The Niles

Issue 10
23 October 2017
Kigali, Rwanda

A river that forgets its source will eventually dry up...

As with all previous issues of The Niles, this one also begins with an African proverb. The look and feel of the publication remain the same, yet we are proud to announce that this issue of The Niles goes beyond Sudan and South Sudan. Like the River Nile itself, this time we are crossing borders to include journalistic contributions from all Nile Basin countries.

In other words, this is the first real 'The Niles', the first issue telling stories from the Nile sources in Burundi, Rwanda and Uganda, all the way to its delta in Egypt. Food, water security, energy access, ecosystems, and climate change are only a few of the challenges faced by the people and countries sharing the Nile today. These issues ask for a much wider angle from a journalistic point of view; they need to be considered beyond their national contexts. That is why we plan to create a crossborder network of journalists from all Nile Basin countries to produce excellent journalism, to promote increased factual and accurate reporting on topics that affect the entire region. Journalists will raise awareness about topics like cooperation, peace, and security in a way that is easily understood by a wide range of people.

Starting with this issue, in which we present the winners of the Nile Media Awards 2017, a competition that was fittingly organised under the theme of "Nile Cooperation", we will work regularly with journalists to build and maintain a network through workshops and on-the-job training, with support from GIZ on behalf of the German Federal Foreign Office. As we develop new issues together and share ideas, we are reminded of the Yoruba proverb as we know that journalists who do not deal with their sources carefully, will also, eventually, dry up.

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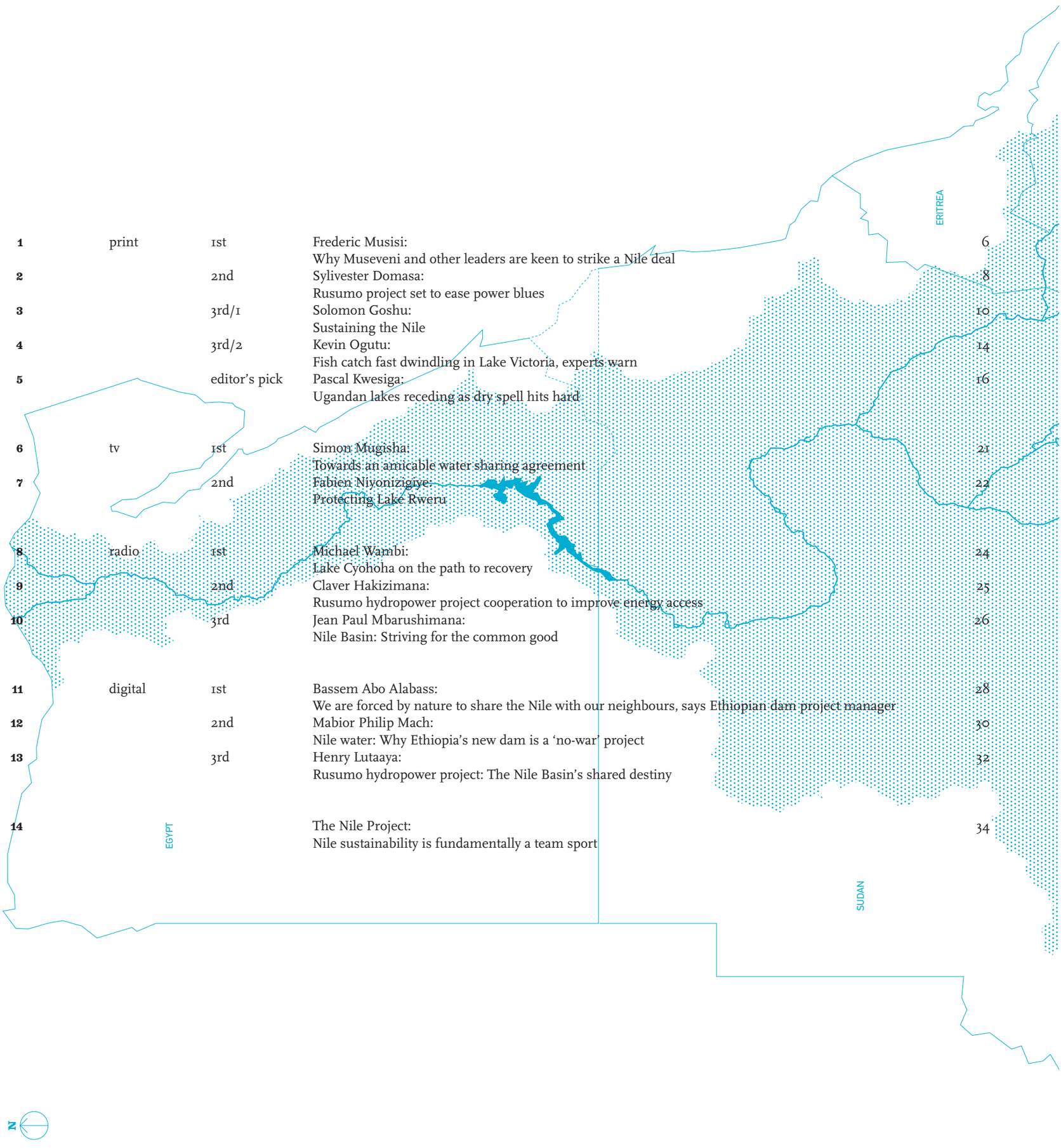

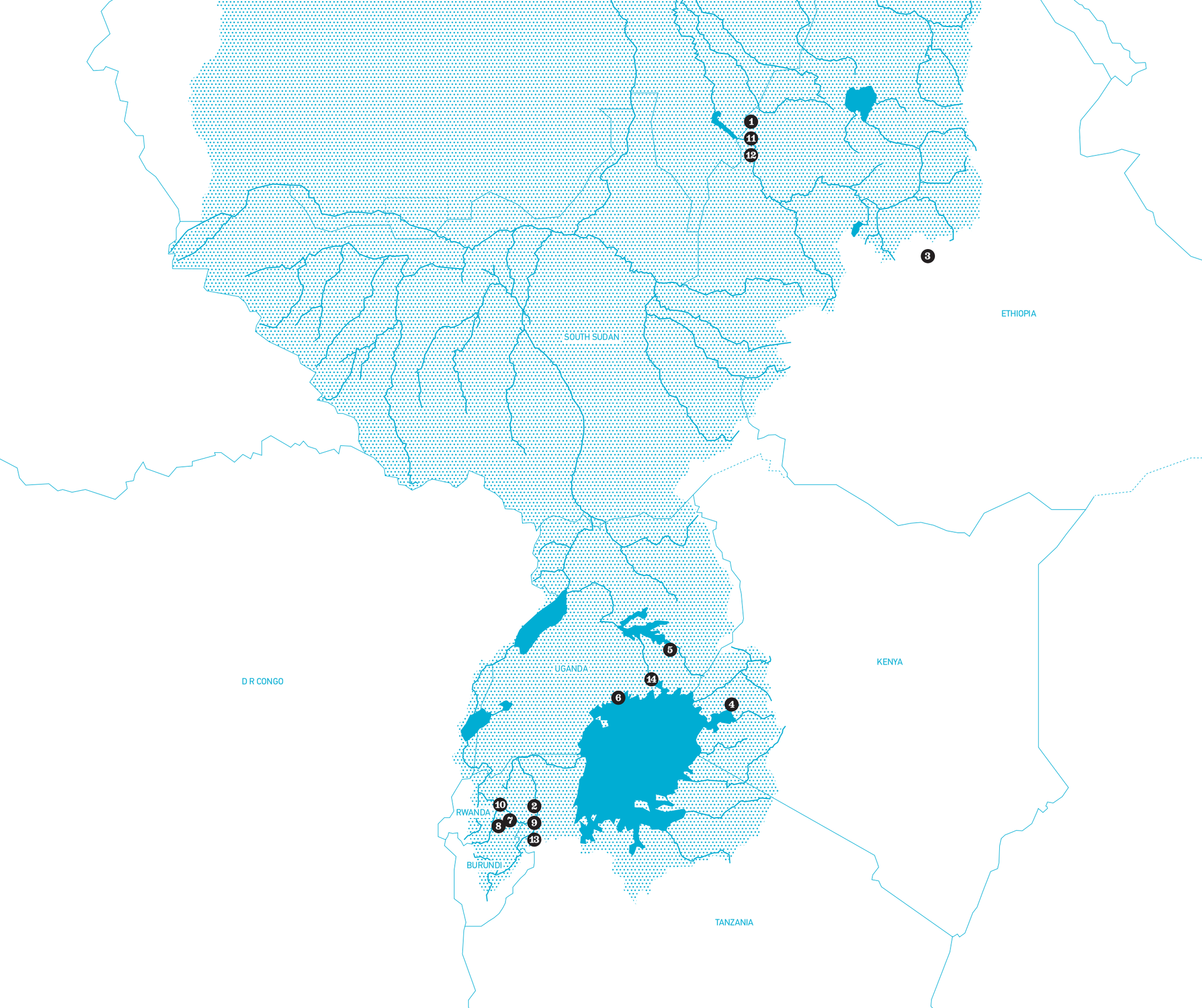
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Introducing the Nile Media Awards

Eng. Innocent Ntabana,
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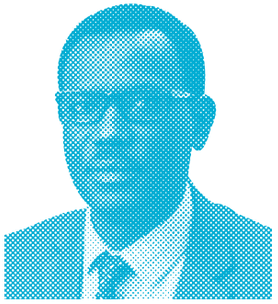


Two years ago, the Nile Basin Initiative launched the Nile Media Awards competition to recognise excellent reporting and coverage of Nile Cooperation and issues affecting the Nile Basin. After our inaugural awards in 2015, we are proud to – with the valued support of the German Federal Foreign Office – recognise this year's winners at the Nile Media Awards ceremony in Kigali, Rwanda, and present them, alongside one other excellent submission, in this special edition of The Niles.

We were delighted to receive over 50 entries surrounding this year's theme 'Cooperation in the Nile Basin' – in languages including English, French, Arabic and Kiswahili. All submissions demonstrate a keen interest among the Nile Basin community to report on cooperation in the region – on the issues that bring us together, rather than divide us. We hope that these awards will serve as a reminder that accurate and constructive reporting can play a key role in fostering positive relationships among the countries and people that share the River Nile.

I would like to express special thanks to our panel of judges for their professional and meticulous dedication to a fair and transparent selection process. The jury was comprised of representatives from each of our seven partners in these awards and included:

Sarah Bebb, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)
Hilke Fischer, Deutsche Welle
Fidele Niyigaba, Nile Basin Discourse
Camille Karangwa, Global Water Partnership Eastern Africa
Annika McGinnis, Africa Water Journalists
Mahamed Abdillahi, Intergovernmental Authority on Development (IGAD)
Sven Recker, Media in Cooperation and Transition (MiCT)
Eugene Anangwe, Independent Media Consultant

I am happy to note that the process was successfully concluded and two to four winners selected across four categories: Print, Digital, TV and Radio. Members of the jury expressed great satisfaction at the quality of entries that were submitted, which made for some stiff competition.
It goes without saying that there are many more talented and dedicated journalists whose important work we were not able to recognise through these awards, but whose efforts in reporting on issues surrounding Nile Cooperation do not go unnoticed.

I would like to end by thanking all those who submitted their entries and look forward to continue reading, watching and hearing your excellent coverage in the media of the Nile Basin countries. Keep the Nile cooperation flag flying high!

print

The Nile River flows through six of the world's poorest countries, home to an estimated 300 million people, the majority of whom live in rural areas. The Nile river basin contains over ten percent of Africa's landmass, in 11 countries. Many of these countries rely almost exclusively on the Nile as their source of freshwater.
Photo by: iStock

Why Museveni and other leaders are keen to strike a Nile deal

Unusual opportunity: There is much-unsettled business surrounding the Nile, the world's longest river. Daily Monitor's Frederic Musisi reports that the negotiations for the ten countries to reach an understanding over the veritable natural resource are entering a crucial phase.

Frederic Musisi
Kampala, Uganda

print

1st

Rivers do not follow political boundaries. They flow anywhere and anyhow through states and international borders, usually leaving behind a dilemma on who owns the waters and who should decide its use. The Nile is one of such river.

The river's catchment area is shared by ten countries, known as the Nile riparian states. They include Egypt, Sudan, Ethiopia, South Sudan, Uganda, Kenya, Rwanda, Burundi and Tanzania, and DR Congo.

That makes the river a theme for political interaction and more than once has shaken relations between and among the riparian states that share the river with distinct variations, uses and interests. Egypt and Ethiopia are the most recent example after the latter undertook construction of the Grand Ethiopian Renaissance Dam on the river, the largest dam in Africa.

Complicated hydro-politics

Politics aside, the stakes over the river are rising every day, especially in light of changing socio-economic dynamics in the Nile Basin, among others high population growth, climate change, infrastructure development, and environmental degradation.

Dr Salman M. Salman, a renowned water law expert, previously advising the World Bank, in a paper titled 'The new state of South Sudan and the hydro-politics of the Nile Basin', classifies the stakes and interests of Egypt, Ethiopia, South Sudan and Sudan regarding the Nile as "very high"; those of Uganda as "high"; Burundi, Kenya, Rwanda and Tanzania as "moderate"; and DR Congo as "low".

"Those variations present themselves quite well in the fact that Ethiopia contributes about 86 percent of the total flow of the Nile waters, but uses only about one percent, while Egypt and Sudan use almost the entire flow of the river, and do not contribute any to its flow," he notes.

To the Egyptians, the Nile means life, something which was better put by one Egyptian Army Colonel who, while writing on the Egypt-Sudan relations in 1949, observed: "The Nile to Egypt is a matter of life and death. If the water of the river were controlled by a hostile state or a state that could become a hostile state Egypt's life is over [...]. For this reason, all of Egypt's efforts are to secure life in the coming future."

For the country, the river remains the only reliable source for renewable water supplies. This is a well-known fact and perhaps best explains the caution that President Museveni exercises while poring over the Nile issue.

Asked by the Daily Monitor early this year at a joint conference he addressed with the visiting Ethiopian Prime Minister Hailemariam Desalegn still over the Nile, whether they did not need first to scrap the colonial agreements that have raised the stakes over the river even much higher, Mr Museveni skirted the question with an indirect response. He said: "We were not there then, but are here now, and it is us to resolve the issues of the river."

The two principals called for a high-level summit attended by all Nile-sharing countries this June to iron out outstanding grievances, most especially of the Cooperative Framework Agreement (CFA) that espouses equitable utilisation of the river. The CFA was adopted in Entebbe in 2010 and seeks to replace colonial agreements that grant[ed] Egypt [and Sudan] greater say on the river.

New key, old lock?

The CFA was signed by Rwanda, Uganda, Tanzania, Ethiopia, Burundi and Kenya to work towards attaining a greater share of the Nile shares, but Egypt and Sudan declined, insisting on the pre-colonial agreements which grant them bigger shares of the Nile waters but which the former interpret as granting "monopoly" over the river.

Its main principles are equitable and reasonable utilisation of the waters of the Nile. Uganda has yet to ratify the agreement pending consensus of all the ten countries.

In 1929, Britain (then colonising and on behalf of Uganda, Kenya and Tanzania) negotiated an agreement with Egypt for greater say on the river, and in 1959 Egypt signed another agreement with Sudan giving themselves large quotas of the water.

The Nile's annual flow at the signing of the 1959 pact was measured at 85 billion cubic metres. Egypt assumed a 75 percent share (55.5 billion cubic metres) and 25 percent (18.5 billion cubic metres) to Sudan with the assumption that the upstream countries (Uganda, Rwanda, Burundi, Ethiopia can rely on other sources like rain or freshwater bodies.

What this means is that upstream countries cannot undertake any activities, say irrigation or dam construction, which could significantly affect Egypt's [or Sudan's] allocated water quotas.

The CFA, however, allows the up-stream countries to undertake activities as long as they consult widely with and notify other members, especially those that significantly depend on the river.

Sudan would later make a u-turn and requested for admission into the CFA, leaving Egypt outside alone. Currently, the Nile Basin Initiative (NBI), an intergovernmental body established 17 years ago to steer cooperation on Nile issues, is engaged in shuttle-diplomacy in an attempt to sway Egypt back to the table.

Mr Desalegn, the Ethiopian premier, correspondingly maintained that since the CFA was adopted in Entebbe bringing back the principles to pore over the deadlock would perhaps yield a compromise.

The River Nile near Jinja in Uganda, September 30, 2009.
Photo by: iStock

Technical or political solution?

Egypt has for centuries survived and exploited most of the river's flow. The size of its population, as well as its almost total dependence on the Nile, makes it a highly sensitive one, especially if any attempt is perceived to undermine her authority over the river.

Some commentators have suggested redrawing the water quotas for each country based on current demands but in sync with international water laws to resolve grievances from all fronts.

The problem is, the NBI executive director Innocenet Ntabana told Daily Monitor, talking about water volumes in any agreement/s is risky because the flow changes any time subject to either natural or artificial factors.

"Discussions are still open to address any member's concerns [most especially Egypt] but this has to happen within the boundaries of the CFA," Mr Ntabano said in an interview, though Egypt still insists that the issue of volumes should be addressed.

Egypt [and Sudan] declined to sign the CFA specifically over Article 14(b), which requires members "not to significantly affect the water security of any other Nile Basin States".

"What the riparian states need to be discussing is how to equitably benefit from the river the way it is."

In a research paper titled, 'Sharing the Waters of the Nile: Conflicts and Co-operation', the authors Larbi Bouguerra and Olivier Petitjean argue that the particularly sensitive nature of the question of the Nile for the Egyptians is explained partly by historical and strongly symbolic reasons, and partially by a genuine need for water.

While it is true that Egypt has an undeniable need for water, Dr John Nyaoro, the former NBI executive director now serving as advisor in Kenya's Water ministry, says that cannot be used as the basis for redrawing the water quotas for each country or sticking to the current monopoly assumed by Egypt [and Sudan].

"NBI being a forum should be able to facilitate members to Egypt's concerns, the sooner, the better," Dr Nyaoro argues.

However, "seeking to redraw the water quotas is something of colonial mentality. What the riparian states need to be discussing is how to equitably benefit from the river the way it is."

Dr Nyaoro, like Mr Ntabano, said with the ever-escalating impacts of climate change the danger in water quotas like in the fact the water volumes can change subject to both natural and artificial factors yet cannot be increased.

The support of the international community is critical to encouraging and consolidating cooperation between the countries that share the Nile, Dr Salman told a meeting of stakeholders from NBI states last December in Kigali, Rwanda. "What is apparent though is that Egypt and Sudan's fears over their historical rights to use the river waters are exaggerated."

"If they don't learn how to share the alternative is conflict; which is not only uncalled for but also very costly," Dr Salman noted, reinforcing the obligation to use the river the way it is defined under international water law defined under two doctrines that govern surface water rights in the world; the Riparian doctrine and Prior appropriation doctrine.

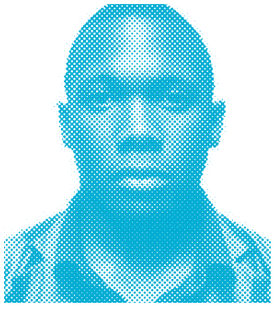
The Riparian doctrine stipulates that water belongs to the person whose land borders a body of water. Riparian owners are permitted to make reasonable use of this water provided it does not unreasonably interfere with the reasonable use of this water by others with riparian rights.

The Prior Appropriation doctrine states that water rights are determined by priority of beneficial use; that the first person to use water or divert water for a beneficial use or purpose can acquire individual rights to the water. However, this school of thought is getting increasingly out-dated.

The German political foundation, Konrad-Adenauer-Stiftung, in a research paper titled 'The Nile Treaty: State Succession and International Treaty Commitments: A Case Study of The Nile Water Treaties' reckons that agreements concluded during the colonial era are not binding for the successor states of the Nile Basin and that this is the position in international law as buttressed by the practice of the states.

He advises that "management of the Nile waters requires either an international institution structure or a restricted multilateral treaty regime or both".

How far can the political heads go in pushing for this or something related, especially given that water sharing remains a global problem, especially with the ever-escalating droughts?



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Rusumo project set to ease power blues

Although it took virtually half a century, the World Bank funded regional Rusumo Falls Hydroelectric Project (RRFP) implemented on the Kagera River in Tanzania is proving a "game changer" providing a solution to the Nile region energy security crisis.

Sylivester Domasa
Dodoma, Tanzania

print

2nd

The project which commenced at the Rusumo site in Tanzania's Ngara District earlier this year is expected to bring electricity to 520,000 Burundians, 467,000 Rwandese and 159,000 Tanzanians, according to a Nile Basin Initiative (NBI) document.

"We had no access to electricity for lighting and other energy-related needs. Instead, we have to rely on kerosene lamps and other energy sources that are more expensive and insufficient," Nyakiziba villager Ms Agnes Rwekaza says.

The villages (Buneko, Kashinza, Nyakiziba, Marukolazo and Ntobeye) around the Rusumo Falls Hydroelectric Project in Tanzania have neither seen electricity nor electric poles. The same holds true to their neighbours in Rwanda and Burundi. They are now trying solar power, yet, it does not satisfy the demand for energy to improve social services and empower dwellers.

In these villages, firewood is the primary source of power. Hence, putting water sources in danger due to the excessive felling of trees. However, after a long attempt, finally, the World Bank approved US$ 340 million funding to construct a power generation plant in Ngara.

Besides, the African Development Bank (AfDB) agreed to release about US$ 121 million for transmission lines to connect the power plant to the national grids in Tanzania, Burundi and Rwanda.

Plitical instability, the lack of a mechanism to coordinate a medium-sized trans-boundary project and conflicts between countries had significantly interrupted the implementation of the multipurpose project, which was already proposed in 1974.

Observers, including the World Bank, suggest it had become a key developmental challenge. Tanzania's by then Energy and Minerals Minister, Prof Sospeter Muhongo, gracing a ground-breaking ceremony of the 80 MW Rusumo Falls Hydroelectric Project said: "There should be no further interference in the project."

"Most of the delays were unnecessary, and it is high time that government officials understood the need to fast-track development to the villages by helping supply reliable and affordable electricity," he added.

Official figures show electricity access in Tanzania has risen to 67.5 percent in 2017 up from 20.5 percent in 2007. In Rwanda and Burundi, electricity access remains relatively low at 30.9 and 10 percent respectively.

Implementation of the regional project will add-up 26 MW to each member country. "This will help in the attainment of inclusive-social growth, a main aspiration of the African Union Vision 2063 and the UN Sustainable Development Goals," Mr Michael James, an independent economist said.

Ntobeye villager, Mr Shaabani Ntabindi told 'Daily News': "Health services are poor here. There is no proper medical care due to lack of electricity. Expectant mothers have to plan a month ahead of their delivery dates."

"This has forced women to deliver at home and with poor supervision. In turn, they risk lives of the mother and the unborn child." Mr Ntabindi and other villagers are hopeful the project will be a game-changer in their lives.

They anticipate the electricity will help power their lives. "We have been in total darkness. To us TV news is a song whose composer is yet to be born," Mr Methusela Joseph, another villager said. "We see this as pregnancy, and when delivered we can be able to sing altogether with those in town."

Tanzania, like other Nile Basin countries, is characterised by very low levels of access to electricity, and the lack of a fully connected or reliable regional power grid. This creates a real barrier to economic development.

Analysts consider the ongoing project will help reduce the increasing demand for energy now growing at an average of ten percent per year in the region.

Expected to be completed early 2020, the Rusumo Falls Hydroelectric Project will enhance socio-economic growth, reinforce regional cooperation, partnership and peace within the Kagera River Basin countries. However, observers say the power plant remains a complex project, and needs to be effectively coordinated and managed.

"We have been in total darkness. To us TV news is a song whose composer is yet to be born."

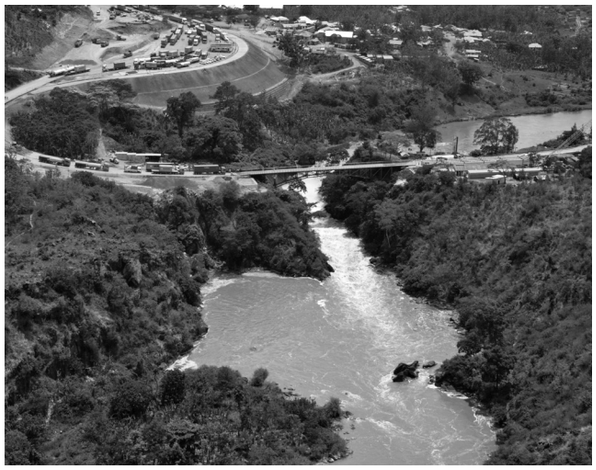
AfDB's principal energy trading expert, Dr Humphrey Ndwiga explains that the region has been facing power shortage for decades, while massive hydropower potentials and other energy sources are untapped.

"This project is an example of what is possible when neighbouring countries cooperate and engage each other constructively for the benefit of their people," he said.

Research shows the Nile Basin has immense, untapped sources of alternative energy, including hydropower, geo-thermal, natural gas, oil, coal, peat, solar and wind. All can be used to face its energy security challenge.

Hydropower, in particular, has enormous potential and is attractive due to its long economic life and low cost per unit of energy produced. However, prolonged droughts have crippled some hydropower plants.

Power generation at hydropower plants has dropped by 15 percent, covering now 20 percent of Tanzania's electricity needs. Kidatu hydropower station, which is the largest plant with a capacity of 204 MW followed by Kihansi reservoir (180 MW) and Mtera (80 MW) on the country's biggest dam



Left: The Rusumo Falls Hydroelectric Project area, October 27, 2013.
Right: The Rusumo Falls in Tanzania, October 27, 2013.
Photos by: Nile Basin Initiative

have all been facing low water levels and therefore do not work at their full capacity.

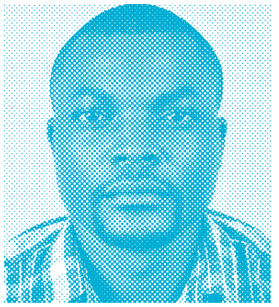
Between October and November 2015, Tanesco – the state-power utility firm – was forced to shut down its main hydropower facility for nearly a month as water levels hit below the minimum requirement to run the turbines.

The former Energy Minister Prof Muhongo said: "As the government, we are slowly abolishing the use of this expensive, fuel-powered emergency power generators."

Climate change expert at the University of Dar es Salaam, Ms Agnes Mwakaje is optimistic that a stronger coordination and collaboration among countries "will make a difference".

Conservationists and environmental analysts also suggest that the construction of a US$ 30 billion Liquefied Natural Gas (LNG) export terminal will increase access to reliable and affordable energy.

Tanzania, holder of East Africa's biggest natural-gas reserves (at 57.25 TCF) after Mozambique has not yet reached a final investment decision and considers to import electricity from Ethiopia to meet its domestic and industrial demands.



Sylivester Domasa is the Bureau Chief of the Daily News in Dodoma, Tanzania. He was formerly acting news editor and a science and environmental reporter for The Guardian Newspaper in Dar es Salaam.

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Sustaining the Nile

The Nile River is the lynchpin that holds the North-Eastern part of Africa together for many years. However, this relationship has not always been smooth; rather it oscillated between cooperation and hostilities. Nevertheless, recent concerns regarding the Nile are different. Studies indicate quantity and quality of the Nile are decreasing due to climate change and population pressure. While imbalance between the current investments in water, land and energy, and their sustainability has increased the complexity of the Nile issue even further.

Solomon Goshu
Addis Ababa, Ethiopia

print

3rd /1

Will the hydro-political landscape in the Nile Basin be affected by investment projects in land for food, biofuel and cash-crops production undertaken mainly in upstream countries, but also Sudan? Will this trend impact effective cooperation and joint management of the River Nile? How may it affect trans-boundary water interaction in the region? What role could there be for regional bodies?

These are few of the questions a book entitled "Land and Hydropolitics in the Nile River Basin – Challenges and New Investments", which was launched in August 2016, tries to respond. The book was re-launched at a workshop that took place from 3rd to 5th December 2016 in Wad Medani, Sudan. The workshop was co-organised by the Stockholm International Water Institute (SIWI), the International Water Management Institute (IWMI) and the Sudan Hydraulic Research Center (HRC), and brought together researchers, academics, experts, policymakers, the private sector and the media. Both the book and the workshop dealt with land and water investment projects in the Eastern Nile Basin at great length.

Emil Sandstrom, one of the editors of the book, highlights the emerging land investment projects and the hydro-political landscape of the Nile Basin in one of the chapters. According to him, countries with relatively cheap land and labour prices were markedly seen as attractive destinations for foreign investment projects in agriculture. Even though accurate information on the magnitude of land deals and their implications for trans-boundary water management and water availability is limited, land and water investment projects are increasing in the Nile Basin.

Ramy Lotfy Hanna, a doctoral researcher at the Institute of Development Studies, University of Sussex in the UK, identifies four main types of large-scale land-water related investment projects: direct investment in foreign lands by sovereign wealth funds (SWFs), state-owned enterprises investing in agricultural production in foreign countries, government-to-government deals rather than through subsidiary bodies like SWFs, and private sector investment projects, including agribusiness and agri-food companies, biofuel developers, and private institutional investors.

In fact, in recent years, several large-scale land deals have been concluded in the Nile Basin countries specifically in the Eastern Nile which consists of Ethiopia, Egypt, Sudan and South Sudan. Sandstrom states that during 2008-2013, the total amount of intended land deals among the Eastern Nile riparian countries and Uganda covered an area of more than 8.1 million hectares, and the size of contracted land deals encompassed an area of about 4.3 million hectares.

The Egyptian government alone has been involved in land deals in upstream countries covering an area of about 1.7 million hectares in the same period.

Sandstrom points out that although water resources were the backbone of all kinds of agricultural activities, water resources were ignored in investment negotiations. Land deals generally do not include water in the contracts. "This adds an additional layer of complexity to the water-resource dilemma of the Nile," he said.

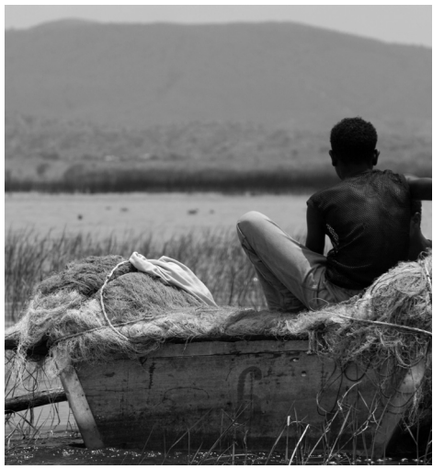
Similarly, the studies presented in the Wad Medani workshop showed that the imbalance between current investment on water, land and energy, and its sustainability had increased the complexity of the Nile issue. This adds to the host of problems that continue to beset Nile Basin countries. For one, studies show that the quantity and quality of the Nile water is decreasing. Climate change/variability and population growth are just two of the major specific challenges that the Nile water faces.

On the other hand, food security is also an equally important agenda for some countries. Developing countries of the basin highly depend on agriculture to feed their citizens. Notably, the Eastern Nile Basin's population depends on subsistence farming, irrigation agriculture and hydropower. Among other things, agriculture boosts food security, creates job opportunities and enhances land value. It is also an essential instrument for export promotion and environmentally-friendly businesses.

Obviously, agriculture uses water that comes either from rain or irrigation. Expansion of rain-fed agriculture is less of concern in comparison to irrigation-based agriculture. The latter is a great concern as it may reduce the flow of water downstream. Of course, above everything else, the issue of the scarcity of water has become the main agenda for Nile Basin countries. The fact that the issue of water security was the stumbling block for the Cooperative Framework Agreement (CFA) negotiation is a living testimony to the matter.

Also, the demand for more water is not expected to decrease. To the contrary, projections about the future vividly indicate that it would rise substantially. "The population of the basin would be one billion by 2050. And that one billion would not be all rural. About 70 percent of the population is expected to be in urban areas by 2050. And that means the demand for water, food, and power would increase," said Gete Zeleke (PhD), director, Water and Land Resource Center, Addis Ababa University. In the same way, the total energy demand of 11 Nile Basin Initiative (NBI) countries is expected to increase from 183,711-gigawatt hours (GWh) in 2010 to 1,170,328 GWh by 2035.

The issue of sustainability provides part of the solution for scarcity and poor quality of water. Gete argues that sustainability of investment in natural resources management in the Nile Basin should be given serious attention. "Despite the huge investment in natural resources management within the past four decades, land degradation is still one of the major challenges in Eastern Nile," he said. While noting that massive investment in natural resources management in the last four



Left: A fisherman in Ethiopia on May 14, 2007.
Right: Rural farmlands near Amanuel in Ethiopia on February 14, 2015.
Photos by: iStock

decades had covered millions of hectares of land and millions of dollars invested, Gete contends that success was not commensurate with efforts made. Both Innocent Ntabana, executive director of the NBI since September, and Fekahmed Negash, executive director of the Eastern Nile Technical Regional Office (ENTRO), noted that their institutions had done a lot to improve the sustainability of land and water management in the basin.

Gete advises that planning about sustainability and designing to ensure sustainability of investment projects in natural resources management should be started during the planning process. He is also of the view that making communities and local authorities owners of natural resources management initiatives is crucial for a successful outcome which is productive and economically attractive.

"The population of the basin would be one billion by 2050. And that one billion would not be all rural. About 70 percent of the population is expected to be in urban areas by 2050. And that means the demand for water, food, and power would increase."

For the experts, the issue of sustainability is better managed in cooperation by all riparian countries than independent projects at a country level. For instance, Gete explains that the impact of land degradation was not limited to decreasing productivity as it might also affect the biophysical situation of the place. Gete was asked by one participant how a lower riparian country like Sudan could be involved in ensuring the sustainability of land management in an upper riparian country like Ethiopia. He responded: "We know that Sudan is investing millions of dollars in cleaning water from sediments. Instead of investing in cleaning, it would have been possible to invest that amount in the highland parts of Ethiopia. It enhances productivity and keeps the soil."

When the participants of the Wad Medani workshop visited the Rahad Agricultural Corporation and DAL Irrigation Scheme, two of the largest agricultural schemes in Sudan, they were informed that the cost of canal cleaning is close to 60 percent of the total cost of operation. Sudan invests millions of dollars per year for dredging and canal cleaning. The storage capacity of both the Sennar Dam (1925) and the Roseires Dam (1966) is also substantially reduced due to land degradation.

Sudan has an enormous potential to expand irrigation. According to Ana Elisa Cascão (PhD), program manager at the Trans-boundary Water Management Unit at SIWI, in the 1990s agriculture/irrigation lost priority in the political agenda of Sudan. Instead, oil became the base of its political economy. However, the independence of South Sudan and the subsequent end of oil revenues to Sudan forced changes such as diversification of economy, export-based strategies and commercial agriculture. "And expansion of large-scale agriculture is now back," said Cascão.

Most of the irrigation potential depends on development of hydraulic infrastructure and storage capacity. Between 2008 and 2012, Sudan heightened the Roseires Dam by 10 meters. As a result, hydropower-generation capacity increased from 280 to 400 MW. Similarly, the reservoir storage capacity increased from 3.3 billion cubic meters (bcm) to 7.4 bcm. However, irrigation expansion is embedded in Sudan's complex relations with both Egypt and Ethiopia.

Cascão states that as a result of the changes in global political economy since 2008, foreign direct investment in agriculture increased and Sudan had become a major investment-hosting country. Now, several investors operate in Sudan. Sudan aspires to become one of the top producers of sugarcane.

Sudan's arable land is estimated to be 105 million hectares, of which only around 18 million hectares are currently under cultivation. Currently irrigated land ranges from 1.2 million to 2.2 million hectares, which is only around one percent of the total arable land.

Prof Seifeldin Abdalla, chairman of the Water Resources Technical Organ (WRTO) and the former minister of Water Resources of Sudan, reveals that there were untapped water and land resources in Sudan. However, there was room for improvement in conservation of rainwater by harvesting. He said that even if the hydropower potential of Sudan was 20,000 MW, now only 26 percent are used. He also notes that out of its irrigation potential, only 1.23 percent (5.6 million hectares) are used. Sudan has more than 80 million hectares of fertile land.

Cascão mentions that until recently Sudan had been irrigating around 1.3 million hectares of land in the Blue Nile sub-basin. If Sudan's master plans for the Blue Nile irrigation schemes – extensions and new schemes – were fully developed, this would add another 0.9 million hectares of land to the existing area under cultivation. If Sudan developed all these additional schemes, at least an additional 10 bcm/year would be needed for full expansion. The other four bcm/year of water now stored behind the heightened Roseires would allow Sudan to expand only part of the new schemes, Cascão argues. According to her, the full-expansion scenario was possible only if storage infrastructure was developed upstream, underscoring the logic of Sudan's support to the Grand Ethiopian Renaissance Dam (GERD) as part of a wider agricultural development strategy.

Some Sudanese officials believe that the GERD would provide an amazing opportunity to increase almost two-fold the land under irrigation in Sudan. For them, an upstream

dam could contribute to increased storage and capacity to regulate the flow, thereby making more water available for irrigation schemes in Sudan.

Similarly, it is also the belief of Cascão that this increased water availability would assist Sudan in optimising irrigation, including in its decisions on specific water withdrawals and distribution for improvement and expansion of existing and new schemes. It also provides reliable water supplies during the seasonal low-flow periods, which makes summer irrigation possible. It allows Sudan to change the current operating rules of its reservoirs to boost irrigation (as well as hydropower) production. In brief, it could provide a more constant flow over the whole year, reduce the uncertainty inherent to periods of low flow and ensure a more continuous irrigation supply, Ana explains.

Atakilti Beyene (PhD), a researcher at the Nordic Africa Institute, submits that in Ethiopia, large-scale irrigation schemes were not that common. Of course, small-holder farmers have tried to use irrigation agriculture. Ethiopia covers 111.5 million hectares, of which 74.3 million hectares are suitable for agriculture, but only 14.6 million hectares are being used by small-holder farmers. According to official government statistics, irrigation potential was reckoned to be 4.3 million hectares, but now only 1 million hectares are irrigated. However, Irrigation Management Transfer (IMT) is now a major component of national agricultural policy of Ethiopia. According to Atakilte, IMT was a relatively recent phenomenon.

For Atakilte, IMT as a strategy appears to be appealing for various reasons. Among other things, it serves as an instrument of poverty reduction, economic growth and climate resilience, and green-growth strategies. It also creates critical mass of producers that meet urban and industrial demands. Atakilte notes that in the Koga Dam and Large-scale Irrigation Scheme of the Lake Tana Basin, about 10,000 house-hold farmers, and almost all in the irrigable site, were included. Upstream people who depend on about 20,000 hectares were also expected to practice conservation agriculture.

Wondwossen Michago, a doctoral student in the Department of Political Science, Lund University, notes that in the absence of ecological and territorial buffer zones, mobility and scarcity makes conflict inevitable.

He claims that among large-scale agriculture investors in Gambella, 11 of them were foreigners – (Indian (8), Chinese (1), Turkish (1), and Saudi (1). No indigenous investor was registered.

Lack of participatory decision-making, lack of local skilled labour, meager employment returns, the presence of pseudo investors who were using their land investment license as a mortgage to borrow money from banks, the presence of investors using ox-drawn ploughs, the presence of investors who were engaged in illegal businesses like timber production and selling, made the success of the large-scale farming elusive in Gambella, Wondwossen argues. However, the experience of Karuturi provided the worst scenario.

According to Atakilte, irrigation infrastructure and management needed urgent improvement in Ethiopia. He describes the missing elements in the Ethiopian large-scale irrigation schemes, which included access to house-hold irrigation technology, farmers' capacity-building, engagement with mid- and large-scale private sectors, agricultural productivity and commercialisation, water financing modality, and communication structure across schemes. He also suggests a way out for these problems. Among proposed solutions are building the skills and capacities of small farmers, promoting relevant, small-scale and affordable agro-processing technologies, and developing speciality and niche markets that also involved small farms.

"We do not holistically understand what is happening and will happen to the Nile in the short, medium and long-term. We do not know the tipping point, beyond which we will harm the fragile and finite Nile irreversibly."

In South Sudan, food security initiatives have become important agenda in recent times. There is an urgency to utilise the untapped agricultural land. The need to diversify the South Sudanese economy has pushed this agenda further. According to Victor Bol Dungu, director for research and documentation at the South Sudan Law Society, 53 investment projects cover 5.18 million hectares, or 8.4 percent, of South Sudan's total land area. Dungu notes that foreign investment projects in agriculture, biofuels and forestry covered 2.64 million hectares. All investments, foreign and domestic, in all designated sectors included 5.18 million hectares, which is approximately nine percent of South Sudan's total land area. Dungu states that these large-scale investments required large amounts of water. Moreover, a long dry season would divert attention to irrigation.

Dungu also points out that between 2011 and 2014, the number of large-scale investment projects almost doubled. He believes that investment activity was likely to increase. These investments could provide benefits (employment creation, rural development, food security, diversification of the economy). But if not properly managed, they could undermine livelihoods (displacement, land concentration, export-oriented production) and could easily lead to social unrest and conflict.

Dungu observes that the investment projects were mostly located on community land. "The post-CFA investments in agri-

A traditional boat on the Omo River in Ethiopia, February 17, 2013. Photo by: iStock

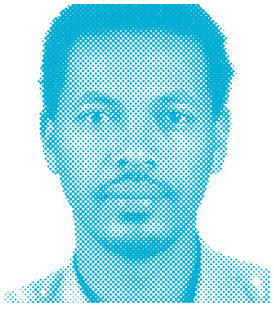
culture and forestry cover 2.5 million hectares of community land and just 83,000 hectares of government land. 97 percent of the land sought after for agriculture and forestry since 2005 is situated on community land, and just three percent is situated on government land," he said. He attributes the surprising amount of investor interest in these investment projects to the uncertainty of the transitional context, the weak legal framework and the low land value. As several investment deals faced community opposition, Victor is of the opinion that the existing investment agreements in South Sudan needed to be reviewed.

The findings of several studies presented at the workshop highlighted that the future of land, water and energy investments in the Eastern Nile would be central to efforts at enhancing cooperation amongst all users sharing resources in the Eastern Nile Basin. They show how land and water investments are shaping the wider landscape of trans-boundary cooperation in the Eastern Nile Basin.

The participants urged Ethiopia, Egypt, Sudan and South Sudan to work together on resource governance to enhance efforts at making sure both policies and investment practices achieved desirable and sustainable development outcomes. They also asserted that better scientific knowledge and stronger evidence was needed to act in the interests of all riparian populations and to support the ecosystems. It is stressed that trans-boundary and regional project planning and implementation was only possible through continuous consultation and cooperation as these large-scale investment projects have implications regarding water withdrawal, allocation and management. Undoubtedly, the current surge in land acquisitions and investments by foreign countries, sovereign wealth funds and private corporations, as well as domestic investors, would affect trans-boundary water interaction in the region.

Seifeldin contends that if unilateral development and unplanned, ambitious irrigation schemes in the up- and downstream countries were implemented, it would not be possible to meet the demands of all the existing and planned expansion projects, let alone other water uses. For him, the Nile offers huge potential in large-scale water resource development and investment projects such as hydropower, irrigation, navigation, natural resource management and ecotourism, if it was planned and implemented through cooperation.

While noting that the Nile River system supports millions of pastoralists, fishermen, farming households by providing food, water and energy, Seifeldin contends that failure to ensure the basic flow of the Nile would not only risk all those life systems (plants, animals, human beings) it supported, but also would risk the Nile itself. "We do not holistically understand what is happening and will happen to the Nile in the short, medium and long-term. We do not know the tipping point, beyond which we will harm the fragile and finite Nile irreversibly. We do not understand enough the science of the river," he warns, showing the urgency of working together.



Solomon Goshu is a senior editor for the Ethiopian Reporter, a leading private newspaper in Ethiopia. He is known for his in-depth feature articles on regional political and legal affairs.

This article was originally published by The Reporter in Ethiopia <thereporterethiopia.com> on December 24, 2016.

Fish catch fast dwindling in Lake Victoria, experts warn

Lake Victoria is gradually draining into worthlessness. Data from the Kenya Marine and Fisheries Research Institute (KMFRI) Kisumu paints a picture of a water mass that is in dire need of reclamation. As it is, experts warn that fish population will continue to dwindle if nothing is done – urgently.

Kevin Ogutu
Kisumu, Kenya

print

3rd /2

In 1965, Lake Victoria's 'Secchi depth' – the depth visible from the surface of the water and therefore a measure of water clarity – was eight metres. Some 41 years later, in 2006, the Secchi depth had reduced to three metres, thanks to pollutants and sediments from the rivers and settlements around which found their way to the lake.

Jembe Tsuma, the KMFRI Kisumu Center director, puts the lake's current Secchi depth at one metre. In plain terms, the lake's water is too dirty.

Dire problem

Unfortunately, the Secchi depth that is becoming less by the day is not the only dire problem facing the lake. The volume of water habitable to fish has also declined tremendously.

"There has been a rise in lake temperatures over the years, and this has led to a decrease in the availability of dissolved oxygen in the water, thus limiting the volume of water inhabitable areas in the lake," says Dr Jembe.

In 1961, fish could live up to a depth of 60 metres from the surface of the lake. The temperatures were higher beyond the 60 metres, with a decreased quantity of dissolved oxygen necessary for fish survival.

Global warming, coupled with the pollution of the lake, has led to an increase in temperatures in the water, reducing the depth in which fish can survive. By 2006, the volume of water inhabitable by fish had decreased by 50 percent to 30 metres from the surface.

"We cannot expect the current depth to be higher than what the studies found out in 2006 because pollution of the lake has increased tenfold," says Dr Jembe.

The reducing Secchi depth and declining water volumes have had devastating effects on marine life.

According to Monica Owili, the head of the Catch Assessment Surveys (CAS) Department at KMFRI, tilapia and dagaa (omena) fish, which are the most popular varieties, dropped from 153,000 metric tonnes in 2014 to 118,145 metric tonnes in 2015.

"The total annual fish catches deduced from the average monthly total catches of the CAS data collected from June 2005 to November 2015 is around 0.905 million tonnes," said Ms Owili. Dagaa was highest in 2006 at 602,295.6 tonnes, but decreased to a minimum of 403,912.2 tonnes in 2010 and later increased to 456,721.2, 509,598.1 and 566,570 tonnes in 2011, 2014 and 2015 respectively.

The Nile perch and tilapia total catch estimates decreased by 34.2 percent, from 251,063.3 to 165,084.3 tonnes and by about 65.9 percent from 59,681.3 to 20,371 tonnes in 2014 and to 165,083.4 tonnes in 2015 respectively. Dagaa catch estimates increased by 11.2 percent from 509,598.1 tonnes in 2014 to 566,570 in November 2015.

According to the report, dagaa is the most abundant fish in Lake Victoria, contributing 64.6 percent, Nile perch 18.8 percent and tilapia 2.3 percent, Owili said.

To Salim Abdala, 43, a fisherman from Kisumu, the prospect of waking up one morning to find no fish in the lake is just unimaginable.

"How will I provide for my wife and children if the lake was to run out of fish?"

He believes there are millions of fish in the lake that cannot be depleted by any means and all one needs is a boat, hooks and nets. However, sadly, and unbeknown to Abdala and thousands of other fishers who depend on Africa's largest freshwater lake, the future of the large water mass is bleak.

"This is the only work I know. How will I provide for my wife and children if the lake was to run out of fish?", said the father of five who has been a fisherman since 1995.

Dr Jembe attributes the decline in fish numbers to the water hyacinth menace and pollution. "The young fish, the fingerlings, stay in shallow waters otherwise referred to as 'literal areas'," he said. Fish food (phytoplankton) is abundant in literal areas. When these areas are covered with water hyacinth, light, which is necessary for the growth of the phytoplankton, cannot penetrate the water.

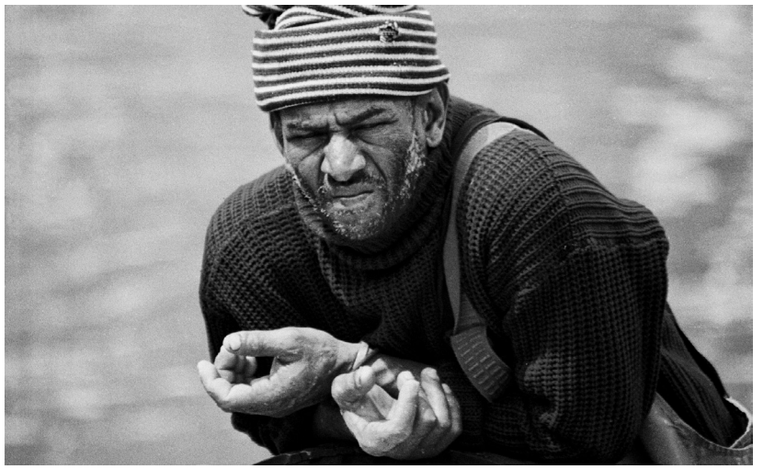
The turbidity of the lake also makes it impossible for light to penetrate the water. Turbidity is the measure of the degree to which water loses its transparency due to the presence of suspended particles.

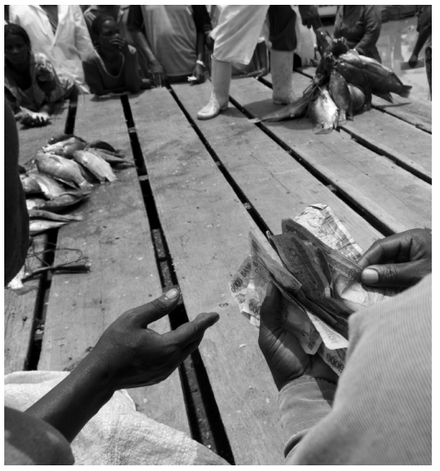
Abdala agrees that indeed that the water is not as clear as it was in 1995. "I was born and bred here. My mother used to sell uji (porridge) to the fishermen under a tree. The lake's water was very clear at the time," he says.

Urgent attention

The long-term effect is that there will be no fish in Lake Victoria. According to Dr Jembe, Lake Victoria requires immediate attention from the governments of Kenya, Tanzania and Uganda, as well as citizens, fishers, industrialists and investors in the three countries who use the lake and the rivers feeding into the lake.

"Kenya has about seven rivers which pour into the lake. The activities done along these rivers determine the level of pollution in the lake. We have had instances where raw, or half-treated sewage found their way into the lake. Sugar





Left: Traders at a local fish market on the banks of lake Victoria on February 21, 2007.
Right: A Fisherman on February 2, 2016.
Photos by: iStock

millers who use River Nzoia for example, release 'sugary effluent' into the river and nothing is done to them," he said.

Unfortunately, KMFRI has no power to arrest and prosecute offenders.

"We are losing Lake Victoria. If we want it back, everyone should play their roles," Dr Jembe said.

WHY FRESHWATER SHRIMP COULD BE AFRICA'S LARGEST LAKE'S LAST HOPE

While the fortunes of Lake Victoria are dwindling regarding catches, the freshwater shrimp, locally referred to as 'ochonga', seems to be thriving in the prevailing conditions. Ms Monica Owili, the head of Catch Assessment Surveys Department at KMFRI Kisumu noticed that in as much as there was a slump in the quantity of dagaa caught in 2015, there was a bigger proportion of the freshwater shrimp that was caught together with dagaa.

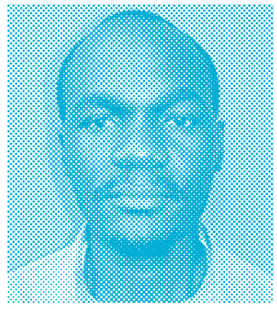
"We discovered that it was amounting to about 20 percent of the catch, meaning that they were finding the conditions in the lake favourable," she said.

According to Dr Jembe of KMFRI, the freshwater shrimp can survive in water with low dissolved oxygen and higher temperatures.

"As fish's habitable volume decreases, the freshwater shrimp's increases because they have the space to multiply," says Dr Jembe.

According to a 1998 study entitled 'Environmental Change and Response in East African Lakes', during the day, the shrimp stay close to the bottom of the lake. At night they swim up to the surface waters, a migratory behaviour originally recorded during the 1920s, which persists to this day despite the considerable reduction in the oxygen of deep water.

The Nile perch avoid regions of low oxygen, and their exclusion gives the shrimp a refuge deep in the lake thus explaining why there is a remarkable increase in freshwater shrimp population. There is, however, a hypothesis by scientists that the shrimp cannot withstand extended periods of hypoxic (low-oxygen) conditions, thus the need to rise to the surface each night to recover from an oxygen deficit.



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Ugandan lakes receding as dry spell hits hard

Human activity at Uganda's lakes, such as agriculture, is a major factor contributing to the recession of the shores, causing environmental crises and threatening the livelihoods of fishers.

Pascal Kwesiga
Kampala, Uganda

print

editor's pick

Dressed in a soiled T-shirt and white trousers, John Byansi cuts a figure of a typical Ugandan small-scale farmer in the countryside. Ripped pants, with the fabric on the verge of falling off below the knees, Byansi flips his trousers up to a few inches above his ankle. The fabric of his entire garment is in bad shape.

Byansi is a fisherman, standing on the edge of what used to be, over five years ago, a shoreline for Nyakuwa Lake in Opeta village, in Pallisa district.

There are freshly tilled fields and a rice garden. A band of children are playing about in the wreckage of wooden fishing vessels which were abandoned by fishermen when the lake's shoreline started receding.

It is just over five years since the fishermen first noticed that the edge of the water in the lake in Gogonyo sub-county was receding. Today, the distance between the lake's edge and its former shoreline is over five kilometres.

Farmers took advantage of the receding water to cultivate the space between the current edge of the lake and the old shoreline. Some people established houses on land that was under water just a few years ago. It looks like, in few years' time, humans will densely populate the former fishing grounds.

"The lake's shoreline started receding more than five years ago. The speed at which it has been receding increased in the dry spells," Byansi said.

Byansi, who is 'a pastor' at Pentecostal Revival Ministries church in Nawampiti village in Kaliro, a district separated from Pallisa by the shrinking lake, has been leading Christians in prayer sessions dedicated to the receding water body.

"We are worried because we are losing our source of livelihood as the lake recedes. We have been praying almost every Sunday, asking God to give us more rains so that the water level in the lake can rise again," he said.

Byansi and his fellow church members continue praying. They expect a miracle will happen.

"We think God is not happy with what we are giving back to him or he is angry with us for the sins we have committed. But we will continue to pray," Byansi said.

What Byansi does not seem to appreciate is that the areas around the lake have been receiving rains in the past five years, but the lake's surface area has been nonetheless shrinking continuously. Byansi and his fellow church members, as well as village mates, do not seem to understand the impact of their farming activities on the edge of the lake.

"Some people have said it is the farming activities responsible for the reducing water levels. But they forget that we have not had rain for over two months now. It is simply the absence of rain," Karim Zebandula, 20, a resident of Opeta village said.

Before the fishermen noticed that the lake's surface area was shrinking, families cultivated crops up to the shoreline of the lake. When the rain came, it washed the soil from their crop fields into the lake. This resulted into silting of the lake, and gradually, parts of the lake dried up as its surface area reduced.

As the lake's edge receded, the fishermen also shifted the landing sites to the point where the shoreline stopped. And it is not Lake Opeta alone that has receded in Pallisa, eastern Uganda. Lake Lemwa in Kasodo sub-county has so far retreated by over 50 meters. The surface area for Lake Kawi in Apopong sub-country has also reduced by over 50 meters so far.

The farmers' activities have interfered with the flow of the Namatala-Mpologoma river system that drains the lakes in Pallisa before joining Victoria Nile. The river flows from Mt Elgon.

"We are worried because we are losing our source of livelihood as the lake recedes."

The 2016 study by the National Fisheries Resources Research Institute (NaFIRRI) in Uganda confirmed the shoreline for Lake Kawi has receded by 50 meters in the last two decades. The study also involved Lake Wamala shared by Gomba, Mityana and Mubende in the central region.

Over the years, the study stated, the wetlands around the two shallow lakes have been receding as communities encroached on riparian zones and, in some cases, cultivated up to the shoreline, degrading and polluting the water body.

The NaFIRRI study also shows that water levels and surface area of the two lakes are receding partly due to increasing air temperatures.

Due to large-scale changes in Lake Wamala, the United Nations Environment Programme (UNEP) has designated it (Wamala) as one of the climate change hotspots in Africa.

The 2009 UNEP report indicates that Lake Wamala's surface area had reduced to 100 from 250 square kilometres and its depth declined significantly between 1984 and 1995 because of persistent dry spells.

Global climate change, environmental degradation and the current prolonged dry spell which Uganda has been experiencing for the last six months have all accelerated the rate at which water volumes are receding.

The NaFIRRI study notes that the changes in Lake Wamala mirror the situation in East African Rift Valley lakes such as Victoria and Albert in Uganda because they receive most of their water from direct rainfall and lose most of it through evaporation.

There are fears that if the rate of water loss from Lake Wamala attributable to evaporation continues to exceed

A fisherman in Uganda on July 3, 2009.
Photo by: iStock

water input from direct rainfall, any period of lower than average rainfall will be followed by a corresponding decrease in lake depth and surface area.

About ten years ago, the ministry of water and environment fixed three concrete pillars in Lake Wamala, with a space of about ten meters between each other, to monitor changes in water level. Today, the shoreline is meters away from the three pillars.

Ali Sekiwunga, who has been fishing in Lake Wamala for the last 35 years, said the water level started receding about ten years ago, and that it (water) does not reach the original shoreline even after heavy rains.

The level of water in rivers – Pamujugu, Kabiruku, Nyanzi, Tyabira, Bimbye and Kabasuma – which drain the lake have drastically reduced during the current dry spell.

Nowadays, traders have to wait at landing sites for fishers to return from fishing expeditions to buy fish.

"I came here (Katiko landing site on Lake Wamala in Mityana district) at 7:00 am, and it is now 12:00 pm, but I have only bought fish for UGX 30,000 (€ 7.00). I am going back with the rest of the money because there is no fish," Fred Sserugera said.

Bosco Kigozi, another trader in Mityana town, said: "These days, you have to place your order for fish (from Lake Wamala) a day earlier. We are buying fish expensively and have to sell it at high price to get a profit."

The lakes in Pallisa and other parts in the eastern region drain Lake Kyoga and Victoria Nile where the government is currently building the 600 MW Karuma and 183 MW Isimba hydroelectricity power dams.

No running water

For the last five years, residents in Pallisa town have not had running water because Lake Lemwa water pumping station closed down, as water in the lake receded.

The National Water and Sewerage Corporation (NWSC) facility could not operate as its pipes, which had been fixed in a swamp around the lake to deliver water to the purifying machines, started sucking mud as water levels reduced.

Now, residents in the town buy a 20-litre jerrycan at between UGX 500 and UGX 1,000 (€ 0.12 and € 0.24) from vendors. The vendors are cashing in on the water shortage. They transport water to the town with trucks and motorcycles.

"The vendors set their prices, and we have to buy water because there is no alternative. I need more than five jerrycans of water per day," Grace Apio, who runs a restaurant in Pallisa town, said.

Less and less fish

The farmers have planted rice, maize and potatoes in the swamps around Lake Lemwa. At Lake Kawi, large land areas previously underwater have just been tilled in preparation for planting.

Parts of the remaining swamps around the lake, which are the fish breeding grounds, have just been set on fire by small-scale farmers who intend to convert them into farmland. The receding surface area of the lakes and crop cultivation in the breeding grounds has deprived the fish of its (breeding) areas.

Muhammad Samuka, the district natural resources officer, said people started cultivating areas around lakes about ten years ago. The district environmental personnel gave the encroachers restoration orders in 2000 and 2009 and attempted to evict them from wetlands, but efforts were frustrated by politicians.

Joseph Gume, 66, a resident of Nakitende village, said Lake Lemwa surface area started receding in the 1990s when subsistence farmers began cultivating swamps around it.

> "The cutting of trees in forests and converting wetlands into farmland has led to siltation of breeding grounds for fish and loss of water reservoirs."

"There is no fish in the lake, and it is drying up," he added. "Government should become serious and enforce the law on lakes."

The fish stocks are falling, and lakes are shrinking at a time when fish is a preferred source of proteins over red meat. A kilogram of Nile perch which went for UGX 3,000 (€ 0.70) in the past four years now costs UGX 10,000 (€ 2.33) in several markets in Kampala. A three-kilogramme piece of Nile tilapia fish which was sold for UGX 10,000 (€ 2.33) four years ago now goes for UGX 30,000 (€ 7.00).

The environmental law bars people from settling or carrying out agricultural activities within 200 metres from the shorelines of lakes, but the legal requirement is largely unenforced.

On Lake Albert, one of East Africa's great lakes, some fish breeding grounds have dried up. In Wanseko, one of the fishing villages around the lake, areas that were fish

breeding grounds a few years ago have been replaced by bushland, and in some cases makeshift structures.

According to Joyce Nyeko, the acting commissioner for aquaculture in the agriculture ministry, the water levels in the lakes have continued to recede in the current prolonged dry spell.

"The cutting of trees in forests and converting wetlands into farmland has led to siltation of breeding grounds for fish and loss of water reservoirs for lakes," Nyeko said.

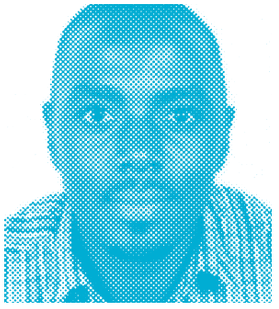
Solutions

The ministry water and environment issued a four-month ultimatum to all encroachers to vacate the wetlands and catchment areas for lakes in eastern Uganda. In Pallisa district alone an estimated 2,600 farmers have encroached on the lakes' catchment areas and wetlands.

The ministry of agriculture, animal industry and fisheries also resolved to gazette all fish breeding grounds for protection. As part of the efforts to protect the country's water resources, forests and wetlands, and to enhance protection and assessment of the water quality, the Directorate of Water in the ministry of water and environment split up the country into four water management zones – Albertine, Victoria, Upper Albert Nile and Kyoga.

The water directorate chief Florence Adongo said they have worked with local governments to set up catchment management committees in various parts of the country, to restore and prevent degradation of forests and wetlands.

But Dr Callist Tindimugaya, the commissioner for water resources planning and regulation, said there is need to provide alternative sources of energy to prevent the cutting down of trees for charcoal and improve the livelihoods of the people to reduce dependence on lakes and land for a living.



Pascal Kwesiga is a senior journalist for the New Vision in Uganda. He has been working with the New Vision for the last seven years, covering topics such as natural resources, education, infrastructure, health and other public affairs issues.

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Honourable mentions

How much Nile water?

Mona Sewilman
Cairo, Egypt

Al-Ahram's Mona Sewilam speaks with John Rao Nyaoro and Khaled Abu Zeid about the controversial Nile River Basin Cooperative Framework Agreement:

http://bit.ly/2gil9GJ

Rusumo displaced families start sustainable projects

Emmanuel Ntirenganya
Kigali, Rwanda

People displaced by the Regional Rusumo Falls Hydro Electric Project were not only compensated for their loss, but they also take part in a Livelihood Restoration Programme (LRP) to ensure their future welfare, reports Emmanuel Ntirenganya for The New Times in Rwanda:

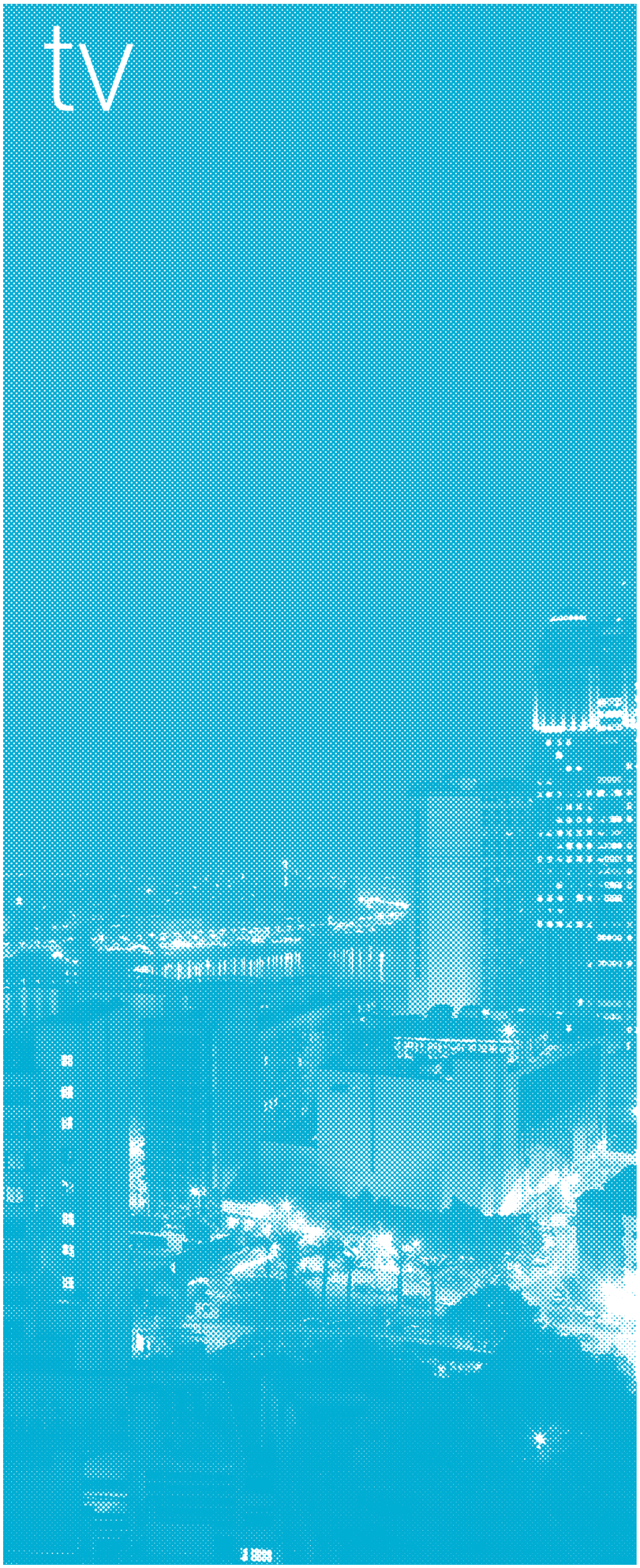
http://bit.ly/2ygQYpc

Five years into construction: The Grand Ethiopian Renaissance Dam

Ayah Aman
Cairo, Egypt

For Shorouk News, Ayah Aman looks at the construction of The Grand Ethiopian Renaissance Dam from six different angles and provides a detailed insight from the project site:

http://bit.ly/2gL9I7m



Population growth is adding pressure on water resources and imposes a more immediate demand for better management of the trans-boundary water and related resources. Greater Cairo, a metropolitan area including Cairo and parts of the Giza and Qalyubia provinces, is home to some 22.8 million people and will gain another half a million in 2017.
Photo by: Nile Basin Initiative

Towards an amicable water sharing agreement

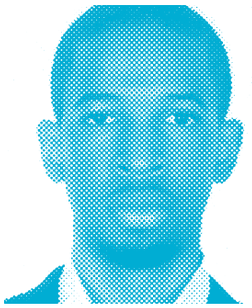
Simon Mugisha
Kampala, Uganda

tv

1st

In early 2017, the Nile Basin Initiative (NBI) organised an Extraordinary Nile Council of Ministers meeting in Entebbe to tackle outstanding challenges impeding the full implementation of an amicable water-sharing agreement. In this report, Simon Mugisha explores some of these challenges and highlights the steps the Nile Basin Initiative has taken in bringing the countries to work together, facilitating development in the region.

Image: Screenshot of the UBC TV report by Simon Mugisha.
Photo by: Simon Mugisha



Simon Mugisha presents his TV and radio reports for the Uganda Broadcasting Corporation (UBC) in Kampala. He also hosts live shows and serves as newsroom sub-editor for UBC TV.

Watch 'Towards an amicable water sharing agreement'
https://youtu.be/fctcMnZ-LNE

This report was originally televised by the Uganda Broadcasting Corporation (UBC) <ubc.ug>.

Protecting Lake Rweru

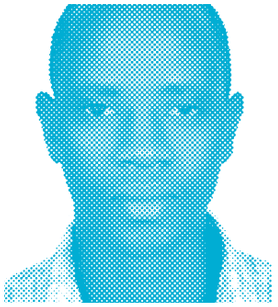
Fabien Niyonizigiye
Bujumbura, Burundi

tv

2nd

The Lake Victoria Environmental Project Phase II includes activities to protect Lake Rweru against environmental degradation. Fabien Niyonizigiye reports how the community was sensitised and mobilised to actively participate in creating a buffer zone around the lake in which biodiversity could thrive. The feature also highlights how the community benefits from the project.

Image: Screenshot of the RTNB TV report by Fabien Niyonizigiye.
Photo by: Fabien Niyonizigiye



Fabien Niyonizigiye is a journalist for Radio Télévision Nationale du Burundi (RTNB). He works in the TV department and focuses on environmental issues.

Watch 'Protecting Lake Rweru'
https://youtu.be/4-ZlNmC2C_E

This report was originally televised by Radio Télévision Nationale du Burundi (RTNB) <rtnb.bi> in April 2017.

Agriculture accounts for at least 80 percent of all water consumption in the Nile Basin. Researchers at the Massachusetts Institute of Technology have found that climate change may drastically increase the variability in the Nile's annual output leading to growing water quantity issues – either floods or water scarcity – and falling agricultural yields.
Photo by: iStock

Lake Cyohoha on the path to recovery

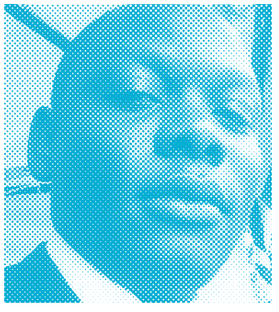
Michael Wambi
Kampala, Uganda

radio

1st

The farmers' temptation to cultivate close to water bodies is always high. This probably saves them time, and they incur lower costs in transporting water to their crops. In so doing, they encroach on buffer zones surrounding these water resources, causing deforestation and siltation. In this radio feature, Michael Wambi explains the efforts by the government of Rwanda to engage communities in restoring degraded buffer zones around Lake Cyohoha.

Image: A project site of Lake Cyohoha ecosystem recovery programme on October 13, 2015. Photo by: Green Fund Rwanda



Michael Wambi is a print and radio journalist currently working for the Uganda Radio Network. He produces the weekly radio magazine 'National Perspective'. He is also a correspondent for Inter Press Service Africa.

Listen to 'Lake Cyohoha on the path to recovery'
http://bit.ly/2g7V7Dx

This broadcast was originally aired by the Uganda Radio Network <ugandaradionetwork.com> and its partner radio stations in July 2017.

Rusumo hydropower project cooperation to improve energy access

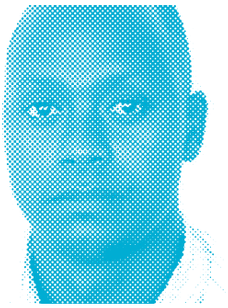
Claver Hakizimana
Bujumbura, Burundi

radio

2nd

The Nile Basin Initiative (NBI) is a partnership among the Nile riparian states that seeks to develop the river cooperatively, share substantial socioeconomic benefits, and promote regional peace and security. The cooperation between Burundi, Rwanda and Tanzania led to the implementation of the regional Rusumo Fall Hydroelectric Project. Claver Hakizimana reports that the project will improve access to energy for the three countries, adding a total 80 MW of power to their national grids.

Image: The confluence of the Kagera and Ruvubu rivers near the Rusumo Falls on June 17, 2006.
Photo by: Amakuru



Claver Hakizimana is a journalist from Burundi. He works as news presenter and reporter for Radio Nderagakura, focusing on science and environment programmes.

Listen to 'Rusumo hydropower project cooperation to improve energy access'
http://bit.ly/2ykM2S6

This broadcast was originally aired by Radio Nderagakura in Burundi <radionderagakura.com>.

Nile Basin: Striving for the common good

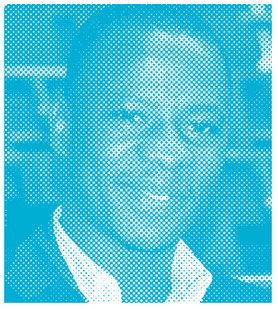
Jean Paul Mbarushimana
Kigali, Rwanda

radio

3rd

Out of ten Nile Basin countries, so far Ethiopia, Kenya, Rwanda, Tanzania, Uganda and Burundi have ratified the Cooperative Framework Agreement (CFA). The purpose of the agreement is to promote the integrated management, sustainable development and harmonious utilisation of the water resources of the basin, as well as their conservation and protection for the benefit of present and future generations. Jean Paul Mbarushimana reports about the delayed ratification of the CFA by some Nile Basin Initiative member states and highlights how Rwanda benefits from the cooperation.

Image: Leaders after the Nile Basin Heads of State Summit in Entebbe on June 22, 2017.
Photo by: Nile Basin Initiative



Jean Paul Mbarushimana is the acting editor-in-chief and production coordinator at Isango Star Radio and TV in Rwanda's capital Kigali. He was formerly a senior reporter and programme producer for Isango Star.

Listen to 'Nile Basin: Striving for the common good'
http://bit.ly/2zkvw2C

This broadcast was originally aired by Isango Star Radio in Rwanda <isangostar.rw> in March 2016.

The urgency of reaching an agreement to reasonably and equitably share benefits on the Nile Basin cannot be overstated. Cooperation can protect the environment whilst also stabilising and enhancing security across the basin.
Photo by: iStock

We are forced by nature to share the Nile with our neighbours, says Ethiopian dam project manager

Ahram Online's Bassem Abo Alabass travelled to Ethiopia to take a first-hand look at the under-construction Grand Renaissance Dam and sought to gauge local opinions on the project.

Bassem Abo Alabass
Cairo, Egypt

digital

1st

"You have the High Dam in Egypt, and we hope to have the GERD because we want electricity and our country to grow," an Ethiopian taxi driver in Addis Ababa told Ahram Online, adding "I am paying for this dam".

"It is not fair for Egyptians to think that we want to harm them; we are brothers," 28-year-old taxi driver Temesqen said.

The driver's words came as Ethiopia lifted the photography ban on the under-construction Grand Ethiopian Renaissance Dam, leading to the first field visit by local media outlets as well as counterparts from the Nile Basin region, to the 55-percent-complete site.

The dam has long been a source of controversy in Egypt, which with Sudan is one of the two countries downstream from the dam site.

Egypt relies almost exclusively on the Nile for irrigation and drinking water, and there have been ongoing concerns that the Ethiopian dam – which when complete will be the largest hydroelectric dam in Africa – could affect its share of the Nile water, estimated to be around 55 billion cubic metres annually.

Field visit

The hydroelectric dam is located on the Blue Nile, one of the Nile's two main tributaries, in a rural area roughly 500 kilometres north-west of the capital, in the region of Benishangul-Gumuz. When completed, it will generate 6,000 megawatts of power.

According to project manager Semegnew Bekele, the dam, which is anchored between two high mountains, is 1,870 metres long and 145 metres high and will be equipped with 16 turbines. The total labour force is around 11,000, including 350 foreign workers.

"So far we have consumed 6.5 million cubic metres of concrete out of total 10.5 million cubic metres, with the raw material supplied by local companies," Bekele told reporters, during the visit organised by the Swedish Stockholm International Water Institute.

The second section of the controversial dam project is the saddle dam, a 5.2 kilometre long and 50 metre high dam that helps to fill the reservoir. The reservoir itself has a capacity of total 74 billion cubic metres and covers a surface area of 1,874 square kilometres or less than half of Egypt's Lake Nasser in Aswan.

The reservoir's to-be-flooded area is currently covered by forest.

"We cannot keep the water because it will go over the dam and reach Egypt, we are forced by nature to pass it," Bekele said.

"It is a non-water consuming scheme," Bekele added.

The dam, which is being built by the Italian Salini Impregillo Group, the leading global infrastructure company in the water sector, will cost € 3.44 billion and is likely to be completed in mid-2017.

A scientific perspective

Kevin Wheeler, an American engineer who conducted a recent study on the GERD at the University of Oxford, said that storage of the dam could provide a drought "safety net" for the downstream countries with a basin-wide drought management plan.

> "We cannot keep the water because it will go over the dam and reach Egypt, we are forced by nature to pass it."

Within dry years, Egypt, Sudan and Ethiopia have to agree that the GERD will release a certain amount of water for Sudan and Egypt's reservoirs to address any shortage, according to Wheeler, who visited the dam site last year.

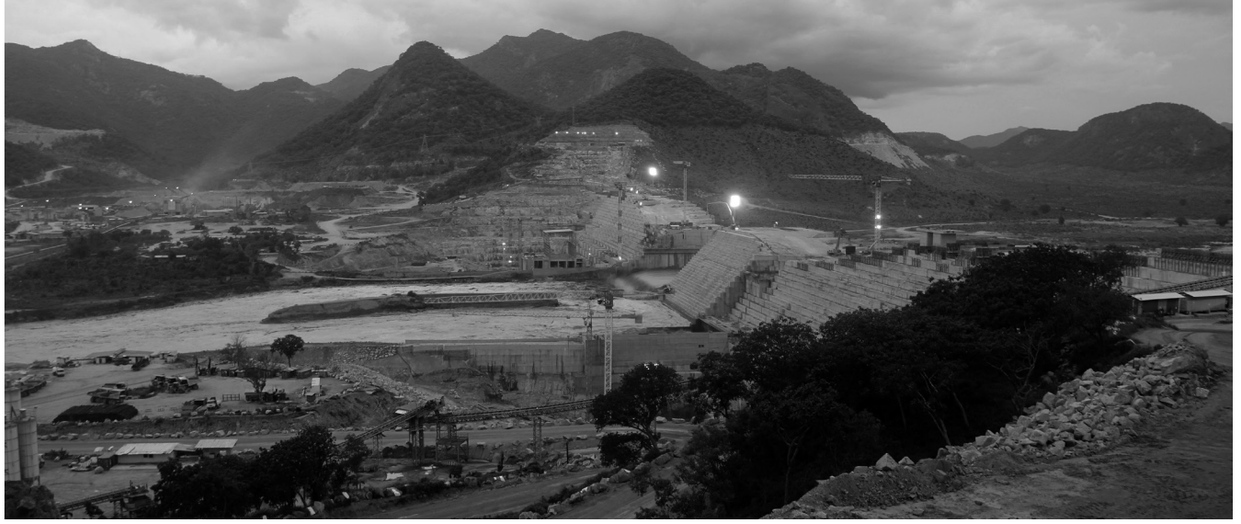
Wheeler expects a temporary impact on the amount of Nile water Egypt receives during the dam's filling time, which will be decided, along with the filling pattern, by the ongoing negotiations between the three countries. However, he believes that the Aswan High Dam will help ease the problems caused by filling the dam.

Egypt, Ethiopia and Sudan are also awaiting two studies being carried out by French firms BRL and Artelia on the dam's impacts.

Seif El-Din Hemdan, a Sudanese member of the tripartite national committee which brings together officials from the three affected countries to discuss issues related to the dam's construction, told reporters during the field visit that Sudan, Egypt and Ethiopia will hold their 12th meeting in Khartoum within a week or two to continue negotiations.

Generating electricity

About 71 million of Ethiopia's total population of 90 million do not have access to electricity, giving the country an electrification rate of 24 percent, according to the Paris-based International Energy Agency. Addis Ababa is hoping that the GERD will change that.



The Grand Ethiopian Renaissance Dam under construction on July 31, 2016. Photo by: iStock

The African nation is aiming to become the world's eight largest electricity producer on the back of the massive hydroelectric dam.

Alan Nicol, a senior political economy researcher at the Sri Lanka-based International Water Management Institute, stated that annual revenue from power sales could be some US$ 1 billion, at an estimated rate of 15,000 gigawatt-hours for US$ 0.07 per kilowatt-hour, according to studies.

Ethiopia has long said that the two downstream countries, as well as other neighbours, will benefit from the abundant and cheap power it hopes the GERD will provide.

Nicol agrees that Egypt could be a major electricity consumer in around five years, after the completion of necessary transmission infrastructure

After several years of public concern in Egypt about the GERD and its implications for Egypt's water flow, recent diplomatic developments suggest that the three countries are focusing on cooperation.

Last year, Egypt, Ethiopia and Sudan signed a Declaration of Principles in Khartoum on the sharing of Nile waters and the GERD, include giving priority to downstream countries for electricity generated by the dam and providing compensation for any damages, former Egyptian Irrigation Minister Hossam Al-Moghazi said in July 2016.

Egypt's President Abdel-Fattah El-Sisi, who last year visited Ethiopia and addressed the country's parliament, has also reassured Egyptians about the state of affairs. Water is "a matter of life and death", he said during a public address in December 2015, but Egyptians should not worry about the dam because "matters are in hand".

Bassem Abo Alabass is a correspondent for Agence France-Presse (AFP) in Cairo, Egypt. Until May 2017 he worked as editor for the Ahram Online economic section.

This article was originally published by Ahram Online in Egypt <english.ahram.org.eg> on August 4, 2016.

Nile water: Why Ethiopia's new dam is a 'no-war' project

The Grand Renaissance Dam (GERD), about 724 kilometres from the Ethiopian capital Addis Ababa, will generate 6,450 MW at full capacity. Three-quarters of Ethiopians currently lack access to electricity. Egypt and Sudan are worried that the dam will curtail their share of the Nile's waters, but experts say the project offers prospects for regional economic development and collaboration.

Mabior Philip Mach
Juba, South Sudan

digital

2nd

Through a concrete barrier, water flushes forcefully, producing a froth. Maelstroms crash against rocks and produce a fascinating mixture of buzz and sparkle. This is the Ethiopia's new dam on the Blue Nile, 40 kilometres away from the border with Sudan.

The Grand Ethiopian Renaissance Dam, with a volume of 74 million cubic meters, lies in a lowland surrounded by hills extending from the Ethiopian highlands.

Launched in 2011 amidst an outcry from Egypt – which feared that the project would stifle its share of the Nile water – the US$ 4.8 billion project is now roughly 50 percent complete, according to the site manager.

It is being implemented by Ethiopia's national company METEC Metals and Engineering Cooperation jointly with the Italian firm, Salini Impregilo.

A colonial-era agreement of 1929, reviewed in 1959, gives both Sudan and Egypt a near-monopoly of Nile water exploitation.

In 2010, just ahead of the launch of the project, six riparian countries – Ethiopia, Uganda, Rwanda, Tanzania, South Sudan and Burundi – signed the new Nile Basin Cooperation Framework Agreement with the view of replacing the old deal.

So far, Ethiopia, Rwanda and Tanzania have gone ahead to ratify it. But Egypt said the new agreement did not resolve underlying "controversial issues" related to the building of a future dam along the Nile. These concerns resurged with the construction of the GERD.

"If it [Egypt] loses one drop [of water], our blood is the alternative," former Egyptian President Mohamed Morsi told a crowd in Cairo in June 2013, according to al-Jazeera.

"The great Nile is that which all our lives are connected to. The lives of the Egyptians are connected around it [...], as one great people," he added.

But at the site here, some of the water, currently mixed with red mud to form a dark brown flow, is to be diverted to a reservoir and controlled by a 5.6 kilometres long saddle dam with a capacity of 15 million cubic meters.

On the northern bank, the hills are high enough to provide a natural blockage for water, so that the saddle becomes the minimum height required to store the water even at maximum capacity.

"This water will not be taken anywhere. Some of it will be stored and released," says project manager Semegnew Bekele, standing at the edge of the concrete being built to make the saddle and gesturing to a green lowland below.

"It is being constructed for the purpose of generating electricity with total installed capacity of 6,000 MW, which is an affordable, green and non-consumptive use of the water scheme," he told the team of journalists who visited the site during a one-week Eastern Nile media training organised by the Swedish International Water Institute.

The reservoir, Mr Bekele explained, will cover 1,874 square kilometres at full capacity. It is 640 meters above the sea level and extends, from the root of its reservoir to the dam site, over a corridor of some 246 kilometres.

For Ethiopians, Mr Bekele said, the dam "is a reflection of their lasting commitment to the eradication of poverty and to the world of cooperation among the countries of the Nile Basin and the Horn of Africa".

"It is our precious gift that propels all of us, cruising healthily and noticeably."

So far, 240 kilometres of power transmission lines have been installed, and more than 10,000 hands have been employed by the project.

Mr Bekele added that the project would reduce the likelihood of drought in Egypt and Sudan, reduce emissions of carbon dioxide and evaporation.

Experts corroborate some of these benefits. "The GERD will reduce the downstream variability of flows, reduce downstream sedimentation," says Kevin Wheeler, an independent technical analyst from Oxford University, based on different research findings.

Benefits for Sudan and Egypt

He said Sudan currently spends roughly US$ 12 million per year in dredging Rosaries and Senar dams, and the Gezira canal. Despite these enormous spending, the storage capacities for the Senar and Rosaires have significantly reduced by 60 and 34 percent respectively.

With the GERD, Mr Kevein said while still referring to different findings, "this sedimentation could reduce by 86 percent".

The analysis indicates that there would be full reliability for Sudanese water users, greater efficiency in operating the reservoirs and maximised agricultural efficiency.

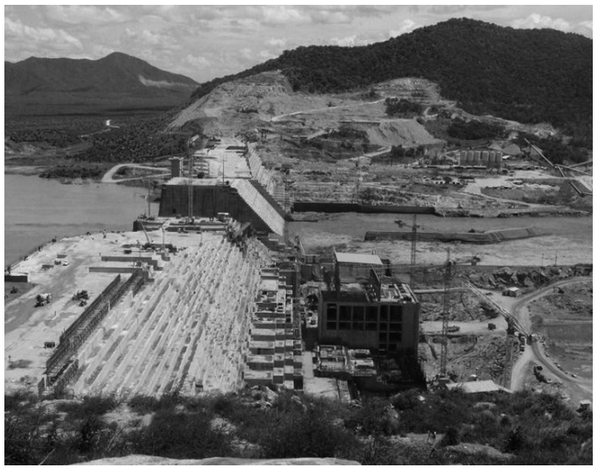
For Egypt, the analysis continued, additional storage of Nile water would allow for greater drought resilience, efficient flood planning for Aswan High Dam and minimal evaporation changes.

"GERD can provide a flood safety net for Sudan and Egypt [...], provide flood control space for downstream reservoirs," Mr Kevin said.

These gains from the GERD, he continued, would require a coordination agreement, real-time sharing of data and joint seasonal planning.

Such cooperation would be needed for filling the dam, mainly by either an agreed amount of water to continue being released to the Nile at a given period or a target level to be filled.

"[The dam] offers prospects for regional economic development and integration," says economic analyst Alan Nicol, a



A section of Ethiopia's Renaissance Dam under construction on July 31, 2016.
Photo by: iStock

senior political economy researcher at the International Water Management Institute in Sri Lanka.

He also noted that "inadequate planning and consultation over infrastructure construction and operation leads to costly impacts", adding that "agreements between countries establish the basis for future cooperation".

His analysis also indicates that "long-term adverse impacts create conditions for reduced cooperation at basin level across a range of sectors and projects" while "agreements and joint operation lead to significant economic wins".

Sudan has indicated it has no objection to the dam and has been taking part in tripartite discussions about the project.

"Our policy is that the River Nile is for all riparian countries who can use the water without affecting others," says Prof Seifeldin Abdalla, head of the Technical Organ of the Ministry of Water Resources of Sudan and also Chair of the Trilateral National Committee for the GERD.

"[The dam] offers prospects for regional economic development and integration."

If reports from the Egyptian media are anything to go by, then Egypt has been sceptical about the project because it felt isolated, as it was not given a prior notice about the dam.

However, Prof Seifeldin says enough information was shared among the three countries and that Egypt even signed up to the design of two outlets but later proposed another two to make a total of four.

"This suggestion", he said, "was difficult to prove because of added cost and technicalities".

He said further tripartite meetings are ongoing between the three countries.

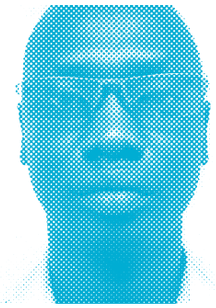
"We share the data. Sudan has been conducting its own research, and we are aware of information about the dam," says fellow Sudanese Yasir Mohamed Abas, from the Hydraulic Research Center.

However, the Ethiopian chair of the National Tripartite Committee, Gedion Asfaw, said the view from Cairo has changed over time.

This change coincides with the leadership changes in Cairo, from the resignation of President Hosni Mubarak, to the deposition of Mohamed Morsi, to a military Council, and now the current President Abdel Fattah el-Sisi.

But even as the consultations continue, the project manager Bekele is convinced the dam is a "platform for regional cooperation" and will "pioneer an era of cooperation".

"It will also stabilise power prices and supply in the region" because of its independence from fluctuating oil prices, he said.



Mabior Philip Mach is a South Sudanese journalist. Besides his work for various radio stations and online publications, he authored the book 'The Broken Promise: The Legacy of War and Hypocrisy'.

This article was originally published by Eye Radio in South Sudan <eyeradio.org> on August 7, 2016.

Rusumo hydropower project: The Nile Basin's shared destiny

The Rusumo Fall Hydroelectric Project stands as an example of how cooperation and focusing on improving lives can make even challenging projects possible.

Henry Lutaaya
Kampala, Uganda

digital

3rd

Thursday, March 30, 2017, was a historic day in relations between the ten countries that form the Nile Basin.

Construction of an 80 MW hydropower dam was flagged off at Rusumo falls, located at a common border between Tanzania-Rwanda and about 20 kilometres from Burundi on the Kagera River. When completed, the dam will connect more than a million energy-strapped communities in Tanzania, Rwanda and Burundi.

Although conceived as far back as the 1970s, the collapse of the Kagera Basin Organisation (KBO) hampered the progress of the Regional Rusumo hydropower project.

Revived in 2006 by the Nile Basin Initiative (NBI), the commencement of the project's construction was hailed as a historic moment in the management of trans-boundary water resources, in particular among countries that share the Nile Basin. The successful launch of the project was also praised as one of the fruits of the NBI as an agency that clinched the project, hitherto inconceivable because of its geopolitical as well as financial sensitiveness, through coordination with the member countries.

The NBI secretariat, perhaps rightly, observed in a statement preceding the kick-off of the dam's construction: "Although the three partner states discussed over several years to move Rusumo falls project forward, implementation of the highly needed project was not forthcoming due to a number of reasons. These included among other; lack of commitment from the partner states, lack of investment finance, civil conflict as well as the absence of a joint institution to coordinate the project."

Perhaps most critical to the success of the Rusumo project was the previous lack of a regional body that would prepare for development of the project by laying the groundwork for the political, financial, social aspects required to achieve such as megaproject.

When finished, each of the three beneficiary countries will equitably share the power generated from the dam hence ensuring that each state takes an estimated 27 MW of renewable power at full production. Besides, the project will enable the three beneficiary countries and communities to tap into the region's expanding electricity pool thanks to interconnection projects.

The successful kick-off of Rusumo hydropower dam marks a watershed moment in the history of cooperation between Nile Basin member countries. The Nile Basin, a region formed by ten countries that share the longest river in the world, remains one of the poorest in the world despite the massive resources and enormous development potential that the river holds.

Some of the obstacles, which stood in the way of the member countries undertaking major development projects, were disputes arising from colonial-era agreements, in addition to political conflicts that have dogged most of the countries for the past five decades.

The project demonstrates that with cooperation, seemingly impossible projects, because of their financial and geopolitical sensitiveness, can be achieved.

The project comes at a time when member countries in the Nile Basin are aggressively promoting the need to adopt the Cooperative Framework Agreement (CFA) signed in 2010 in Entebbe, Uganda to replace colonial-era agreements signed by the British and only two of the Nile Basin countries.

Many supporters of the CFA are keen to point to Rusumo, even in its infancy, as an outstanding example of cooperation-based success. Rusumo focuses on the cooperative utilisation of resources, taking the trans-boundary nature of the Nile as a strong foundation. More critical perhaps is the hope that Rusumo's success will act as a binding factor amongst the three countries, who would work together harmoniously, to ensure the continuity of the project and its benefits to their respective populations.

> "By connecting grids, people and environmentally sensitive solutions, the project will help to catalyse growth and to encourage peace and stability in the sub-region."

The World Bank's Regional Integration Director for Africa, Colin Bruce observed before the dam's construction: "By connecting grids, people and environmentally sensitive solutions, the project will help to catalyse growth and to encourage peace and stability in the sub-region."

The construction of the Power Generation Plant is financed by the World Bank at the cost of US$ 340 million while the transmission lines that will connect the power plant to the national grids in the three countries are financed by the African Development Bank (AfDB) at the cost of US$ 121 million.

Perhaps more importantly, as the NBI notes, the Rusumo Fall Hydroelectric Project, which is just one of the 30 projects under consideration across the ten-country Nile Basin, demonstrates the potential benefits of cooperation among member countries in the management of water resources.

Besides providing a reliable source of renewable energy to nearly one million energy-strapped people surrounding Rusumo area, it is hoped that the dam's successful completion will come with numerous benefits such as increased job creation and environmental conservation. The project would also better the living standards of women and children that

Nile Basin Initiative governance and development partners during a visit of the Rusumo Fall Hydroelectric Project site on October 27, 2013.
Photo by: Nile Basin Initiative

rely mostly on wood fuel for cooking and the backward carbon-monoxide emitting kerosene lanterns for lighting.

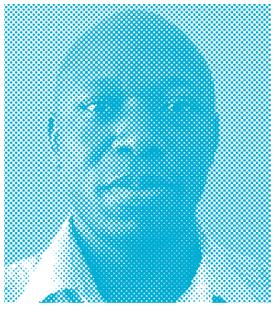
With better and more sustainable sources of light, it is further hoped that children will have access to educational opportunities.

How it was achieved

The three beneficiary countries jointly mandated the Nile Equatorial Lakes Subsidiary Action Program Coordination Unit (NELSAP-CU), the investment arm of the NBI, to coordinate the development of studies and later the implementation of the Rusumo Fall Hydroelectric Project.

The commencement of the project goes a long way in the realisation of the NBI's principles outlined in the Cooperative Framework Agreement (CFA) of a harmonious, equitable and reasonable conservation, management and development of the Nile Basin and its waters.

The CFA, which was signed by six of the ten member Nile Basin countries, aims to replace the rights-based colonial-era agreements of 1929 and 1959 that gave exclusive rights to Egypt and Sudan over the waters of the Nile. The rights-based approach pushed countries to pursue unilateral and conflicting approaches to the utilisation of shared water resources that bred constant squabbles between upstream and downstream countries notably Egypt and Ethiopia.



Henry Lutaaya is the editor of The Sunrise, Uganda's leading weekly newspaper. He has been working in this position for the past ten years, focusing on topics such as agriculture, energy and human rights.

This article was originally published by The Sunrise in Uganda <sunrise.ug> on April 6, 2017.

Nile sustainability is fundamentally a team sport

Six years ago Mina Girgis founded the Nile Project, a new approach to transform transboundary water conflicts by using music. Let's listen to the sound of the Nile.

The Nile Project

The Nile Project was founded in 2011 to address the Nile Basin's cultural and environmental challenges, uniting musicians from across the region. Conflicts over the use of water between countries on the banks of the world's longest river, the Nile, have a long history. Amid this background of tension, the Nile Project seeks to forge cultural links between all 11 nations. Mina Girgis, Ethnomusicologist and founder of the project explains how:

Mina Girgis, what influence can music have when it comes to water-sharing in the Nile region?
Our music is not going to solve the Nile water dispute. But I hope it provides pointers to this collective creative framework. There are many brilliant people in the Nile Basin. What we really need is a framework to coordinate all of our efforts.

How did musicians react when you started your project?
There was a lot of curiosity and enthusiasm and we realised from there the Nile is a really deep identity marker for a lot of people. You talk to an Egyptian, a Sudanese, a Ugandan, or anyone from other countries and feel they are equally connected to the river – it's meaningful to all of them. We feel the Nile creates a lot of cultural imagination and many people wouldn't really think about their local watersheds if it wasn't for something so ambitious that came to their doorstep: What's going on in their own backyard? How can they relate whatever conversation we're having about East Africa to what's happening in their own county or state?

And what is your answer to all these questions?
Over the past five years, I've observed musicians collaborate on writing songs, scholars on developing academic research projects, and young entrepreneurs on solving food challenges. And I can safely say that Nile sustainability is fundamentally a team sport. Our project is pioneering a new approach to transform transboundary water conflicts by using music to ignite cross-cultural empathy and spark environmental curiosity.

So music it the key for understanding?
Not only. For many projects, music is the end result. But for us, it is just the beginning. The integration of music with youth leadership and innovation, we hope, will create a driving force that will change the way Nile citizens relate to each other and their shared ecosystem.

And how does this sound?
Our new album Jinja features artists from Burundi, Egypt, Ethiopia, Kenya, Rwanda, Sudan, and Uganda. The album consists of ten original compositions born during the Nile Project's second annual musicians gathering in Jinja, Uganda. Rather than speaking about it, I would highly recommend: Just listen to it.

Top: The cover of the Nile Project's second album, Jinja.
Left: The Nile Project is a collective of musicians from countries along the river Nile.
Photos by: Nile Project, Peter Stanley

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