HYDROPOWER IN AFRICA: AFRICA DAMS BRIEFING
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African Dams Briefing 2015

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 2015 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. 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.
ANGOLA:

In May 2008, the government outlined plans to increase production capacity by at least 1,250 MW by 2016. In 2014, the government increased the production capacity target to 7000MW, however not specifying a deadline. The increased production capacity is to be achieved by the construction of 5 new dams on the Cuanza River. In March 2014, the National water Directorate of Angola recruited consultants in March, for the purpose of developing an integrated water resource management plan for the Cuanza River. The government furthermore 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 Kunene River. The background of the above developments occurs in the context where six main hydro dams (Cambambe, Lomaum, Biopo, Matala, Mabubas and Gove) were severely damaged, by the civil war and are now undergoing rehabilitation.

Added to the above, the national water directorate states that studies have been completed for 5 hydropower projects: Caculo-Cabaca, Zenzo 1, Zenzo 2, Tumulo do Cacador and Luime. The Lauca, Hydropower Project, has moved into a “second complicated phase”. Lauca is to feature a 132-meter-tall, 1,100-meter-long roller-compacted-concrete dam with a reservoir of 188 square kilometers. Brazilian construction company Odebrecht began work on the project in 2012, with completion planned for the end of 2017.

Rehabilitation of dams in Angola:


General news on dam development: http://www.gamek.co.ao/
1. **ANGOLA: Cambambe Dam, Cuanza (Kwanza) River**  
**In Operation**

**INTERNATIONAL INVOLVEMENT:** Alstom Hydro; Odebrecht (Brazilian company), Voith (German), BNP Paribas (France) Engevix (Brazil)

**Coordinates:** 9°75'S 14°48'E

The Cambambe Dam I has been fully rehabilitated. Rehabilitation works started in 2011 and aimed to increase productivity from 90 MW to 180 MW. Work included rehabilitation of four new 72MVA generators, new digital protection and control systems, and hydro-mechanical and lifting equipment and heightening of the dam wall by 20 meters. Rehabilitation involves three phases; Phase two involves construction of a machine room, phase three raising the dam’s wall from 102 to 132 Meters. Rehabilitation is set to be complete in 2015

**Alternate Project Names:** Cambambe 1 Dam

**Links**

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


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

INTERNATIONAL INVOLVEMENT: Voith (German Company), Oderbrecht (Brazilian Company), Alstom (French) and Engevix (Brazilian), World Bank (MIGA)

Construction of the $772 million, 700 MW Cambambe 2 dam is part of the Southern Africa Power Pool (SAPP) 2008 work plan. Work includes the construction of a power house with four additional turbines generators with capacity of 175 MW each. Voith was awarded the contract to supply and install the four generators and turbines as well as the control and associated systems, while construction was undertaken by Oderbrecht. Engevix specialised in electrical engineering. Construction began in 2011 and the first of the four turbines went into operation in July 2016. By December 2016 all four turbines should be in operation. World Bank commited $ 512 million for the project through the Multilateral Investment Garrantee Agency MIGA which is a 13 year credit facility.

Links
3. ANGOLA: Caculo Cabaca Dam (Kwanza) River

The Caculo Cabaca Dam was proposed for construction on the Kwanza River with an expected generating capacity of 2067MW. Initially, construction was expected to start in 2014 and be completed in 2017. Recently however, Construction of Caculo Cabaca has yet to be endeavoured.

Links

4. ANGOLA: Capanda Dam (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. The dam has been affected by a number of factors; In 2012 September the Capanda’s generation capacity was reduced to 240 MW from 520 MW, due to droughts, reducing waters in the Kwanza Rivers. In the same year, December, Water levels had returned to near normal levels and the capacity of the dam was to be increased from, 285MW to between 315 to 330MW in 2015, the capacity of the Dam had again fallen by 100 MW, due to a breakdown in one of the dams turbines.

Alternate Project Names: Kapanda


“Angola Capanda Dam Power Output at 44% Capacity, Jornal Reports” (Sep, 10, 2012) http://www.bloomberg.com/news/articles/2012-09-10/angola-capanda-dam-power-output-at-44-capacity-jornal-reports


“Lots of promises with elections around the corner” (July, 02, 2015): http://www.africaintelligence.com/AEM/electricity/2015/06/02/lots-of-promises-with-election-around-the-corner,108076038-ART

5. ANGOLA: Ganjelas Dam, Cunene (Kunene) River

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.
6. ANGOLA: Gove Dam, Cunene (Kunene) River

INTERNATIONAL INVOLVEMENT: Odebrecht (Brazilian company)

Coordinates: 13.4512° S, 15.8683° E

In Huambo province, Brazilian-based Odebrecht rebuilt Gove Dam. In 2007, Odebrecht announced several new projects in Angola. The Angolan Government approved a contract for rehabilitation of the Gove Dam in Huambo province, which consisted of the building of a hydro-electrical centre, installing a sub-station and setting up of power transporting lines. Rehabilitation started in 2009 and was completed in 2012. The investment, in the estimated amount of over $279 million, will allow for the regularization of water supply for the Xangongo-Ondjiva and Santa Clara-Namibe regions, for energy supply (60MW) for the Huambo and Bie provinces, and for irrigation along the perimeters of the Cunene River.

Links


“Head of State inaugurates Gove Dam” (August 22, 2012): http://www.portalangop.co.ao/angola/en_us/noticias/politica/2012/7/34/Head-State-inaugurates-Gove-Dam,a054c8d4-a809-42f6-ae96-8657166a0938.html
7. ANGOLA: Jamba ya Mina, Jamba ya Oma, Cunene (Kunene) River  

Coordinates: 14°19'S 15°21'E

The Jamba ya Mina and Jamba ya Oma projects are estimated to cost US$500 million for 78 MW and US$ 800 million for 227 MW, respectively and are expected to be approved in the 2014 state budget. The pre-feasibility studies for both projects have been completed. In a 2015 news letter from the Angolan Embassy in the UK, the projects where mentioned as part of an initiative to increase the electricity capacity in the country. However, no dates where put forward on either the start of the construction of the dam or its commissioning.

Links

“Angola to Raise Power Output Fivefold to Attract Investors” (October 4, 2013):  

“Weza” Newsletter for Angola’s embassy in the UK. (Jan, 2015):  

8. ANGOLA: Lauca Dam, Cuanza (Kwanza) River  

INTERNATIONAL INVOLVEMENT: Oderbrecht (Brazilian), COBA (Portuguese) Andritz (Austria)

Coordinates: 9°45'S 15°10'E

The Lauca Dam will generate 2070MW of electricity and is estimated to be worth US$ 3.7 billion. Construction started in July 2012 and completion is scheduled for September 2017, with two turbines and a capacity to supply electricity to over 750,000 people. The first phase of the project, which includes diverting the river and
construction of two 740 metres long water tunnels will be concluded by the end of 2013. Portuguese firm-COBA has been awarded the contract to provide services and equipments. In 2013, an Austrian engineering company Andritz was, selected to supply equipment for the dam. The estimated value of the dam was also reduced in the same year to 280 billion Kwanza the equivalent of US$1.7 billion dollars.

Links


9. ANGOLA: Lomaum and Biopio Dams, Catumbela River

Rehabilitation

Rehabilitation and expansion work, costing $20 million, began in 2009. Lomaum Dam (65 MW) in the Benguela Province could be increased if Cacombo Dam is built. The completion of the rehabilitation of the dam was revised to 2014. The dam resumed commercial production on an experimental basis in June 2015, following restoration and
modernisation works, supplying electricity to domestic and industrial customers at low and medium voltage. It was then reopened in February 2016 after not operating for 31 years.

Alternate Project Names: Lumaun

Links


“Angola to invest US$ 4.09 Billion in 2,060 MW dam project” (January 03, 2014): [http://www.africanreview.com/energy-a-power/power-generation/angola-to-invest-us-4-09-billion-in-lauca-dam-project](http://www.africanreview.com/energy-a-power/power-generation/angola-to-invest-us-4-09-billion-in-lauca-dam-project)


10. ANGOLA: Matala Dam, Cunene (Kunene) River

INTERNATIONAL INVOLVEMENT: Odebrecht (Brazilian company), SNC-Lavalin (Canadian)

The Matala Dam lies around 225 km downstream from the Gove dam at the confluence of the Que and the Kunene River, on the edge of the Upper Kunene. The 39 MW dam is undergoing rehabilitation. Rehabilitation, underway since 2 June 2011 was estimated at US$249 million and was expected to be completed in December 2014. Work includes installation of three new turbines, construction of the bridge, power plant and the generating system. The completion date for the project was first pushed forward to 2015. In 2015, the first phase of the rehabilitation of the dam had been completed. No further information has been given to date.

Links
“Rehabilitation of Matala dam complete in 2014” (October 31, 2013): 

“Angola: Rehabilitation of Matala Dam Complete in 2014” (October 31, 2013): 
http://allafrica.com/stories/201310311158.html

“Norway’s Norsk Hydro to operate two oil blocs in Mozambique” (December, 05, 2005): 

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

Proposed

Coordinates: 9°47'S 15°28'E

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

No recent information with regards to the dam has surfaced.

Alternate Project Names: Nhange Dam

12. 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 Baynes Dam with an expected capacity of 600MW, to be shared equally between Angola and Namibia. The
project is estimated at US$1.35 billion and construction is due to begin in 2017. 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. There is a great deal of opposition from the Himba community against the building of the dam. 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 2013, indigenous Hembra and Zembra communities protested against the dam. A 2013 environmental impact assessment, also, noted that the dam would change the environmental conditions of the proposed site of the dam.

In 2014, the project was promoted as an example of regional intergration, with the possibilities of exporting some of the energy produced to countries in the Southern African development community. In terms of financing, Angola and Namibia are said to share 30% of the costs, while 70% of the remaining costs will be covered through bank financing. It was also mentioned that the involvement of the private sector could possibly lower the costs to governments. Notwithstanding, the technical specifications of the dam are as follows: construction will take up to 7 years, the height of the dam is 200 meters, the reservoir is 40 miles long, and, the dam will have the capacity to store 2.56 billion cubic meters.

Links


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


“Revive discussion on hydropower project-governor” (March 26, 2013): http://www.namibiansun.com/content/national-news/revive-discussion-hydropower-project-governor


“Namibia: Himba, Zemba Reiterate 'No' to Baynes Dam” (March 26, 2013): http://allafrica.com/stories/201303260714.html


13. 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 kilometre 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.

No current information related to the dam, has recently surfaced.

Links


15. BENIN: Kandadji Dam, River Niger

INTERNATIONAL INVOLVEMENT: World Bank, African Development Bank, the West African Development Bank, the Saudi Fund for Development, the Kuwait Fund for Arab Economic Development, the OPEC Fund for International Development, the Arab Bank for Economic Development in Africa, the Bank for Investment and Development of the Economic Community of West African States (ECOWAS), Lahmeyer (German), EDF (France) and Zarubezhvodstroy (Russian)

The construction of this multipurpose dam started on August 2008 and was expected to be completed in 2013, but in September 2012 the schedule was pushed forward to 2015. When completed, this dam will have an estimated capacity of 130MW. Construction of the dam itself was contracted to the Russian company Zarubezhvodstroy, which signed the contract in September 2010. President Mahamadou Issoufou launched the dam
construction on May 11, 2011 soon after his election to power. This project has three phases. The first phase includes the construction of the dam and filling in of reservoir as well as the economic and local community development. The second phase is the retrofitting of the hydro-mechanical equipment for 18 gates. And the last phase is the implementation of social and environmental measures for resettled people.

The construction of hydropower plant, road, irrigated agricultural development, transmission lines etc make up Phase II. Phase III comprises the development of the local community of the region which includes livestock, fisheries, trade and agribusiness, scaling –up of the economy and the development of irrigated agriculture. In September 2013, the Nigerien government cancelled the contract given to Zarubezhvodstroy citing the firm’s inability to complete construction within the expected time frame of September 2015 due to its financial and technical incapacity. Completion of this Euro 130 million dam is now expected for 2017.

In June 2014, the World Bank through the International Development Assosiation (IDA) approved a $55.2 million loan, for the development of the dam, increasing its total commitment in the project to $258 Million. An additional $190 Million was given to Niger Basin authority, for the construction of the power plant transmission lines, and resettlement activities. Recently (in 2015), concerns in Nigeria, have been raised on the possible impact of the dam upstream, on the Kainji and Jebba dams in Nigeria, and further socio-economical impacts that might be apparent.

Links:


“Niger cancels Russian contract to build Kandadji dam” (July 20, 2013): http://www.globaltimes.cn/content/797577.shtml#.UnjP6BAXOZQ


“Niger says secures financing needed for major dam project” (November 15, 2014) http://www.reuters.com/article/2014/11/15/niger-dam-idUSL6N0T50KL20141115

**16. BENIN/TOGO:** Adjarala Dam, Mono River

**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.

In 2013, the World Bank approved a US$120 million to help finance the construction of the dam. 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 kilometres long. The project previously had a proposed output of 96 MW. The project has been considered for nearly 13 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.

In 2014, the US took the decision to oppose large dams, through vetos in international financial institutions, the Adjarala, is one of such dams.

Alternate Project Names: Adjaralla

Links


“Adjarala tops up loan for dam” (May 4, 2013): http://www.africaintelligence.com/AEM/financial-operations/2013/06/04/adjarala-tops-up-loan-for-dam,107962940-BRE


17. **BOTSWANA**: Chobe-Zambezi Water Transfer Scheme

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 Dikgatlhong 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.

On 10th of February 2015, tender applications for an Environmental Impact Assessment closed, while consultations on pre-construction of the water scheme are still underway. The water transfer project was also included in part of Botswana’s 2015-2016 water budget. In June (2015) a water loss reduction programme named, “somarela thothi” of which the project falls under was inaugurated. Participants include: the Botswana Water Utilities Corporation (WUC), the German Development Corporation, the Limpopo river basin commission and the First National Bank Botswana Foundation (FNBB – foundation).

**Alternate Project Names**: North South Water Carrier Phase 2

**Links**


18. BOTSWANA: Dikgatlhong Dam, Shashe and Tati Rivers In operation

INTERNATIONAL INVOLVEMENT: Sinohydro (Chinese company)

Coordinates: 21°50’S 27°43’E

In early 2008, construction of the $153 million Dikgatlhong Dam project began. The project was completed in 2011 and is the largest dam in Botswana with a reservoir size of 400 million cubic meters. The dam is located at the confluence of the Shashe and Tati rivers. A 74-kilometer pipeline will connect the dam to the North-South Water Carrier Scheme. Construction of the pipeline had started in 2011 and was due for completion in October 2013. The delay was caused by failure of a factory in Palapye to produce pipes of acceptable quality. 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 $179,000 to be used for exhumation and reburial. At the time construction began, local communities also raised concerns about health impacts, particularly the spread of HIV, due to the influx of migrant project workers. The cost of construction is estimated to stand at US$ 300 million. In 2015, the dam was commissioned by the Ghanaian president.

Alternate Project Names: Dikgatlong, Lower Shashe

Links

“P1.2 million Dikathong Dam project starts” (March 18, 2008): http://palapye.wordpress.com/2008/03/18/p12-billion-dikathong-dam-project-starts/


“$ 300m dam in Botswana to be complete by 2012” (July 10, 2010): http://www.engineeringnews.co.za/article/300-m-dam-in-botswana-to-be-complete-by-2012-2010-07-16


19. BOTSWANA: Lotsane Dam, Lotsane River

INTERNATIONAL IN VOLVEMENT: SMEC Holdings (Australia), Synohydro Corporation (China)
Lotsane Dam, the country’s sixth largest, is complete. This dam with a water holding capacity of 40 million cubic metres is expected to benefit 22 Tswapong villages. The engineering service contract for design review, procurement and consultancy during construction of the dam was given to SNEC Holdings. The tender for the dam construction was awarded to Synohydro Corporation in January 2009 at the cost of about P724 million. The construction of the 1.4km dam and associated works such as its 180m wide spillway, an irrigation pipeline and a pump station were completed in 2012.

Links


“Lotsane Dam is complete” (February 2012):
http://www.ibotswana.co.bw/news/business/item/11407-lotsane-dam-is-complete.html

20. BOTSWANA: Lower Notwane Dam, Notwane River

Construction of the proposed lower Notwane Dam on the Notwane River was, after a feasibility study conducted by the Ministry of Minerals, Energy and Water Resources, held not feasible.

“We did a feasibility study and it was clear that the dam was not feasible because it will not add any value to Gaborone dam inflow”, said the Permanent Secretary in the Ministry of Minerals, Energy and Water Resources.

The conception of the dam was developed to capture inflows of Notwane, Segoditshane, Metsimotlhabe and Tlhagale River after its confluence with Notwane River.

Links
21. BOTSWANA: Mosetse Dam, Mosetse River  Proposed

Coordinates: 20°37'S 26°39'E

Construction of Mosetse Dam was planned for mid-2009. The dam’s reservoir will have a capacity of 40 million cubic meters to supply water in the northeast district. In 2011, the Ministry of Minerals, Energy and Water Resources abandoned plans to proceed with the Mosetse dam project because of financial constraints. The Minister said the dam deserved consideration in future development plans.

In 2015, the mister of Infrastructure Science and Technology, conceded to the fact that construction of the Mosetse dam, was long overdue. He further noted that a due diligence assessment on how to further meet the water needs of the people in Moesetse cluster in the country remains to be pursued.

Links

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

“Financial constraints halt Mosetse Dam project” (February 11, 2013): http://www.olddailynews.gov.bw/cgi-bin/news.cgi?d=20110211


22. BOTSWANA: Ntimbale Dam, Tati River  In Operation
International involvement: Knight Piesold (South Africa)

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


23. BOTSWANA: Thune Dam, Thune River

INTERNATIONAL INVOLVEMENT: Zhou Gan,

Coordinates: 21°56'S 28°32'E

Construction of Thune Dam started in September 2010 and was completed in 2013. As of March 2011, the dam was just 38% complete. Thune Dam is the fourth largest dam in the country with a water holding capacity of 90 million cubic meters. The dam is 1.63km long and 34.5m high. The dam will supply water to the Tswapong area Tsetsebjwe, Bobonong, Mathathane, Lepokole, Mothabaneng, Molalatau and Tshokwe. Construction
of the dam was undertaken by Chinese Engineering and Construction giant- Zhon Gan. In 2014, the dam had experienced water shortages as a result of droughts.

Links


24. BURKINA FASO: Bagre Dam, White Volta River

**INTERNATIONAL INVOLVEMENT:** French Aid Agency (AFD)

**Expansion**

*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.
In 2014, the government commissioned siltation studies on the dam. Still in the same year, the government had to, spill away water from the dam due to abnormally high water levels. Two people were confirmed dead as a result of the water spillage from the dam. No further information about the expansion has been received to date.

Links


25. BURUNDI/RWANDA/TANZANIA: Rusumo Falls Dam, Akagera River

**Under-construction**

**INTERNATIONAL INVOLVEMENT:** Nile Basin Initiative and European companies, World Bank, African Development Bank, the EU African Infrastructure Trust Fund.

**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 80 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 was approached for funding and on April 6, 2013, it announced it had approved the funding needed for the project. 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 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.

In August 2013, the World Bank approved US$ 340 million for the Rusumo Falls Hydroelectric project. The estimated cost of the project stands at US$ 468 million. The Bank’s financing- US$ 113.30 million to each of the governments of Burundi, Rwanda and Tanzania- comes from the International Development Association, its fund for the poorest. This project is the first operation under the World Bank Group Great Lakes Regional Initiative inaugurated by World Bank Group President Jim Yong Kim during his historic visit with the UN Secretary General Ban Ki-moon in May 2013.

Further finding has been apparent from the African Development Bank, for the construction of transmission lines; inlcuding funding from the EU Africa infrastructure trust fund. Excavation activities of the dam are at an advanced stage. The dam will produce 80 MW, when completed in 2020; construction is set to begin in 2016.
26. CAMEROON: Bini à Warak Dam, Bini River

INTERNATIONAL INVOLVEMENT: United States Trade and Development Agency, NALDEO (FRANCE)

A 75 MW hydropower dam is planned at Bini à Warak. In 2008, the USTDA requested proposals for a project feasibility study. In 2009, Feasibility studies were contracted to a US firm, Delphos International Ltd and are now complete. In 2012, the cost of construction of this dam was estimated to be CFAF 85 billion and was included in the budget for that year. The project could supply power exports to Chad and Nigeria.

In 2013, a spokesman of the ministry of water resources and energy, states that provisions would be made for the finalization of the preliminary studies as well as the legal and financial studies of the dam, in the 2014 budget. Along with the dam, a 70km transmission line will be constructed. The minister of energy and water was furthermore quoted as stating that the dam is to be commissioned in 2018. The United Arab Emirates, economic ministry; states that enviromental and social impact studies, related to the dam have already been completed; including engineering studies.
which have reached a state of "maturity", additional geotechnical studies have been conducted. A French engineering and consulting company NALDEO; conducted an environmental and social impact study, 80km reservoir, including the penstock and hydropower plant and the transmission lines. 300 people will have to be resettled as a result of the project. A resettlement action plan which meets World Bank requirements has been prepared.

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


“Special Issue on projects: Infrastructure, mining, energy and agriculture”: http://www.businessincameroon.com/pdf/BC-HS01.pdf

“Hydroelectric projects” (2012): http://www.worldfolio.co.uk/region/africa/cameroon/hydroelectric-projects


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 was 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 and 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), African Development Bank (AfDB), the Central African Development Bank, Deutsche Investitionen und Entwicklungsgesellschaft (DEG), the Emerging Africa Infrastructure Fund, the Netherlands Development Finance Company, and Proparco (private arm of AFD).

No further information is available as to when the dam renovations will commence.

Links

“AES Sonel to Create 800 Jobs” (September 21, 2008):
http://allafrica.com/stories/200809220546.html
28. CAMEROON: Lagdo Dam, Benue River (tributary of Niger River)

Rehabilitation

INTERNATIONAL INVOLVEMENT: World Bank; Nigerian Government, China
International Water & Electric Corporation (CWE) (Chinese company)

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. In June 2013, the World Bank approved a US$108 million grant to support efforts to rehabilitate embankments, dams and irrigation systems and improve disaster prepared.

In 2012, the release of excess water from the Lagdo water reservoir caused flooding affected communities and leading to the deaths of 15 people. In 2013, it was reported that the opening of the Lagdo dam, may cause floods.

Links

“Cameroon, Nigeria cooperate on flood prevention plan” (August 19, 2013):
http://www.trust.org/item/20130819082113-2z9lo/

29. CAMEROON: Lom Pangar Dam, Lom (Sanaga) River Under Construction

INTERNATIONAL INVOLVEMENT: World Bank; European Investment Bank; Agence Francaise de Developpement (AFD); Rio Tinto Alcan (Canadian subsidiary of UK-based Rio Tinto); IUCN, China International Water (CWE)

Coordinates: 5°20’N 13°32’E

Construction work on the 30 MW dam began in November 2011. The Lom Pangar project is part of Cameroon’s battle to fight acute power shortages and increase electricity output and launch giant industrial projects, including for the rural population, 14% of which is still without electricity. The Lom Pangar project is expected to cost some US$ 400 million and funding is being provided by the World Bank, French Development Agency, African Development Bank, Central African Development Bank and the government of Cameroon. The European Investment Bank is providing some US$ 39 million to support construction of a new 46m high regulating dam, a hydroelectric power plant at the foot of the dam and a transmission line between the power plant and the country’s eastern network. 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. A US$ 132 million zero-interest rate loan was approved by the World Bank in March 2012 to help Cameroon construct this dam. 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 aluminium 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 aluminium sector. The president of Cameroon has identified the construction of Lom Pangar Dam, Nachtigal Dam, and an expansion of the aluminium 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 aluminium 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.

The European Investment Bank (EIB), IN 2012 provided US$39 million for the dam. The funding was meant to support the construction of a new 46m high regulating dam, a hydroelectric power plant at the foot of the dam and a transmission line between the power plant and the country’s eastern power network. The financing also includes a rural electrification scheme along the transmission line, environmental and social measures, as well as, support for technical assistance and project management. Following industrial action in 2012 further strikes were apparent in 2014, at the construction site of the dam. The strike can potentially delay the commissioning of the dam, which was set to be in September 2015, as the previous deadline of June 2015 already lapsed. Workers are generally demanding better working conditions which, the Chinese construction companies have yet to realise.

In 2015, the Electricity Development Corporation of Cameroon issued out tenders, for the provision of drones to monitor the dam. In the same year, the Cameroonian government released a list of seven companies and corporate groups that have pre-qualified for a deal to design, supply, set-up and implement the Lom Pangar production plant and its spillway. No further information has been received to date.

Links

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


“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

“EIB to fund Cameroon’s Lom Pangar hydro project’ (October, 2012): http://www.esi-africa.com/eib-to-fund-cameroon-s-lom-pangar-hydro-project/


“The Star Project of Cameroon” (October, 2011):
http://www.worldfolio.co.uk/region/africa/cameroon/lom-pangar-hydropower-project

“EIB to fund Cameroon’s Lom Pangar hydro project” (October 4, 2012):
http://www.esi-africa.com/eib-to-fund-cameroon-s-lom-pangar-hydro-project

“Cameroon: 1,500 CWE workers strike again at Lom Pangar dam construction site” (November 12, 2014):

“Cameroon: Lom Pangar Dam to be monitored with drones” (May 20, 2015):

“Seven companies vie to build a production plant at Cameroon’s Lom Pangar Dam” (March 12, 2015): http://www.businessincameroon.com/energy/1203-5320-seven-companies-vie-to-build-a-production-plant-at-cameroon-s-lom-pangar-dam
30. CAMEROON: Memve’ele Dam, Ntem River Under Construction

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 and Exim Bank (China).

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 201 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.

The foundation stone for the project was laid in June 2012 and the whole project is expected to be completed in 2016. The first phase of the dam was completed early before deadline in February 2015. The second phase of construction which includes, derivations of the Ntem River for the building of a one Kilometre long canal and dyke has been officially launched.
“CDC backs Cameroon project” (April 3, 2008):  

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

“Cameroon: Memve’le Dam Turbines under fabrication in China” (February 6, 2013):  
http://allafrica.com/stories/201302070690.html

“Cameroon: Memve’le Hydroelectric Dam-Life changing Project” (June 18, 2012):  
http://allafrica.com/stories/201206191140.html

“Memve’ele Hydroelectricity power plant: phase one completed” (February 25 2015)  

31. CAMEROON: Nachtigal Falls, Sanaga River

INTERNATIONAL INVOLVEMENT: Electricite de France, (EDF) International Finance Corporation,

In November 2013, the government of Cameroon signed an agreement with Electricite de France, with the financial backing of the World Bank’s International Financial Corporation, to develop a hyrdoelectic project on the Sanaga river. The project has a cost of $841 Million, of which the IFC, the Camerronian government and Electricite de France, will contribute 26, 34 and 40 percent respectively. In the consruction of the dam, EDF will have to transfer water from the hydroelectric Lom Pangar dam, under construction in the eastern part of the country to the Nachtigal site in Edea, where the French energy giant will build the new power plant.
The Nachtigal Falls plant will have a guaranteed capacity of 270 MW, although the Cameroonian government previously expressed interest in making its output capacity 330 MW.

Links


32. CAMEROON: Kpep project, Menchum Falls

INTERNATIONAL INVOLVEMENT: Joule Africa (UK), Lahmeyer International (German)

From March 2012, negotiations began between Cameroon’s ministry of water and energy and Joule Africa of the UK as well as German company Lahmeyer. This relates to the potential construction of an up to 500MW hydroelectricity dam in Menchum in the northwest of Cameroon. The consortium is preparing to launch an assessment of what is called the Kpep project’s estimated costs. In August 2013; the President of Cameroon approved the construction of the hydroelectric project. This follows the completion of feasibility studies. The potential output of the dam has been revised down to 450MW, and the project is said to cost, CAF 500 billion, roughly $853 million. No further information has been received concerning construction commencement.

Links

“Cameroon’s hydroelectric plans” (March 27, 2012): http://www.esiafrica.com/cameroon-s-hydroelectric-plans/

Rio Tinto Alcan intends to construct the 330 MW Nachtigal Dam in order to expand the Alucam aluminium 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 aluminium smelter, signed a letter of intent with the government of Cameroon for an expansion of the aluminium sector worth $900 million. The agreement includes that Alcan will build and operate Nachtigal Dam. Although that was the initial agreement, a new French company, EDF took over the construction of the Nachtigal Dam. EDF signed an energy purchase agreement with Energy of Cameroon in November 2015. The construction of the 420 megawatts plant worth 1 billion Euro (US$ 1,118 million equivalent) is expected to solve 20 per cent of the energy needs of Cameroon. All technical studies and the environmental impact assessment for Nachtigal are reportedly complete; with the activity calendar ready, construction is set to commence mid 2016 for commissioning in 2021.

Links


34. CAMEROON: Songloulou Dam, Sanaga River  

**Rehabilitation**

**INTERNATIONAL INVOLVEMENT:** AES-Sonel; International Finance Corporation (World Bank Group), ANDRITZ HYDRO (Austria)

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 penstock (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 Massōk 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. In 2014, the recently acquired (by the British Investment fund) Aes Sonel, Cameroon’s electricity provider, stated that part of the, 47 billion CFCA ($78 million) set aside for electricity production improvement, will be spent on the rehabilitation of
the dam. In June 2015, it was reported that, the water storage on the dam will begin; the rehabilitation of the dam was then probably near completion. No further information about the rehabilitation has been received to date.

Links


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


35. CAMEROON: Songmbengué Dam, Sanaga River

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 aluminium 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 which was expected by the end of 2009. No further information has been received to date.

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

36. 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 suppliers 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.
The World Bank granted US$8 million to CAR in 2009 for emergency rehabilitation of power infrastructure including work to restore the 8.75-MW Boali 1 and 9.9-MW Boali 2 on the Mbali River at Boali, CAR. Some emergency work has been performed on the two projects. In 2015 the African Development Bank, further awarded funding to DRC for the two-nation grid interconnection with Boali.

Links


37. CENTRAL AFRICAN REPUBLIC: Boali 3 Dam, Mbali River

INTERNATIONAL INVOLVEMENT: African Development Bank Exim Bank (China)

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. In July 2011, China and the Central African Republic signed an agreement for a loan worth 14 billion FCFA (the equivalent of US$24 million), for the completion of the construction of the Boali power plant. China also agreed to install two turbines and several transmission lines for the project.

Links
38. DEM. REP. OF CONGO: Busanga Dam, Lualaba River

INTERNATIONAL INVOLVEMENT: MagEnergy; Ingerop (French company), Sinohydro (Chinese 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. Feasibility studies have been completed for construction by Sinohydro and operation is planned for 2017.

In 2013, the DRC government signed a mining deal, with Sinohydro and China Railway Limited. Part of the deal stipulated that the Chinese counterpart would provide finance for relevant infrastructure projects including, funding the Busanga mine. However, disagreements have been apparent which could potentially affect the development of the project.

In 2013, the DRC government, stated that it would spend up to 2% of GDP, developing hydropower projects of which, Basungu is a part of.

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

“Focus: Democratic Republic of the Congo-A step back” (August, 2013):

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

Coordinates: 5°56'S 12°46'E

Grand Inga is the heart of about a $100 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 kilometres 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. 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. Based on a feasibility study conducted by AECOM-EdF from 2011 to 2013, Grand Inga would be constructed in 6 development phases with Inga III being the first of these phases.

In November 2011, South Africa and the DRC signed a Memorandum of Understanding for the development of Grand Inga. Three feasibility studies have so far been done, with the latest having been carried out in 2009. In May 2013; the two governments signed a co-operation treaty to jointly develop the Inga III dam. In June 2013, the AfDB together with the DRC government signed two grants agreement for a total of US$5.250 million in Mararakech. In October 2013, South Africa and the DRC signed a treaty in which South Africa would buy over half of the power generated by the first phase for the Grand Inga. No developer for the dam has yet been chosen but Chinese, Korean and Spanish companies are in the forefront. Till date, the project is experiencing difficulties in securing funding.

Links

“Grand Inga Dam, DR Congo”: https://www.internationalrivers.org/campaigns/the-inga-3-hydropower-project

40. DEM. REP. OF CONGO: Inga 3, Congo River  
Suspended

INTERNATIONAL INVOLVEMENT: 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 that could produce up to 3,500 MW. Nearly 1,600 and 2,500 MW will be used by BHP to supply its proposed, Greenfield aluminium smelter. The smelter, with capacity of 800,000 tonnes, would partly use alumina imported from Guinea. The smelter was estimated to cost USD 5 billion, and a deep water port at Banana estimated at USD 1 billion. Costs for the hydroelectric power stations varied 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 4,800 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 4,800 MW and from $5.23 billion to up to $12 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.

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 $5 billion 2,000 MW aluminium 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.

In February 2010, the energy ministers of the DRC, Angola, Botswana, Namibia and South Africa decided to abandon the Westcor project.

In November 2011, South African president Jacob Zuma signed a memorandum of understanding with President Kabila for the development of Inga and the construction of a transmission line to Witkop.

In 2012, BHP Billiton abandons plans for the aluminium smelter project after calls in 2010 from International civil society groups to halt its plans for the aluminium smelter. The company however cited a review of its construction cost as the reason for its withdrawal.

At a conference in Paris in May 2013, the DRC’s electricity and water minister, Bruno Kapandji Kalala, announced that the construction of the first phase of the Inga 3, with a capacity of 4800MW could begin in October 2015 and power grid could start in 2020. The project, known as Inga 3 Basse Chute, is due to cost US$ 12 billion with the inter-connection to South Africa that will take 2500MW of Inga III’s production. The DRC is still looking for parties interested in the construction of Inga III. Three groups have already submitted bids. These groups include China’s Three Gorges Corporation and Sinohydro Corporation, Korea’s Posco, Daewoo and Canada’s SNC-Lavalin Group Incorporated and Activiadades de Construccion y Servicios SA and the Eurofinsa Group of Spain.

In June 2013, the African Development Bank approved two grants totalling US$5.25 million to the government of the DR Congo for the development of the Inga hydropower plant. The two grants will help in the commencement of the crucial phase of preparing
institutional and technical plans. At the institutional level, part of the grant will help finance a national and permanent structure for the promotion and development of Inga’s hydroelectric potential. At the technical level, the resources will be used to provide the country with legal and strategic advisers as part of efforts to create a public-private partnership for the development of the first phase of the Grand Inga (Inga 3). It was announced in May 2013, that the construction of Inga 3 is due to start in October 2015.

In March 2014, the World Bank approved a loan of USD 73.1 million to the DRC government to assist with an environmental and social impact assessment, including the setting up an autonomous Inga development authority, which will ensure adherence to best practices. A deal was signed in 2015, between South Africa and the DRC, which could see it receive 2500 MW from Inga 3 Bc. In 2015, the coordinator of US President Barack Obama’s Power Africa initiative, Andrew Herscowitz, touted indirectly that the initiative would not officially support the project. Furthermore, the World Bank in the same year, pushed forward the completion date of the Grand Inga to 2017.

In July 2016 the World Bank suspended its support for the giant Inga 3 in the DRC. This follows the Government of DRC’s decision to take the project in a different strategic direction to that agreed between the World Bank and the Government in 2014. At the time of suspension, approximately 6% of total project financing had been disbursed. The World Bank Group is in a continuing dialogue with the Government about the implementation arrangements of the project, with the goal of ensuring that it follows international good practice. The World Bank Group remains committed to supporting the DRC in its efforts to provide affordable and reliable energy for its people and to drive sustainable sources of growth for its economy.

**Alternate Project Names:** Inga III

**Links**
“Way is Clear for BHP Billiton Inga Project” (March 10, 2010): http://www.africaintelligence.com


“Plan picks up to meet Africa's power needs” (May 8, 2009): http://www.busrep.co.za/index.php?fSectionId=552&fArticleId=4969902

“DRC Congo Inga Three Dam: BHP Billiton withdraws custom” (February 16, 2012): http://www.bbc.co.uk/news/world-africa-17056918

“Africa’s biggest electricity project, Inga 3 power regional cooperation” (October 11, 2013): http://www.theafricareport.com/West-Africa/africas-biggest-electricity-project-inga-3-powers-regional-cooperation.html


“Inga III: the giant is awakening” (July 4, 2013): http://africanarguments.org/2013/07/04/inga-iii-the-giant-is-awakening-francois-misser/

“DRC still searching for bidders for 4,800 MW Inga 3 hydropower project” (October 10, 2013): http://www.hydroworld.com/articles/2013/10/drc-still-searching-for-builders-for-4-800-mw-nga-3-hydropower-project.html


supports-drc-with-technical-assistance-for-preparation-of-nga-3-bc-hydropower-development


“Did the almost-mythical Grand Inga project come any closer to realisation this week?” (November 01, 2013): http://www.polity.org.za/article/did-the-almost-mythical-grand-inga-project-come-any-closer-to-realisation-this-week-2013-11-01

“DR Congo waits on funding for world’s largest hydropower project” (May 21, 2013): http://www.theguardian.com/environment/2013/may/21/dr-congo-funding-world-largest-hydropower-dam


41. 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), KfW (German).
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.

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 unfavourable 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. As of June 2009, the World Bank reports that the total project cost for rehabilitation is still under review and the rehabilitation effort remains under-funded. By 2011, very little progress had been made and additional cost overruns were identified. The World Bank then approved an additional US$283 million for rehabilitation and US$146 million was brought in from the African Development Bank,
German agency KfW and electricity utility SNEL. This brings the total cost of rehabilitation to US$883 million and rehabilitation is not expected to be completed until 2016. The complete rehabilitation of three turbines was to be refurbished by the end of 2015. No further information has been received to date.

Links


“SNEL/Mag De al Under Scrutiny” (January 28, 2009): http://www.africanenergyintelligence.com/

“Inga’s never-ending rehabilitation” (September 11, 2013): http://www.africaintelligence.com/AEM/electricity/2013/09/03/inga-s-never-ending-rehabilitation,107974457-ART

42. DEM. REP. OF CONGO: N'Seke Dam, Lualaba River Rehabilitation

INTERNATIONAL INVOLVEMENT: Alstom Hydro, Kala pataru, KEC International.

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. In 2013, SNEL signed a further agreement with two Indian companies, Kala pataru et KEC International), for the rehabilitation of N’seke dam. However, rehabilitation works of N’Seke only began in 2013, no reasons where given for the delay.
**Links**

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

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

“Demarrage imminent des travaux de rehabilitation des barrages hydroelectriques de Nseke et Nzilo au Katanga” (September 03, 2015):
http://www.digitalcongo.net/article/94550

**43. DEM. REP. OF CONGO: Ruzizi 1 and Ruzizi 2, Ruzizi River Rehabilitation**

**INTERNATIONAL INVOLVEMENT:** World Bank; European Development Fund; Fichtner (German company). Studio Ing. G. Pietrangeli srl. (Italian company)

**Coordinates:** 2°0’S 29°0’E

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.

By 2012, an amount of $ 37b Million had been spent on the rehabilitation of Ruzizi I an
II. This was added by funding from the EU, worth $1.44 million for the rehabilitation of Ruzizi. In this regard, the Italian company, Studio Ing. G. Pietrangeli srl was awarded the contract.

In 2014, energy ministers from the DRC, Rwanda and Burundi visited the site of Ruzizi II, and suggested that the plant was in a dilapidated state and needed urgent renovations.

Links


“Grands-Lacs: la Sinelac recommande la réhabilitation urgente de la centrale Ruzizi II” (March 03, 2013): http://www.radiookapi.net/actualite/2014/03/30/grands-lacs-la-sinelac-recommande-la-rehabilitation-urgente-de-la-centrale-ruzizi-ii


44. DEM. REP. OF CONGO: Ruzizi 3 Dam, Ruzizi River

INTERNATIONAL INVOLVEMENT: European Investment Bank, European Union

The US$689 million Ruzizi project consists of the construction of a 147MW hydropower plant on the Ruzizi River bordering DRC and Rwanda to be developed through a private investor. It will become operational in 2016. The EU-Africa Infrastructure Trust Fund provided $3.8 million for studies to develop Ruzizi 3 Dam (147 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 completed a feasibility study commission by Energies des Grands Lacs (EGL) and a detailed report in May 2011. Fichtner was contracted by the European Commission to conduct a pre-feasibility study on building another hydro power station on the Ruzizi River, at Sisi.

In June 2012, EGL launched a request for proposals for the selection of a private investor to develop Ruzizi III on a Build-Operate-Transfer basis. In September 2012, EGL declared the consortium of Sithe Global and Industrial Promotion Services (Kenya) as the preferred bidder for the project.

Ruzizi III, is said to be commissioned by 2021, with the relevant private sector participants holding concession of 25 years, furthermore, in 2014, the three countries involved signed an agreement to fund, the dam at a cost of $650 million. Construction of Ruzizi III is set to begin in 2016, lasting the next 5 years, according to Alphonse Muyumba, CEO of the transnational utility company in charge of developing Ruzizi III.

Alternate Project Name: Ruzizi III

Links


45. DEM. REP. OF CONGO: Ruzizi 4 Dam, Ruzizi River

INTERNATIONAL INVOLVEMENT: Fichtner (Germany)

A prefeasibility study for a 287 MW Ruzizi IV Dam is underway. The power from the dam is planned to be shared equally by the three countries involved, and will be administered by the regional organisation CEPGL. Ruzizi IV is planned to generate 287 MW utilizing 224 m natural head and the power output will be shared equally by Burundi, DRC and Rwanda. The project is envisaged to consist of 80 m feed channel, 4.5 km long low pressure tunnel, surge shaft and a surface power station with 4x72 MW Francis units. The required cost of constructing the dam is $ 432 million, and the project may be stuctered as a Private Public Partnership project. Currently, only feasibility studies have been done on the dam, however the costruction of the dam is set to begin in either 2016 or 2017.

Links


“Ruziz IV hydropower project”
46. DEM. REP. OF CONGO: Semliki Dam, Semliki River

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):

47. DEM. REP. OF CONGO: Zongo II Dam, Inkisi Rive

INTERNATIONAL INVOLVEMENT: Sinohydro (China)

In April 2009, the government signed a MoU with Chinese construction company, Sinohydro, to build the 150 MW Zongo 2 Dam. The $350 million dam is expected to help augment supplies to nearby Kinshasa and in Bas Congo Province despite the rehabilitation of the much larger Inga 1 and 2 dams. The original Zongo Dam has fallen into disrepair – it's not clear if there is rehabilitation works planned for the Zongo Dam. Construction of Zongo II Dam was expected to begin at the end of 2009.
In January 2011, China signed a US$ 367 million agreement to build Zongo II. Construction work began in May 16, 2012 and completion is set for 2015. However the inauguration of the Zongo dam, which was due to take place in 2015 has been further delayed.

Links


“DRC Congo signs $637m in hydroelectric dam deal with China” (February 5, 2012): http://www.ghanabusinessnews.com/2011/02/05/dr-congo-signs-367m-hydroelectric-dam-deal-with-china/


“Delays at Inga compromise Zomngo II” (July 2, 2015): http://www.africaintelligence.com/AEM/electricity/2015/06/02/delays-at-inga-compromise-zongo2,108076037-ART

48. EGYPT: Naga Hammadi Dam (new), Nile River In operation

INTERNATIONAL INVOLVEMENT: European Investment Bank, German Federal Government

The Naga Hammadi dam is a 64MW multipurpose dam (irrigation and hydroelectricity) whose construction began in 2002 and ended in 2008. The 330m long dam at Naga Hammadi in Upper Egypt replaces an old structure (Old Naga Hammadi Barrage) built in the early 1990s. The new Naga Hammadi is located some 3500m downstream of the existing structure in a confined reach of the river where geological conditions facilitated the establishment of a large construction pit in the river with a depth of 25m below river water level.

The total cost of this project stood at US$416.7 million (with a share of US$170.7 million
financed by German Financial Cooperation). In 2015, a tower of the dam was bombed.

**Links**


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49. **EQUATORIAL GUINEA**: Djibloho Dam, Wele River  
**In Operation**

**INTERNATIONAL INVOLVEMENT**: Synohydro Corporation Ltd (Chinese), China Exim Bank

As part of the country’s effort to diversity its energy resources and improve electrification nationwide, Equatorial Guinea undertook the construction of the Djibloho hydroelectric plant on the Continental Region, near the city of Anisok. Synohydro Corporation began construction work of the plant in March 2008 and completed in October 2012. This project funded principally by the Government of Equatorial Guinea and with assistance from China Exim Bank is one of the largest infrastructure investments thus far. This dam is 22 meters high, 274 meters long and is expected to generate 120MW of electricity and already offers energy to several areas of the Continental Region such as Mongomo, Rio Campo, Machinda, Niefang, Micomesend, Nkue, Bidjabidjan, Ebebiyin, Mengomeyen, Anisok and Evinayong and 40% of the city of Bata.

**Links**


**50. ETHIOPIA: Amerti-Neshi Dam, Neshi River**

INTERNATIONAL INVOLVEMENT: Gezhoua Group (China), Chinese Export-Import (EXIM) Bank

Coordinates: 9°54'N 37°20'E

Only three companies submitted bids to the Ethiopia Electricity Power Corporation for the 97MW Neshi Dam: Turkey's Enka, Italy's Salini and the Chinese firm Gezhoua Group. The Neshi River, site of the dam, lies nearly 250 kilometers west of Addis Ababa in the Finchaa area in Oromia Regional State. Construction of the dam was started by China Gezhoua Group Co (CGGC) in September 2007 just nine months after signing the project contracts. The dam’s reservoir started collecting water on July 22, 2010, and can hold 448 million cubic metres. The dam was completed in 2011 at a cost of US$137 million, with the Chinese EXIM Bank providing 85% (loan) of the money and the rest completed by the government of Ethiopia.

**Alternate Project Names:** Amertineshi, Neshi

**Links**


51. ETHIOPIA: Baro 1 and Baro 2 Dams, Baro (Nile) River

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 190 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 70 and 80 meters in height respectively. The project is a multipurpose project and comprises flood control as well as evaluation of irrigation potentials. In 2015, the Ethiopian ministry of Infrastructure reported that, it had received a grant of 40 million Norwegian Kroner (NOK) from Norway to endeavor a feasibility study of Baro.

Links

“Baro I and II hydropower projects, Ethiopia”: http://www.norconsult.com/?did=9063709&aid=9033619


“Baro and Karadobi Hydropower Projects” (September 22, 2015):
52. ETHIOPIA: Chemoga-Yeda Dam, Chemoga-Yeda (Nile) River Under Construction

INTERNATIONAL INVOLVEMENT: Sinohydro (Chinese company), China EXIM Bank.

The Chemoga-Yeda hydropower is currently being constructed and is funded by Chinese EXIM bank. Construction is however sluggish due to lack of finance from the bank. The Chemoga-Yeda project, on the outskirts of Debre Markos, 299km north of Addis Ababa in the Amhara Regional State, is expected to cost US$ 555million and it will be carried out in two stages and expected to generate 278MW.

However, the project, officially awarded to Sinohydro Corporation, two years ago in September 2009 and expected to end in 2013 is not going according to the contract agreement between Ethiopian Electric Power Corporation’s (EEPCo) expectations. According to the initial plan, the project was to be completed in four years, and nine months and will consist of the construction of five dams in Chemoga, Yeda, Sens, Getla and Bogena rivers. The reservoir of the dams will be interconnected. The completion of construction activities for the dam have been delayed, from its commission date in 2013. Furthermore, China’s Exim bank, has delayed funding, supposedly to potential impacts to downstream countries. No new information related to the dam has surfaced.

Links:


53. ETHIOPIA: Fincha-Amerti-Neshe (FAN) hydro-electric power dam; Neshe River
INTERNATIONAL INVOLVEMENT: China Gezhouba Group Corporation (CGGC) International

In 2006, a 1.3 Billion deal was signed between the Chinese Conglomerant and Ethiopia’s utility Ethiopian Electric Power Corporation (EEPCo). The hydropower project was commissioned in 2011 and is located 250km, from the Capital, along with producing 100 MW of power; the project also has an irrigation purpose, of irrigating 6000 Ha of land.

Links


54. ETHIOPIA: Genale Dawa 3 Dam, Genale River Under Construction

INTERNATIONAL INVOLVEMENT: Gezhouba Group Company (China)

Coordinates: 5°16'N 41°19'E

In 2010 the Ethiopian Electric Power Corporation (EEPCo) signed a contract 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, launched in mid-2012 is being constructed at an estimated cost of US$408 million, secured from the Chinese Import Export (EXIM) Bank. Twenty-six percent of the 254 MW project has been completed. It is expected to generate 254 megawatts of electric power. The project will increase the current national capacity of 870 MW by 27%. In a parliamentary speech, the Ethiopian prime minister, stated that 60% of the Gawela dam had been completed, in 2015. No new information related to the dam has surfaced. No new information related to the dam has surfaced.
55. ETHIOPIA: Gibe 2, Gibe (Omo) River

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 were 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 kilometre tunnelling 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
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


56. ETHIOPIA: Gibe 3 Dam, Omo River

INTERNATIONAL INVOLVEMENT: Salini (Italian company); African Development Bank possible; World Bank, 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 centred on 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. After withdrawals of international funding, the dam was completed with domestic Ethiopian financing.

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.

In July 2012, the World Bank approved a US$684 million loan for a 1000km transmission line that would supply Kenya from the Gibe 3 dam. This was considered by some to be a ‘backdoor’ funding of the Gibe 3 project.

In August 2013, the European Investment Bank (EIB) announced that it is no longer
considering financing the Gibe 3, citing the availability of alternative financing.

Construction of the Gibe 3 was forecasted to be completed by the end of 2013, however the project was only 71 percent finished then, delayed due to its reservoir missing seasonal water intake target and behind schedule of the Roller Compact Concrete works. In 2015, UNESCO visited the site of the dam to inspect its impact, on the OMO valley dwellers, and in Lake Trukana. Despite the projected impacts on Lake Turkana, Gibe III began generating electricity in October 2015.

Alternate Project Names: Gibe III, Gilgel Gibe III

Links


“Ethiopia’s Gibe III Hydropower completion likely to delay” (May 8, 2013): http://dams-ethiopianism.blogspot.com/2013/05/ethiopias-gibe-iii-hydropower.html


“Ethiopia’s Massive Gilgel Gibe III Hydropower Dam Project Linked To Severe Hunger by Indigenous Kwegu Tribe, UN Investigating” (April 17, 2015):
In July 2009, the Ethiopian Government and Sinohydro signed a Memorandum of Understanding for two hydropower projects costing a total of $2.6 billion. China however backed out of financing the construction of this dam. 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 2,2000 MW Gibe 4 and the 450 MW Halele Werabesa hydropower projects. Recently however, Ethiopia’s prime minister announced that there is development following negotiations between Ethiopian Electric Power and Italian Salini Costrutorri. 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.BNP Paribas, Deutsche Bank and JP Morgan, are reported as selling ethiopian bonds, which the country will use the generated liquidity to fund its projects. It was confirmed in March 2016 that the country is already receiving funds from Italian Finance institution, SACE.

The Koysha Project aims to dam the Omo River thereby creating a reservoir with a total live storage of about 6 billion m$^3$ and a surface area of 113 km$^2$ at FSL (680 m asl). The minimum operating level is 640 m asl, and the reservoir is approximately 100 km in total length. Different project locations and layouts were investigated and finally a 174 m high RCC dam was selected.
The project features 2,160 MW of installed electrical power and produces an average of 6,460 GWh of electrical energy per year.

**Alternate Project Names:** Gibe IV, Gilgel Gibe IV

**Links**


“Ethiopia to build two more dams for power generation” (October 18, 2014): [http://www.worldbulletin.net/news/146521/ethiopia-to-build-two-more-dams-for-power-generation](http://www.worldbulletin.net/news/146521/ethiopia-to-build-two-more-dams-for-power-generation)


56. **ETHIOPIA:** Gibe 5 Dam, Omo River

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. Gibe V is expected to produce, 600 MW.

**Links**

“Ethiopia to build two more dams for power generation” (October 18, 2014): [http://www.worldbulletin.net/news/146521/ethiopia-to-build-two-more-dams-for-power-generation](http://www.worldbulletin.net/news/146521/ethiopia-to-build-two-more-dams-for-power-generation)
58. ETHIOPIA: Gojeb hydropower project, Gojeb (Omo) River  

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 and 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


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

59. ETHIOPIA: Halele Werabesa Dam, Halele Werabesa River  

INTERNATIONAL INVOLVEMENT: Sinohydro (China), World Bank (possible)

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. The project is the only
power dam in Ethiopia with twin-dam structure to date. According to the original plan, the two dams are constructed on the Halele and Werabesa Rivers some 30 km apart. Although the feasibility study and other geological studies have been completed, the Ethiopian Electric Power Corporation suspended the project in spite of unreserved interest from financiers. The project that is expected to take a minimum of five years is estimated to cost between US$650 million and US$700 million. The estimated cost also includes the budget for a 79km transmission line that carries the generated electric power. The project was expected to commence by 2013 latest and starts operation in 2018.

Links


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

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. For the
feasibility study of Baro and the pre-feasibility study of Karabodi multipurpose hydropower projects, the government of Ethiopia has received a grant of 40 million Norwegian Kroner (NOK), from the government of Norway.

Alternate Project Names: Beko Abo (Caradobi)

Links


61. ETHIOPIA: Megech Dam, Abbay (Nile) River  

UNDER CONSTRUCTION

INTERNATIONAL INVOLVEMENT: World Bank, Halcrow (UK) Water works construction enterprise (Ethiopia)

Megech Dam would irrigate an estimated 16,660 hectares. In June 2006, the World Bank approved a US$ 60 million loan for construction and management services of the Megech-Seraba irrigation scheme. Construction is on-going. Some delays have occurred due to lack of detailed planning by the contractor, slow implementation of the Resettlement Action Plan and time spent on revising the design of the scheme following the design review by the Management Services Contractor. Construction of Megech officially commenced on October 15, 2007. No new information related to the dam has surfaced.

Links

“Efficiency focus” (November 3, 2011):  

“Implementation status and Results Ethiopia Irrigation and Drainage Project (P092353)”  
August 13, 2013: http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/AFR/2013/09/09/090224b081de8390/1_0/Rendered/INDEX/Ethiopia000Irr0Report000Sequence014.txt

62. ETHIOPIA: Mendaia Dam Abay (Blue Nile) River  

PROPOSED

INTERNATIONAL INVOLVEMENT: Scott Wilson (UK), Electricité de France (EdF) (French)

The Mandaya is to be located at the junction of the Abay and Dedessa rivers and it shall be a 200 meter-tall dam and a power plant. Pre-feasibility study on this dam was conducted by a consultants from Scott Wilson and Electricité de France (EdF), as well as Shebelle Consult Plc and Tropics Consulting Engineers, both domestic firms. Feasibility
A study on the Mandaya dam has been completed and the dam is expected to generate 2000MW of electricity. The cost of building the dam is yet to be determined. In the fourth round of talks between Ethiopia and Egypt in Sudan related to the GERD, Egypt insisted on future cooperation with Ethiopian on the Mendaia dam.

In 2015, further details of the dam surfaced. The Mendaia Dam will be located 145 km from Ethiopia’s western border with Sudan, and is 1,134 metres above sea level. With a maximum design height of 164 metres and a maximum reservoir height of 117.4 metres. The minimum water height necessary for operations is 109.8 metres. The intake ducts are 704 metres long and the maximum storage capacity of the reservoir will be 15.9 billion cubic metres a year and it is designed to generate 1,620 MW at full capacity. Work on this project is scheduled to take place from 2021 to 2028.

**Alternative name:** Mendaia Dam

**Links**


63. ETHIOPIA: Grand Ethiopian Renaissance Dam (Blue Nile River)  

*Under Construction*
INTERNATIONAL INVOLVEMENT: Salina Costruttori (Italian), Alstom (French)

The Grand Ethiopian Renaissance Dam is under construction on the Blue Nile River in the Benishangul-Gumuz Region of Ethiopia, about 40km east of the border with Sudan. At 6,000MW, the dam will be the largest hydroelectric power plant in Africa when completed, as well as the 13th or 14th largest in the world sharing the spot with Krasnoyarskaya. The site for the construction of the dam was surveyed by the government of Ethiopia in October 2009 and August 2010 and in November 2010, a design for the dam was submitted. The project was made public on the 30th of March 2011 and one day after a US$4.8 billion contract was awarded without competitive bidding to Salini Costruttori. The dam’s foundation stone was laid on 2 April 2011 by the prime minister of Ethiopia- Meles Zenawi. The first two generators are expected to become operational after 44 months of the construction.

In May 2011, it was announced that Ethiopia would share blueprints for the dam with Egypt so the downstream impact could be examined. In March 2012, the Ethiopian government announced an upgrade to the power plant’s design, increasing it from 5,250 MW to 6,000MW. Completion of the dam is slated for July 2017.

In March 2012, Salina Costruttori awarded the Italian firm Tratos Cavi SPA a contract to supply low and high voltage cable for the dam. Alstom will provide the eight 375MW Francis turbines for the project’s first phase, at a cost of 250 million euros. As of April 2013, nearly 20 per cent of the project is complete. Site excavation and some concrete placement is underway. One concrete batch plant has been completed with another under construction. The diversion of the Blue Nile was completed on 28 May 2013. This was marked by a ceremony the same day.

Upon completion, the dam will be 170m tall; 1,800m long gravity-type composed of roller-compacted concrete and will have two power houses, each on either side of the spillway. The left and right power houses will each contain 8x 350 MW Francis turbine generators.
Supporting the dam will be a 5km long and 50m high saddle dam.

After much wrangling between Ethiopia and Egypt over the potential impacts of the GERD, on the Nile, the two countries signed a “Declaration of Principles on the GERD” brokered by Sudan. A significant provision is, that Ethiopia will be accountable for any apparent impacts. A further report has been, authored by the Eastern Nile non-partisan working group from the MIT, has further pointed out that the two countries should coordinate the operation of the Aswan dam and the GERD. In this regard, Ethiopia Sudan and Egypt agreed, on international consultants to assess the impacts of the GERD two firms have been selected for this purpose: A French company BRL Engineer has been selected as a lead consultant and Delta Raze, a Netherlands company,

Ethiopia is partly financing the GERD with bonds purchased by the Ethiopian Diaspora outside the country. The dam is about, 40% complete, further according to Ethiopia’s Ministry of Water, Irrigation and Energy the country has implemented previous suggestions by international panel of experts.

**Alternative names:** Great Ethiopian Renaissance Dam, Grand Renaissance Dam, Hidase Dam

**Links**


“Ethiopian Nile Dam Study Warns on Safety, Urges Cooperation” (April 24, 2015):
Ribb Dam is intended to irrigate 19,500 hectares. Construction work on the Ribb Dam was launched in 2007 in Ebinat and Farta Woredas, Amhara State and is expected to require a total of 1.6 billion Birr. In 2011, the first phase of the construction of the Rib Dam and Irrigation development project launched in the South Gondar Zone of Amhara State at a cost of 1.4 billion Birr was completed. By December 2012, 30.4 percent of the construction of the dam was already completed. The Rib Dam has the capacity to hold more than 243 million meter cubic water and has a height of 73.2 meters and is 800 meters in length. In 2015, the dam is still under construction as a tender for rock fill material for the dam was issued by the Ethiopian government in January 2015.

Links

“Ministry constructing Rib and Gidabo irrigation dams” (Nov. 26 2012):

“Ethiopia to complete 97% of Rib Dam” (Dec.15, 2012):
65. ETHIOPIA: Tana Beles Dam, Tis Abay (Nile) River  

INTERNATIONAL INVOLVEMENT: Salini Costrutorri (Italy), VA Tech hydro

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. In 1992, the first feasibility study for the project was completed. A later study was and final design was completed in 2005 by Studio Pietrangeli. The government of Ethiopia signed a contract with Salini Costrutorri to build the plant on July 8, 2005 and construction began soon after. On June 2007, a tunnel boring machine, operated by SELI began boring the 7.2kkm tailrace tunnel and completed it on May 31, 2008. Salini Costrutorri awarded a sub-contract to construct the actual power station to VA Tech Hydro. On May 11, 2010, the first 115MW generator at the power plant began operation an on May 14, 2010, the plant was inaugurated. The project cost was around US$500 million.

No new information related to the dam has surfaced.

Projects Alternate names: Beles Hydroelectric Power Plant, Beles II.

Links:

“Beles Supply contract signed” (May 18, 2010):  

“Beles operates in trial test” (May 11, 20010):  
66. ETHIOPIA: Tekeze Dam, Tekeze River

INTERNATIONAL INVOLVEMENT: China Exim Bank, US (engineering design by US company Harza), France (Coyne 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


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

“Ethiopia: Tendaho Sugar Factory Construction Behind Schedule” (May 5,
“Ethio-India co-operation sweetens” (January 8, 2008): http://www.capitalethiopia.com/archive/2008/january/week2/local_news.htm#1


68. GABON: Belinga Dam

INTERNATIONAL INVOLVEMENT: China Machinery and Equipment Import and Export Corporation (CMEC), China Exim Bank

The Belinga Dam is one of two proposed dams that would generate power for the Belinga Iron Ore Project, which is located 500 kilometers east of Libreville. The mine project is expected to produce some 30 million tons or iron ore annually. It is the country’s largest investment and includes the Belinga iron ore facility, two hydropower projects to power the facility, 560 kilometers of railroad track from Belinga to Santa Clara, and a deep-water port in Santa Clara that will allow the ore to be shipped to China.

The proposed dam would be located in Lvindo National Park. On 7 June 2012, Gabonese Prime Minister Sima announced on-going talks between the government and China National Machinery Import and Export Corporation to renegotiate the Belinga iron ore project that requires about US$3.7 billion for the construction of the hydropower dam. According to the environmental organisation Rainforest, the official status of the Belinga Dam is currently uncertain, although an environmental. No new information has surfaced related to the dam.

Links
“Belinga, Gabon- Africa Policy Forecast” (June 27, 2012):
http://damsandalternatives.blogspot.com/2012/06/belinga-gabon-africa-policy-forecast.html

“Belinga Dam, Gabon”: http://www.internationalrivers.org/resources/belinga-dam-gabon-3597

69. GABON: Grand Poubara Dam, Ogooué River

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.

In July 2013, the dam went operational. Four hydro turbines are now in operation. The Grand Poubara project is being built in two phases, with the activation of the four turbines making the completion of the second phase. This phase includes an embankment dam, diversion and power generation system and transmission and substation system. The Four turbines of the Grand Poubara dam will produce 160 MW of electricity. The dam was inaugurated, together with the manganess mining industrial plant in 2015.

Links

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


70. GABON: Koungou Falls Dam, Ivindo River
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.
No further information has been given concerning the Koungou Falls dam.

**Links**


**71. GABON:** Mouila Dam, Proposed

**INTERNATIONAL INVOLVEMENT:** African Development Bank

On October 9, 2011, Gabon announced plans to build a hydroelectric dam in the south of the country. The 180 MW capacity dam, located at Mouila, will take 54 months to build and cost US$ 165 million partially funded by the African Development Bank.

**Links**


**72. GHANA:** Akosombo Dam, Volta River

**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 centres; 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 aluminium industry. Akosombo's installed capacity increased from 912 MW to 1,020 MW during a retrofit in 2006.

In 2015, the dam shut down three of its turbines as a result of lower water levels due to lower reinfalls that expected. If the trend continues this is expected to decrease Ghana's generation capacity.

Links


73. GHANA: Bui Dam, Black Volta River

**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_BuiHydroelectric ESIA).

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. Field investigations for the dam began in October 2007. In January 2008, preparatory construction began and in May 2008, the first people were resettled. In December 2008, the river was diverted and a year later construction on the main part of the dam began. The filling of the reservoir began in June 2011. The dam's first generator produced power for the grid on May 3, 2013, with completion which was expected in 2014. The dam is currently being threatened by illegal mining activities, within Bui dam’s “acquired area”. No further information has been received to date.

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

“President Mahama inaugurates the Bui Hydro electricity project” (May 5, 2013):

“Illegal mining poses threat to Bui Dam” (May 15, 2015):

74. GUINEA: Fomi Dam, Niandan River

INTERNATIONAL INVOLVMENT: World Bank.

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. The 102MW dam will regulate the flow of the Niger River and will benefit the nine Niger River Basin countries (Guinea, Benin, Burkina Faso, Cameroon, Chad, Cote d’Ivoire, Mali, Niger and Nigeria
as it will increase agricultural opportunities and additional hydropower capacity. Preparation studies for the dam are currently underway. The study for institutional/financial agreements is being finalised and a public-private partnership structure is proposed. The dam is expected to cost US$384 million.

The world bank has revised the generation capacity of Fomi to 90 MW, furthermore in addition to generating electricity the dam is set to provide a water storage facility of up to up to 6.1 billion m$^3$, including the provision of downstream dry-season irrigation potential by 211,000 ha; and maintain dry-season environmental flows (40 m$^3$/s). The dam will also lead to the resettlement of 45,000 people. The bank’s involvement in the project includes: Updating the Fomi feasibility study, detailed design and Environmental and Social Impact Assessment (ESIA) through the ongoing APL1 Niger Basin Water Resources Development and Sustainable Ecosystems Management Project; Providing regional support to the Niger Basin Authority, to facilitate informed dialogue and decision-making associated with the preparation of this project, including complementary environmental and social studies through a grant under the Cooperative International Waters in Africa (CIWA) Trust Fund. No new information related to the dam has surfaced.

Links


INTERNATIONAL INVOLVEMENT: China International Water & Electric Corporation (CWEC)

Coordinates: 10°27’N 13°16’W

The 240.5 MW Kaléta Dam, located 150 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.

On August 15, 2011, the Government of Guinea and China International Water & Electric Corporation signed an agreement for the construction of the Kaleta Dam. Construction is estimated to cost a sum of US$ 526 million with Guinea contributing 25% of the funding for the project, and China International Water & Electric, the rest, according to the agreement signed.

Construction of Kaleta hydroelectric power station in Dubreka district was launched on April 5, 2012. The construction of the dam was completed in 2015 and the Guinea President officially inaugurated the Kaleta Dam on Konkoure River on 28 September, 2015. The country has added the picture of Kaleta as the background image of the new 20,000 note launched by the country’s reserve bank.

Links

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


76. GUINEA: Souapiti Dam, Konkouré River

INTERNATIONAL INVOLVEMENT: Chinese Aluminium 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 bauxite-alumina-aluminium 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 Aluminium 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 aluminium.
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 Soupati’s power had been signed by Guinea and Senegal. The potential installed capacity of Souapiti Dam is reported between 515 and 975 MW.

The country has qualified as a participant under the US power Africa initiative, and is set to begin the construction of the dam soon. In 2014, the West African power pool had set out tenders for the update of the dam’s feasibility studies.

Links


77. GUINEA BISSAU /SENEGAL: Sambangalou Hydropower Project, Gambia River

**Proposed**

**INTERNATIONAL INVOLVEMENT**: African Development Bank; European engineering firms, BRLi, Nodalis (Complementary Economic study), European Union (Infrastructure Trust Fund). OMVG

**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, Tecslut, and Coba, to conduct a feasibility study on Sambangalou Dam and connection to the grid. The study was funded by the African Development Bank and was completed in 2006, but required additional assessments and update of existing findings.

After international bidding, the OMVG contracted, on 26 January 2011, the Joint Venture BRLi-Nodalis with the completion and update of the economic, study with the aim of assessing Total Economic Value of the Sambangalou hydropower plant, including the environmental and social impacts and related mitigation measures. The consultants produced its draft final report in November 2011. The workshop for validation of consultant’s work was initially planned on 19 January 2012 but was postponed to February for political reasons (death of President of Guinea Bissau).

In 2013, the Gambia River Authority issued out a tender for technical environmental management, followed by construction supervision of the 128MW dam tender.

The dam will be located 930 km upstream from the mouth of the Gambia River and about 25km south of Kédougou in Senegal, and part of the 185 km2 reservoir will be in Guinea.
The project will impact 186 households (1,320 persons) and 1,250 ha of land (of which 850 ha is cultivating land). The design involves the construction of a gravity dam and 4 turbines of 32 MW each. The plant production cost is estimated at US cents 16.2/kWh.

The project originally formed part of a larger Gambia River Basin Development Organisation (OMVG) project which entailed an interconnecting power grid with the Kaleta Dam in Guinea. Four potential sites of the project have already been confirmed by the OMVFG. Construction of the Dam was scheduled to begin in 2013, to be completed in 2017.

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


78. KENYA: Ewaso Ngiro Project, Mara River Basin

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


79. KENYA: Crocodile Jaw Dam Project (Ewaso Nyiro River) Proposed

The Ewaso Nyiro hails from the western glaciers of Mt. Kenya and flows north trespassing
about many counties namely: Laikipia, Nyandarua, Samburu, Isiolo and Marsabit before disappearing into the Lorian swamp, a seasonal wetland. Early this year (2013), the National Water Conservation and Pipeline Corporation (NWCPC) announced its intention to build a mega dam along the river. The proposed dam will be situated along the boundaries of Isiolo and Laikipia. NWCPC has commenced a study of the possibility of realizing this project. They looked at a number of alternatives for the project, including Ewaso Nyiro tributary- Nkoteiya, Ngaresirgon, Ngarendal River, and Kibirichia. However, all of these potential project sites have faced bottlenecks ranging from many users that abstract a lot of water and inaccessibility. NWCPC gave out two options for the dam design:

a) An 87m high dam with the capacity to hold 1.021 billion cubic meters of water.  
b) A 67m high dam that can hold 311 million cubic meters of water.

The purpose of this dam is to provide water for the resort city that is expected to be built at Isiolo under the 2030 development blueprint. The dam will also provide water for other settlements like Oldonyiro, Lodung’ng’okwe and Wamba. The dam project is expected to cost about KES 10 billion (10 billion Kenyan shillings).

The cost of the dam is set at US$ 116 Milion, the project area will take the size of 13,000 Ha, Potential Enviromental impacts: Biodiversity loss (wildlife, agro-diversity), Large-scale disturbance of hydro and geological systems, Reduced ecological / hydrological connectivity Potential socio-economic impact: Increase in Corruption/Co-optation of different actors, Loss of livelihood, Loss of traditional knowledge/practices/cultures, Violations of human rights. Most of the communities in the area, ramied opposed to the project, citing the potential biodiversity destruction that will be concomitant with the project.

Links


“Proposed Mega Dam on River Ewaso Ng’iro, Kenya” https://ejatlas.org/conflict/proposed-mega-dam-on-river-ewaso-ngiro-kenya


80. KENYA: Kamburu Hydropower Project, Tana River

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.

81. KENYA: Kiambere Dam, Tana River

In Operation

The Kiambere currently had a capacity of 144 MW, with ongoing projects to upgrade it by 24 MW. Rehabilitation works for upgrading the two existing machines of the dam and to install a third unit have been completed. This has increased Kiambere’s capacity from 144 to 164 MW. Kaimbere dam was built between 1984-1988 by KenGen.

Link

http://www.kengen.co.ke/documents/The%20Generator%20Issue%202012.pdf

82. KENYA: Kindaruma Dam, Tana River

In Operation

INTERNATIONAL INVOLVEMENT: German Development Bank, Andrit Rh Hydro, Norplan Hydropower (Norway).

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. The contract for the upgrade of the dam was on by Andrit of Austria. Finance came from the Government of Kenya and the German Development Bank

A third unit of at the dam was commissioned in 2012 and is currently injecting an additional 24MW to the national grid. The refurbishment and expansion of the dam was completed in 2014, apparently on time and undrebudget.
83. KENYA: Sondu-Miriu Dam, Sondu River

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.
“Japanese in $45.6m Kenya hydropower deal” (February 16, 2007):

“KenGen profit up by 14%” (March 1, 2013):
http://www.the-star.co.ke/news/article-110021/kengen-profit-14

84. KENYA: Song’oro Dam, Sondu River

INTERNATIONAL INVOLVEMENT: Sinohydro (China), JBIC (Japan), Nippon Koei (Japan), Japanese International Cooperation Agency

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.

The Songo’oro Power project is an extension of the Sondu-Miriu project. It utilizes the available discharge of 39.8 cubic meters per second of water from the Sondu-Miriu station and a head of 62.2 meters between the Sondu-Miriu project and the Sondu River.

Alternate project names: Sangoro, Songoro

Links

“KenGen profit up by 14%” (March 1, 2013): http://www.the-star.co.ke/news/article-110021/kengen-profit-14
85. LESOTHO: Mashai Dam (LHWP 2), Senqu River

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. The Mashai dam project is expected to cost approximately US$1bn and is projected to deliver water by 2020.

Note that, this dam is no longer part of the LHWP phase two. It is possible that the Mashai dam project was shelved.

Links

“Overview of the Lesotho Highlands Water Project” (September 14, 1995): http://www.lhwp.org.ls/overview/overview.htm


86. LESOTHO: Metolong Dam, Phuthitsana River

Under Construction

Coordinates: 29°20’S 27°47’E

Construction is now well advanced on the Metolong Dam and Water Supply Programme (MDWSP). The dam is designed to ensure a dedicated future downstream source of potable and wastewater for domestic and industrial use for Lesotho’s capital, Maseru, as well as neighbouring towns of Teyateyangeng, Roma, Mazenod and Morija, which will help meet Maseru's medium to long-term macro-economic objectives. Valued at an estimated US$187 million, the project will be implemented in set phases. Sinohydro Corporation was awarded the contract for the construction of the key stage, namely the Metolong Dam and allied pump station, and established on-site in January 2012.

Situated on the Phuthiatsana River, some 35 km from Maseru, this will be a 73 metres high roller compacted concrete (RCC) dam. Once fully constructed, the dam will have a designed capacity of 53 million cubic litres with a 210 metres crest length and a reservoir with an upstream reach of approximately 16km.

The Metolong Dam is being designed and constructed with fund provided by the Kuwait Fund for Arab Economic Development (collectively KBOS), the Saudi Fund for Development, the OPEC Fund and the Arab Bank for Economic Development in Africa. The World Bank funded the Environmental and Social Impact Assessment for the dam. The project’s overall scope of works by various appointed contractors entails the construction of a 75ML/d water treatment plant and ancillary facilities which include a raw water transmission main and a high lift pump station for the treated water. Funding for the water treatment works is being provided by Millennium Challenge Corporation.
Construction period of the dam is one year.

The first water potable water delivery was delayed from September 2014, to the end of 2015. However, there is no information to indicate whether the portable water delivery rescheduled for the later date was actually endeavoured.

In 2014 June the World Bank approved $15.5 million loan to Lesotho for second phase of Lesotho’s Water Sector Improvement Project. The project will support the Metolong Dam and Water Supply Program, the preparation of the hydro-electric power component of phase 2 of the Lesotho Highlands Water Project and expand water services in the lowlands of the country Abudabi fund for Development, in 2012 injected 21 million in the dam project.

Alternate Project Names: Lowlands Water Supply Project

Links


87. LESOTHO: Polihali Dam, Senqu River

INTERNATIONAL INVOLVEMENT: Government of South Africa,

The Polihali dam will be a 165 metres high concrete faced rock dam (CFRD) in the Mokhotlong district with a capacity to hold 2.2 billion cubic metres of water. A 38km water transfer tunnel running will be constructed to connect Polihali with Katse Reservoir. This dam is part of the phase 2 of the Lesotho Highlands Project. An agreement for the construction of this dam was signed between the governments of South Africa and Lesotho wherein South Africa will be entitled to a continued supply of water and Lesotho, hydroelectric power. Eskom has also committed to buy some of the electricity generated.

Construction of the Polihali dam was projected to start sometime this year or early next year. Plans for the construction of Polihali dam have been met with fierce opposition from some quarters, especially the Youth Forum of Lesotho Political Parties who filed an application in the High Court to halt the construction of the dam. In 2015, January the Lesotho Highland Water Authority, set out a bid for the construction for hydo project studies for the Polihaili dam. In July, LHDS set out bids for the, design and supervision of the Polihali dam. No further information has been received with regars to who won the bids.

Links:
“SA, Lesotho reach agreement on new water project” (May 17, 2013):
http://www.bdlive.co.za/national/2013/05/17/sa-lesotho-reach-agreement-on-new-water-project

“Youths turn to court to stop dam construction” (May 07, 2013):

“Polihali Dam Construction to spearhead business in 2013” (January 11, 2013):
http://publiceye.co.ls/?p=1910

“Two contracts awarded for Phase 2 of Lesotho Highlands project” (July 12, 2012):
http://africainvestor.com/article.asp?id=10572

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

Rehabilitation

INTERNATIONAL INVOLVEMENT: Voith Hydro GmbH & Co.KG (German), Government of Norway, European Investment Bank and KfW Development Bank of Germany, Norplan AS (Norway), Fitchner GmbH (German), Dawnus International Ltd (UK).

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. Rehabilitation of the Mt. Coffee hydropower plant has been prioritized by the Government of Liberia. Funding has been secured from the Government of Norway, European Investment Banak and KfW Development Bank of Germany. The Liberian government will finance about 20% of the project. The project includes
rehabilitation of the hydropower plant and reservoir, construction of a 66KV substation at Mount Coffee, construction of two high voltage (66KV) transmission lines between Mt.Coffee and Monrovia, and the expansion of the Paynesville and Bushrod substation in Monrovia.

On April 12, 2013, the government of Liberia, through the Liberia Electricity Corporation (LEC), signed a Consulting Services Agreement with Norplan SA of Norway in joint venture with Fitchner GmbH of Germany to serve as Owner’s Engineer for the rehabilitation. Centre for Sustainable Energy Technology, a local consulting firm was selected to work as sub-consultant for the joint venture.

Work on the Mt. Coffee project began in May 2012, with the establishment of the Project Implementation Unit (PIU) at LEC. To date, the PIU has completed the high level planning for the project, and has contracted the Owner’s Engineer to carry out the detailed planning and procurement activities and to supervise construction. Tendering for the generating equipment (turbines and generators) has been completed and engineering of the turbines has already started.

On October 18 and October 23, 2013, in Monrovia and Heidenhein, Germany, the LEC signed a contract with Voith Hydro GmbH & Co.KG, a German company for the supply and installation of the generating equipment for the Mt. Coffee hydropower plant. The generating equipment to be provided under this contract includes the turbines and generators (each with a capacity of over 20MW), governors, generator circuit breakers, generator step-up transformers, gas-insulated switchgear, bridge crane and associated equipment. With the signing of this contract and Voith’s commencement of the work, LEC has effectively secured a major goal of the project, which is to achieve first power to Monrovia by December 15, 2015. The contract’s schedule has the first turbine providing commercial power by this date, with the remaining turbines coming on line at two months intervals during 2016.
The completion date of the Mount Coffee hydropower plant was delayed (from the expected January 2015 date) due to Ebola. No new date has been given for the completion of the hydropower project. In July 2015, Dawnus International Ltd (UK) signed a US$62 million contract to construct main civil works associated with the reconstruction of Liberia’s 64-MW Mount Coffee hydropower plant. In August 2015, there were rumors that the US government would delay the $250 million dollar loan through the mellium challenge compact for the construction of the dam, until legislation is passed in Libera on reforms in the electricity sector.

**Alternate Project Names:** St. Paul Hydro Plant

**Links**


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 30-40 million cubic meters/year. No further information has been given to date.

Links

“Water profile of Libya” (June 20, 2007):
http://www.eoearth.org/article/Water_profile_of_Libya

90. MALAWI: Fufu Dam, South Rukuru River Proposed
INTERNATIONAL INVOLVEMENT: Norconsult (Norway); African Development Bank, International Development Association (World Bank), Artelia (France)

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.

The government received a grant and credit from the World Bank's International Development Association to finance its Energy Sector Project. A portion funding is to be used for the feasibility study of the Fufu dam project. In 2014, it was reported that the World Bank was funding additional feasibility studies of the dam. A French company, Aretalia, is in charge of the feasibility studies. The company revealed the following technical information related to the dam: The Fufu Hydroelectric Power Project is a run-of-river plant, approximately 100 MW, with a 35 m3/s design flow and around 400 m head. Adduction comprises a 4-5 m tunnel, steel penstock, and a 2 units powerhouse. Underground and surface powerhouses have been examined. A 40 km transmission line to the Bwengu substation, will link the powerhouse to the future 400 kV backbone. No further information about the dam has been provided to date.

Links

“Malawi seeks feasibility study of 175 MW Fufu” (September 27, 2012):

“Fufu hydropower project” (2014):

91. MALAWI: Kholombidzo Dam, Shire River (Proposed)
Kholombizo Dam will have a capacity of 240 MW and is planned for 2018. Plans of increasing water supply coverage in the country to 80% by 2011 and to reach the MDG target of 84% by 2015 were in place. 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.

In May 2013, the African Development Bank approved a US$ 3 million grant to finance the feasibility study of the Kholombidzo hydroelectric project. The full feasibility study will investigate the potential of the Kholombidzo plant to contribute to the expansion of electricity generating capacity in Malawi.

Links


92. MALAWI: Mpatamanga Dam, Shire River

Coordinates: 15°43'S 34°43'E

Planned for 2020, with a capacity of 260 MW. In 2015, Malawi issued a tender for the social and environmental studies related to the dam.

93. 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.

No further information has been provided.

Links

“Impact Assessment Case from Southern Africa” (2009):
http://www.saiea.com/case_studies09/06_Lake_Malawi.IWRD.pdf

94. MALAWI: Shire–Zambezi Waterway Canal

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

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 $6 billion project to Nepad and prefeasibility studies have been undertaken. The canal would extend from the inland port of Nsanje on the Shire River in southern Malawi to the port of Chinde in Mozambique 240 kilometers away. SADC partnered with Comesa for the feasibility study as Comesa, which provided US$ 3.5 million took the responsibility of preparatory activities for the study while SADC will coordinate the implementation,
In 2010, the Governments of Malawi, Mozambique and Zambia signed a memorandum of understanding. It was also estimated that the project would cost US$ 6 billion. The Common Market of Southern and Eastern Africa partly funded the feasibility studies; a grant from the AfDb is also funding the studies. The project is set to benefit the Southern and Eastern Africa regions by reducing the costs of transporting goods. Given the success of broadening the Suez canal; Egypt in 2015 expressed interest in assisting with the project. No further information has been provided.

Links

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

“New Zambezi Waterway Planned” (May 15, 2007):  
http://www.africanews.com/site/New_Zambezi_Waterway_Planned/list_messages/3648

“The Shire Zambize waterway project still a priority says SADC Secretariat” (August 14, 2013):  

“FEASIBILITY STUDY FOR THE NAVIGABILITY OF SHIRE-ZAMBEZI WATERWAYS” (May, 2012):  

“Shire-Zambezi Water Way opens up Southern Africa” (July 1, 2010):  
http://www.afrika.no/Detailed/19750.html

“Egypt offers technical assistance for Shire-Zambezi waterway” (August 28, 2015):  
http://www.engineeringnews.co.za/article/shire-zambezi-waterway-2015-08-17

95. MALI: Felou Dam, Senegal River  Under Construction
INTERNATIONAL INVOLVEMENT: World Bank, European Investment 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.

In 2009, the contract for the construction of the Felou plant was signed with Sinohydro Corp.ltd. Construction works are on-going despite some delays (5 months). A joint monitoring mission EIP/World Bank took place in November 2011. The first set of generators has been installed and started running in June 2013 and the last set had been set for September 2013. No further information has been provided.


“Hydro in Mali” (September 13, 2012): [http://globalenergyobservatory.org/geo/43693](http://globalenergyobservatory.org/geo/43693)

96. MALI: Gouina Dam, Senegal River

INTERNATIONAL INVOLVEMENT: French Development Agency (FAD), European Investment Bank, World Bank, Oreade-Breche (Brazilian), China.

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.

In 2011, a 1.4 million Euro agreement was signed between French Development Agency and the Organisation for the Development of Senegal River (ODSR) to finance several feasibility studies concerning the Gouina hydroelectricity project. This project is meant to meet the increasing electric energy needs of the Malian population. The Gouina dam's ground-breaking ceremony on 17 December 2013 was attended by the heads of state of each member country; Mauritania, Mali and Senegal. Mauritanian President Mohamed Ould Abdel Aziz laid the foundation stone. Preliminary construction had been suspended due to the 2012 Malian coup d'état and subsequent Northern Mali conflict. The plant is expected to be complete in 2017 and will provide power to the member countries. In 2015, China, granted Mali a $117 loan, for the construction of the project.
97. MALI: Talo Dam, Bani River

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.”

Links


“Dam's Dangers Debunked” (May 12, 2009): http://www.djenneinitiative.org/talo_recentnews.html

98. 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 builds 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.

99. 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.

100. MOROCCO: Dams on the Moulouya River

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 north-eastern 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.

101. MORROCCO: Mjaara Dam, Wadi Wargha Tributary

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

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. The dam was completed in 1999 it has an installed capacity of 247.5 MW, which makes up 20% of Morocos’s installed power.

Alternative Project Names: Al Wahda Dam

Links


102. MOZAMBIQUE: Boroma Dam, Zambezi River

INTERNATIONAL INVOLVEMENT: Rutland holdings, (Marutius)

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. The Boroma dam if constructed will generate 200MW of electricity. The project will cost, S$572.5 million, construction which was set to begin in 2015 will last for four years. No further information has been provided.

Links

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

The $590 million, 850-1245MW 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. The completion of this scheme was projected for 2013.

The president of the Cahora Bassa Hydroelectric Dam (HCB), was quoted in 2015 as stating that, Work to build the northern plant of the Cahora Bassa hydroelectric facility is due to start soon. The president further noted that, HCB was working with the government on expanding electricity production capacity through construction of the North Plant, which will add about 1,250 megawatts to the current production of 2,250 megawatts. No further information has been provided.

Links


INTERNATIONAL INVOLVEMENT: Norway, Kreditsanstalt fur Wiederaufbau (KfW) (German)

In 2011, the government of Mozambique approved a decree to transfer ownership of Chicamba and Mavuzi hydroelectric dams, in Manica province, to EDM, the national utility company. A joint development agreement project with a Norwegian company was concluded. Negotiations towards financial closure were also concluded. 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.

In May 2013, KfW approved US$23.5 million dollar in funding for renovation work on the 38.4MW Chicamba and 52MW Mavuzi hydroelectric plants. Full rehabilitation is expected to cost US$120 million.

Links


105. MOZAMBIQUE: Massingir Dam, Olifants River

INTERNATIONAL INVOLVEMENT: NORPLAN (Norwegian engineering co.) did the dam-rehab EIA in 1993; African Development Bank, China Henan International Cooperation Group (CHICO), Cooperativa Muratori and Cementisti (CMC) di Ravenna (Italy); WBHO (South Africa).
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 Olifants 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.

The spillway repair works on the Massingir dam, was budgeted for US$60 million. The contract was awarded to a consortium involving Italian company Cooperativa Muratori and Cementisti (CMC) di Ravenna and South Africa’s WBHO. Rehabilitation is set to take 24 months from May 2016; financing for the project has been secured with funds from the Mozambique State Budget as well as the African Development Bank. The President of Mozambique recently opened an auxiliary spillway at the dam at a cost of just over US$34 million, which will double previous water flow capacity in the event of floods, to 20,000 cubic metres per second.
“Mozambique: ADB to Finance Repair of Massingir Dam” (September 12, 2008): http://allafrica.com/stories/200809120965.html


106. MOZAMBIQUE: Moamba Major Dam, Nkomati/Incomati River Proposed

INTERNATIONAL INVOLVEMENT: Bank of Brazil

Construction of the Moamba Major Dam on the Nkomati River 80 kilometers south of Maputo, as a water supply dam for the capital, will receive funding from the Bank of Brazil. This dam is a major storage dam on the Incomati River near Moamba.

The dam will supply drinking water to the Mozambican capital Maputo and would also supply water to the Mozal aluminium 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.

In 2011, Mozambique and Brazil agreed to extend bilateral cooperation to include the possibility Brazilian funding of the Moamba Major dam. Negotiations for the funding began in May 2013 and has been finalised. Brazil had already funded an environmental impact study for the project and work to build the dam was due to begin in 2014 or 2015. No further information has been provided regarding commencement. The Foundation stone of the dam was laid in November 2014. The cost of the project is estimated at US$466 million, and is to be financed with a loan to Mozambique from Brazil. In this regard, Brazil has already loaned Mozambique US$8.5 million to carry out the environmental impact study and engineering design of the dam.

Links:


“Brazil Eyes Maputo Dam” (May 03, 2013): http://panafricannews.blogspot.com/2013/05/brazil-eyes-maputo-dam.html


"Brazillian Andrade Gutirrez to begin US$500m Moamba Major Dam in May" (March 21, 2016): http://clubofmozambique.com/news/brazillian-andrade-gutierrez-to-begin-us500m-moamba-major-dam-in-may/

107. 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), African Development Bank

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.). Most of the energy produced by the new facility (80%-90%) will and in all probability be bought by Eskom. South Africa’s integrated resource plan for electricity (IRP2010) makes prevision for 3349MW of imported hydro.

The plant, estimated at US$ 4 billion, will consist of four turbines of 375 MW each and 870MW of the capacity from the project will be firm power. An initial draft of the scheme was 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 counterbalanced 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.

The Project is due for commission in either 2017 or 2018, according to Mozambique’s
energy ministry. Hidroelecrica de Mphanda Nkuwa (HMNK) (made up of EDM, Camargo Correa and Energia Capital) envisages various groups of lenders playing a role in this project. This will include Development Finance Institutions (such as the World Bank, African Development Bank, European Investment Bank, Development Bank of South Africa), Export Credit Agencies (Exim Bank) and commercial banks in South Africa and abroad. Standard Bank is the financial adviser on this project.

**Alternate Project Names:** Mepanda Uncua, Mepanda Nkuwa

**Links**


**108. 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 north-eastern 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 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 kilometre 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/
109. NAMIBIA/SOUTH AFRICA: Vioolsdrift and Boegoeberg Dams, Orange River

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. No decision regarding a new dam at Vioolsdrift has yet been taken and it is one of the many developments currently being considered in the Orange River basin.

Boegoeberg Dam is situated in Cape Province near Groblershoop and Langberg. 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.

The construction of both dams remains objected by environmentalists and communities leaving around the project area.

Link

“Augrabies on hydropower hit list” (March 14, 2014): http://mg.co.za/article/2014-03-13-augrabies-on-hydropower-hit-list
110. 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.

111. NIGER: Kandadji Dam, Niger River

Under Construction

INTERNATIONAL INVOLVEMENT: World Bank, African Development Bank, the West African Development Bank, the Saudi Fund for Development, the Kuwait Fund for Arab Economic Development, the OPEC Fund for International Development, the Arab Bank for Economic Development in Africa, the Bank for Investment and Development of the Economic Community of West African States (ECOWAS), Lahmeyer (German), EDF (France) and Zarubezhvodstroy (Russian)

The construction of this multipurpose dam started on August 2008 and was expected to be completed in 2013 and as of September 2015 in 2012. When completed, this dam will have an estimated capacity of 130MW. Construction of the dam itself was contracted to the Russian company Zarubezhvodstroy, which signed the contract in September 2010 and was relaunched on May 11, 2011 following the election of President Mahamadou Issoufou. This project has three phases with the first being the dam itself, its reservoir, economic and local community development, the hydro-mechanical equipment for 18 gates, implementing social and environmental measures for resettled people. The construction of hydropower plant, road, irrigated agricultural development, transmission lines etc make up Phase II. Phase III comprises the development of the local community of the region which includes livestock, fisheries, trade and agribusiness, scaling –up of the economy and the development of irrigated agriculture. In September 2013, the Nigerien government cancelled the contract given to Zarubezhvodstroy citing the firm’s inability to complete construction within the expected time frame of September 2015 due to its financial and technical incapacity.
Completion of this Euro 130 million dam is now expected for 2017. Suggestions have been made that the dam threatens Nigeria power supply by reducing water going to the Kainji and Jeba power station in Nigeria.

Links


“Niger cancels Russian contract to build Kandadji dam” (July 20, 2013): [http://www.globaltimes.cn/content/797577.shtml#.UnjP6BAXOZQ](http://www.globaltimes.cn/content/797577.shtml#.UnjP6BAXOZQ)


112. NIGERIA: Kainji and Jebba Hydropower Rehabilitation

INTERNATIONAL INVOLVEMENT: World Bank

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. This has 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. It was reported that the dam's power supply was threatened by a dam under construction in Niger.

In 2014, RusHydro International AG had completed feasibility studies for reconstruction of Nigeria's 750-MW Kainji and 578-MW Jebba hydropower projects, the JSC RusHydro subsidiary announced. The work is to be done under a five-year agreement with Mainstream Energy Solutions Ltd. It includes the development of project documentation; organization of tenders for equipment, installation and construction; and consulting issues related to the plants' operation.

Links

“Nigeria: Jebba Dam Faces Collapse” (August 13, 2009):
http://allafrica.com/stories/200908130591.html


113. NIGERIA: Mambila Hydropower Dam, Benue River
Proposed

INTERNATIONAL INVOLVEMENT: China Exim Bank, China Geo-Engineering Corporation, China Gezhouba Group Corporation

Coordinates: 6°40'N 11°09'E

In October 2005, a 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 a 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 north-eastern 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.

The 2,600MW Mambilla Dam would if built have the largest capacity of any dam in Africa and would be one of the most costly (US$1 billion). No work has begun at the project site, besides a project inauguration ceremony. Those financing and constructing the dam include China Exim Bank, China Geo-engineering Corporation and China Gezhouba Group Corporation.

Links

“Goje Urges FG On Mambila Power Project” (August 29, 2009):
http://allafrica.com/stories/200908310213.html
114. NIGERIA: Zungeru Hydroelectric Dam, Kaduna River

Proposed

INTERNATIONAL INVOLVEMENT: China Exim Bank, Sinohydro Corporation, China National Electrical Engineering Corporation (CNEEC).

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.

In 2012, the Federal government of Nigeria approved the construction of the Zungeru dam and the contract for the Engineering, Procurement and Construction was awarded to Sinohydro Corporation/China National Electrical Engineering Corporation (CNEEC) consortium at the sum of N162.9 billion with a completion period of four years. The project consultancy was awarded to Coyne et Bellier/Decrown West African Company Ltd consortium.

The project is being financed through a long term credit from Exim Bank on a debt-equity ratio of 75.25. Affected communities are, however, alledging irreguralities realted to compensation. The project is said to be complete in 2017.
“The Economic Development of Nigeria”:  
http://www.gamji.com/article4000/NEWS4714.htm

“700MW Zungeru Dam: Gains, And Fears of Environmental Disaster” (July 14, 2013):  

“Nigeria signs deal with China Exim Bank for 700MW Zungeru hydropower project”  
(September 30, 2013):  

“Nigeria’s US$1.3 billion 700- MW Zungeru hydroelectric project deals with challenges”  
(December 19,2014):  
http://www.hydroworld.com/articles/2014/12/nigeria-s-us-1-3-billion-700-mw-zungeru-hydroelectric-project-deals-with-challenges.html

“Zungeru Dam: Communities Allege Irregularities In Payment Of Compensation”  
(September 10, 2015: )  

115. REPUBLIC OF CONGO: Imboulou Dam, Lefini River  
In Operation

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 $341 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, was 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.
In May 2011, the dam was completed and officially launched by the President. US$341 million went into its construction, undertaken by a team of 2000 Congolese workers, 600 Chinese and 23 Germans.

Links


116. REPUBLIC OF CONGO: Moukoukoulou Dam, Bouenza River

INTERNATIONAL INVOLVEMENT: China

The Chinese-built, 74-MW Moukoukoulou 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 Moukoukoulou Dam serves the southern and south-western 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):

117. REPUBLIC OF CONGO: Sounda Gorge Dam, Kouilou River

Proposed

INTERNATIONAL INVOLVEMENT: Canadian and European companies, Industrial Development Group (IDG) (South Africa), World Bank Group

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.

In 2011, South Africa’s Industrial Development Group announced it is studying the possibility of financing the construction of a 12000MW hydro-electric dam it is considering to construct it in Congo Republic. This interest was supported by the government of Congo Republic given that no other companies had been seeking to build the dam, on the Sounda Gorge.

However, in 2014, the International Finance Corporation (IFC), a member of the World Bank Group, signed a project services agreement with the Government of the Republic
of the Congo to assess the feasibility of the Sounda power project. IFC was to carry out studies between 2014 and 2016 to assess the potential for a hydropower project with strong environmental and social safeguards at the Sounda Gorge on the Kouilou River. The project is important for addressing the significant power shortages affecting the nation’s public services, families, and businesses. IFC considered options for developing the project, including through public procurement and public-private partnerships.

**Links**


**118. RWANDA: Nyabarongo Dam, Nyabarongo River**

**INTERNATIONAL INVOLVEMENT:** India Exim Bank

Construction of the $97.7 million, 28 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.

Works on the 28 MW hydroelectric plants are on their final stage and will be completed

Links


“Rwanda: Nyabarongo Hydro project to be completed by 2014” (July 26, 2011): http://allafrica.com/stories/201107261413.html


119. RWANDA: Rukarara Dam, Rukarara River

The project was completed in 2014 at a cost of US$23.5 million and is injecting between 2.5MW to 6MW into the national electricity grid, though it was designed to produce 9.5 MW.

Links


120. SIERRA LEONE: Bumbuna Dam, Seli River

INTERNATIONAL INVOLVEMENT: World Bank; Italian-based Salini Costrutorri
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

121. SOUTH AFRICA: Berg Dam, Berg River

INFORMATION 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 (US$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): 

“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

122. 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.
The Department of Water and Sanitation together with Umgeni Water and ILembe District Municipality (DM) launched the Lower Thukela Bulk Water Supply Scheme in March 2016. The construction of Lower Thukela Bulk Water Supply Scheme is necessary to ensure the supply demands precipitated by growth of the district identified in the Water and Sanitation Master Plan for iLembe DM are met. The purpose of the project is to supply an additional 55ML/d of treated water to the coastal and inland areas of KwaDukuza Local Municipality (LM) and Mandini LM.

The project includes the infrastructure required to abstract and treat water from the UThukela River to supply to secondary bulk and reticulation networks within the iLembe DM. These networks will ultimately supply both developed and un-served areas. Phase 1 of the project is about 95% complete. The estimated total cost of the project to completion is estimated to be R1.32 billion (US$ 86.3 million); the last part of the contract is expected to be completed in September 2016.

Alternate Project Names: Tugela Vaal Project, Tugela

Links


123. SUDAN: Four major hydro plants are in operation in Sudan: Roseires and Sennar (15 MW), bothon 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).
“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

124. SUDAN: Dal Dam, Nile River  Proposed

The Dal Dam would be 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. The Dal dam will have a height of 25-45 meters and a capacity of 340-350 MW. This dam would displace 5,000-10,000 people.

Until late 2015, it seemed that plans to build the Dal and Kajbar dams had been abandoned. But in early November, Sudanese president Omar al-Bashir paid a visit to the Saudi king in Riyadh to discuss ways of promoting bilateral relations and cooperation between the two countries. Following the meeting, the two governments signed an agreement to finance the Dal, Kajbar and Shiraik dams in northern Sudan. It appears that Saudi Arabia has committed to invest US$1.7 billion for the construction of these three dams.

Links


**125. SUDAN: Kajbar Dam, Nile River**

**INTERNATIONAL INVOLVEMENT:** Sinohydro Corporation (Chinese), Lahmeyer International (German)

**Coordinates:** 19°48’N 30°24’E

This 360 MW, 20 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%. In June 2007, security forces killed at least four people and wounded 13 participating in peaceful protest against the construction of the dam.

In October 2010, Sinohydro announced it had won a US$705 million contract to build the Kajbal project over 5 years. Earlier in 2010, the Sudanese government awarded contracts to build an irrigation and hydropower complex on the Atbara River in Eastern Sudan. So far four People have been killed and 20 injured, in advocating against the dam. An Environmental Impact Assessment (EIA) for the Kajbal Dam was prepared.
by Lahmeyer International. The Kajbar dam is currently under construction at a cost of US$ 1.5 billion. No further information has been provided.

Links


126. SUDAN: Merowe Dam, Nile River

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. Protests continue to date (2016).

Links

“Sudan inaugurates massive Nile dam” (March 3, 2009): http://www.middle-east-online.com/english/?id=30743

“Drowning the Land of the Ancestors: Dal & Kajbar Dams” (May 27, 2016): https://www.youtube.com/watch?v=x20stBqwfNA

127. SUDAN (SOUTH): Fulla Dam, Nile River Proposed

On July 20, 2013, the government of South Sudan adopted plans and policies to construct Fulla Dam on the River Nile, in the region of Nimule. These plans were met without objections from the Egyptian government, after feasibility study revealed Egypt would not be harmed by the construction of this dam on the Nile River. The cost of the dam is estimated at US$160 million and electricity to be generated is estimated at 40MW to supply Nimule, Juba and its surroundings.

Links


“Cabinet approves plans to construct electric dam”: http://www.radiomiraya.org/news-202/business/11649-cabinet-approves-plans-to-construct-electric-dam.html#gsc.tab=0

128. SUDAN: Al-Roseires Dam, Nile River


Roseires Dam on the Blue Nile was originally constructed in 1966 for irrigation. A 250MW hydropower plant was added in 1971. It is the second large hydropower project undertaken by CCMD JV after the Merowe Dam. Expansion project has heightened the dam by 10 meters and extended the reservoir perimeter from 12.5 km to 24.1 km. Expansion project on the dam was completed by January 2013, costing a total of US$460 million.

Links


“Sudan launches major dam to boost agricultural production, investment” (January 1, 2013): http://www.reuters.com/article/2013/01/01/us-sudan-dam-idUSBRE9000B320130101

“Completion ceremony of Al-Roseires dam heightening project held” (March 27, 2013): http://eng.sinohydro.com/index.php?m=content&c=index&a=show&catid=21&id=567
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 on the Atbara River and Bodana Dam on the Setit River, as well as other ancillary works. The project is aimed at providing irrigation and water supply as well as power generation. Construction began in 2011 and both dams were expected to be complete by March 2016. No further information has been provided.

Links


130. 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. No further information regarding construction of succeeding phases has been provided.

**Links**


131. SWAZILAND: Ngwempisi Cascading Scheme, Komati River  
**Proposed**

**INTERNATIONAL INVOLVEMENT:** European Investment Bank, African Development Bank Group

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.

In 2012, feasibility study for the Ngwempisi cascading scheme were conducted. In 2015 the government of Swaziland sought interest from consultants to conduct a pre-feasability study funded by the African Development Bank.

Links


132. TANZANIA: Iringa Dam, Rufiji Basin

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


133. TANZANIA: Kilombero Dam, Rufiji Basin

In 1984, Rubada and Norconsult identified the 464MW Kilombero Dam (Kingenenas and Shughuli Falls) as one of eight potential hydropower sites in their Rufiji Basin Hydropower Master Plan.
134. TANZANIA: Lukose Dam, Rufiji Basin

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

135. TANZANIA: Mnyera Dam, Rufiji Basin

INTERNATIONAL INVOLVEMENT: Brazilian government, Queiroz Galvao Construction (Brazilian)

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

In 2012, the Tanzanian government signed a loan with Brazil to construct a 700MW facility near Mnyera Falls. The cost of an estimated US$1 billion will be fully advance financed by Brazil and it expected that Brazilian companies will provide all the consulting and construction services for the project as well as post construction advisory services and maintenance support. Pre-Feasibility study for the project was completed by October 2012, by the Brazilian company Queiroz Galvao Construction. No further information has been provided.

Links


“Mnyera dam study completed” (October 18, 2012): http://archive.crossborderinformation.com/Article/Mnyera+dam+study+completed.aspx?date=20121018#

135. TANZANIA: Mpanga Dam, Rufiji Basin

INTERNATIONAL INVOLVEMENT: Sinohydro Corporation (Chinese), China Exim Bank

In 1984, Rubada and Norconsult identified the 165MW Mpanga Dam as one of eight potential hydropower sites in their Rufiji Basin Hydropower Master Plan. In 2011, the Rufiji Basin Development Authority (RUBADA) and Sinohydro signed a memorandum of understanding for the development of a hydropower plant at Mpanga river falls in Morogoro Region. The project is to be financed by China Exim bank and it is expected to cost US427 million. When operational, the dam is expected to generate some 165 MW of power which would be sold to TANESCO for the national grid.

Links


“RUBADA signs pact for 165MW power project” (April 29, 2011): http://www.ippmedia.com/frontend/?l=28590

136. TANZANIA: Ruhudji Dam, Ruhudji River

INTERNATIONAL INVOLVEMENT: World Bank

Coordinates: 8°57'S 35°55'E

Ruhudji Dam has been identified as 358 MW and 685 MW and is located in Southern Tanzanzia on the Ruhudji River. Upon completion, the project will generate 2000GWh
per annum an comprise of a reservoir and power plant downstream from an earth and rockfill dam. 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

“SMEC to work on Tanzania’s Ruhudji hydro project” (June 27, 2011):  

137. TANZANIA: Rumakali Dam, Rumakali River

INTERNATIONAL INVOLVEMENT: Zarubezhstoy (Russian),

Coordinates: 9°21'S 33°55'E

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 525 MW and would be developed at a site 85 kilometers west of Njombe on the Rumakali River.

In September 2010, the government of Tanzania signed an official memorandum of mutual understanding with the Russian company Zarubezhstroy to construct the Rumakali project. No further information has been provided.

Links:

“Tanesco Seeks New Study for Rumakali Hydropower Project, Tanzania”
“Rumakal (Tanzania)”: http://www.pietrangeli.com/Rumakali

“Tanzanian government signs electricity contract with Borodino” (September 24, 2010):

138. TANZANIA: Stieglers Gorge, Rufiji River  Proposed
INTERNATIONAL INVOLVEMENT: 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 Stieglers 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 Stieglers Gorge Project. No further information has been provided.

Links


139. UGANDA: Bujagali Dam, Nile River  In Operation
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, Black stone group.
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.

Construction work began in 2007 and concluded in 2012. It was officially inaugurated on October 8, 2012 by President Museveni and His Highness Aga Khan. The estimated cost of the dam and power plant is approximately US$800 million. The dam is producing 250 MW of electricity and has helped cut down power cuts.

Although the power plant was built under a PPP agreement, the government is looking at ways of purchasing the dam back.

Links


140. UGANDA: Isimba Hydropower Project, Nile River        Under Construction

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

The Isimba project is located downstream of the Bujagali dam. The plant will have an installed capacity of 183.2 MW. The feasibility study was scheduled for completion towards the end of 2010. The EIA for the dam and reservoir was not yet publically available at the time of writing this report (June 2016), though we have accessed the EIA for the transmission line and the SIA for the dam and reservoir.

The Isimba hydropower dam is being financed by China EXIM bank (85%) and the Ugandan government (15%). A joint venture of Fichtner (lead) and Norplan signed a $3.8M contract to conduct feasibility studies and prepare tender documents for the Isimba power plant and associated transmission line. Their local subcontractor is Kagga & Partners. The construction contract was awarded to China International Water & Electric Corporation (CWE), a subsidiary of China Three Gorges Corporation (TGC), on an EPC contract (Engineering, Procurement and Construction). The Indian company Energy Infratech is the supervising contractor.

There have been several hurdles for the Isimba dam, including disagreements between the Ministry of Energy and Mining Department (MEMD) of the Government and the Uganda Electricity Generation Company Limited (UEGCL), accusations of shoddy works flying between the Chinese company CWE and the Indian supervisor Energy Infratech, firing of top officials in the MEMD, and strikes due to poor labour conditions.

Construction works of the proposed US$ 556 million Isimba dam (183MW) started in January 2014 and expected completion is January 2018. When the dam is complete, it will support a bridge which will open up Kamuli and Kayunga districts to the rest of
the country across the River Nile. There are concerns on the adverse impacts of the project on the Kalagala Falls – the reservoir will extend well into the Kalagala biodiversity offset from the Bujugali dam, which goes against the agreement between Uganda and the World Bank. There is an ongoing investigation into the same by the World Bank (June 2016).

Links

“Isimba dam to create 3,000 jobs” (October 14, 2014): http://www.newvision.co.ug/news/648347-isimba-dam-to-create-3-000-jobs.html


“600 Isimba Dam Staff Stage Another Strike” (August 14, 2015): http://www.theinsider.ug/600-isimba-dam-staff-stage-another-strike/

141. **UGANDA**: Karuma Dam, White Nile River **Under Construction**

**INTERNATIONAL INVOLVEMENT**: NORPLAN (pulled out), Sinohydro Corporation (Chinese)

**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.”

The foundation stone for the proposed 600 MW Karuma dam was laid by President Museveni in August 2013, after the contract for the construction of the dam was awarded to Sinohydro, in June 2013. Construction work on the project began in September 2013 and is expected to last 4-5 years. The dam is expected to cost about US$ 2.2 billion. In March 2015, the Ugandan parliament ratified an agreement to loan $1.44 billion, from China’s Export Import bank, in financing the construction of the dam.

Links


“Uganda: Karuma Dam project to come online by 2018” (August 18, 2013): http://allafrica.com/stories/201308140007.html
“Karuma dam project to come only by 2018”: (August 13, 2013):

“Museveni commissions Karuma power dam works today” (August 12, 2013):
http://www.monitor.co.ug/News/National/Museveni-commissions-Karuma-power-dam-works-today/-/688334/1944396/-/a9ba8sz/-/index.html

“Uganda’s parliamnet agress on US$1.44bn loan for Karuma dam” (March 31 2015)
http://www.africanreview.com/energy-a-power/renewables/uganda-s-parliament-agrees-on-us-1-44bn-loan-for-karuma-dam

142. ZAMBIA: Batoka Gorge, Zambezi River

INTERNATIONAL INVOLVMENT: World Bank, China

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.

Work on the construction of the Batoka Gorge hydroelectric scheme was expected to begin at the end of 2014 following the conclusion of feasibility studies and project designs. However, a presentation done by the Environmental Resource Management
(ERM) in 2015 was thorough giving a good impression on the scope of work that has gone in to the study of the project, its viability and its nett effects on power generation, the ecosystem and the people of the concerned region. The feasibility studies are anticipated to be done by mid-year to enabling the drafting of the tender before the end of 2016. Construction of the Batoka Gorge hydroelectric power station is projected to commence early next year.

Links


“Zimbabwe says work could start in 2014 on Batoka Gorge hydro project” (October 18, 2013): http://www.engineeringnews.co.za/article/zim-power-project-2013-10-18

“Zambezi Basin Dam Boom Threatens Delta” (June 13, 2013): http://www.internationalrivers.org/resources/zambezi-basin-dam-boom-threatens-delta-8014


143. ZAMBIA: Devil’s Gorge, Zambezi River

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. No further information has been received to date.

Links


144. ZAMBIA: Itezhi-Tezhi Dam, Kafue River

INTERNATIONAL INVOLVEMENT: 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°0′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 was expected to be complete 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.

The Zambian company ZESCO built the power station at the dam and production was expected to start in 2016 to 2017. Power generation commenced in 2016, generating only 30 MW from one unit which is 50% capacity. This was due to the low water levels and generation would take on full capacity on normal water level basis.

Links

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

“USD 130 Million Credit to Zambia” (January 6, 2010):

“US$156 million 120-MW Itezhi Tezhi hydroelectric project is online” (January 28, 2016): http://www.hydroworld.com/articles/2016/01/us-156-million-120-mw-itezhi-tezhi-hydroelectric-project-is-online.html

145. ZAMBIA: Kabombo Gorge, Kabombo River

INTERNATIONAL INVOLVEMENT: Copperbelt Energy Corporation (CEC) Plc and TATA Africa Holdings (PTY),

Coordinates: 12°4'S 25°10'E

The proposed 34MW Kabombo project lies on the Kabombo River and is estimated to cost $78 million. In 2007, the Zambian government, through the Office for Promoting Private Power Investment (OPPPI) 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 was going to be positive, the power station was expected to be commissioned by 2015. The overall project implementation period is estimated at 70 months. The first phase was 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, were due to be completed as early as March 2010. Construction work on the project was expected to begin in February 2014 and was to continue for 32 months. Construction was further delayed and was proposed for 2016. No further information has been provided.

Links

“Hydro Power Project To Boost Electricity Production in Africa” (August 13, 2009): http://www.africanews.com/site/list_message/21735


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

“Hydropower plant to increase Zambia’s power generation capacity” (October 13, 2013): http://www.infrastructureune.ws/2013/10/09/hydropower-plant-to-increase-zambias-power-generation-capacity/

“CEC Kabompo Gorge, Luapula River hydropower projects begin” (June 03, 2015): https://www.daily-mail.co.zm/?p=31768

146. ZAMBIA: Kafue Gorge Lower Dam, Kafue River

INTERNATIONAL INVOLVEMENT: China Exim Bank

Coordinates: 15°57'S 28°48'E

Project construction on this dam was 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.

The Republic of Zambia government initiated the construction on November 28, 2015 in presence of the President, Mr Edgar Lungu and Mr Song Dongsheng Chairman of SINOHYDRO Corporation Limited. The Government of Zambia has appointed state-owned power producer ZESCO for the development of the project. The plant is scheduled for commissioning in 2019.

“Zesco wants Kafue Gorge Lower project completed in 5 years” (April 10, 2013): http://www.postzambia.com/post-read_article.php?articleId=31252


“Kafue Gorge Lower hydroelectric project awarded to SINOHYDRO” (December 25, 2015): http://eng.sinohydro.com/index.php?m=content&c=index&a=show&catid=21&id=605

147. ZAMBIA: Kalungwishi Hydro Project, Kalungwishi River  Under Construction
INTERNATIONAL INVOLVEMENT: 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.

Construction work on the 247MW Kalungwishi project is on-going. Construction was set to commence end of 2012 for commissioning of the plant in 2016. No further information has been provided.

Links


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


148. ZAMBIA: Kariba North Bank, Zambezi River

INTERNATIONAL INVOLVEMENT: 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 would boost electricity generation by 120 MW by December (2009) once rehabilitation works at the Kariba North Bank power station were concluded. The $400 million rehabilitation was funded by the World
In February 2014, the Kariba North Bank hydropower plant started production of 80 MW after the addition of 280 MW in November 2013. Zambia has been suffering from an electricity shortage, and the additional MW alleviated the shortage.

Links


149. ZAMBIA: Luapula Hydropower Project, Luapula River

INTERNATIONAL INVOLVEMENT: Africa Finance Corporation, Democratic Republic of Congo

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 the DRC.

In 2012, Copperbelt Energy Corporation Plc and Africa Finance Corporation signed a deal aimed at financing the construction of two hydro-power projects in Zambia. Under the deal, the Africa Finance Corporation will finance the construction of the Kabompo and Luapula hydro-power project at a cost of about US$1.2 billion. The Zambia and the Democratic Republic of Congo (DRC) signed an inter-governmental Memorandum of Understanding for the joint hydropower projects for Kabompo and Luapula.
Construction is scheduled for 2017 with a completion date set for 2020.

Links


“CEC, AFC signs $1.2 bm hydro-power project” (March 16, 2012): http://www.postzambia.com/Joomla/post-read_article.php?articleId=25881


150. ZAMBIA: Lumangwe Falls, Kalungwishi River

INTERNATIONAL INVOLVEMENT: 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 was 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 channelled to the national grid or exported to the neighbouring Democratic Republic of Congo (DRC). No further information has been provided.

Links


151. ZAMBIA: Lusemfwa and Mulungushi Hydropower, Lusemfwa River

INTERNATIONAL INVOLVEMENT: 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


152. ZAMBIA: Lusiwasi Extension, Lusiwasi River

INTERNATIONAL INVOLVEMENT: ZESCO; CNEEC (China)
Located on the Lusiwası 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 Lusiwası and Lunzua hydropower projects, with a total value of $189.9 million. Under the Lusiwası 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.

To date, no further information has been found concerning the Lusiwası Extention rehabilitation.

Links


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

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 favour of the Batoka Gorge scheme.

Links


154. ZAMBIA: Victoria Falls Dam, Zambezi River

**Rehabilitation**

**INTERNATIONAL INVOLVEMENT:** Electricité 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. No further information has been provided.

Links

155. ZIMBABWE: Bubi-Lupane Dam, Zambezi River  

In Operation

The Bubi-Lupane Dam is a water supply dam in Matabeleland North. Other dams such as the Marovanyati, Bindura, Kunzvi, Save, Tokwe-Mukosi, Gwayi-Shangani, Wenimbi, Bubi-Lupane and Matange are at various stages of completion. The construction of the dam was completed in 2012 and was commissioned in 2013. The construction of a water treatment plant for the purification of water from the Bubi-Lupane Dam to supply Matabeleland was set for completion before the end of 2013 but due to funding challenges, the dam water treatment has not been completed since 2011. Pollution continues to increase as reckless miners dump hazardous chemicals into the dam.

Links


“Bubi-Lupane plant to be completed end of year” (September 10, 2013): [http://www.southerneye.co.zw/2013/09/10/bubi-lupane-plant-completed-end-year/](http://www.southerneye.co.zw/2013/09/10/bubi-lupane-plant-completed-end-year/)


156. ZIMBABWE: Gwayi-Shangani Dam, Zambezi River  

Under Construction

INTERNATIONAL INVOLVEMENT: China International Water and Electric Corporation

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.

Due to lack of funding, the project is still in its infancy stage with only foundation excavations done. Work stalled in 2007 only to resume in 2012 for a short while. No further information has been provided.

**Alternate Project Names:** Matabeleland Zambezi Water Project

**Links**


157. **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 $533 million. Concerns have been raised about the safety of the huge Kariba Dam; it is unclear how an extension project would address this issue.

In February 2016, construction of the expansion of the Kariba South Extension was 41 percent complete as per the Zimbabwe Power Company (ZPC). The expansion project, which includes development costs to be met by ZPC, is being undertaken by a Chinese firm, Sino Hydro and is targeted for completion by 2018. To date, China Exim Bank has disbursed about $100 million, which is the project’s first tranche under the engineering procurement contract (EPC) valued at $354 million.

Links

“Kariba South Extension now 40pc complete” (February 23, 2016): http://www.herald.co.zw/kariba-south-expansion-now-40pc-complete/

158. 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. No further funding has been secured to insure the dam’s functionality.

Links

Mtshabezi water project takes off (February 13, 2010): http://www.thestandard.co.zw/local/23285-mtshabezi-water-project-
159. ZIMBABWE: Thuli–Manyange Dam, Thuli River

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.

160. ZIMBABWE: Thuli–Moswa Dam, Thuli River

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

161. ZIMBABWE: Tokwe-Mukosi Dam, Zambezi River

INTERNATIONAL INVOLVEMENT: Salini Impreglio (Italy), Loita Capital International

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.

Relocation of families to pave way for the construction of the Tokwe-Mukosi dam has been undertaken by the government of Zimbabwe. So far, US$ 2 million has been paid to the first batch of 491 families who are being moved to Nuanetsi Ranch.

In 2015, the government of Zimbabwe released $31 million to complete the construction of Tokwe-Mukosi Dam in Masvingo South. Work at the dam had stopped in December 2014 after the Italian contractor, Salini Impregilio, demanded settlement of part of the arrears owed by Government together with money to complete the outstanding works. The project which had stalled due to lack of funds would resume as a result of released funds. Of the funds released, $10 million will be channelled towards the completion of the outstanding works at the dam, while the remainder has been paid to the contractor to offset the arrears to the contractor.

Links


“Gov’t pays compensation to 491 families” (October 19, 2013): http://www.herald.co.zw/govt-pays-compensation-to-491-families/