GENERAL: HYDROELECTRIC PROJECTS IN BRAZILIAN AMAZON SPARK CONCERN OVER CROSS-BORDER ENVIRONMENTAL IMPACTS

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Bolivian environmentalists have strong concerns over dams Brazil is planning to build along the Madeira River. "The consequences of the dams on the Madeira River will add to the process that has been destroying the Amazon for decades," said Bolivian public health specialist Pablo Villegas, researcher in the Foro Boliviano Sobre Medio Ambiente y Desarrollo (FOBOMADE). The impact caused by the Madeira River Hydroelectric Complex, according to environmentalists' predictions, will be the greatest ever caused by an infrastructure project, giving all the more reason for alarm.

**Madeira River dams**

Madeira is the one of the most plentiful rivers in the Amazon basin, second only to the Amazon River, of which is a tributary. It starts where the Beni and Mamore Rivers unite in Bolivia and flows toward the north, following the border between Bolivia and Brazil, entering Brazilian territory through the Rondonia and Amazonas states. The river transports half of the basin's sediments and drains into one of the regions with greatest physical and biological diversity in the world, shared by three countries: Bolivia, Brazil and Peru.

The dam project forms part of the scheme of the Iniciativa para la Integracion de la Infraestructura Regional Suramericana (IIRSA) and is located in Brazil in the city of Porto Velho and surrounding areas, close to the border with Bolivia.

The project's original design includes two large dams in the Madeira River in Brazilian territory, another in shared waters and a fourth in Bolivian territory, in the Beni River. Brazilian companies, however, failed in their attempt to obtain permission from the Bolivian government to carry out studies in Bolivian territory. An intense debate was set off, based on the impact the dams will have beyond the Brazilian border and into Bolivia, which kindled tension between the two countries. Brazil opted to continue with the project on its own territory.

The contract for the construction of the San Antonio dam has already been given to the consortium headed by state company Furnas and construction giant Odebrecht. The works are set to begin this year. Meanwhile, bidding for the other Brazilian dam, Jirau, will begin in May.

In addition to harnessing hydroelectric power, the dams will also attempt to make the Madeira River navigable, allowing for the inter-connection of the Madre de Dios (Peru), Pando (Bolivia) and Rondonia (Brazil) regions.

Patricia Molina, national coordinator of FOBOMADE, said in her study that "the navigation component would be carried out through building locks, which will allow the navigation of more than 4,000 kilometers [2,500 miles] of river waterways above the dams in order to transport goods from Brazil to the ports of Peru."
According to a letter in 2007 addressed to the Brazilian authorities by environmental organizations from all over the world, based on official and independent studies, “there is a large possibility that Bolivia could suffer floods in the Pando province; loss of freshwater fauna and serious impacts on fish populations above the Madeira, as well as the proliferation of malaria outbreaks.”

In light of these dangerous threats, the Bolivian authorities have urged Brazil to apply the “precaution principle,” backed by various treaties signed by both countries to ensure that there will be no cross-border impacts. But Brazil has not slowed down.

In January 2007, Silas Rondeau, former Mines and Energy Minister in Brazil, told press that, “no agreement is necessary with Bolivia […] since the two dams are on Brazilian territory.”

On the other hand, as Villegas describes in one of his articles, “the dams will imply geopolitical problems. About 95% of Bolivian waters drain through the Madeira. The dams will put these waters under Brazilian control, which hints at an unsettling geopolitical perspective.”

Bolivian President Evo Morales' government has not been flexible in negotiations with Brazil in authorizing studies for dams in Bolivian territory. Despite offers from Brazilian President Luiz Inacio Lula da Silva—including access to Atlantic ports and soft credit for agriculture—Brazilian authorities have refused to negotiate on the grounds that the dams are on Brazilian territory.

Morales applied a decree approved by president of the interim government of Eduardo Rodriguez Veltze (2005-2006) in October 2005 which suspends the distribution of licenses for hydroelectric works in the Madeira River while there are no reliable studies.

“The Brazilian State has an urgent need for Bolivia to advance in the implementation of hydroelectric works, due to the cross-border impacts that will force them to establish a bilateral agreement for managing them,” Molina affirmed in her study titled “The project of hydroelectric exploitation and navigability of the Madeira River in the IIRSA framework and globalization context.”

Need for energy

The construction of hydroelectric dams responds to common interests between Lula’s government and private Brazilian companies. For the state, it means satisfying the urgent need for electric energy in its industrial cities (see NotiSur, 2007-05-11), facilitating the exportation of its soy production to Pacific ports through waterways in the Madeira and reinforcing its geopolitical influence in South America. For companies, dam construction constitutes a business valued at more than US$8 billion, in addition to control over the distribution of 6,400 MW that the Jirau and San Antonio dams would generate.

However, the process of granting environmental licenses has been characterized by its rush and has been a target of strong criticism in Brazil. In March 2007, experts from the Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renovaveis (IBAMA) refused to grant the preliminary license to the project, pointing at faults in the Environmental Impact Study produced by Fumas/Odebrecht, the same companies who will build the dams.
IBAMA determined the need for other studies that include, among other aspects, the cross-border impacts. However, the IBAMA board of directors was replaced in April 2007 and its new members, basing their argument in additional studies, conceded the license three months later.

Brazil’s government also faces pressure from Paraguay to change the terms by which it distributes revenues from the shared Itaipu hydroelectric dam (see NotiSur, 2007-06-08 and NotiSur, 2008-04-25).