Venezuela Completes Yacambú-Quíbor Water Transfer Tunnel

by David Ramonet

The water-transfer tunnel of the Yacambú-Quíbor Hydraulic System in the state of Lara, Venezuela, was finally opened on July 27, making it possible to traverse the entire 24.5 kilometer length of this tunnel, which crosses under the Andean mountain range at a depth of 1,200 meters. Through this 4.4-meter-wide tunnel, 287 million cubic meters of water per year will be transferred from the Yacambú river, which is part of the Orinoco basin in the southern plains region of the country, to the Quíbor Valley, a semi-arid agricultural area near the city of Barquisimeto.

The agricultural and urban requirements of this area not only exceed current availability of fresh water, but the aquifers in the region are also being depleted.

The characteristics of the Yacambú project make it a sort of "mini-PLHINO," a more modest version of that Northwest Hydraulic Plan in Mexico which envisions the transfer of 7 billion cubic meters of water a year, for the irrigation of nearly 1 million hectares of land. The PLHINO project entails four tunnels, each between 21 and 33 kilometers in length, and about 7 meters in diameter, which would connect a continuous network of rivers and canals 460 kilometers long. Although the Yacambú project will transfer only 4% of the amount of water that the PLHINO will move, both projects are based on the same engineering and physical economic principles. And the Yacambú project demonstrates, above all, that it can be done!

The project was begun in 1974, but it took 34 years to be completed, not for technical reasons, but because of the political and financial obstacles thrown up against it. Over the course of those 34 years, the project was stopped and started up again eight times, under the pressure of national and international campaigns—in particular, by the World Bank—which argued that the project was "not feasible." Financing was cut off, and the project became mired in administrative corruption, but finally the light appeared at the end of the tunnel, albeit at a higher cost than originally budgeted, because of all the obstacles.

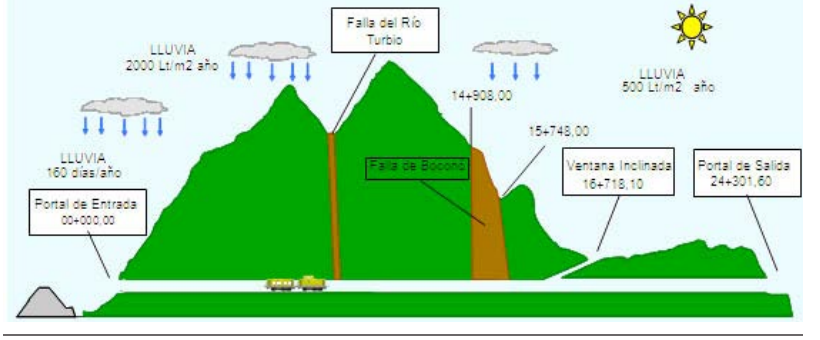
The tunnel was constructed on the basis of the original design, but instead of costing $173 million as expected 34 years ago, it ended up costing more than $800 million in current dollars. Advanced engineering tools—such as tunnel-boring machines, earth-moving equipment, and explosives—were used, under the supervision of international consultants and dozens of investigations and studies which, time and time again, confirmed the project's feasibility.

Two thirds of the volume of water which will be transferred through the tunnel will go for agriculture, and one third to meet the consumption needs of the city of Barquisimeto, the nation's principal agricultural gathering and distribution center, located in the center of Venezuela.

This will allow the amount of land under irrigation in the Quíbor Valley to increase from 3,500 to 26,120 hectares; that is, an increase of 557%. This will mean, in the short term, an increase in diverse agricultural production of some 580,000 tons a year, as compared to the 55,658 tons which are currently produced—an increase of 942%.

In Barquisimeto, a city of a million inhabitants, the supply of potable water will increase by 66%, going from 4,547 liters/second to 7,547 liters/second. This will allow an expansion of the city's industrial and agroindustrial capacity, as well as city services, in general.

Venezuela's Yacambú-Quibor Water Tunnel Project



Source: Yacambú-Quibor Water Tunnel.

A schematic of the tunnel project in mid-July, just before it was finished. The entrance is at left.