionCode=130&storyCode=2053389>

“Plan picks up to meet Africa's power needs” (May 8, 2009):

<http://www.busrep.co.za/index.php?fSectionId=552&fArticleId=4969902>

38. DEM. REP. OF CONGO: N'Seke Dam, Lualaba River Rehabilitation
INTERNATIONAL INVOLVMENT: Alstom Hydro

In 2009, the DRC utility, SNEL, contracted Alstom Hydro to rehabilitate the 260 MW N'Seke Dam by early 2010. There are four 65MW units to be overhauled and works include rehabilitating the balance of plant and supplying hydro-mechanical equipment.

Links

“Alstom awarded rehab contracts in DRC, Angola” (March 27, 2009):

<http://www.waterpowermagazine.com/story.asp?storyCode=2052562><http://www.waterpowermagazine.com/story.asp?sectioncode=130&storyCode=2052562>

“Alstom to rehabilitate and modernise two hydropower plants in Africa” (March 19, 2009):

http://pepei.pennnet.com/display_article/356666/6/ARTCL/none/none/1/Alstom-to-rehabilitate-and-modernise-two-hydropower-plants-in-Africa/

39. DEM. REP. OF CONGO: Ruzizi 1 and Ruzizi 2, Ruzizi River Rehabilitation
INTERNATIONAL INVOLVEMENT: World Bank; European Development Fund; Fichtner
(German company)

Coordinates: 2°0'S 29°0'E

At present, Ruzizi 1 and 2 are working far under their capacity of 82 MW. Ruzizi 1 is located at the Ruzizi River outlet from Lake Kivu and was commissioned in 1958, affecting the level and outflow of the lake. Ruzizi 2 was added in 1989. Ruzizi 1 and 2 are operated by SINELAC, a tri-national power utility (Burundi, Rwanda and DRC). Ruzizi 1 has been working at only two-thirds of its capacity due to the breakdown of one of its four turbines. The European Development Fund is providing about \$48 million for rehabilitation, mainly of Ruzizi 1. The renovation will increase generation from 28.2 MW to 39.6 MW. German-based Fichtner worked on rehabilitating Ruzizi 1 in 2000. Ruzizi 2 has also been experiencing the same under-capacity problems as Ruzizi 1. In early 2008, the World Bank issued a call for bids for the rehabilitation of Ruzizi 2.

Links

“In the Running for Ruzizi Deal” (December 24, 2008):
<http://www.africanenergyintelligence.com/>

40. DEM. REP. OF CONGO: Ruzizi 3 Dam, Ruzizi River Proposed
INTERNATIONAL INVOLVEMENT: European Commission

The European Commission is financing \$3.8 million for studies to develop Ruzizi 3 Dam (26 MW) 25 kilometers downstream of Ruzizi 1 in South Kivu. The dam would add to the power supply for Burundi, Rwanda and DRC. The project could be compromised by the low water level in the region's lakes. The German electrical engineering consultancy Fichtner will examine the feasibility of constructing Ruzizi 3. In 1992, Tractebel also examined the project. Fichtner has also been contracted by the European Commission to conduct a pre-feasibility study on building another hydro power station on the Ruzizi River, at Sisi.

Alternate Project Name: Ruzizi III

Links

“Feasibility Study for Ruzizi 3” (November 21, 2007):
<http://www.africanenergyintelligence.com/>

41. DEM. REP. OF CONGO: Ruzizi 4 Dam, Ruzizi River Proposed
INTERNATIONAL INVOLVEMENT: Fichtner (Germany)

A prefeasibility study for a 287 MW Ruzizi IV Dam is underway.

Links

“Deux barrages en projet sur Ruzizi” (August 26, 2009):

<http://www.africanenergyintelligence.com/>

42. DEM. REP. OF CONGO: Semliki Dam, Semliki River Proposed
INTERNATIONAL INVOLVEMENT: MAG energy

Coordinates: 0°55'N 29°10'E

The proposed electrification of rural villages and towns of the Northern-Kivu province of the DRC led MAG Energy to do a reconnaissance study of a proposed scheme close to the town of Beni. French engineering firm, Ingérop, was appointed to do a study of a potential hydro-electrical scheme and an interconnected power grid for the North Kivu Region. The Semliki River flows from Lake Edward to the Lake Albert part of the Nile Basin and crosses through the famous Virunga National Park. There are several falls downstream and upstream of the Beni, Kasindi and Mombasa road (Bumama, Bunyanwe, Molowe and Munda falls and rapids). The selected site is part of the Munda rapids, and estimated capacity is 28 MW.

Links

Ingerop Africa Times Publication (November 2006):

<http://www.ingerop.co.za/UserFiles/www.saffral.co.za//newsletterNov06.pdf>

43. DEM. REP. OF CONGO: Zongo II Dam, Inkisi River Proposed
INTERNATIONAL INVOLVEMENT: Sinohydro (China)

In April 2009, the government signed an MoU with Chinese construction company, Sinohydro, to build the 150 MW Zongo 2 Dam. The \$350 million dam is expected to help augment supplies to nearby Kinshasa and in Bas Congo Province despite the rehabilitation of the much larger Inga 1 and 2 dams. The original Zongo Dam has fallen into disrepair – it's not clear if there is rehabilitation works planned for the Zongo Dam. Construction of Zongo II Dam was expected to begin at the end of 2009.

Links

“RDC: signature d’un protocole d’accord pour la construction du barrage hydroélectrique de Zongo II” (April 9, 2009): <http://www.riaed.net/spip.php?article2146>

EGYPT: The potential hydro capacity on the river Nile is almost fully exploited, therefore any increases in capacity will have to be thermally powered, unless the government reinstates the extensive nuclear plans outlined above. The 64MW Nag Hammadi hydropower project is under construction, with European Investment Bank financing, and is scheduled for completion in

2006. After several years of delays, the 1,500MW capacity expansion at the Cairo North power complex came online in mid-2004. A contract has been awarded to Russia's Power Machines Group for the refurbishment of the turbines at the Aswan High Dam. The project will extend the operational life of the turbines by about 40 years and increase generating capacity at the dam from 2,100 MW to 2,400 MW. The Qattar Depression project, a "reverse" hydro scheme, is being considered, but the stage of planning or construction is unknown. The project will include a channel dug from the Mediterranean into a depression in the north west of the country, around 130 meters below sea level, providing approximately 340 MW of capacity.

Links

"Electrical Power in Egypt," (February 19, 2010):
<http://www.mbendi.com/indy/powr/af/eg/p0005.htm>

44. ETHIOPIA: Amerti-Neshi Dam, Neshi River Under Construction
INTERNATIONAL INVOLVEMENT: Enka (Turkey); Salini (Italy); and Gezhoua Group (China)

Coordinates: 9°54'N 37°20'E

Only three companies submitted bids to the Ethiopia Electricity Power Corporation for the 186 MW Neshi Dam: Turkey's Enka, Italy's Salini and the Chinese firm Gezhoua Group. The Neshi River, site of the future dam, lies nearly 300 kilometers east of Addis Ababa. It is unclear if the dam is already under construction. Salini already operates in Ethiopia. Amerti-Neshe Dam has a capacity of 40 MW.

EEPCo is working on additional power projects in Tekeze: Gigel Gibe II, Beles, Windmill, Finchaa, and Gilgel Gibe III and when these projects are finalized, the country will have a total electric power of 3,270 MW. The corporation has managed to connect 350,000 customers in the current Ethiopian fiscal year and plans to connect the same number of customers in the next two years.

Alternate Project Names: Amertineshi, Neshi

Links

"Ethiopia: EEPCO Finally Admits Power Shortage" (April 7th, 2008):
<http://allafrica.com/stories/200804071994.html>

45. ETHIOPIA: Baro 1 and Baro 2 Dams, Baro (Nile) River Proposed
INTERNATIONAL INVOLVEMENT: NORPLAN (Norway); Norconsult (Norway); and Lahmeyer International (Germany)

Coordinates: 7°13'N 35°38'E

The Baro and Karadobi hydropower projects have been identified by the Nile Basin Initiative for

regional electricity supply. The Norwegian firm NORPLAN, Norconsult and Lahmeyer International were awarded a contract in May 2004 for the feasibility study of Baro 1 and 2 on the Baro River, a tributary of the White Nile. The planned installed capacity at Baro 1 is 170 MW and at Baro 2, it is 480 MW. An alternative on the Baro River for three hydropower plants is also being studied.

The two dams are 30 and 80 meters in height respectively. The project is a multipurpose project and comprises flood control as well as evaluation of irrigation potentials.

46. ETHIOPIA: Chemoga-Yeda Dam, Chemoga-Yeda (Nile) Rivers Proposed
INTERNATIONAL INVOLVEMENT: Sinohydro (Chinese company)

In July 2009, Sinohydro signed an MoU with the Ethiopian government to construct the \$300 million Chemoga-Yeda Dam, 300 kilometers north of Addis Ababa, near Debre Markos in Amhara Regional State. Chemoga-Yeda River flows throughout the year and is one of the tributaries of the Abay – the Blue Nile. The funds are most likely to come from a loan from the Chinese Exim Bank. Italian based consulting company ELC had previously received an engineering, procurement and construction (EPC) contract for the project.

47. ETHIOPIA: Genale Dawa 3 Dam, Genale River Proposed
INTERNATIONAL INVOLVEMENT: Gezhouba Group Company (China)

Coordinates: 5°16'N 41°19'E

The Ethiopian Electric Power Corporation (EPPCo) has signed a contract accord with the Chinese Gezhouba Group Company (CGGC) for the construction of Genale Dawa 3 Hydropower Project, located on the border of Oromia and Somali regional states. The project will be constructed at a cost of 408 million dollars. It is expected to generate 254 megawatts of electric power. A 110-meter high dam will be constructed on the Genale River. The project will increase the current national capacity of 870 MW by 27%.

Links:

“One More Option” (March 22, 2010):

http://www.capitalethiopia.com/index.php?option=com_content&view=article&id=12492:one-more-option&catid=12:local-news&Itemid=4

48. ETHIOPIA: Gibe 2, Gibe (Omo) River In Operation
INTERNATIONAL INVOLVEMENT: European Investment Bank; Italian Government; Salini Costruttori (Italy)

Coordinates: 7°55'N 37°35'E

In January 2010, Gibe II was commissioned after two years of delay. Ten days later, a tunnel collapse in the project shut down the power plant. Repairs are expected to cost \$25 million and take at least two months.

In 2004, EEPCo awarded the 480 MW Gilgel Gibe II contract to Italian company, Salini, expecting the hydropower project to be completed by the end of 2007. But this 26 kilometer tunneling scheme struck “problematic geological conditions” resulting in unexpected costs and a delay until mid-2009. Normally, the type of contract given to Salini would burden the contractor with these financial risks, but the Gilgel Gibe II contract reportedly exempted such geological risks because both parties knew that geological conditions had not been properly studied prior to construction. EEPCo is paying an unreported amount to finance these costs.

In April 2005, Ethiopia and Italy signed a \$277 million agreement to finance part of the engineering works of the Gilgel Gibe II hydroelectric power project. This project is an extension of the Gilgel Gibe I Dam (a World Bank supported project that led to the resettlement of about 5,000 people).

As of July 2009, Ethiopia was experiencing a power deficit of up to 130 MW during peak hours, and load shedding had increased to 18 hours every other day. The current situation is far worse than the publicly announced schedule, in April 2009, of six days a month and 14 hours a day for three months. In December 2008, EEPCo announced its intentions to rent diesel generators with a capacity of 120 MW, but they have managed to rent only 60 MW of capacity.

Alternate Project Names: Gilgel Gibe II

Links

“Ethiopian Dam Suffers Tunnel Collapse Days After Inauguration” (February 5, 2010):

<http://www.internationalrivers.org/en/node/5058>

“Did Ethiopia’s Hydro-Rush Cause its Power Crisis?” (April 13, 2009):

<http://www.internationalrivers.org/en/node/4215>

49. ETHIOPIA: Gibe 3 Dam, Omo River Under Construction
INTERNATIONAL INVOLVEMENT: Salini (Italian company); African Development Bank possible; World Bank possible; European Investment Bank possible; Italian Government possible; ICBC Bank (Chinese)

Coordinates: 6°39'N 37°50'E

In 2006, the Ethiopian government quietly awarded the \$1.7 billion contract for the 1,870 MW Gibe 3 Dam to Italian construction company, Salini Costruttori, in violation of Ethiopia’s procurement rules and without secured funding. Construction began shortly thereafter, in violation of Ethiopia’s environmental laws and constitution. The recently published impact assessment dismisses the grave risks faced by downstream communities. Few downstream Ethiopians have been consulted, and only after construction began. Kenyan affected communities have never been consulted. The dam will effectively destroy traditional riverbank

cultivation practices and Kenya's Lake Turkana ecosystem. Such ecological and social destruction would quickly unravel the fragile region's food security and local economy, affecting a half million downstream inhabitants.

In March 2009, Kenya-based Friends of Lake Turkana filed a request with the AfDB's Compliance Review Mechanism Unit for investigation after Bank staff ignored their concerns. In April 2009, International Rivers facilitated a second request for investigation, which highlights a host of Bank policy violations centered around an inadequate consultation process and impact assessment documents. International Rivers has also questioned Gibe 3's eligibility for Bank financing given that the project's contract, awarded in 2006 without international competitive bidding, violates the Bank's procurement policy.

In May 2010, Ethiopia and China signed an agreement toward a \$459 million loan from Chinese state-owned Industrial and Commercial Bank of China (ICBC) for a \$495 million, hydro-mechanical and electro-mechanical project sub-contract to be carried out by the Chinese Dongfang Electric Corporation.

Alternate Project Names: Gibe III, Gilgel Gibe III

Links

Gibe 3 Dam (International Rivers campaign webpage):

<http://www.internationalrivers.org/en/africa/gibe-3-dam-ethiopia>

Ethiopia : Ethiopia, China sign agreement for Gibe III hydro project construction (May 2010)

http://www.hydroworld.com/index/display/news_display.1188337950.html

50. ETHIOPIA: Gibe 4 Dam, Omo River

Proposed

INTERNATIONAL INVOLVEMENT: Sinohydro (China)

In July 2009, the Ethiopian Government and Sinohydro signed a Memorandum of Understanding for two hydropower projects costing a total of \$2.6 billion. The MoU with the Ministry of Finance and Economic Development (MoFED) governs the cooperation necessary to conduct a feasibility study, design and construction of the 1,700 MW Gibe 4 and the 450 MW Halele Werabesa hydropower projects. Gibe 4 is downstream of Gibe 3 and located on traditional Mursi territory. The government is already constructing the access road to the dam site. The project is expected to receive 85% financing from Chinese credit and concession loans with the balance covered by Ethiopian government, according to Mihret. Early in 2009, the MoFED minister visited China to negotiate financial support for the power sector projects, primarily Gibe 4 and Halele Werabesa.

Alternate Project Names: Gibe IV, Gilgel Gibe IV

Links

"Full steam ahead for Ethio-Sino power projects" (July 2009):

http://www.capitalethiopia.com/archive/2009/July/week2/local_news.htm#1

51. ETHIOPIA: Gibe 5 Dam, Omo River

Proposed

The January 2009 Environmental Social Impact Assessment for Gibe 3 Dam includes a map that identifies a proposed Gibe 5 Dam. There have been reports that Gibe 4 and Gibe 5 may be two alternative sites for one project. However, it is also possible that the government intends to build Gibe 4 and Gibe 5 as designated in the Gibe 3 ESIA.

52. ETHIOPIA: Gojeb hydropower project, Gojeb (Omo) River

Proposed

INTERNATIONAL INVOLVEMENT: European consultants; Middle Eastern private investors; AfDB support and EIB support likely

Coordinates: 7°13'N 36°57'E

The \$300 million, 150 MW Gojeb Dam in western Ethiopia (Jimma region) was contracted to MIDROC, but the project has reportedly been delayed. In December 2001, construction was delayed due to the lack of a signed purchase power agreement. In 2004, frustrated donors pressured the government to re-tender the construction contract. Coyne et Bellier (France) was the leader of a consortium that produced the feasibility study, detailed design and tender documents for the 140 MW Gojeb Dam. Lahmeyer International was also involved in the project.

Links

“HYDROPOWER OF ETHIOPIA: Status, Potential and Prospects” (1998):

http://www.mediaethiopia.com/Engineering/hydropower_of_ethiopia.htm

“New Tender on Gojeb?” (April 21, 2004): <http://www.africaintelligence.com>

53. ETHIOPIA: Halele Werabesa Dam, Halele Werabesa River

Proposed

INTERNATIONAL INVOLVEMENT: Sinohydro (China)

In July 2009, the Ethiopian Government and Sinohydro signed a MoU for the \$680 million, 450 MW Halele Werabesa Dam. The Halele Werabesa River flows southwest of Addis Ababa in the Gurage - Gedio Zone of the Southern Nations, Nationalities and Peoples Regional State (SNNPR), but some parts of the river cross into Oromia Regional State. The project anticipates 85% financing from Chinese funders.

Links

“Full steam ahead for Ethio-Sino power projects” (July 2009):

http://www.capitalethiopia.com/archive/2009/July/week2/local_news.htm#1

54. ETHIOPIA: Karadobi Dam, Tis Abay (Blue Nile) River

Proposed

INTERNATIONAL INVOLVEMENT: NORPLAN (Norway); Norconsult (Norway); and Lahmeyer International (Germany)

Coordinates: 9°N 37°30'E

The Baro and Karadobi hydropower projects have been identified by Nile Basin Initiative for regional electricity supply. The Norwegian firm NORPLAN, Norconsult and Lahmeyer International in May 2004 were awarded a contract for a pre-feasibility study of Karadobi Hydropower Projects on Abay or the Blue Nile. The preliminary estimate for Karadobi indicates a 250-meter high dam and an installed capacity of 1,000-1,600 MW.

Alternate Project Names: Beko Abo (Caradobi)

Links

“Baro and Karadobi Hydropower projects” (February 16, 2007):

<http://4kilo.wordpress.com/2007/02/16/baro-and-karadobi-hydropower-projects/>

55. ETHIOPIA: Koga Dam, Abbay (Nile) River Under Construction
INTERNATIONAL INVOLVEMENT: African Development Bank; Mott MacDonald (UK)

The 20-meter high Koga Dam south of Bahir Dar is intended to provide irrigation water for 7,200 hectares of its beneficiaries. UK-based Mott MacDonald received a contract for the detailed design of the two dams associated with the project and the associated irrigation infrastructure. Reviews of the 1995 Feasibility Study were also to be undertaken, in particular the hydrological assessment and the geotechnical aspects related to the dam site.

Alternate Project Names: Koga Irrigation and Watershed Project

56. ETHIOPIA: Megech Dam, Abbay (Nile) River Under Construction
Megech Dam would irrigate an estimated 16,660 hectares.

57. ETHIOPIA: Ribb Dam, Abbay (Nile) River Under Construction

Ribb Dam is intended to irrigate 19,500 hectares.

58. ETHIOPIA: Tana Beles Dam, Tis Abay (Nile) River Under Construction
INTERNATIONAL INVOLVEMENT: Salini Costruttori (Italy)

Tana Beles Dam is part of a large irrigation development scheme that will transfer water by a 12-kilometer tunnel from Lake Tana through the Beles sub-basin. It also includes a 460 MW power station. It should be reaching completion in May 2010.

59. ETHIOPIA: Tekeze Dam, Tekeze River In Operation

INTERNATIONAL INVOLVEMENT: China Exim Bank, US (engineering design by US company Harza), France (Coyné et Bellier did environmental assessment)

Coordinates: 14°12'N 38°54'E

Construction of the 185-meter high, 300MW Tekeze Dam began in 2002, with the primary contract being awarded to China National Water Resources and Hydropower Engineering Corporation (CWHEC) and financed by the China Exim Bank. The government had expected the dam to start generating power in 2007, but delays have meant that the dam will not be commissioned until mid-2009 at the earliest. In 2004, the project contractors requested a one-year project extension due to, “problems with the location of the hydropower station.” In fact, the ground on which the dam was being built wasn’t strong enough. In February 2006, the Chinese contractor asked for an 18-month extension. In April 2008, landslides of the reservoir walls forced an additional delay, requiring a costly and unexpected restraining wall, increasing the original budget of \$224 million by at least \$35 million. Details on the social and environmental impacts are sketchy and local critics of the project have not been identified. But the project is expected to bring about higher rates of malaria in the region. Security is another concern for the Tekeze Dam, which is within range of Eritrean artillery and is considered a vulnerable target.

Links

“Did Ethiopia’s Hydro-Rush Cause its Power Crisis?” (April 13, 2009):

<http://www.internationalrivers.org/en/node/4215>

“Geological Phenomena Cost EEP Co 400 Million Birr” (April 22, 2008):

<http://internationalrivers.org/en/node/3174>

60. ETHIOPIA: Tendaho Dam, Awash River

In Operation

INTERNATIONAL INVOLVEMENT: India Exim Bank

Coordinates: 11°42'N 41°08'E

In January 2009, the \$12 million Tendaho Dam in Afar State became operational. The dam reservoir has a capacity of 1.8 billion cubic meters and will support up to 60,000 hectares of sugar cane cultivation and possibly up to 90,000 hectares of total land. The dam and sugarcane plantations are funded by the Ethiopian government. The Tendaho Dam is the largest dam constructed by the state-owned Water Works Construction Enterprise (WWCE). When completed, Tendaho Factory will have a capacity to crush 26,000 tonnes of sugar cane, the largest capacity in Africa. The project has affected pastoralists in the region.

In January 2008, Ethiopia and India signed a \$640 million deal for the development of the sugar industry in Ethiopia. The agreement, which is the largest ever loan agreement by India, will provide a line of credit over five years to support the sugar industry in Ethiopia “The Tendaho factory project will have the capacity of producing 6 million quintals of sugar a year, and the government hopes to increase the country’s overall production to 15 million quintals, enabling exportation.” Currently the country produces 3 million quintals of sugar a year.

Alternate project names: Kessem-Tendaho Irrigation Project

Links

“Indian bank releases finance for sugar projects in Ethiopia” (March 28, 2009):

<http://www.ethiopianreview.com/news/4917>

“Ethiopia: Tendaho Sugar Factory Construction Behind Schedule” (May 5, 2008):

<http://allafrica.com/stories/200805051801.html>

“Ethio-India co-operation sweetens” (January 8, 2008):

http://www.capitalethiopia.com/archive/2008/january/week2/local_news.htm#1

“Ethiopia: Kessem-Tendaho Irrigation Project to Begin Operation” (January 21, 2007):

<http://www.ethiopianreview.com/forum/viewtopic.php?f=2&t=1154&start=0&st=0&sk=t&sd=a>

61. GABON: Grand Poubara Dam, Ogooué River Under Construction
INTERNATIONAL INVOLVEMENT: Chinese Exim Bank, Sinohydro (Chinese company)

In 2008, the Gabonese government signed a loan agreement for \$84 million with the Chinese government to finance the Grand Poubara Dam in the Haut-Ogooué province in southeast Gabon. Grand Poubara is an alternative site to the Koungou Falls Dam and will serve as a power source for the Chinese-backed Belinga Iron Ore project in northeast Gabon. The government expects construction to be completed by 2014. Sinohydro is building the dam. The loan has a 3% interest rate and is repayable in 20 years.

Links

“Gabon to build new hydro-electric power station” (November 14, 2008):

<http://www.afriquejet.com/news/africa-news/gabon-to-build-new-hydro-electric-power-station-2008111516046.html>

62. GABON: Koungou Falls Dam, Ivindo River Proposed
INTERNATIONAL INVOLVEMENT: China Exim Bank, China National Machinery and Equipment Import and Export Corporation (CMEC)

Coordinates: 0°21'N 12°39'E

In 2009, China Exim Bank postponed funding for the Belinga Iron Ore project, including the Koungou Falls Dam that would be located inside Ivindo National Park. The hydro dam was to be used to power the iron ore extraction under a concession given to Chinese company China National Machinery and Equipment Import and Export Corporation (CMEC). Before postponing the dam, an access road had been built into the dam site within Ivindo National Park, opening up this once impenetrable forest to poachers. A large clearing was prepared as a helicopter landing pad. No environmental impact assessment had been done before the decision was taken to build the dam and the decision to build the dam within a national park without proper permissions was a violation of Gabonese law. In 2007, Gabonese NGOs wrote to their government to protest the dam, suggesting that the dam rather be built at the Tsengué-Lélédi falls, a site recommended in a 1960s study by Electricité de France.

Links

“Central Africa's ‘Most Beautiful Waterfall’ Under Threat” (November 2, 2007):
<http://www.afrika.no/Detailed/15379.html>

63. GHANA: Akosombo Dam, Volta River

Rehabilitation

INTERNATIONAL INVOLVEMENT: World Bank

Coordinates: 6°17'N 0°03'E

In June 2006, the World Bank approved a \$45 million credit for rehabilitation works at Akosombo Dam, including: construction of the 3rd Bulk Supply Point for the Accra/Tema load centers; upgrade of the Volta sub-stations, the Akosombo Switchyard, and the Kpong Switchyard; development of “Emergency Preparedness Plans”; rehabilitation of cranes; and technical assistance/consulting services required by VRA for WAPP-related pre-investment studies. The credit was part of a regional loan program to the West African Power Pool.

Akosombo Dam was originally built in 1960. Its reservoir, Lake Volta is the world's largest man-made lake, and flooded 4% of Ghana's land mass. The flooding to create the Lake Volta reservoir displaced many people and had a significant impact on the environment and public health. The original purpose of the Akosombo Dam was to provide electricity for the aluminum industry. Akosombo's installed capacity increased from 912 MW to 1,020 MW during a retrofit in 2006.

Links

“West African Countries Receive Assistance for Power Pool Development” (June 29, 2006):
<http://web.worldbank.org/WBSITE/EXTERNAL/NEWS/0,,contentMDK:20981290~menuPK:51062078~pagePK:34370~piPK:34424~theSitePK:4607,00.html>

64. GHANA: Bui Dam, Black Volta River

Under Construction

INTERNATIONAL INVOLVEMENT: Coyne et Bellier (feasibility study); Chinese Exim Bank and Sinohydro

Coordinates: 8°09'N 2°07'W

In November 2005, the Ghanaian government signed an MOU with the China Water Resources & Hydropower Construction Group (Sinohydro) that provided for the Chinese group to build a 400 MW dam on the Black Volta River. Under the agreement with Sinohydro, the dam's construction will be partially funded by China's Exim Bank. Ghana's government has already spent \$2 million on an environmental impact study. In April 2006 the multinational environmental consulting company ERM released information on the Environmental and Social Impact Assessment they have been contracted to complete (see [http://www.erm.com/ERM/Svc/EIA.NSF/\(Page_Name_Web\)/Services_BuiHydroelectricESIA](http://www.erm.com/ERM/Svc/EIA.NSF/(Page_Name_Web)/Services_BuiHydroelectricESIA)).

Bui Dam has been on the books for decades (and whose hypothetical reservoir actually appears on many maps), would flood nearly a quarter of the Bui National Park, destroying habitat for rare hippos, forcibly resettling 2,600 people and affecting thousands more.

The project has had many ups and downs in its long history. In January 2005, the Executive Secretary of the Energy Commission in Ghana called on the government to revisit the Bui Dam project in order to increase Ghana's self-sufficiency and stop high tariffs. He said the country needed to spend between \$2-3 million to complete feasibility studies on the project and make it bankable to attract investors. The project could cost up to \$700 million.

In October 2001, the dam was temporarily shelved after a public statement by the government announced that Bui Dam was not the least-cost option and could not meet immediate energy needs. "One can no longer assume that hydropower generation is cheaper anymore," said Charles Wereko-Brobby, Chief Executive of the Volta River Authority (VRA). "If you are running thermal with gas, you can run it half the cost of hydropower from Bui." In recent years, Ghana has been plagued by power rationing because of its dependence on large hydro projects.

The project previously interested a consortium made up of Halliburton, ABB Alstom Power, Dragados and Hyundai for a time. However, the cost of its electricity cited by the consortium was deemed too dear and the government dropped the idea in the 1990s.

Links

Field Report: Interviews with Bui Dam-Affected Villagers (April 1, 2009):

[http://www.erm.com/ERM/Svc/EIA.NSF/\(Page_Name_Web\)/Services_BuiHydroelectricESIA](http://www.erm.com/ERM/Svc/EIA.NSF/(Page_Name_Web)/Services_BuiHydroelectricESIA)

65. GUINEA: Fomi Dam, Niandan River

Proposed

In July 2009, a meeting between Guinea and Mali was scheduled to take place to discuss the construction of the 100-120 MW Fomi Dam in eastern Guinea. The two presidents had previously agreed on collaboratively developing the project.

Links

"Guinean military junta says over 182m dollars needed for energy in capital" (July 11, 2009):

<http://www.individual.com/story.php?story=103700295>

66. GUINEA: Kaléta Dam, Konkouré River

Proposed

INTERNATIONAL INVOLVEMENT: African Development Bank

Coordinates: 10°27'N 13°16'W

The 200 MW Kaléta Dam, located 115 kilometers northeast of Conakry and 130 kilometers upstream of the mouth of the Konkouré River, is being developed as part of the Gambia River Basin Development Organization (OMVG) Energy Project. The run-of-the-river scheme will depend on the upstream Garafiri Dam reservoir. The OMVG was established in 1978 and includes four countries: Gambia, Guinea, Guinea-Bissau and Senegal.

Links

“Guinean military junta says over 182m dollars needed for energy in capital” (July 11, 2009):
<http://www.individual.com/story.php?story=103700295>

67. GUINEA: Souapiti Dam, Konkouré River Proposed
INTERNATIONAL INVOLVEMENT: Chinese aluminum companies

In November 2007, the Guinean government confirmed the dissolution of an agreement with China Exim Bank and Chinese companies Chalco and Sinohydro for an integrated integrated bauxite-alumina-aluminum development project which included the \$1 billion, 750 MW Souapiti Dam. At the same time, an agreement was made to undertake the scheme with new Chinese partners, Hongpeng Sinozonto Mining Investment Co Ltd and Shanxi Luneng Jinbei Aluminum Corporation, which formed Luneng Sinozonto Aluminium Guinea, a locally registered subsidiary. A preliminary agreement was signed covering development of the bauxite-alumina-aluminium branch and the integration of that activity with hydroelectric, rail and port infrastructure. Besides the Souapiti Dam, the development program now includes a plan to build Kaléta Dam. Development of Souapiti Dam could displace up to 50,000 people.

In July 2007, before the dissolution of the agreement, China Exim Bank had agreed to fund the Souapiti Dam in return for guarantees to Guinean mineral reserves equivalent to some 2 billion tonnes of bauxite, the raw material used in the production of aluminum. Guinea is the world's top bauxite exporter but most of the population survives on less than \$1 a day. Souapiti Dam is also discussed in the West African Power Pool, which reported in 2005 that a Protocol for the sharing of Souapati's power had been signed by Guinea and Senegal. The potential installed capacity of Souapiti Dam is reported between 515 and 975 MW.

Links

“New Chinese Group Formed for Souapiti” (November 28, 2007):

<http://www.africaintelligence.com/>

“China to fund \$1 bln hydro dam in Guinea” (July 7, 2007):

<http://www.washingtonpost.com/wp-dyn/content/article/2007/07/07/AR2007070700621.html>

68. GUINEA/SENEGAL: Sambangalou Hydropower Project, Gambia River Proposed
INTERNATIONAL INVOLVEMENT: African Development Bank; European engineering firms

Coordinates: 12°24'N 12°30'W

In 2005, the African Development Bank approved \$5.35 million for a study of the hydropower potential for the Gambia River Basin Development Organisation (OMVG) countries: The Gambia, Guinea, Senegal and Guinea-Bissau. In 2005, project cost for the 128 MW Sambangalou Dam was estimated at \$310 million, and the transmission line at \$312 million. Project developers intend to use the dam for hydropower, irrigation and flood control. The project requires displacement of communities and downstream environmental impacts on the Gambia River. The Gambia River passes through the Niokolo-Koba National Park in Senegal

before continuing into Gambia. The park has suffered considerable degradation from changing climatic conditions and poaching. The river subsequently traverses a very extensive agricultural basin subject to seasonal floods.

In 2003, OMVG contracted COTECO, a consortium of Coyne et Bellier, Tecsalt, and Coba, to conduct a feasibility study on Sambangalou Dam and connection to the grid. The study was funded by the African Development Bank.

Links

“Des aménagements hydroélectriques de Sambangalou, Kaléta et de la ligne d'interconnexion des pays membres de l'OMVG” (February 9, 2005):

<http://india.dgmarket.com/tenders/adminShowBuyer.do~buyerId=1165486>

“OMVG Hydropower Project Could be Commissioned by 2010” (May 9, 2005):

<http://www.statehouse.gm/omvg-guinea-may9.htm>

69. KENYA: Ewaso Ngiro Project, Mara River Basin Proposed
INTERNATIONAL INVOLVEMENT: Knight-Piesold (UK), UK Government Export Credits
Guarantee Department

Coordinates: 1°13'S 35°52'E

In the 1990s, the Government of Kenya proposed a cascade of three hydroelectric schemes (expected to generate 180 MW of electricity) on the Ewaso Ngiro (South) River. The project would transfer water from the Amala River to the headwaters of the Ewaso Ngiro River. Since the Amala River flows southwards into Mara River, which passes through the Serengeti Ecosystem and finally into Lake Victoria, this project would substantially reduce the volume of water available in the Mara River and could lead to complete drying of the river in times of severe drought. The project will severely affect the Serengeti ecosystem and the Masarua Swamp, a key water resource within Serengeti National Park. The project has caused massive controversy between Kenya and Tanzania. Tanzania fears fragile flamingo nesting and breeding sites would be destroyed. Tanzania has twice vetoed the project.

The UK company Knight Piesold has been involved in this project since 1989. In 1992, a World Bank study team criticized a contract for feasibility studies and environmental impact assessments that the company won in 1990 for being "five times what such services would normally cost." The World Bank's report was obtained by the *Financial Times*, which reported that the UK government's ECGD had backed 85% of Knight Piesold's fee. The reputation of the client, then called Kenya Power and Lighting Corp, was already tainted by allegations of corruption. Since this scandal, Knight Piesold has won further contracts for full tender design and documentation.

Alternate project names: Amala Project

Links

“Ewaso Ng'iro - sustainable engineering and design” (2008):

<http://www.swecogroup.com/en/enswecose/Field-of-Operations/Energy/Hydropower/Ewaso-Ngiro/>

70. KENYA: Kamburu Hydropower Project, Tana River

In Operation

Kamburu power station was the 2nd major power station in independent Kenya after Kindaruma power station. It was commissioned in 1974 and built by KenGen. It has three installed vertical Francis turbines and a total capacity of 93 MW. Full feasibility studies were started in the mid-1960s, which confirmed the viability of an upper reservoir for the Seven Forks cascade hydropower complex with a potential of about eleven power plants: Masinga, Kamburu, Gitaru, Kindaruma, Kiambere, Karura, Mutonga, Low Grand Falls, Usheni, Adamsons Falls, and Kora. The first five were developed between 1968 and 1988 while the remaining six are awaiting implementation.

The cost of the plant was about \$47 million and the project took seven years from feasibility studies to construction.

71. KENYA: Kiambere Dam, Tana River

Rehabilitation

The Kiambere currently has a capacity of 144 MW, with ongoing projects to upgrade it by 24 MW. It was built between 1984-1988 by KenGen.

72. KENYA: Kindaruma Dam, Tana River

Rehabilitation

The 24-meter high dam was the 1st major power station in independent Kenya. It was commissioned in 1968 and built by KenGen. It has two installed vertical Kaplan turbines and a space has been developed for a third unit. Power from Kindaruma is transmitted directly to Nairobi or to Kamburu via a 132 KV substation. The station is situated 170 kilometers northeast of Nairobi.

73. KENYA: Sondu-Miriu Dam, Sondu River

In Operation

INTERNATIONAL INVOLVEMENT: JBIC (Japan); Konoike Construction JV with Viedekke (Norway); Murray & Roberts Contractors International (SA); Nippon Koei Company (Japan)

Coordinates: 0°16'N 34°46'E

Sondu-Miriu is a 60 MW dam on the Sondu River that was expected to be completed in 2007, after years of delay. It was finally commissioned by KenGen, the parastatal generator (with about 75% of the market), in July 2009. Affected communities have complained about the poor compensation, corruption and lack of transparency in the project. JBIC (Japanese lending agency) suspended its funding of the project in mid-2001 after significant resistance by affected communities and NGOs, but re-committed to completing the dam in November 2004. In January 2005, Kenya's Environmental Minister declared that Sondu-Miriu would be a "white elephant" if heavy deforestation continues in the watershed, as increased siltation from the eroded landscape washes into the river, shortening the life of the dam.

Links

“Japanese in \$45,6m Kenya hydropower deal” (February 16, 2007):

<http://www.engineeringnews.co.za/article/japanese-in-456m-kenya-hydropower-deal-2007-02-16>

“Kenya industry: KenGen commissions Sondu Miriu dam” (August 28, 2009):

<http://www.eiu.com>

74. KENYA: Song’oro Dam, Sondu River Under Construction
INTERNATIONAL INVOLVEMENT: Sinohydro (China), JBIC (Japan), Nippon Koei (Japan)

Construction of Songo'oro began in 2008 and is expected to take three years. It will be a 20 MW extension of the Sondu-Miriu hydropower dam, located five kilometers upstream. Song’Oro will use water discharged by Sondu-Miriu. This \$65 million project is financed by JBIC and is being built by Sinohydro with consultants from Nippon Koei. Only two companies – Sinohydro and Farab of Iran – presented bids for the project. Sinohydro won at the technical stage, effectively stopping the opening of the financial bids.

Alternate project names: Sangoro, Songoro

75. LESOTHO: Mashai Dam (LHWP 2), Senqu River Proposed

Coordinates: 29°40'S 28°46'E

Phase 2 of the 5-dam Lesotho Highlands Water Project (LHWP) has received official approval from the South African and Lesotho governments. Phase 2 proposes the construction of the Mashai Dam and a transfer-and-delivery channel from the Katse Dam reservoir to the Ash river outfall, near Bethlehem, in South Africa's Free State. Phase 3 will involve the construction of the Tsoelike Dam (about 90 kilometers downstream from the Mashai Dam), and Phase 4 would see another dam built at Ntoahae, some 40 kilometers downstream from the Tsoelike Dam on the lower portion of the Senqu River.

Links

“Overview of the Lesotho Highlands Water Project” (September 14, 1995):

<http://www.lhwp.org.ls/overview/overview.htm>

“Too Many Dams, Too Little Water” (October 31, 2000):

<http://www.internationalrivers.org/en/node/1353>

76. LESOTHO: Metolong Dam, Phuthitsana River Proposed
INTERNATIONAL INVOLVEMENT: World Bank possible; Millennium Challenge Corp (US)

Coordinates: 29°20'S 27°47'E

This large dam is in the feasibility stage. The \$192 million project is intended to supplement

water supply to the urban center of Lesotho. Significant social impacts are likely in this densely populated region. It is likely to go ahead in the next several years due to increasing water demand from industry and unmet domestic needs. Although the government believes the project could reduce unemployment by increasing jobs in factories that get water from the dam, in fact, the garment industry in Lesotho has taken a sudden downturn as garment businesses are closing shop in Lesotho as China's control over the garment trade rises.

Despite having a huge water project in its midst, Lesotho citizens still suffer from a lack of safe drinking water. Water demand has risen considerably largely in Lesotho as a result of increasing requirements by industry in urban centers. The Metolong Dam has been targeted by the US government's Millennium Challenge Corp., which has begun holding meetings with NGOs on the project. The Lesotho NGO, Transformation Resource Centre, which has extensively monitored the LHWP project, is also monitoring this dam, and pressing authorities not to repeat the mistakes of the LHWP dams.

Alternate Project Names: Lowlands Water Supply Project

Links

“BADEA FUNDS METOLONG DAM PROJECT WITH ABOUT M70million” (July 30, 2007):
http://www.lesotho.gov.ls/articles/2007/BADEA_FUNDS_METOLONG.php

77. LIBERIA: Mount Coffee Dam, St. Paul River

Rehabilitation

Mount Coffee Dam, the country's main source of electricity, was critically damaged in the early 1990s during the civil war. Cost of Mount Coffee Dam and an upstream storage dam is estimated at \$500 million. Built in 1966 with World Bank funding and with additional phases completed later, the project had a maximum generating capacity of 64 MW. The Walter F. Walker Hydro Dam and generating facilities were extensively damaged during the First Liberian Civil War and are not currently functioning. US-based engineering company Stanley Consultants was contracted to carry out studies on the feasibility of resuscitating the power plant after the war. The US government, through the US Trading Authority, provided \$531,000 towards feasibility studies. The Liberian government is still seeking funding for the rehabilitation.

Alternate Project Names: St. Paul Hydro Plant

Links

“Liberia studies feasibility of reviving sole hydropower plan” (March 7, 2008):

<http://hydro4africa.net/news/viewnews.php?ID=340>

“Hydroelectric Power Plants in West Africa” (January 7, 2009):

<http://www.industcards.com/hydro-africa-w.htm>

78. LIBYA: Wadi Qattara Dam

Rehabilitation

Rehabilitation of the Wadi Qattara Dam and reconstruction of a secondary dam are underway. A number of new dams are planned, but construction has not yet begun as a result of financial

restraints. Currently there are 16 dams in operation in Libya with a crest higher than 10 meters: Wadi Mejenin, Wadi Kaam, Wadi Ghan, Wadi Zaret, Wadi Lebda, Murkus Bin Jawad, Zaza, Derna, Abu Mansur, Wadi Tabrit, Wadi Dakar, Wadi Jarif, Wadi Zahawuiyah, and Wadi Zabid. The total storage capacity of these dams is 385 million cubic meters with an average annual storage capacity of about 61 million cubic meters. The total average annual design storage does not necessarily correspond to an additional water resource. As an example, the actual flow records (1982-1991) of Wadi Ghan indicate an average storage of only 3.99 million cubic meters/year, as opposed to the design figure of 11 million cubic meters/year. Moreover, certain dams have been damaged and are not in a position to store the amount of water they were designed for (as in Wadi Qattara). It is estimated that the real average water resource made up by the existing dams does not exceed 30 to 40 million cubic meters/year.

Links:

“Water profile of Libya” (June 20, 2007):

http://www.eoearth.org/article/Water_profile_of_Libya

79. MALAWI: Fufu Dam, South Rukuru River Proposed
INTERNATIONAL INVOLVEMENT: Norconsult (Norway); African Development Bank

Coordinates: 10°45'S 34°08'E

The Malawi Energy Regulatory Authority is commissioning a \$5 million feasibility study for the Fufu Falls hydroelectric project. Norconsult completed a preliminary study in 1996. The African Development Bank and potential investors from Australia, Zambia, and South Africa have expressed interest in funding the project. A power development study conducted in 1998 showed the site could generate 100 to 175 MW depending on the dam construction methods.

Links

“Malawi to study 175-MW hydro project” (March 13th, 2009):

<http://www.engineeringnews.co.za/article/malawi-2009-03-13>

80. MALAWI: Kholombizo Dam, Shire River Proposed

Kholombizo Dam has a capacity of 240 MW and is planned for 2018. Future plans include increasing water supply coverage in the country to 80% by 2011 and to reach the MDG target of 84% by 2015. More multipurpose dams will be constructed in order to generate energy for the manufacturing sector among other beneficiaries. Other sites to serve this purpose have already been identified on the Songwe River, Bua River, Diamphwe River, and the North and South Rukuru Rivers.

81. MALAWI: Mpatamanga Dam, Shire River Proposed

Coordinates: 15°43'S 34°43'E

Planned for 2020, with a capacity of 260 MW.

82. MALAWI: Pumped Storage, Lake Malawi

Proposed

In December 2004, local press reported that the government was studying a project that would pump water from the northern part of Lake Malawi to produce up to 1,600 MW of electricity. A feasibility study was expected to take about five months. Local utility Escom is facilitating the work. The project could export power to countries like Tanzania, Somalia and Sudan. Malawi is currently almost completely dependent on hydropower, but electricity production has been reduced by about 20% because of damaged and aging equipment, siltation and aquatic weed problems.

Links

“Impact Assessment Case from Southern Africa” (2009):

http://www.saiea.com/case_studies09/06_Lake_Malawi_IWRD.pdf

83. MALAWI: Shire–Zambezi Waterway Canal

Proposed

INTERNATIONAL INVOLVEMENT: Comesa; Southern African Development Community (SADC)

Landlocked Malawi is considering building a canal to link the Shire and Zambezi rivers in order to create a new water transport corridor linking Malawi to the Indian Ocean for bulk exports of timber, minerals including bauxite, copper, cobalt and uranium, and agricultural commodities such as maize, rice, sugar, tea, and coffee. Malawi has proposed this \$6 billion project to Nepal and prefeasibility studies have been undertaken. The canal would extend from the inland port of Nsanje on the Shire River in southern Malawi to the port of Chinde in Mozambique 240 kilometers away. Comesa has allocated \$500,000 for a study.

Links

“Shire-Zambezi waterway link will boost trade” (February 1, 2009):

<http://www.allbusiness.com/transportation/transportation-infrastructure/11789607-1.html>

New Zambezi Waterway Planned (May 15, 2007):

http://www.africanews.com/site/New_Zambezi_Waterway_Planned/list_messages/3648

84. MALI: Felou Dam, Senegal River

Proposed

INTERNATIONAL INVOLVEMENT: World Bank

Coordinates: 14°19'N 11°17'W

In August 2009, the World Bank considered an additional \$85 million loan to the OMVG for the \$120 million, 60 MW Felou Dam, after the EIB-facilitated “Trust Fund for Infrastructure in Africa” withdrew its earlier commitment to provide \$33 million for the project. In June 2006, the World Bank approved its first loan for the Felou Dam but reduced its initial support from \$110 million to \$85 million. Felou Dam is located 200 kilometers downstream of Manatali Dam. The

financing is part of a multi-phase regional loan from the World Bank to the West African Power Pool (WAPP) under the \$350 million adaptable program lending (APL) facility that supports the West Africa Power Pool (WAPP) initiative of the Economic Community of West African States (ECOWAS). The project is being developed cooperatively by the governments of Mali, Senegal and Mauritania as part of their development of the Senegal River Basin. Felou will be built and operated by a private group under a design-build-operate-transfer (DBOT) contract before eventually being turned over to OMVS. The Felou Dam will be connected to the 225 KV transmission line that will link Dakar, Nouakchott and Bamako. The money will go to consultants to design the dam and draft the contract for the concession. Subcontractors will also organize the tender for the construction and management of Felou and assess bids submitted by would-be operators. In June 2007, the World Bank also approved \$5.06 million in carbon offset funding for the project.

Links

“Felou Dam Plan Still Marking Time” (May 27, 2009): <http://www.africaintelligence.com/>

85. MALI: Gouina Dam, Senegal River

Proposed

Coordinates: 14°10'N 11°13'W

The Organisation pour la Mise en Valeur du Fleuve Senegal (OMVS) is about to issue an invitation to tender for a hydropower dam at Gouina. The World Bank reports the dam at 95 MW but African Energy Intelligence reports it as 572 MW. Gouina Dam is a priority project of OMVS and will be located 192 kilometers downstream from the Manatali Dam.

Links

“OMVS To Call for Bids for Gouina” (March 14, 2007): <http://www.africaintelligence.com/>

86. MALI: Talo Dam, Bani River

In Operation

INTERNATIONAL INVOLVEMENT: African Development Bank

Coordinates: 13°17'N 5°12'W

Construction on this project was anticipated to begin in October 2004 after a three-day meeting was held to present new project impact studies. The Talo Dam was built in 2006 on the Bani River, a tributary of the Niger River in Mali. The path towards the completion of the project has been complex and controversial. Cultural Survival, who had earlier raised concerns over anticipated downstream impacts to local people, endorsed the project after the new impact studies were presented. “Though construction is likely to proceed this year there is still a lot more planning required to assure that the project is well managed as envisioned,” Larry Childs of Cultural Survival said. “Local management skills must be developed, project monitoring systems better devised, and contingency planning carried out to ensure effective responses to unforeseen negative effects that always accompany dams.”

Link

“Cultural Survival Endorses Revised Plan for Talo Dam Construction” (2004):

<http://www.culturalsurvival.org/ourpublications/csq/article/cultural-survival-endorses-revised-plan-talo-dam-construction>

“Dam's Dangers Debunked” (May 12, 2009):

http://www.djenneinitiative.org/talo_recentnews.html

87. MALI/SENEGAL: Manantali and Diama Dams, Senegal River Expansion
INTERNATIONAL INVOLVEMENT: The dam was constructed under the aegis of the Organisation pour la Mise en Valeur du Fleuve Senegal (OMVS).

These completed dams in the Senegal River Basin were built for irrigation, but were so uneconomic that hydropower was added to Manantali later (with World Bank support). The dams are notorious for vastly increasing water-borne diseases in local populations; a renowned health expert says it created the largest epidemic of *Schistosomiasis* infection in Africa. Now, the Senegalese president has said he wants to double the capacity of the Manantali Dam. He recommended to his counterparts from Mali and Mauritania that the organization build three secondary dams downstream from the Manantali on the Bafing, a tributary of the Senegal River. Each would have a 75 MW capacity. South African utility Eskom manages Manantali Dam and would likely need to be on board for the new dams. It seems unlikely this would be a priority for Eskom, which is involved in operations and investments across the continent.

88. MAURITIUS: The Midlands Dam Project, Grand River South East Proposed

The Midlands Dam Project would enable the transfer of water from the relatively wetter central part of the country to the drier northern districts. This region has witnessed an above national average rate of urbanization over the past two decades and present water storage capacity would not satisfy future water demand for residential, irrigation and industrial purposes. The dam will upon completion be the largest in Mauritius and will involve the construction of an earth fill dam founded on natural ground, a spillway structure, an outlet canal, and a new road to replace those feeder roads that would be flooded. The project will also entail significant quarrying activities close by to provide for aggregates.

89. MOROCCO: Dams on the Moulouya River Proposed

The *Agence du Bassin de la Moulouya* (Moulouya River Basin Agency) is in charge of a project that includes building 15 more dams on the Moulouya River over the next 25 years. Local groups are concerned that this could expose northeastern Morocco to many problems. There are two Ramsar sites in the area that will be affected by the plan. The agency has refused to give information to local NGOs.

90. MORROCCO: Mjaara Dam, Wadi Wargha Tributary In Operation

INTERNATIONAL INVOLVEMENT: Torno and Cogefar (Italy); possibly the Arab Fund for Social and Economic Development

The project aims at regulation of the waters of Wadi Wargha, the main tributary of Sebu River, and utilization of the regulated water for irrigation, electric power generation and municipal and industrial uses. The project also aims at flood protection of the Gharb plain. On the national level, the project aims to increase agricultural production, attain a better level of self-sufficiency in food production, improve trade balance, create jobs and improve living conditions. According to *Africa Intelligence*, Italy has put up a 227.6 million ECU loan towards construction of the Mjaara hydroelectric dam.

Alternative Project Names: Al Wahda Dam

Links

“228 MILLION ECU LOAN FOR MJAARA” (March 12, 1992):

<http://www.africaintelligence.com/AEM/electricity/1992/03/12/228-million-ecu-loan-for-mjaara.13915-ART>

91. MOZAMBIQUE: Boroma Dam, Zambezi River Proposed

In June 2009, Mozambique’s Energia Capital, an affiliate of Grupo Insitec, was awarded the feasibility study for the proposed 400 MW Boroma Dam on the Zambezi River. Insitec had submitted a bid for Mphanda Nkuwa but did not receive the contract.

Links

“Energia Capital Down but Not Out” (June 24, 2009): <http://www.africaintelligence.com>

92. MOZAMBIQUE: Cahora Bassa North, Zambezi River Proposed
INTERNATIONAL INVOLVEMENT: Portugal

The \$590 million, 850-1200 MW Cahora Bassa North Scheme would be almost completely constructed underground. This scheme relies on the construction of Mphanda Nkuwa first. This EIA stage project is backed by the principal owners of Cahora Bassa, the Government of Portugal. Severe environmental impacts and Cahora Bassa’s poor financial condition make the project unlikely unless Mphanda Nkuwa goes ahead first.

Links

Mozambique: Cahora Bassa, a Year After the Takeover (November 28, 2008):

<http://allafrica.com/stories/200811280925.html>

93. MOZAMBIQUE: Chicamba and Mavuzi Dams, Revue River Rehabilitation
INTERNATIONAL INVOLVEMENT: Norway

The Chicamba and Mavuzi Dams are the property of the electricity distribution company, EDM, the national utility company. A joint development agreement project with a Norwegian company has been concluded. Negotiations towards financial closure are underway. Any participation is only possible through dialogue with the implementing Consortium. The total cost of the project is \$39 million. Hidroelectrica de Cahora Bassa (HCB) is easily the most important source of power for EDM, but the latter also owns these two dams on the Revue River in Manica province. EDM plans to rehabilitate them in the coming years so as to maximize their power output.

Links

“Mozambique: Cahora Bassa Provides More Electricity to Mozambique” (March 28, 2008): <http://allafrica.com/stories/200803281176.html>

94. MOZAMBIQUE: Massingir Dam, Oliphants River Rehabilitation
INTERNATIONAL INVOLVEMENT: NORPLAN (Norwegian engineering co.) did the dam-rehab EIA in 1993; African Development Bank

Coordinates: 23°53'S 32°2'E

This partly completed dam, the second largest in Mozambique, is about four kilometers downstream from the eastern border of the Kruger National Park (KNP). It was built in the early 1970s in an agreement between South Africa and Portugal, prior to South Africa's current environmental and water laws, to ensure irrigation to the Lower Limpopo Valley in Mozambique and to possibly supply hydropower. The Mozambican civil war hampered completion of the dam, notably the installation of the sluice gates, which are now being installed. Rehabilitation also entails restoring the dam wall to enable the dam to carry its full reservoir of 2,800 million cubic meters. The project is likely to impact the Oliphants River Gorge in Kruger National Park. According to the *Kruger Times*, South African agencies (such as DWAF, Kruger and the SA Department of Environmental Affairs and Tourism) have not been consulted and have not seen the EIA. The head of Conservation Services in the KNP said that no mitigation could be done to save the Olifants River Gorge: "The dam will cause massive sedimentation in the gorge, but there is no information available because no proper study has been undertaken. The sedimentation will destroy the deep pool-rapid ecosystem in the lower Olifants and Letaba rivers. Once lost this national treasure cannot be regained." This is also the largest breeding ground for the Nile Crocodile.

Links

“Mozambique: ADB to Finance Repair of Massingir Dam” (September 12, 2008): <http://allafrica.com/stories/200809120965.html>

95. MOZAMBIQUE: Moamba Major Dam, Nkomati/Incomati River Proposed
INTERNATIONAL INVOLVEMENT: China Exim Bank and Sinohydro

Construction of the \$300 million Moamba Major Dam on the Nkomati River 80 kilometers south of Maputo, as a water supply dam for the capital, may be supported by China Exim Bank. This dam is a major storage dam on the Incomati River near Moamba.

The dam would also supply water to the Mozal aluminum smelter, according to the Public Works and Housing Minister Felicio Zacarias. He told the APA in an interview that the Moamba-Major dam, to be built on the Komati River, will provide an additional 600,000 cubic meters of water to the area annually, boosting supplies of the inefficient Pequenos Libombos dams.

“We are looking for money for the construction of this dam or a partner who could build it and run it as a concession. Mozambique will be running short of water in 2010 for both consumption and projects,” he said. Population growth and industrial development have brought pressure to bear on Maputo’s main Pequenos Libombos dam serving over two million people and high-water consuming mega projects which have been mushrooming around Maputo.

Links:

“Mozambique seeks US\$660 million to build two dams” (April 3rd, 2008):
[http://emergingminds.org/Mozambique-seeks-US\\$660-million-to-build-two-dams.html](http://emergingminds.org/Mozambique-seeks-US$660-million-to-build-two-dams.html)

96. MOZAMBIQUE: Mphanda Nkuwa Dam, Zambezi River Proposed
INTERNATIONAL INVOLVEMENT: China Exim Bank; Standard Bank; Camargo Correa (Brazilian company); Eskom (South African utility); Knight-Piesold (UK)

Coordinates: 16°07'S 33°29'E

In May 2009, China Exim Bank agreed to finance the 1,350 MW Mphanda Nkuwa Dam on the Zambezi River some 60 kilometers downstream from the Cahora Bassa Dam, after reports that the project had been postponed. (China Exim Bank originally agreed in April 2006 to fund the dam.) The project’s cost has been estimated at \$2 billion. China Exim Bank will also lend around \$300 million for a transmission line between the dam and Maputo. Most of the energy produced by the new facility will be exported to the rest of southern Africa, particularly South Africa. The funding contracts still remain to be finalized by the end of 2009. An initial draft of the scheme were produced by Brazil’s Camargo Correa and its Mozambican partner, Insitec. The UK-based Knight Piesold has a \$550 million contract to study the project. The project also poses significant economic risk to Mozambique. Mozambique’s favored status in the development community and the project’s strong support from NEPAD are counter-balanced by the project’s dubious economic justification, environmental concerns, and a strong local NGO campaign. The project would displace 1,400 rural farmers, and jeopardize ongoing efforts to restore the lower Zambezi to something of its historic richness.

Alternate Project Names: Mepanda Uncua, Mepanda Nkuwa

Links

“Mozambique to build new 1 500 MW hydropower station” (July 15, 2009):
<http://www.engineeringnews.co.za/article/mozambique-to-build-new-1-500-mw-hydropower->

[station-2009-07-15](#)

“Mozambique: Zambezi Basin Countries Support New Dam” (July 10, 2009):

<http://allafrica.com/stories/200907101028.html>

Beijing to Finance Mpanda Nkuwa (May 27, 2009): <http://www.africanenergyintelligence.com/>

97. NAMIBIA: Popa Falls Dam, Okavango River
INTERNATIONAL INVOLVEMENT: NamPower

Proposed

Coordinates: 18°06'S 21°36'E

This 20MW hydro dam is intended for power supply to northeastern Namibia. There has been strong interest from the Namibian government for this project, but because of its potentially disastrous impact on the Okavango Delta and its relatively small power output it is unlikely to proceed. This new dam on the Okavango River could place a stranglehold on one of Africa's premier safari destinations.

The Okavango River rises in the Angolan highlands and flows over 1,600-kilometer southeast towards Botswana, where it creates one of Africa's most important and unique wetlands. Nearly 100,000 people live in or around the Okavango Delta, while its spectacular mosaic of wetlands and forests support world-renowned wildlife populations and a \$350 million tourism industry. The Namibian government's plans to construct a hydroelectric dam at Popa Falls (less than 50 kilometers from the Botswana border) and to extract water from the Okavango River to supply Windhoek's growing population.

According to International Rivers' analysis, evaporation from the proposed scheme would decrease the Okavango's total annual flow by 1.5 million cubic meters. More crucially, however, the dam could drastically alter the single most important aspect of the delta's dynamic ecosystem: flooding.

If the seasonal flow of water along the Okavango River becomes regulated, the delta's lifeblood could rapidly stagnate. Experts also claim that a dam would trap vital sediment transported by the river. Each year in April, the Okavango River floods its banks, depositing millions of tonnes of material, much of it sand from the Angolan highlands, across the 15,000 square kilometer delta. This regular supply of silt keeps the numerous river channels relatively shallow in relation to the flood plains, thus allowing floodwaters to spill easily over their banks. The construction of even a small dam or weir could cause the Okavango Delta to gradually become moribund, with parts of it effectively sterilized by salt accumulation. According to Professor TS McCarthy, director of the Okavango Research Group, the sandy sediment is so vital to the functioning of this ecosystem that no structure that inhibits its movement into the Delta should ever be constructed. Flooding restrictions could result in the surrounding Kalahari Desert gaining a permanent foothold.

Links

“Damming the Okavango River” (2004):

<http://www.travelafricamag.com/content/view/586/125/>

NAMIBIA/ANGOLA: Baynes Dam, Cunene River

See ANGOLA/NAMIBIA

NAMIBIA/ANGOLA: Epupa Dam, Cunene River

See ANGOLA/NAMIBIA

98. NAMIBIA/SOUTH AFRICA: Vioolsdrift and Boegoeberg Dams, Orange River Proposed
INTERNATIONAL INVOLVEMENT: Irrigation department of Namibia

Coordinates: 28°41'S 17°31'E

The Lower Orange River Management Study (LORMS) has proposed a feasibility study for the possible construction of water supply dams at Vioolsdrift and Boegoeberg. A major concern the study raised was the cost of construction of a Lower Orange River irrigation project that they pegged at \$25 million, while the dams cost \$81 million at prices estimated in April 2004. At issue is how the water and project costs would be shared by the two countries. The proposed Vioolsdrift Dam would be downstream of the Vanderkloof Dam on the South African side. Because of South Africa's strong water law, feasibility of these dams would be affected by environmental flow requirements.

Boegoeberg Dam is situated in Cape Province near Groblershoop and Lang berg. It was built in 1930 by the Irrigation department. It is one of the largest dams in the region and supplies Vanderkloof Dam with water. Boegoeberg Dam provides water to approximately 7,560 hectares of irrigated land.

99. NIGER: Gambou Dam, Niger River

Proposed

The 122MW project was blocked because of the negative impact that it would have caused on the ripicole habitats and ecosystems of W. National Park. A feasibility study for the dam was conducted in the late 1980s by Shawinigan Lavalin Inc, Canada.

100. NIGER: Kandadji Dam, Niger River

Proposed

INTERNATIONAL INVOLVEMENT: France (EDF); FAD/African Development Fund; Germany (Lahmeyer International/feasibility studies); Islamic Development Bank (BID)

Coordinates: 14°37'N 0°58'E

This 230-meter high Kandadji Dam would impound a large part of the Niger River, produce 125 MW (originally proposed to be 230 MW), provide irrigation water to a proposed 122,000 hectares, and displace some 33,500 people. The project was first conceived in the mid-1970s. It is located about 200 kilometers northwest of Niamey. In 2007, the dam received a grant of \$236 million following a donor conference organized by the Islamic Development Bank. A further \$637 million will be needed to complete the project.

The dam, when operational in 2013, will drastically affect Nigeria's ability to generate electricity because, according to a source, it would trap the flow of the river and prevent the Kainji and Jebba hydroelectric stations from filling up in December 2009. The dam is being built despite the diplomatic efforts by Nigeria, which supplies Niger Republic about 35 MW of electricity daily, to prevent the construction of other dams on the River Niger.

Links

“Dependence on Nigeria for oil imports and electricity” (February 20, 2008):

http://www.eiu.com/index.asp?layout=VWArticleVW3&article_id=493062834&country_id=390000039&page_title=Latest+analysis&rf=0

NIGER/BENIN: Dyodyonga Dam

See BENIN/NIGER

101. NIGERIA: Kainji and Jebba Hydropower
INTERNATIONAL INVOLVEMENT: World Bank

Rehabilitation

Sources in the Ministry of Power said the minister was aware that the contract for the repair of the spillway discharge channel of the dam had been awarded, in principle, to Gur International Group and Hydro Works Limited, at a cost of approximately \$6,348,100 by Power Holding Company of Nigeria and the Ministry of Power. The contractors were given a due process certificate by the Price Monitoring and Budget Implementation Unit, otherwise known as Due Process, in August 2005, after a bidding process for which seven companies were initially invited. The contractors, however, took the ministry to court when they learnt that the contract had been relisted. The World Bank said in 2007 that it would contribute \$500 million to Niger Basin projects, including the renovation of the Kainji and Jebba hydropower plants.

In 2009, parts of the 600 MW Jebba Dam began to crack, which have made the Nigerian Federal Government's plan to generate 6,000 MW of electricity by the end of 2009 a mirage due to the weight of water retained by the dam as the rainy season peaks.

Links

“Nigeria: Jebba Dam Faces Collapse” (August 13, 2009):

<http://allafrica.com/stories/200908130591.html>

102. NIGERIA: Mambila Hydropower Dam, Benue River
INTERNATIONAL INVOLVEMENT: China Exim Bank

Proposed

Coordinates: 6°40'N 11°09'E

In October 2005, an MoU between Nigeria and China was signed for the Mambila Hydropower project, which will generate 3,900 MW and has a capacity of 10,000 MW. The total project cost is about \$ 2.3 billion. In order to fast track the completion of the project, it is being supervised directly by the presidency. In May 2005, the China National Petroleum Corporation was awarded

four blocks for oil exploration after agreeing to build the Mambila Dam. In April 2006, the presidents of Nigeria and China signed an MoU for oil development that included a \$500 million export credit from China for infrastructure development. Currently, Nigeria gets about 20% of its electricity from hydropower. The site is located in northeastern Nigeria on the Mambila plateau.

In August 2009, Governor Muhammad Danjuma Goje of Gombe State urged the Federal Government to make adequate financial provision for the execution of the Mambila Dam, Dandi-Kowa Dam, and Kashimbila Multipurpose Dam.

Links

“Goje Urges FG On Mambila Power Project” (August 29, 2009):

<http://allafrica.com/stories/200908310213.html>

103. NIGERIA: Zungeru Hydroelectric Dam, Kaduna River Proposed
INTERNATIONAL INVOLVEMENT: Likely China Exim Bank and Sinohydro

Coordinates: 9°48'N 06°08'E

In April 2005, the president of the China Exim Bank affirmed the Bank’s readiness to fully fund both Mambila and Zungeru hydro dams if project details could be agreed upon. Zungeru, which would be 950 MW, would be located on the Kaduna River. An environmental impact study was completed on the project in 1990.

Zungeru Dam construction was to follow Kainji, Shiroro and Jebba dams. Next in line were barrages of low head power plants to be constructed at Yola and Makurdi on the Benue River and at Lokoja on the confluence of the Niger River. The combined capacity of these four schemes has been estimated at between 2,000 to 2,500 MW.

Links

“The Economic Development Of Nigeria”: <http://www.gamji.com/article4000/NEWS4714.htm>

104. REPUBLIC OF CONGO: Imboulou Dam, Lefini River Under Construction
INTERNATIONAL INVOLVEMENT: China Exim Bank; China National Machinery & Equipment Import & Export Corporation (CMEC); Fichtner (German company)

Coordinates: 2°59'S 15°33'E

In 2005, construction of the \$280 million, 120 MW Imboulou Dam began after some twenty years of preliminary studies. CMEC offered to build the dam guaranteed against Congolese oil. Construction of the dam, located 220 kilometers northeast of Brazzaville, is expected to be completed in 2009. The Republic of Congo is 98% hydro-dependent. RoC imports about a quarter of its electricity from the Democratic Republic of the Congo.

Links

“Congo Brazzaville : le barrage d'Imboulou sera mis en service en octobre 2009” (February 16, 2009): <http://www.lesafriques.com/congo-brazza-/congo-brazzaville-le-barrage-d-imboulou-sera-mis-en-service-en-octobre.html?Itemid=48?articleid=13396>

“Le barrage hydroélectrique d'Imboulou réalisé à 80%” (January 26, 2009): http://www.congo-siteportail.info/Le-barrage-hydroelectrique-d-Imboulou-realise-a-80_a3005.html

105. REPUBLIC OF CONGO: Moukougoulou Dam, Bouenza River Rehabilitation
INTERNATIONAL INVOLVEMENT: China

The Chinese-built, 74-MW Moukougoulou Dam that was damaged during the 1999 civil war is undergoing restoration. Since its destruction during the war, its output has been reduced to 25 MW. Rehabilitation cost \$12 million. The Moukougoulou Dam serves the southern and southwestern areas of the country (Bouenza, Niari, Lékoumou and Kouilou) including the economic capital of Pointe-Noire. Brazzaville is still dependent on imported electricity from the Inga dams in the southwest Democratic Republic of Congo.

Links

“Rebuilt dam brings power to rural areas” (May 3, 2007): http://www.ecc-platform.org/index.php?option=com_content&task=view&id=957&Itemid=173

106. REPUBLIC OF CONGO: Sounda Gorge Dam, Kouilou River Proposed
INTERNATIONAL INVOLVEMENT: Canadian and European companies

Canadian-based MagIndustries secured an option to complete the development of the Sounda Gorge hydro project on the Kouilou River near the confluence with the Niari River, 85 kilometers northeast of Pointe-Noire. A pre-feasibility study for Sounda was completed by SNC Lavalin in 1999. MagIndustries' interest in Sounda Gorge Dam is to supply energy to its related magnesium plant. A feasibility study on the magnesium plant development was prepared by the German-based engineering firm Salzgitter Anlagenbau GmbH ("Salzgitter"), a division of Preussag of Germany. An earlier pre-feasibility study was also completed by SNC-Lavalin Inc. While earlier reports indicated the hydro site could yield a capacity of 1,000 MW at a cost of \$925 million, MagIndustries reports that SNC advises a 360 MW development at a reported cost of \$360 million. The project involves three phases: two turbines providing 10 MW to generate income for the following phases; a 130-foot dam boosting capacity to 240 MW; and an increase in the height of the dam to 61 meters to yield the 1 GW capacity.

Links

MagIndustries 1998 Annual Report: <http://www.magindustries.com/>

107. RWANDA: Nyabarongo Dam, Nyabarongo River Under Construction
INTERNATIONAL INVOLVEMENT: India Exim Bank

Construction of the \$97.7 million, 27.5 MW Nyabarongo Dam began in late 2008 and is being financed by the India Exim Bank. When completed, it will be the largest domestic hydropower plant in the country, producing almost half the power currently being utilized. The dam is being built by a consortium of two experienced Indian companies, Bharat Heavy Electricals Ltd (BHEL) and Angelique International Ltd under an Engineering, Procurement and Construction (EPC) agreement. Almost four billion Rwandan francs will be required to relocate about 4,200 people from the valleys of the river in Ngororero, Karongi and Muhanga districts in preparation for the project to be executed.

Links

“Construction of 27.5 MW Hydro Power Plant Kicks Off” (December 21, 2008):

<http://allafrica.com/stories/200812190079.html>

“Nyabarongo Hydro-Power Project Given Green Light” (May 21, 2008):

<http://allafrica.com/stories/200805210438.html>

108. RWANDA: Rukarara Dam, Rukarara River

Under Construction

The first proposed dam on the Rukarara River will have a 9.2 MW capacity and will cost \$20 million. The project is expected to be completed in March 2010.

Links

“Gov't to Adjust Vision 2020” (February 25, 2010):

<http://allafrica.com/stories/201002250162.html>

RWANDA/TANZANIA/BURUNDI: Rusumo Falls Dam
See BURUNDI/RWANDA/TANZANIA

SENEGAL/GUINEA: Sambangalou Dam, Gambia River

See GUINEA/SENEGAL

SENEGAL/MALI: Manantali and Diama dams, Senegal River

See MALI/SENEGAL

109. SIERRA LEONE: Bumbuna Dam, Seli River

Rehabilitation

INTERNATIONAL INVOLVEMENT: World Bank; Italian-based Salini Costruttori

Coordinates: 9°03'N 11°44'W

Rehabilitation and completion of the 50MW Bumbuna Falls Dam was completed by Salini with funding provided by the World Bank. The project includes a 200-kilometer transmission line connecting the power station to Freetown.

Links:

“Rehabilitation and completion works at Bumbuna Falls HEP” (2008):

http://www.pietrangeli.it/immagini1/pubblicazioni/Rehabilitation_and_completion_works_at_Bumbuna_Falls_HEP.pdf

110. SOUTH AFRICA: Berg Dam, Berg River

In Operation

INTERNATIONAL INVOLVEMENT: European Investment Bank; Development Bank of South Africa; ABSA Bank

Berg Dam is expected to supply up to 20% of Cape Town's water needs. The project was a partnership between the Department of Water Affairs and Forestry, the City of Cape Town and the Trans-Caledon Tunnel Authority. Project approval was dependent on the city reducing its water demand by 20%. In response, the city implemented a water conservation strategy aimed at reducing the use of water by using treated sewage effluent instead of fresh water for irrigation and industrial purposes.

Construction of the \$230 million Berg Dam was completed in 2007 and its reservoir, with a storage capacity of 130 million cubic meters, was full a year later due to heavy rainfall. The dam wall is 68m meters high and 929 meters long. In addition to the dam itself, the project entails a supplement scheme located 10 kilometers downstream of the dam, which will divert winter high flows from three tributaries to be stored in the dam's reservoir. At the start of the contract, the Working for Water Programme was awarded a \$2.7 million, eight-year contract by Trans-Caledon Tunnel Authority to remove alien vegetation from the Berg River catchments, significantly increasing the amount of water available for storage in the dam and for indigenous plant species. The Berg River was one of last free-flowing rivers in the area. Skuifraam Action Group mounted a strong media campaign, but shifted its focus to monitoring the project's impacts. The project was funded by the European Investment Bank (\$136 million), the Development Bank of South Africa and ABSA Bank.

Alternate Project Names: Berg Water Project, Skuifraam Dam

Links

“Cape's Berg River Dam on line” (March 9, 2009):

<http://www.southafrica.info/business/economy/infrastructure/bergdam-090309.htm>

“Berg dam nears completion” (October 27, 2005):

<http://www.southafrica.info/business/economy/infrastructure/bergwater.htm>

“Call for Urgent Rethink On Skuifraam Dam” (November 21, 2000):

http://www.dams.org/news_events/media148.htm

111. SOUTH AFRICA: Thukela Water Project, Thukela River

Proposed

Coordinates: 28°45'S 29°56'E

The Thukela Water Project in Kwazulu-Natal would consist of two new dams, Jana Dam and Mielietuin Dam, and a 120-kilometer-long pipeline linking into the Drakensberg Pumped

Storage Scheme near Bergville. This would supply additional water to the Vaal River System through Sterkfontein Dam, in the south of Mpumalanga.

Links

“SA suspends R5bn Thukela water project” (April 20, 2004):

<http://www.engineeringnews.co.za/article/sa-suspends-r5bn-thukela-water-project-2004-04-20>

SOUTH AFRICA/NAMIBIA: Vioolsdrift and Boegoeberg Dams

See NAMIBIA/SOUTH AFRICA

SUDAN: Four major hydro plants are in operation in Sudan: Roseires and Sennar (15 MW), both on the Blue Nile, Rumela (20 MW) and Khashm El Girba (13 MW), on the Atbara River. Other proposed dams on the main Nile include Mugrat (240 MW), Dugash (285 MW), Shereik (350 MW), and Sabaloka (120 MW).

Links:

“Hydropower potential and priority for dams development in Sudan” (November 30, 2009):

http://www.scitopics.com/Hydropower_potential_and_priority_for_dams_development_in_Sudan.html

112. SUDAN: Dal Dam, Nile River

Proposed

The Dal Dam would have a capacity of 780 MW, the largest dam on the main Nile in Sudan after Merowe. According to Su'd Ibrahim Ahmed, a senior Nubian activist who played a leading role in the protests against the Aswan Dam in the 1960s, the dams in Kajbar and Dal will deal the final blow to the Nubian people: "Together with the Aswan High Dam, the two new dams will inundate almost the whole of Nubia. Hundreds of thousands of Nubians in the region itself and living elsewhere will lose their homeland. That will mean the extinction of the Nubians as a distinct group with their own language and cultural heritage." As it is officially denied that large numbers of people have to be evacuated, no relocation plans have been presented to the inhabitants of the region.

Links:

“Controversial dam plans in Nubia” (July 13, 2007):

<http://www.rnw.nl/fr/afrique/article/controversial-dam-plans-nubia>

113. SUDAN: Kajbar Dam, Nile River

Proposed

INTERNATIONAL INVOLVEMENT: China

Coordinates: 19°48'N 30°24'E

This 300 MW, 221 meter high dam would be sited at the second cataract on the Nile. It would be built at the heart of the remaining Nubian land, wiping out many of the remaining heritage sites and forcibly removing over 50,000 people. Ancient towns, tombs, monasteries, and forts would be lost forever without ever being thoroughly studied.

An agreement between Sudan and China was signed in 1997 to finance the dam. Under terms of the agreement, China would finance 75% of the project and Sudan would provide the remaining 25%. The current status of the project is unclear. In June 2007, security forces killed at least four people and wounded 13 participating in peaceful protest against the construction of the dam.

Links

“Appeal to Save Nubia” (2005): <http://www.thenubian.net/appeal.php>

Urgent Press Release: Kajbar Massacre (June 15, 2007): <http://www.sudaneseonline.com/cgi-bin/esdb/2bb.cgi?seq=print&board=12&msg=1181888953&rn=>

114. SUDAN: Merowe Dam, Nile River

In Operation

INTERNATIONAL INVOLVEMENT: China Exim Bank; Lahmeyer (German company); Alstom (French company); ABB

Coordinates: 18°31'N 31°57'E

In March 2009, the \$1.8 billion, 1,250 MW Merowe Dam was commissioned. The dam was funded in part by the China Exim Bank and Arabian investment banks, and built under a joint venture between China Water Resources & Hydropower and China International Water & Electric Corp. The project is displacing 50,000 people and destroying a number of archaeological sites. In May 2007, the affected people reached an agreement with the government of Sudan’s Nile State that gave them the right to relocate to settlements along the reservoir. Yet this agreement has never been honored and the powerful Dam Implementation Unit, which sits directly under the Sudanese president, has waged a relentless campaign to drive the affected people off their lands. During the flood seasons of 2006 and 2007, the dam builders restricted the Nile’s flow so much that the homes of thousands of families were flooded. According to affected people, the authorities decided to close the dam’s gates completely on the Eid holiday of September 30. In April 2006, five people of a displaced community were killed and dozens more wounded during a confrontation by authorities.

Links

“Sudan inaugurates massive Nile dam” (March 3, 2009):

<http://www.middle-east-online.com/english/?id=30743>

115. SUDAN: Nimule Dam, Nile River

Proposed

Coordinates: 3°38'N 31°59'E

Sudan has revived this 30-year old plan to build a 750MW dam. The project was studied and approved between 1972 and 1974, but the government failed to get funding. The government has commissioned a new study to update project data collected in the 1970s, including economic feasibility, impact on the environment and water flow at the Nimule site.

Links

“Sudan seeks to revive Nile power project at Nimule” (March 17, 2008):
<http://www.nationmedia.com/eastafrican/current/News/news1703200810.htm>

116. SUDAN: Roseires Dam, Nile River Expansion
INTERNATIONAL INVOLVEMENT: CCMD JV (Chinese company formed by China International Water & Electric Corp and Sinohydro)

Roseires Dam on the Blue Nile was originally constructed in 1966 for irrigation. A 250MW hydropower plant was added in 1971. The Roseires Dam Heightening Project has a contract value of \$396 million and a construction period of 1,308 days. It is the second large hydropower project undertaken by CCMD JV after the Merowe Dam. The whole dam body will be heightened by 10 meters.

Links:

Sudan Electric Power (2004): http://www.photius.com/countries/sudan/economy/sudan_economy_electric_power.html
“Chinese Ambassador in Sudan Visits Roseires Dam Heightening Project” (May 1, 2009):
<http://www.cwe.com.cn/cn/public/show.aspx?id=1020&cid=22>

117. SUDAN: Upper Atbara Hydro Junction Project, Atbara River Proposed
INTERNATIONAL INVOLVEMENT: China International Water & Electric Corporation (parent company, the China Three Gorges Corporation)

On April 7th, China signed a \$838 million hydro junction contract with Sudan for the Upper Atbara Hydro Junction Project's construction and its water facilities, under a joint venture of the China International Water & Electric Corporation and its parent company, the China Three Gorges Corporation. The Upper Atbara Hydro Junction Project will obtain financial support from the Sudanese government and the total time of construction will be five years and four months. Currently, it is the largest single construction project any Chinese company has undertaken in Sudan and also the second largest overseas single hydraulic engineering project signed by a Chinese company.

The project is located at the border area between Kassala State and Gedaref State in eastern Sudan. In addition, the project consists of the Rumira Dam, Bodana Dam, as well as other ancillary works. The project is aimed at providing irrigation and water supply as well as power generation.

Links:

“China signs \$838 million hydro junction contract with Sudan,” (April 7, 2010):
<http://english.peopledaily.com.cn/90001/90778/90861/6944255.html>

118. SWAZILAND: LUSIP, Mhlatuzane and Golome Rivers Under Construction
INTERNATIONAL INVOLVEMENT: International Fund for Agricultural Development; European Union; European Investment Bank; Arab Bank for Economic Development in Africa; African Development Bank; and Development Bank of Southern Africa; International Development and Cooperation Fund; and the government of Swaziland

LUSIP is a poverty alleviation initiative implemented under the Swaziland Water and Development Enterprise (SWADE) to build three dams to irrigate 6,500 hectares in smallholder plots. The project requires construction of dams on the Mhlatuzane and Golome Rivers. Saddle Dam will form an off-river reservoir to store water diverted from wet season flood flows in the Usuthu River. After completion of the first phase, the government intends to expand the project into a second phase, expanding irrigation to another 5,000 hectares.

Links

Dam construction project in Swaziland to increase irrigable land (August 30, 2008):
<http://africanagriculture.blogspot.com/2008/08/dam-construction-project-in-swaziland.html>

119. SWAZILAND: Ngwempisi Cascading Scheme, Komati River Proposed
INTERNATIONAL INVOLVEMENT: European Investment Bank

In early 2009, the Swaziland Electricity Company (SEC) invited proposals for the full feasibility and pre-design study for the Ngwempisi Hydropower Cascading Scheme, which could be operated to generate up to 120 MW from three hydro stations during peak hours. Swaziland currently generates some 60 MW of power from hydropower, which accounts for about 30% of the country’s 200 MW electricity demand requirement. Eskom’s new time-of-use tariffs, which made electricity more expensive in peak hours, meant that the Swaziland utility could reconsider the feasibility for operation of the cascading scheme in peak hours only.

Links

“Swaziland studies 120-MW hydropower plant” (February 24, 2009):
<http://www.engineeringnews.co.za/article/swaziland-studies-120-mw-hydro-power-plant-2009-02-24>

120. TANZANIA: Iringa Dam, Rufiji Basin Proposed

In 1984, Rubada and Norconsult identified the 87MW Iringa Dam as one of eight potential hydropower sites in their Rufiji Basin Hydropower Master Plan.

Links

The Rufiji Basin Water Board: <http://rufijibasin.com/>

121. TANZANIA: Kilombero Dam, Rufiji Basin Proposed

In 1984, Rubada and Norconsult identified the 464MW Kilombero Dam (Kingenena's and Shughuli Falls) as one of eight potential hydropower sites in their Rufiji Basin Hydropower Master Plan.

Links

The Rufiji Basin Water Board: <http://rufijibasin.com/>

122. TANZANIA: Lukose Dam, Rufiji Basin Proposed

In 1984, Rubada and Norconsult identified the 130MW Lukose Dam as one of eight potential hydropower sites in their Rufiji Basin Hydropower Master Plan.

Links

The Rufiji Basin Water Board: <http://rufijibasin.com/>

123. TANZANIA: Mnyera Dam, Rufiji Basin Proposed

In 1984, Rubada and Norconsult identified the 485MW Mnyera Dam as one of eight potential hydropower sites in their Rufiji Basin Hydropower Master Plan.

Links

The Rufiji Basin Water Board: <http://rufijibasin.com/>

124. TANZANIA: Mpanga Dam, Rufiji Basin Proposed

In 1984, Rubada and Norconsult identified the 165MW Mpanga Dam as one of eight potential hydropower sites in their Rufiji Basin Hydropower Master Plan.

Links

The Rufiji Basin Water Board: <http://rufijibasin.com/>

125. TANZANIA: Ruhudji Dam, Ruhudji River Proposed
INTERNATIONAL INVOLVMENT: World Bank

Coordinates: 8°57'S 35°55'E

Ruhudji Dam has been identified as 358 MW and 685 MW. As of 2008, the cost was estimated at \$800 million, though it has also been noted at \$1 billion. The facility will be partly financed by a loan from the World Bank.

Links

Africa Investor: Generation Next (November 1, 2007): <http://www.africa-investor.com/article.asp?id=2165>

126. TANZANIA: Rumakali Dam, Rumakali River

Proposed

Coordinates: 9°21'S 33°55'E

The Tanzania Electricity Supply Company (Tanesco) is calling for consultants to update a feasibility study for the proposed Rumakali hydroelectric power (HEP) plant. The project was originally commissioned through a study in 1998. African Energy reports that the contract will entail a review of all existing studies, optimization of project layout and field work, preliminary specifications, capital cost estimates, operation and maintenance cost estimates, construction schedule, and analysis of associated environmental and social impacts. The proposed Rumakali HEP plant would have a capacity of 222 MW and would be developed at a site 85 kilometers west of Njombe on the Rumakali River.

Links:

“Tanesco Seeks New Study for Rumakali Hydropower Project, Tanzania” (January 19, 2009): <http://www.wmrc.com>

127. TANZANIA: Stieglers Gorge, Rufiji River

Proposed

INTERNATIONAL INVOLVMENT: Energem Resources (Canada)

Coordinates: 7°47'S 38°15'E

Canadian-based Energem signed an MoU with Infrastructural Development Finance for a 40% interest in the 900 MW Stieglers Gorge Hydro-Electric Scheme in Tanzania. In 1968, the Overseas Technical Cooperation Agency of the Japanese Government carried out a pre-feasibility study of Stiegler’s Gorge which concluded that the project was viable including transmission lines, but the use of the energy required an industrialization program based on power consuming industries. An aluminum refining industry was regarded as a necessary precondition for the implementation of the Stiegler’s Gorge Project.

Links:

“Energem secures interest in Stieglers Gorge Hydro-Electric Scheme project in Tanzania” (May 20, 2008): [http://www.energem.com/documents/Stieglers Gorge - acquisition of an interest in the project - 20 May 2008.pdf](http://www.energem.com/documents/Stieglers%20Gorge%20-%20acquisition%20of%20an%20interest%20in%20the%20project%20-%2020%20May%202008.pdf)

TANZANIA/BURUNDI/RWANDA: Rusumo Falls Dam
See BURUNDI/RWANDA/TANZANIA

TOGO/BENIN: Adjarala Dam

See BENIN/TOGO

128. UGANDA: Bujagali Dam, Nile River

Under Construction

INTERNATIONAL INVOLVEMENT: International Finance Corporation (member of the World Bank Group); African Development Bank; Aga Khan's Industrial Promotion Services; Sithe Global Power (US); Salini Costruttori (Italian), AES

Coordinates: 0°36'N 33°04'E

In 2008, construction of the \$800 million, 250MW Bujagali Dam began amidst investigations by the World Bank's Inspection Panel and the African Development Bank's Compliance Review Mechanism Unit. According to the Inspection Panel report, the benefits of the Bujagali Dam project have been overstated and its risks understated, with most of those risks falling on Uganda rather than the project developers. Project costs have risen dramatically since the deal was sealed, and the Panel worries about the costly dam's impact on tariffs in a nation where only a small percent of the population can afford electricity. Construction was stalled for many years due to corruption concerns, high cost, and a strong local and international NGO campaign.

Links:

"Power Giant AES Withdraws From Uganda Dam Project" (August 13, 2003): <http://www.ens-newswire.com/ens/aug2003/2003-08-13-02.asp>

129. UGANDA: Isimba Hydropower Project, Nile River

Proposed

INTERNATIONAL INVOLVEMENT: Fichtner (Germany) and NORPLAN (Norway)

A Joint Venture of Fichtner (lead) and Norplan has signed a \$3.8M contract to conduct feasibility studies and prepare tender documents for the Isimba power plant and associated transmission line. The Isimba project will be located downstream of the Bujagali project. The plant will have an installed capacity of at least 100 MW. The feasibility study is scheduled for completion towards the end of 2010. Ugandan company Kagga and Partners will act as sub-consultant to the JV.

130. UGANDA: Karuma Dam, White Nile River

Proposed

INTERNATIONAL INVOLVEMENT: NORPLAN has pulled out and a Canadian company LONSDALE is interested in developing

Coordinates: 2°15'N 32°14'E

In May 2009, the Ugandan government announced that the 200-250MW Karuma Dam was suspended indefinitely. In October 2008, Norwegian-based Norpak Power had withdrawn its interest as an Independent Power Producer (IPP) in the project. The Norwegian firm acquired exclusive rights in the 1990s to develop Karuma Dam. Its project license expired in early 2008 and negotiations for an extension were ongoing. The Ugandan government said Norpak pulled out due to the global financial crisis and the company's failure to raise a performance bond of \$300,000 for project implementation. However, Norpak claimed it pulled out after "a protracted conflict" with the World Bank, which had supported the 250 MW Bujagali hydropower project.

The Karuma Dam, located between Oyam and Masindi districts, is projected to cost \$450 million.

In a 2008 investigation report of the Bujagali Dam, the World Bank's Inspection Panel noted that Karuma Dam was found to be a better option by the Nile Basin Initiative, and questions conflicting cost information given by the Bank on this alternate project. A 2003 NGO letter states: "Karuma appears to have fewer costs and more benefits than Bujagali. It will inundate much less land, has potential to bring development to the long-neglected North, and will not hurt Uganda's river-based tourism industry. In addition, Karuma appears to be less economically risky than Bujagali, and can be brought online more quickly and incrementally. The different hydropower options that were considered in the Acres assessment, and the economic, environmental and hydrological assumptions on which they were based, should be reconsidered in a rigorous manner."

Links

"Debt crunch forced Norpak out of Karuma" (October 19, 2008):
<http://www.newvision.co.ug/D/8/220/655225>

131. ZAMBIA: Batoka Gorge, Zambezi River
INTERNATIONAL INVOLVMENT: Zimbabwe, China

Proposed

Coordinates: 17°56'S 26°06'E

Zimbabwe reaffirmed in January 2010 its commitment to the \$2.5 billion Batoka Hydroelectric Power Project to be jointly developed with Zambia, although the country is failing to fund its own internal power generation projects. If implemented, the 1,600MW Batoka project would be 196 meters in height, create a reservoir of about 50 kilometers in length and entirely within the gorge, and be completed in 2015. The dam's reservoir would severely constrain the breeding opportunities for cliff-nesting raptors, and given the reduced space and competitive dominance shown by some raptors, some species may no longer be able to survive there. In addition, the dam reservoir could increase tourism, further disturbing raptor habitat. In the meantime, the lip of the gorge from the falls to its end, on the Zimbabwe side, is a minefield, though this is being cleared. Two schemes are being proposed: Batoka Gorge with or without a storage dam at Katombora where the Zambezi passes through the rapids.

Links:

"China to Invest in Country's Power Projects" (February 13, 2010):
<http://allafrica.com/stories/201002150068.html>
"US\$2.5 billion Batoka power project revived" (January 22, 2010):
<http://www.newzimbabwe.com/business-1686-Batoka+hydro-power+project+revived/business.aspx>

132. ZAMBIA: Devil's Gorge, Zambezi River

Proposed

Coordinates: 17°58'S 26°46'E

The Devil's Gorge hydropower project is planned for the western end of Kariba Lake, approximately 20 kilometers away, and would require a 180-meter high dam. Located on the Zambezi River, it would lie between Batoka Gorge and Kariba Dam, and it would provide 600 MW to Zambia and Zimbabwe each, for a total of 1,200 MW. It is likely to be built as part of a dam cascade that includes Batoka and Mpata. The Zambia Development Agency, as of December 2009, was still looking for investors for the project. Estimate project cost is \$1.655 billion.

Links:

FAO Database on African Dams (2010):

<http://www.fao.org/nr/water/aquastat/damsafrica/index.stm>

133. ZAMBIA: Itezhi-Tezhi Dam, Kafue River Expansion
INTERNATIONAL INVOLVMENT: Export Development Bank of Iran; FARAB (Iranian company); Itezhi Tezhi Power Corporation (ITPC); ZESCO Ltd; Export-Import Bank of India; and TATA Africa Holdings (SA) Ltd (India) intends to develop the 2 x 60 MW Itezhi-Tezhi Power Station

Coordinates: 15°45'S 26°01'E

In January 2010, the Export-Import Bank of India extended a \$130 million line of credit to the Zambian government. The \$300 million Itezhi Tezhi project being constructed by Itezhi Tezhi Corporation (ITPC) is a joint venture between the Zambia Electricity Supply Company (ZESCO) and Tata Africa Holdings. India will provide a \$50 million LOC for this 120MW power station, an extension of the existing dam at Itezhi-Tezhi. The Itezhi-Tezhi power project is the largest single venture that the Indian company would be undertaking in Zambia, according to the Indian High Commissioner to Zambia River Wallang. The project is expected to be completed in 2012. 85% of project cost is covered by the Export Development Bank of Iran. FARAB is contracted for the project construction.

The Itezhi Tezhi Power Station will be located in Itezhi-tezhi District at the existing Itezhi-tezhi Dam. The Itezhi-tezhi Dam, built as a storage reservoir for the existing Upper Kafue Gorge Hydro (UKGH) Power Station, is located on the Kafue River about 230 kilometers upstream from the existing station. The proposed Itezhi Tezhi Hydropower project will be located on the downstream side of the dam. The reservoir is currently used for seasonal stream flow regulation to serve the requirements of UKGH Power Station on the downstream. The proposed Itezhi-Tezhi Hydropower project will generate power utilizing the head available at the dam and flow being released or spilled.

Links:

“US\$396 million for Zambian hydro power” (October 12, 2009):

http://www.southerntimesafrica.com/article.php?title=US%24396_million_for_Zambian_hydro_power&id=913

“India Offers USD 130 Million Credit to Zambia” (January 6, 2010):
<http://news.outlookindia.com/item.aspx?672266>

134. ZAMBIA: Kabompo Gorge, Kabompo River Planned
INTERNATIONAL INVOLVEMENT: Copperbelt Energy Corporation (CEC) Plc and TATA
Africa Holdings (PTY)

Coordinates: 12°4'S 25°10'E

The proposed 34MW Kabompo project lies on the Kabompo River and is estimated to cost \$78 million. In 2007, the Zambian government, through the Office for Promoting Private Power Investment (OPPI) in the Ministry of Energy and Water Development, invited tenders for the development of the Kabompo Gorge Hydro-Electric Power Plant. A consortium comprising the Copperbelt Energy Corporation (CEC) Plc and Tata Africa Holdings (PTY) submitted, and won, a joint bid for the project to the then Zambia National Tender Board (now Zambia Public Procurement Authority), in a competitive international tender. Assuming that the recommendation from the feasibility study is positive, the power station is expected to be commissioned by 2015. The overall project implementation period is estimated at 70 months. The first phase is to be completed within 12 months and will include analysis of hydrological and geological aspects of the project site, preliminary surveys of the overall project area, recommendation of the optimum transmission line and preliminary engineering designs, project estimates and financial analysis, due to be completed as early as March 2010.

Links

“Hydro Power Project To Boost Electricity Production in Africa” (August 13, 2009):

http://www.africanews.com/site/list_message/21735

“Hydro Training Centres on Africa” (October 3, 2008):

<http://www.waterpowermagazine.com/storyprint.asp?sc=2051107>

“Zambia won't face power crunch in 2010 – official” (January 18, 2010): <http://www.connect-services.reuters.com/article/idUSLDE60H0X720100118>

135. ZAMBIA: Kafue Gorge Lower Dam, Kafue River Proposed
INTERNATIONAL INVOLVEMENT: China Exim Bank

Coordinates: 15°57'S 28°48'E

Project construction on this dam is expected to begin in 2006. In 2003, the Chinese state-owned firm Sinohydro signed a memorandum for the construction of Kafue Gorge Lower (KGL) Dam. China Exim Bank will provide 85% of the \$600 million. According to a 2005 report from Swiss-based research group EAWAG, “China’s copper demand in the last five years has risen dramatically in the last five years. The investment into the Kafue Gorge Lower project can be seen as a strategy to sustain the mining industry in the Copperbelt.” This project is set to go ahead along an already heavily dammed river. Few environmental concerns have been raised and

no local critics of the project have been identified. Kafue would have, or already has, impacts on a World Heritage Site downstream of the dam.

KGL Dam is approximately 65 kilometers upstream of the confluence of the Kafue River with the Zambezi River. It will be located immediately downstream of the existing 900 MW Kafue Gorge Upper hydroelectric power station, which utilizes 400 meters of the 600 meters available head at the Kafue Gorge. KGL would utilize the remaining 200-meter head and would feature an installed capacity of approximately 750 MW, a 120 meter-high dam, an underground powerhouse, and a tailrace channel discharging back to the Kafue River.

Links:

“Zesco Signs Kafue Gorge Memorandum of Understanding With Chinese Firm” (December 8, 2003): <http://allafrica.com/stories/200312080656.html>

136. ZAMBIA: Kalungwishi Hydro Project, Kalungwishi River Proposed
INTERNATIONAL INVOLVMENT: CNEEC; LUNZUA Power Authority (LPA); China and Iran

Coordinates: 9°1'S, 28°56E

Located in Northern Zambia near the country’s border with the Democratic Republic of Congo, the Kalungwishi power plant involves two waterfalls, Kabwelume and Kundabwika Falls. Kabwelume is about six kilometers downstream of Lumangwe Falls, and the dam is expected to be 14 meters in height. The roller-compacted concrete dam at Kundabwika Falls would have a dam height of 27.5 meters and a capacity of 101 MW. Total capacity is estimated to be up to 210 MW. The entire project could cost up to \$780 million.

The project was first identified in 1971, with the feasibility studies being conducted in 2000. The LUNZUA Power Authority (LPA), a consortium of local and foreign investors, won the competitive tender to construct the hydropower station in July 2007. A feasibility study was completed in October 2001. LPA says it will invest up to \$683 million to its development. The funding for the project would be sourced from foreign financiers. The scheme is being supervised through the Office for Promotion of Private Power Investment under the Ministry of Energy and Water Development. LPA officers expect the project to take 46 months.

The Kalungwishi project forms part of a development plan of the Zambia Electricity Supply Company (ZESCO) that will cost \$1.2 billion over a five-year period and is being mainly financed by China and Iran. Officials say Kalungwishi would mainly supply power to copper mines in Zambia and the eastern parts of the Democratic Republic of Congo (DRC), as well as to a planned sugar plantation. China National Electric Equipment Corporation (CNEEC) will be involved in developing the Kalungwishi project as well.

Links

“CNEEC Aids Zambia in Developing Hydropower Projects,” (November 26, 2009): http://www.sinomach.com.cn/templates/T_news_en/content.aspx?nodeid=161&page=ContentPage&contentid=2315

“LUNZUA to invest \$683m in power station” (February 15, 2008): <http://www.securities.com/>

137. ZAMBIA: Kariba North Bank, Zambezi River Rehabilitation
INTERNATIONAL INVOLVMENT: World Bank; European Investment Bank

Rehabilitation and a 150MW extension are underway for the Kariba North Bank. The power plant previously produced 600 MW. Zambia will boost electricity generation by 120 MW by December when rehabilitation works at the Kariba North Bank power station are concluded. The \$400 million rehabilitation was funded by the World Bank.

Links

“Zambia: Zesco to Boost Kariba Power Generation” (August 3, 2009): <http://allafrica.com/stories/200908031129.html>

138. ZAMBIA: Luapula Hydropower Project, Luapula River Proposed

Coordinates: 10°32'S 28°37'E

The Luapula Hydro project on the Luapula River consists of the Mumbotuta (or Mombututa) Gorge and Mambilima Falls. The Mambilima Falls project has a capacity of 700 MW. The Mumbotuta project would require a dam with a height of 100 meters at Mkuku to regulate the river flow from Lake Bangweulu, and have a capacity of 250 MW. Both projects are still open for investment. Total project cost is estimated to be \$1.3-2.5 billion. Development would require co-operation with Zaire.

Links:

“Hydro Training Centres on Africa” (October 3, 2008): <http://www.waterpowermagazine.com/storyprint.asp?sc=2051107>

139. ZAMBIA: Lumangwe Falls, Kalungwishi River Proposed
INTERNATIONAL INVOLVMENT: ZESCO; unnamed Chinese firm
Coordinates: 9°32'S 29°23'E

A Chinese firm has expressed interest in developing the Lumangwe Falls hydropower project in Kawambwa, according to an interview with the District Commissioner, Gershom Tanga, in November 2009. The firm has since embarked on a feasibility study on the viability of the project. The project would have a capacity of up to 210 MW. Development of the project is expected to begin in 2010. The project is expected to generate power for a steel plant as the area had vast manganese deposits. The rest of the power will be channeled to the national grid or exported to the neighboring Democratic Republic of Congo (DRC).

Links

“Chinese Firm Eyes Kawambwa Hydro-Power Project” (November 7, 2009):

<http://allafrica.com/stories/200911090164.html>

“ECZ Gives Thumbs-Up to Cross-Border Power Project” (September 1, 2009):

<http://allafrica.com/stories/200908311600.html>

140. ZAMBIA: Lusemfwa and Mulungushi Hydropower, Lusemfwa River In Operation
INTERNATIONAL INVOLVMENT: Lusemfwa Hydro Power Company (ESKOM); Degarnier;
Wand Gorge Investment

Coordinates: 14°32'S 29°15'E

The 40MW Lusemfwa power project on the Lusemfwa River is owned by the Lusemfwa Hydro Power Company (LHPC), which is a subsidiary of South African electricity power company ESKOM. It also includes the 20MW Mulungushi power station, which was constructed in 1925 and started out with an 8 MW unit. The communities living on the banks under Chief Mukonchi of the Swaka people in Central Province are entangled in a conflict with LHPC, which bought the land in question from Zambia Consolidated Copper Mines (ZCCM). LHPC wants them to relocate upland because they are allegedly squatting on private land. The locals complained that they were not aware that the land they have lived on and on which most were born had been sold to an investor. ZCCM also operates the Kabwe mines through the Mita Hills Dam, which were built in the 1950s.

Links

“Mukonchi Communities, Investor Fight Over Land,” (June 19, 2007):

<http://allafrica.com/stories/200706190641.html>

141. ZAMBIA: Lusiwasi Extension, Lusiwasi River Rehabilitation
INTERNATIONAL INVOLVMENT: ZESCO; CNEEC (China)

Located on the Lusiwasi River, this dam is estimated to cost \$100 million and have a generating capacity of as much as 220 MW. During a 2009 visit, the China National Electric Equipment Corporation’s President, Zhao Ruolin, and his delegation were warmly received by President Rupiah Bwezani Banda. New letters of intent were signed by CNEEC and ZESCO Power Corporation on the Lusiwasi and Lunzua hydropower projects, with a total value of \$189.9 million. Under the Lusiwasi hydropower project, major renovations will be made on the existing 12MW power station, while 220MW units will be installed. Under the Lunzua hydropower project, major renovations will be made on the existing 750 KW station with the new installation of 25MW units.

Links

“CNEEC Aids Zambia in Developing Hydropower Projects,” (November 26, 2009):

http://www.sinomach.com.cn/templates/T_news_en/content.aspx?nodeid=161&page=ContentPage&contentid=2315

142. ZAMBIA: Mpata (or Mupata) Gorge, Zambezi River

Proposed

Coordinates: 15°37'S 30°4'E

Mpata Gorge, sited on the Zambezi just before the point at which it flows into Mozambique territory, would have an installed capacity of up to 1200 MW and an estimated cost of \$770 million. It lies 30 kilometers from the confluence of Luangwa and the Zambezi rivers. The lake that it would form would obliterate 85,000 hectares of the Zambezi Valley and would halve the area of the Mana Pools (four large pools spread over the flattened Zambezi floodplain) in the Mana Pools National Park. It would also inundate the entire Mid-Zambezi alluvial system and eradicate the remaining large-river habitats and alluvial woodlands. For engineering reasons, the Mpata Gorge scheme has supposedly been shelved (1994) in favor of the Batoka Gorge scheme.

Links

RAMSAR Zimbabwe fact sheet: <http://ramsar.wetlands.org/Portals/15/ZIMBABWE.pdf>

“Hydro Training Centres on Africa” (October 3, 2008):

<http://www.waterpowermagazine.com/storyprint.asp?sc=2051107>

143. ZAMBIA: Victoria Falls Dam, Zambezi River

Rehabilitation

INTERNATIONAL INVOLVMENT: Electricite de France, Zambia Electricity Supply Corporation (ZESA); Zambian Electricity Supply Company Ltd (ZESCO)

Coordinates: 17°55'S 25°51'E

In July 2008, ZESCO announced the successful completion of the Victoria Falls rehabilitation. Total cost of this project was \$51 million. Rehabilitation work on Victoria Falls began in 1998, when ZESCO signed a \$2.3 million consulting contract with Electricité de France. In April 2002, the utility signed a \$45 million contract with Alstom Hydraulique of France to perform the rehab work at Victoria Falls. The contractor began site work at Victoria Falls in April 2003.

Links

“Refurbishment: Renewing Veteran Assets and Securing New Megawatts in Zambia and Nicaragua”: http://www.hydroworld.com/index/display/article-display/6876054247/articles/hydro-review-worldwide/volume-17/Issue_5/Articles/Refurbishment_Renewing_Veteran_Assets_and_Securing_New_Megawatts_in_Zambia_and_Nicaragua.html

144. ZIMBABWE: Bubi-Lupane Dam, Zambezi River

Under Construction

The Bubi-Lupane Dam is a water supply dam in Mataberland North. Other dams such as the Marovanyati, Bindura, Kunzvi, Shave, Tokwe-Mukosi, Gwayi-Shangani, Wenimbi, Bubi-Lupane and Matange are at various stages of completion.

Links:

“ZIMBABWE: Long Road to Water Sustainability” (May 1, 2009):
<http://ipsnews.net/news.asp?idnews=46934>

145. ZIMBABWE: Gwayi-Shangani Dam, Zambezi River Under Construction
INTERNATIONAL INVOLVEMENT: Chinese company

Coordinates: 18°30'S 27°14'E

The Gwayi-Shangani Dam is the first phase of the Matabeleland Zambezi Water Project (MZWP), an ambitious water transfer scheme being undertaken in the arid Matabeleland North province of Zimbabwe. The project seeks to end the perennial water shortages in Bulawayo by bringing water from the mighty Zambezi River to the city 450 kilometers away. Construction of the Gwayi-Shangani Dam, located about six kilometers downstream of the confluence of the Gwayi and Shangani River, began in 2004. The project was allocated \$500 million by the Zimbabwe government under the Public Sector Investment Programme (PSIP) in 2003. A contract for the building of the dam on a Build-Operate-Transfer (BOT) arrangement was awarded to a Chinese company. The dam is 70 meters high and its reservoir has a capacity of 634 million cubic meters. MZWP Phase Two will build a pipeline from the dam to Bulawayo. Phase Three will build a pipeline from the Zambezi River to the dam's reservoir. The government is seeking permission from regional governments who share the Zambezi. In January 2010, the cost to finish the project was estimated at \$1.1 billion, including the completion of the Gwayi-Tshangani Dam, laying of a pipeline from the dam to Bulawayo and its connection to the Zambezi.

Alternate Project Names: Matabeleland Zambezi Water Project

Links

“Country Seeks Zambezi Water Project Go-Ahead” (January 28, 2010):
<http://allafrica.com/stories/201001290814.html>

146. ZIMBABWE: Kariba South Extension, Zambezi River Expansion
INTERNATIONAL INVOLVEMENT: Sinohydro (China), China Exim Bank, possibly China Development Bank

The Zimbabwean electric utility, ZESA, is planning to expand the Kariba South Power Station with two units of 150 MW each for a total of 300 MW at an estimated cost of \$200 million. Concerns have been raised about the safety of the huge Kariba Dam; it is unclear how an extension project would address this issue.

Links: “China to Finance Kariba South Expansion” (April 26, 2010):
<http://www.herald.co.zw/inside.aspx?sectid=18036&cat=8>

147. ZIMBABWE: Mtshabezi Dam, Mtshabezi (Thuli) River Under Construction

Mtshabezi Dam in Matabeleland South is considered a short-term solution to the already biting water shortage in Bulawayo, Zimbabwe's second largest city. While the dam is complete and 99% full, a pipeline costing \$25 million is required to connect the dam to the city's water supply. The government recently released \$7 million toward project costs, but it remains under-funded by \$18 million. Bulawayo's four water supply dams are only half full. The government says the only solution to the region's perennial water shortages is the controversial National Matabeleland Zambezi Water Project.

Links

Mtshabezi water project takes off (February 13, 2010):

<http://www.thestandard.co.zw/local/23285-mtshabezi-water-project-takes-off.html>

148. ZIMBABWE: Thuli–Manyange Dam, Thuli River Proposed

Thuli–Manyange Dam is a proposed water storage dam south of Gwanda with a capacity of 33 million cubic meters. It is designed to be co-operated with Thuli–Moswa Dam.

149. ZIMBABWE: Thuli–Moswa Dam, Thuli River Proposed

Thuli–Moswa Dam is a proposed reservoir on the Thuli River, south of Gwanda, Zimbabwe with a capacity of 419 million cubic meters.

150. ZIMBABWE: Tokwe-Mukorsi Dam, Zambezi River Under Construction

INTERNATIONAL INVOLVEMENT: Salini Impreglio (Italy)

Coordinates: 20°11'S 30°56'E

Started in 1998, construction of the Tokwe-Mukorsi Dam was suspended in 1999 when the government failed to pay approximately \$15 million to Italian contractor, Salini Impreglio. In 2005, Salini said they would resume operations once government settled the arrears, plus \$4,000 a month for breach of contract. If completed, the dam's reservoir will have a capacity of 1.8 billion cubic meters. It is located in Masvingo province, some 100 kilometers south of Masvingo Town.

In 2008, the Infrastructure Development Bank of Zimbabwe signed a MoU with Mauritius-based Loita Capital International, Zimbabwe National Water Authority, Tongaat Hulett and its Zimbabwean operation Triangle Sugar Corporation to complete the dam's construction. Triangle Sugar Corporation would become the principal off-taker of the water from the project although this is subject to final agreement. The dam would enable the expansion of sugar plantations, thereby increasing the country's overall sugar exports.

Links:

“Zimbabwe: Tokwe Mukorsi Deal Signed” (May 27, 2008):

<http://allafrica.com/stories/200805270776.html>