

HAL COOPER, JR.

Rail, Energy, and Water Infrastructure for the Full Economic Development of Africa

This is the edited transcript of the remarks of Hal Cooper to the Schiller Institute conference in Morristown, N.J. on Feb. 16, 2019. Dr. Cooper has been a civil engineer for many years. He has collaborated closely with the La-Rouche movement over decades in working out the details of the Schiller Institute's proposals for the Silk Road and the World Land-Bridge. He has a long history of cooperation and work with African nations and has discussed in detail with their representatives how rail in particular and other transportation networks ought best to be arranged in Africa.



EIR/Stuart Lewis

Hal Cooper

expanding to South Africa, and all the countries in between both on the east and west sides of Africa.

An Enormous Potential For Energy

Africa has an enormous potential for energy development, in parallel to rail development and water development in certain areas. However, there is a large mal-distribution of particularly the water. New hydroelectric power

Thank you. I'm very happy to be here. I'm going to be speaking tonight on rail infrastructure development in Africa, and I'm going to finish up afterwards by talking about one of the provisions that was in the Green New Deal. It is the subject of a U.S. national high-speed rail system, which I will discuss after I finish the presentation on Africa.

A Full-Scale Rail System for Africa

Africa is a big continent, up to 3000 miles wide and 5000 miles long—parallel to South America. Those are the two continents of the world that have had the least economic development to date. We're talking about what we need to do to help Africa in the present, and especially in the future. This [Fig. 1] is a diagram of what might be a full-scale rail infrastructure program development, which is actually based upon earlier work by the LaRouche organization going back to the 1980s.

I was asked several years ago by one of the La-Rouche members, Thomas Fuller from Tacoma, Washington, to do a feasibility study of what we could do to develop a rail network in southern Africa; particularly focusing around the Democratic Republic of the Congo,

FIGURE 1
Proposed High Speed Rail Network for the African Capitals

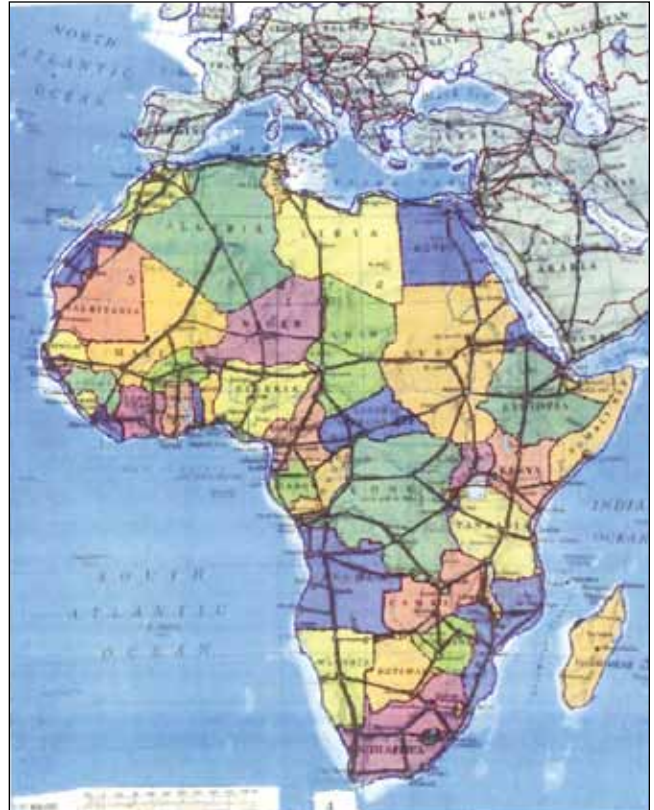


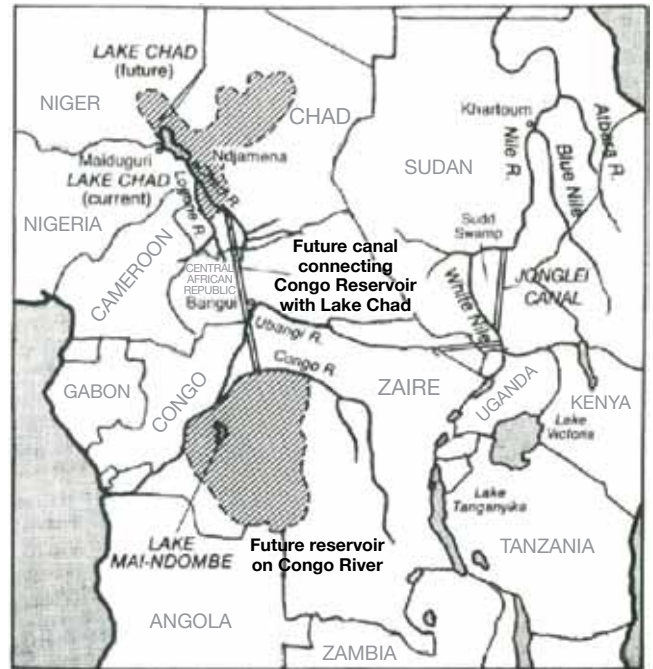
FIGURE 2
Africa River Basins



facilities could be located along rivers. The Congo River is the most important, followed by the Nile, followed by the Niger, and then the Orange River in South Africa. This [Fig. 2] is the river basin diagram of Africa. Again, you have the Congo, which has the largest water flow; the Nile, and a number of other rivers; and the Niger River, Orange and numerous others in Africa. Most importantly the Congo, because it's the second-largest river flow in the world next to the Amazon, and it's in the same tropical region, of course, where the maximum water potential is available.

The one country in Africa which has, to date, had a major economic development of railroads, which goes back to early in the 20th Century and actually into the late 19th Century, is South Africa. The South African railways are the ones that have been the most developed in the world. It actually is primarily a narrow-gauge railroad, a smaller gauge than we have in the United States. It's about 3-feet 6-inches, versus 4-feet 8.5-inches; and in Russia, of course, you have the 5-foot Russian gauge. If we're going to have a successful system, it's all got to

FIGURE 3
Lake Chad-Congo Basin



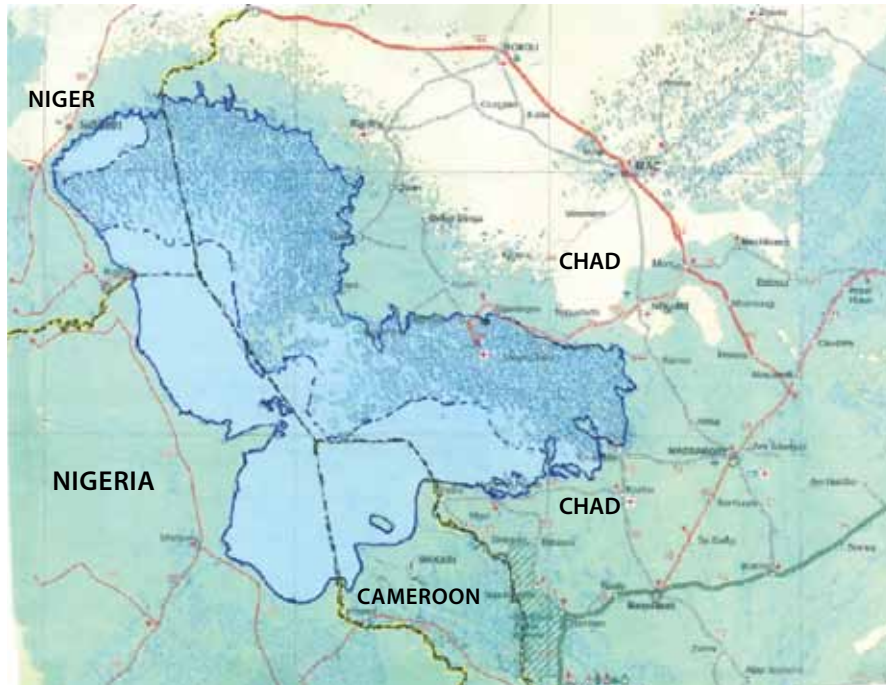
be the same throughout Africa ultimately. We'll discuss in a minute what the rest of them are.

The Transaqua Project

I believe there's been some discussion today about the Transaqua project in Africa [Fig. 3]; which would take water from the Congo River and put it into Lake Chad in north central Africa, which is in the sub-Saharan region just at the southern end of the Sahara Desert, refilling this lake, which has been slowly evaporating. And of course the country of Chad and the neighbors around it have been forced by the British policy of no inter-basin transfer of water, which basically means they're eventually going to run out, which is exactly what has been happening. Now this change completely eliminates that policy, because the Congo River has far more than enough water to supply them, and it could be very helpful to the countries to the north, without any detrimental effect on the Congo River. It's a huge river.

The Transaqua project involves actually building a canal or series of canals from the Congo River up to Lake Chad and refilling it. Lake Chad is a basin that actually doesn't have an outflow; it only has inflows. But it would become the center of a major agricultural region, and other industrial developments as well. It

FIGURE 4
Previous Shoreline and Existing Levels of Lake Chad with Reduced Volumes



would benefit Nigeria, and several other countries, plus Chad. The clear blue section of Lake Chad [Fig. 4] is the part that has water today. The part that is shaded and has other blue increments is actually what was evaporated or gone away, because of the lowering of the lake with the flow. That needs to be corrected by bringing in water from the South from the Congo River Basin.

The restoration of Lake Chad would lead to the fostering of economic development around the lake. That means railroad, plus roads, plus industries and agriculture for the entire region for the benefit of all of them. This is an area right now where, particularly in Nigeria in the north, you have a lot of terrorism activities from certain Muslim extremists, just like you have in some places in the Middle East. Well, if all this became prosperous, there would be no need for the terrorists.

We should actually have two canal systems—one coming from the western part of the Congo River and a second one more to the east, transversing the Central African Republic and Democratic Republic of the Congo into Chad and Nigeria.

There has been some talk of having an equivalent of the North American Water and Power Alliance, as the

African Water and Power Alliance, which would be a comprehensive water distribution network throughout Africa. A large part of it would involve bringing water from the Congo River into the Niger River, and also into the rivers in South Africa and into the southern part of the entire continent of Africa.

Electricity Production and Distribution

Then if you're building water, you've got to have a transmission for electricity. Right now, probably 70% of the entire electric generation of the continent of Africa is in South Africa; and it's primarily through 44 coal-fired power plants. They have plenty of coal in South Africa, and they'll continue to use it, but you have to have other supply sources, hydroelectric power being one, and one that's particularly applicable of course is nuclear energy. Then, because of the intense sun near the equator, solar energy, in the desert areas in particular of the Sahara.

Electric generating capacity in Africa is presently around 130,000 MW; the idea would bring it up to close to 400,000. In increasing this, South Africa and the eastern part of Africa, the rest of Africa would be very much a factor. And the Democratic Republic of the Congo would be the largest single generator, primarily because of the dams on the Congo River. And especially the existing Inga Dam, which at 3,000 MW right now, could be expanded to as much as 50,000 MW.

Rail Development

Lets look at rail development in the different countries of Africa—what it is now, and also what it could be in the future.

Here is what it was in 1990. [Fig. 5] What it would be is seen here. [Fig. 6] Much more comprehensive. You'd have parallel tracks for passengers and freight, ultimately electric to the extent possible. There is considerable electrification of railroads in South Africa, but nowhere else in Africa.

FIGURE 5
The State of African Railways in 1990

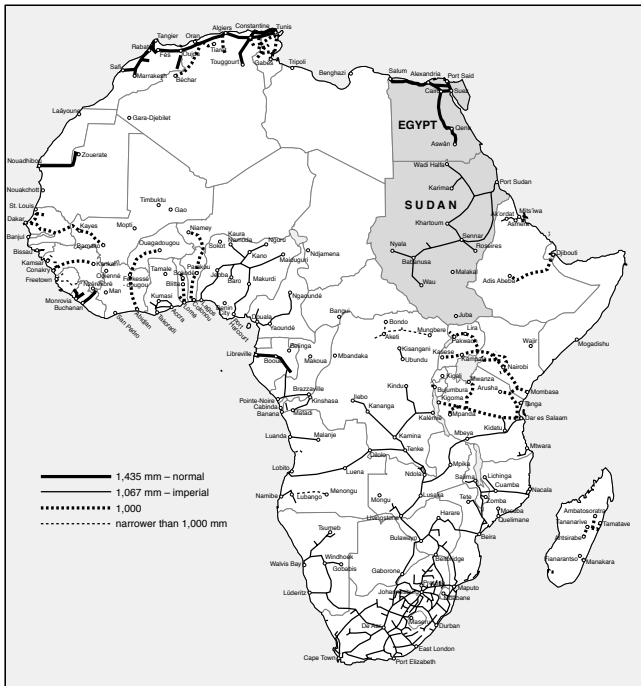
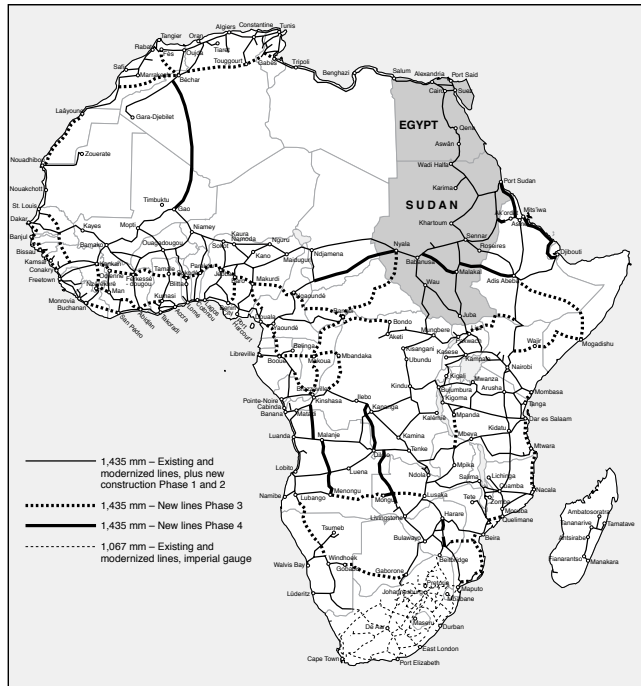


FIGURE 6
Projected African Railway Network (Main Lines)



Sources: Fusion Energy Foundation, *The Industrialization of Africa*, Wiesbaden; Campaigner Publications, 1980; *The Times Atlas of the World*, New York; Times Books, 1990.

We have also mapped out a rail development in the Sudan region, as well as to the north in Egypt and so forth. Here's a cross-corridor from east to west in

Africa [Fig. 7], from Pointe-Noire in the Congo Republic all the way over to Tanzania and Kenya, including a bridge across the Congo River between Kinshasa, the capital of the Democratic Republic of the Congo, and Brazzaville, the capital of the Congo Republic, which is about 2.5 to 3 miles long. It would be a road and rail and telecommunications and electric transmission bridge; all those, and pedestrians as well. That's been proposed, but unfortunately never built.

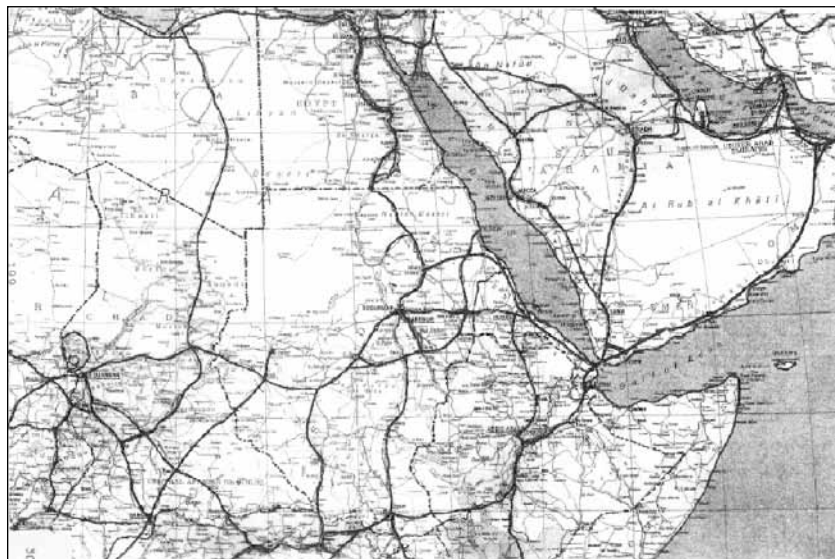
FIGURE 7
Major Bukavu East Route Railway Corridor Across Central Africa



Similarly, we have the issue of Sudan, and the connection across the Strait of Bab-el-Mandeb between Djibouti and Yemen in the southwestern part. [Fig. 8] It sure sounds like a better alternative than the war in Yemen, doesn't it? Sudan and South Sudan, getting them at peace, and then getting the rail systems built and the economic development across the Strait of Bab-el-Mandeb through the Arabian Peninsula is necessary, including across to the Persian Gulf.

FIGURE 8

Proposed African Railroad, Electricity Transmission and Water Corridors in Northeastern Africa



This is a picture of a crossing of the Nile River in the northern part of Sudan [Fig. 9], which would have a north-south railway across, and then rail line across the bridge which would be about 1.5 miles wide. All of this

FIGURE 9

Nile Crossing of Proposed African Railway



is part of a cross-Africa corridor from east to west, which is about 3000 miles. There actually has been a proposal made by the Chinese to those countries, only some initial studies have been done; nothing else. The total cost of the project would be about \$1.5 trillion for the entire project. And with that, I'm done.

The Green New Deal

We're done with Africa, but we're not done with the Green New Deal program that has just been made by the Democratic Party. I want to just discuss that very briefly. There's been some discussion today at this meeting about that program. It sounds like a no-growth policy, and it sounds like an anti-technology program; that's exactly what it is, with one exception. A national high-speed rail network. I think that's some-

thing that this organization needs to promote as the one positive element of the Green New Deal that puts Green in the right perspective, rather than the wrong one. And with that, I thank you.