

Integrating the Nile Basin with Modern Transport

by Hussein Askary and Dean Andromidas, Part IV (Part A2 of A2)

This article appears in the November 21, 2014 issue of **Executive Intelligence Review**.

This is the final part of a series of four articles on the Nile Basin and East Africa, whose purpose is to show the great potential for peace and prosperity in Africa, and also that the shovels are now in the ground, and beginning construction of great projects, for the first time in decades. Parts I-III were published in the Sept. 5, Sept. 12, and Oct. 10 issues of EIR.

This Egyptian corridor can easily be extended southward to Sudan, and all the way to the Equatorial Lakes. The maritime potential of the river can be maximized as part of this corridor (see section on river transport below). As in other African countries, roads are dominant in the Egyptian-Sudanese goods transport. However, political differences between the governments of these two countries had, until very recently, hampered even this expensive means of transport. It was not until August 2014, that the two countries completed the border crossing terminal at Qastal, linking Aswan in Egypt with Wadi Halfa in Sudan with a modern highway.

This road intersects the Toshka irrigation canal project which is part of El-Baz's Development Corridor, which continues to Wadi Halfa. It runs parallel to the ferry transport line between Aswan and Wadi Halfa on the surface of the 550 km-long Lake Nasser behind the Aswan Dam (see river transport below). According to Egyptian estimates, this new road can increase the trade between the two countries from US\$850 million to \$2 billion, or even \$3 billion. The cost of the transport of one ton of goods by air is about US\$1,200, while by road is US\$200. However, development of the railway connections between the two countries would both lower the cost, and increase the speed of the development of these remote and under-populated regions of the two countries.

The Egyptian rail network stops in Aswan, and the Sudanese, in Wadi Halfa. The Wadi Halfa railway, which was built to facilitate the British invasion of Sudan in 1897, is a narrow-gauge railway that needs dramatic improvements, and even rebuilding to standard gauge, to match the Egyptian railway network. It extends 600 km to Atbara where it branches to the Red Sea's Port Sudan, about 350 km to the east, and to Khartoum in the south, another 330 km. It creates the backbone of the rail transport of the country. Its location along a series of dams and agricultural projects that are either completed, like Merowe; under construction, such as Atbara Dam; or planned, like the Kajbar Dam further north near the border with Egypt—will make an indispensable part of a development corridor that would upgrade the economy of the nation and the region tremendously.

Further south from Khartoum, the state of railways is similar to that of the Wadi Halfa. The main lines from Khartoum to Babanusa and Niyala, where the Sudanese railway networks ends in the south and southwest, is badly maintained and needs complete overhaul. The only rail connection to South Sudan is from Babanusa to Wau. The transport connections to South Sudan and the rest of the Nile Basin nations will depend largely on the political relationships between the two sides, the internal situation among the different belligerent factions inside South Sudan, and dramatically so, on the new economic and political conditions that will be created through the Chinese intervention from the East Africa through the proposed Lamu Corridor.

2. Port Sudan-Dakar Corridor

Before the separation of South Sudan from the Republic of Sudan in 2011, Sudan took a leading role in reviving the project of connecting and integrating West and East Africa by a modern railway network.



FIGURE 5. Baz Development Corridor, plus Agriculture. The Toshka project is the keystone of the New Valley Project: The chain of oases. (circled in green) stretches along the "Development Corridor" project designed by Dr. Farouk El-Baz.

The project was presented by Sudan to the 2005 Organization of the Islamic Conference (OIC) summit, and was adopted unanimously by the OIC summit held in Dakar, Senegal, in May 2008. A conference of the transport ministers of member-states of the OIC was held in Khartoum, in December 2009, to discuss construction of what is officially now known as the Dakar-Port Sudan Railway Line. However, lack of financing and the unstable political situation in Sudan has hampered the implementation of the project.

The rail line between Dakar and Port Sudan is a strategic, transcontinental transport and infrastructure network, linking Sudan, Chad, Niger, Mali, and Senegal, as the countries of the main east-west line. The main line will be connected north-south through additional branches to Djibouti, Libya, Uganda, Cameroon, Nigeria, Burkina Faso, and Guinea. When the Cairo-Khartoum and Rabat-Dakar lines are completed, the Mediterranean, the Red Sea, and the Atlantic and Indian Oceans will be connected by land, forming an integrated economic-strategic unit for development of the continent.

The railway network will extend for about 14,000 km, and intersect major water and agriculture projects that have been advocated by LaRouche and EIR over three decades, such as the [Transaqua project] [http://www.larouchepub.com/eiw/public/2011/eirv38n28-20110722/31-36_3828.pdf] to transfer water from the Congo River to Lake Chad through a network of modern canal systems. The project also intersects a move to stabilize the Darfur region in western Sudan, which has suffered enormously due to its civil war; or a

Integrating the Nile Basin with Modern Transport



FIGURE 6. Proposed Dakar to Port Sudan Railroad.

proxy war backed by Chad against Khartoum through Sudanese rebels supported by Western powers. Now, with normalization of relations between Chad and Sudan, and the continued peace process with the Sudanese rebels in Darfur, this region can reap the benefits of the “Development Corridor” concept.

However, Sudan’s own railways have to be rebuilt according to the new standardized gauge. The priority is to rehabilitate the Port Sudan-Khartoum line, and extend it further south to Babanusa, and westward to Niyala, the capital of South Darfur, the closest to the Chadian border. Work is under way in different part of Sudan, with Chinese participation, to modernize the existing 5,000-km railway network, one of the largest in Africa, but there are no plans to rebuild the network of narrow gauge tracks to standard gauge. Given the enormous international political and economic pressure that has been exerted on Sudan on the past three decades, Sudan itself will not be able to carry out this gargantuan mission. International assistance is a must.

In March 2011, Chad signed a US\$7 billion contract with the China Civil Engineering Construction Corporation, which is scheduled to begin work on a 1,340-km railway line connecting it to Cameroon and Sudan, with work to start in 2012. Chad started producing raw oil in 2003 with help of U.S. ExxonMobil and Chevron, in addition to Malaysian Petronas. A 1,070-km pipeline was built to export oil to international markets through Cameroon. Crude oil production in Chad was an estimated 115,000 barrels per day in 2011 and 105,000 bbl/d in 2012, most of which is exported to earn the impoverished country badly needed income.

The China National Petroleum Corporation (CNPC) and the Chadian government jointly constructed the 20,000 bbl/d N’Djamena refinery, and it began supplying the local market with petroleum products in 2011. The extra income helped Chad launch a program of public works construction in 2009. However, the national railway program, with the connection to Cameroon and Sudan is to be financed by China. The US\$5.6 billion four-year plan covers a 1,364-km standard-gauge network, to be built to Chinese standards, and suitable for 120 km/h diesel operation using rolling stock to be supplied from China. Work is expected to take four years.

Two lines are proposed. The East line will run 836 km from N’Djamena to Adré on the border with Sudan. Last year, Sudan and China signed an agreement for a line running around 300 km through the Marra Plateau region of western Darfur, to link the Sudanese railhead at Nyala with Chad. The South line will run 528 km from the capital N’Djamena to Moundou on the border with Cameroon. An additional 250 km will have to be built to link to the Cameroon national railway network at Ngaoundéré. Cameroon has reportedly put forward a national railway master plan to build a modern standard-gauge railway network. The program was developed in partnership with the South Korea firms Korpec and Chunsuk Engineering, and is to be followed by feasibility studies. A key component of the program is to link to its neighbors Nigeria, Chad, and Congo.

3. The Lamu Corridor

The Lamu Corridor, officially known as Lamu-Southern Sudan-Ethiopia Transport Corridor (LAPSSET), is a regional transport infrastructure project that will integrate landlocked South Sudan and Ethiopia into the East Africa transport network. The project includes several components such as:

- a three-berth-deep seaport at Manda Bay, Lamu, Kenya;
- standard-gauge railway from Lamu to Juba (South Sudan) via Isiolo; with a branch from Isiolo to Addis Ababa via Moyale;
- a two-lane motorway (Lamu-Isiolo-Juba; and Isiolo-Moyale-Addis Ababa);
- oil pipelines (South Sudan-Lamu; and Ethiopia-Lamu), giving South Sudan an alternative to exporting its crude oil through northern Sudan to the Red Sea port of Port Sudan;
- an oil refinery at Lamu;
- fiber optic cable;
- three airports (at Lamu, Isiolo, and Turkana);
- three resort cities (Lamu, Isiolo, and Turkana).

The Lamu Corridor, one of the largest infrastructure projects in Africa, is estimated to cost US\$24.5 billion, and will be funded primarily by the governments of Kenya, South Sudan, and Ethiopia. Part of the financing is being sought through international loans. However, given the negative view of such developments in the West, the most likely source of financing would be China and the BRICS nations. The project is estimated to be completed in 2018.

The new Lamu Port, with capacity to dock large “cape size” vessels, will help to ease congestion at Mombasa and improve the flow of imports and exports.

On Aug. 2, Kenya Ports Authority and China’s CCCC signed the Lamu Port construction contract. The day before, the leaders of Kenya, Uganda, South Sudan, and Ethiopia met in Nairobi to discuss joint financing of the Lamu Corridor. Construction work started in September.

The North-South Economic Axis

Maritime and inland waterway transportation forms the third leg of the intermodal system of transport, interfacing road and rail.

Taking developed regions of the world, such as Europe as an example, coastal and inland shipping plays a crucial role in the efficiency of an economic system. The most developed countries in Europe, benefit from their dense network of canals and rivers which connect them to one another, as well as the major ports of the continent such as Rotterdam, Antwerp, and Hamburg.

Despite the fact that it is a slower form of transport than road or rail, coastal, river, and canal shipping are extremely efficient, and cost one-tenth that of road transport, and about half that of rail. The type of ship or barge suitable for the Nile, could carry 40 truckloads or more.

Because of the lack of development along the Nile Basin, river transport is grossly under-utilized and under-developed, contributing to the high cost of transportation. The development of river and canal

Integrating the Nile Basin with Modern Transport

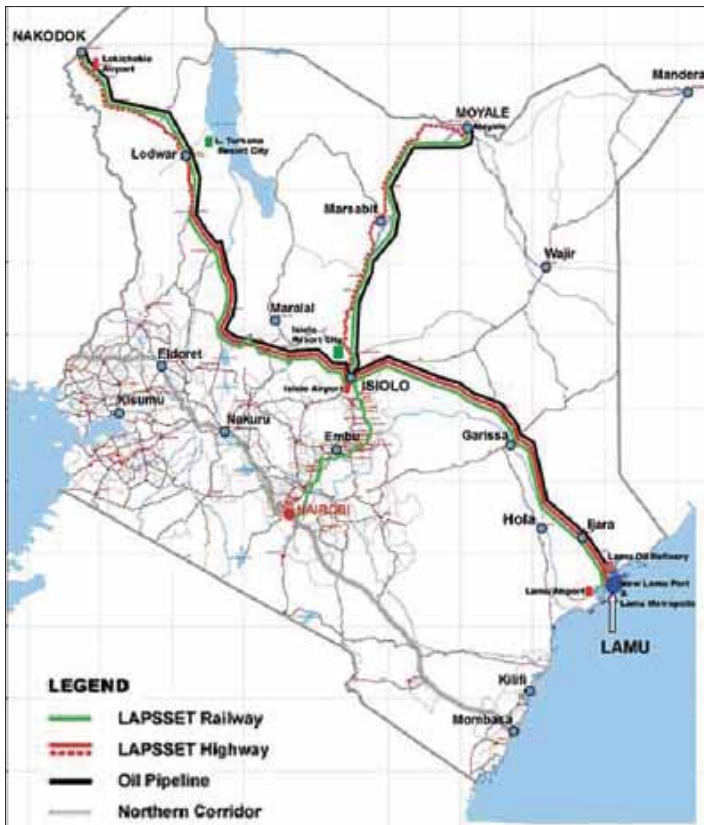


FIGURE 7. Lamu-Southern Sudan-Ethiopia Transport Corridor (LAPSSET).

infrastructure for shipping complements that used for regulating and distributing the Basin's water for agriculture, as well as urban and industrial purposes. An obvious example is the 60-km-long main irrigation canal of the Toshka Project whose cross-section is twice that of the Rhine Main-Danube canal. By the same token, the barrages along the river that regulate the flow of the water to enhance irrigation, also regulate the depth of the river; all of which is necessary for shipping. Furthermore, hydroelectric facilities form an integral part of these structures.

The Maritime component begins at the Mediterranean coast and entrance to the Suez Canal, traveling along the 2,200-km of the Red Sea, and the over 8,000 km of coastline from the Gulf of Aden south along the Indian Ocean coast of Africa. The numerous ports along this coast not only form routes to Asia and other continents, but also a north-south axis that further serves to integrate the economies of the region.

This coast is endowed with relatively good ports, such as Port Suez at the lower entrance of the Suez Canal and Sokhna Port on the Red Sea in Egypt, and Sudan's Port Sudan, Djibouti, at the mouth of the Red Sea, which is the principal port for land-locked Ethiopia. Kenya's Mombasa and Tanzania's Dar es Salaam are modern ports, but Eritrea and Somalia have poor ports, while the Chinese are building a new port at Lamu, Kenya, near the Somalia border.

While many of these ports have relatively modern facilities, they are becoming over-utilized, and must be expanded and upgraded. But the bigger problem is the poor infrastructure, especially rail going into the hinterland, which causes the cargo to accumulate in the harbor, preventing the speedy loading and unloading of ships.

Only the Egyptian Mediterranean ports of Alexandria and Damietta on the Nile Delta are linked to navigable river systems, in this case the Nile.

The Longest River in the World

As for the Nile itself, with a length of over 6,800 km, the Nile is the longest river in the world, almost three times longer than the Rhine-Main-Danube-Black Sea river and canal system that stretches from Rotterdam to the Black Sea. The Nile River's basin interfaces in the South with the region of the African Great Lakes in East Africa.



FIGURE 8. The Great Lakes Region.

The river itself has two sources: the Blue Nile and the White Nile which join together at Khartoum in Sudan (Figure 2). The Blue Nile has as its source Lake Tana, located at an elevation of 1,829 m in the high mountains of northeastern Ethiopia, from which the river flows through steep mountain valleys, entering eastern Sudan, and flowing to the northwest where it joins the White Nile at Khartoum, where the Nile continues north to the Mediterranean. Because of the high mountains and cataracts (shallow areas or white water rapids), the Blue Nile is not navigable.

The White Nile has as its source Lake Victoria in Uganda. With an area of 68,800 km², Africa's largest lake, and the world's second-largest freshwater lake, Victoria is part of the system of the African Great Lakes which form the East African Rift.

To the west and south of Victoria lie a series of lakes, namely, from north to south, Lakes Kyoga, Albert, Edward, Kivu, and Tanganyika and further south, Lake Malawi. These lakes bring the Nile Basin in communication with Uganda, DR Congo, Rwanda, Burundi, to the east, and Kenya and Tanzania and even Malawi and Zambia.

Lake Tanganyika continues a southerly course for over 600 km where it touches the northeast corner of Zambia. Three hundred kilometers to the east of that point, traveling along the Tanzania-Zambia border, one reaches Malawi and the northern tip of Lake Malawi, which stretches south for another 600 kilometers, coming into direct contact with Mozambique, which also lies on the Indian Ocean, to form a land-bridge to Southern Africa.

Unlike the American Great Lakes, these lakes are not linked with canals. Nonetheless, they lie in some of the most fertile regions of Africa, and therefore form centers of economic development in themselves. While already serving as regional waterways, they need to be seriously upgraded with navigation aids, modern ports, and integrated into the network of roads and railways so as to be part of the North-South and East-West transport networks.

Coming back to the White Nile's source near Jinga on the northern shore of Lake Victoria in Uganda, it flows north, where it is joined by rivers to the east and west of the basin. It then passes the South Sudan border at Nimule, continuing to flow north, where it joins with the Blue Nile at Khartoum. From here the Nile River flows through Lake Nasser, crossing into Egypt after the break caused by the Aswan High Dam, to Cairo, the broad delta region, and then to the Mediterranean. Unfortunately it is not navigable for its full length. To make it fully navigable would be more than an engineering challenge because of the nature of the topography.

Navigation only begins on the White Nile at the South Sudanese Capital of Juba to the north Sudanese capital of Khartoum, after which, a series of cataracts and the Merowe Dam prevent navigation until the southern reaches of Lake Nasser. Called the "southern reach" of

Integrating the Nile Basin with Modern Transport

the Nile, it is over 1,700 km long. For South Sudan, which is devoid of railways and good roads, the river is its most reliable transport artery. Its improvement would greatly aid in building the roads and railway that are needed along its path.

The completion of the 370-km-long Jonglei Canal, avoiding the Sudd marshes between Bor and Malakal, would dramatically improve navigation. As mentioned in Part III, the canal would drain the Sudd, and turn the region into a bread basket, where the river-canal system could serve as the key transportation artery.

Below Khartoum, to the southern tip of Lake Nasser, a series of cataracts and dams block possibilities for navigation. Lake Nasser is navigable for no less than 550 km, until the Aswan High Dam, after which navigation once again becomes possible for another 1,200 km to the Mediterranean.

In Egypt, the Nile divides into three principal navigable waterways: The first is the Aswan-Cairo Waterway, running for 960 km, beginning at the foot of the Aswan High Dam. From there, the Nile enters into the river's great delta where it divides, with one branch bearing eastward, the Cairo-Damietta Waterway, from which ships can easily reach Port Said, directly on the Suez Canal.

The second branch is the Cairo-Alexandria Waterway which includes the 118-km-long Nubaria Canal. Alexandria is Egypt's main port of entry, with two-thirds of its exports and imports passing through its harbor. Improving this waterway is high on the list of projects, not only for transportation, but for improving the irrigation of that part of the delta.

There is also the Ismailia Canal which runs from North Cairo to Ismailia directly on the Suez Canal. This is primarily a conveyor of water for irrigation, as well as bringing freshwater to the Canal Zone. While its cross-section is too small for the classes of ship that ply the Nile, studies are being done to considerably enlarge the canal. If developed for shipping, it could transform Ismailia into a major transshipment port, for cargoes destined for Cairo and points south along the Nile itself.

The New Suez Canal

In Egypt, more than 90% of the haulage of freight within the country is over the road network. The Egyptians know this has to change, and that the only way is to expand the rail network and develop the river systems. More to the point is the fact that the Egyptian government is determined to fully develop the Nile as major north-south axis, not only within Egypt, but to points further south so that it can be integrated into the great industrial and logistical complex they will be developing as part of their New Suez Canal project.

Regional coastal shipping is being developed in the Red Sea, and on the Indian Ocean coast of Africa. New shipping services will be developed to integrate the region. For instance, the Egyptian government has restored ferry services from Port Suez to Saudi Arabia just across the Red Sea.

On the Nile itself, the government has an integrated national plan to reconstruct and develop the entire length of the Nile within Egypt, to enhance irrigation, freshwater distribution, and transportation. New river ports are being developed along its full length.

Qalaa Holdings, an investment fund that is taking the lead in this, is concentrating on investment in infrastructure, and is eager to develop the entire basin down to Uganda, where it has acquired the concession to manage the Rift Valley Railway in Kenya, Uganda, and Tanzania. Built by the British, this railway fell into disrepair, but the company has now greatly improved it, and is even interested in expanding it to Juba where it can be linked with the river transport on the White Nile. In Egypt, Qalaa is building up a fleet of 100 motorized barges with the view of expanding greatly river and canal transportation.

In addition to developing the great complex at the Suez Canal Zone, which we described in detail in the Part I of this series, the Egyptian government has just announced that it plans to create a global grain and food logistics center at Damietta to serve the entire region, a project



The Egyptian government plans to fully develop the Nile as a major north-south axis, to be integrated into the great industrial and logistical complex it will be developing as part of the New Suez Canal project, shown here under construction in September.

which Prime Minister Ibrahim Mehleb recently declared "a large national project that is no less important than the Suez Canal project." The project would expand the port to accommodate ships carrying up to 150,000 tons of grain, as well as expand piers dedicated to smaller river and canal ships. This project will serve to quadruple the capacity of Egypt's ports from 2.5 million tons to 10 million tons. It will be complete with food processing industries.

Conclusion

The new Egyptian government's relaunching of long-abandoned development programs has ignited a spark of optimism in the country, which could become contagious in the rest of Africa. However, this development should not be assessed as an issue separate from the massive shift that has taken place in the past few years. China's and the BRICS' initiative to break ground for a new world order based on economic cooperation and respect for the sovereignty and independence of each and every nation has paved the road to this important development.

As is evident from the facts presented above, China has already been involved in groundbreaking bilateral and multilateral economic development agreements with the nations of the Nile Basin and East Africa, over the past three years. Unfortunately, the U.S., Britain, and their allies in Europe, have been pursuing a "creative destruction" agenda in Africa. The war on Libya in 2011, with the involvement of Saudi Arabia and Qatar's al-Qaeda jihadists fighting side-by-side with NATO, wreaked havoc in that nation, spilling over to Mali, Algeria, and Nigeria.

The support given by the Obama Administration to the Muslim Brotherhood in Egypt almost drove that nation to a bloody civil war. Egypt is now fighting terrorists both in Sinai in the east, and fending off terrorism emerging from Libya.

The failed, decades-long policies of the West in the Horn of Africa have created a failed state in Somalia. Somalia, which is bleeding internally, has also become a security threat to Kenya, particularly, and also to the international trade routes offshore in the Arabian Sea and Gulf of Eden, through pirate groups emerging out of Somalia. The Somali al-Qaeda-linked terror group Al-Shabab has intensified its terror attacks inside Kenya, since the latter entered into agreements to build the Lamu Port and Lamu Corridor with China. Somalia is not a hopeless case. However its salvation depends completely on the shift in international relations and the real development of the region around it.

The optimism in East Africa has to spread to West Africa and the rest of the continent, not the other way around, as the Ebola epidemic could potentially spread from the west to the east. All international efforts have to be focused on containing and eliminating the Ebola threat and its root causes, and in addition, as Helga Zepp-LaRouche declared at the recent Schiller Institute conference in Germany, should be accompanied by creating a new and just world economic order.