

LOOKING BACK: Lessons From the Denuclearization of Brazil and Argentina

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[José Goldemberg](#)

Later this year, the world will celebrate an arms control milestone: December 2006 will mark the 15th anniversary of the Quadripartite Agreement, which finalized the arrangements for effective inspections of the nuclear programs of Brazil and Argentina. In practical terms, the agreement ended a period in which Brazil conducted covert activities in military installations that could have led to the production of nuclear weapons. Argentina too had such aspirations.

As Brazil's secretary of state for science and technology at the time, I was intimately involved in the preparations that led to this agreement. Previously, when I was an outside academic critic of Brazil's previous military regimes, I had represented many Brazilian scientists in criticizing Brazil's plans for nuclear energy, particularly the potential that nuclear technology could be diverted to nuclear weapons.

These experiences taught me that although the controls and rules exercised by the current nonproliferation regime can help to delay the acquisition of nuclear capabilities, the most effective nuclear nonproliferation strategy is to reduce the underlying incentives for states to acquire such weapons. In such a strategy, the role of regional neighbors is likely to prove crucial. It is a lesson that might well be applied to other regions, such as in the Middle East.

Southern Cone Nuclear Programs

Some might belittle the efforts to "denuclearize" the Southern Cone of Latin America, arguing that Brazil and Argentina lacked the technological expertise to ever produce nuclear weapons. Such an assumption is false, as both countries demonstrated that developing countries with technical elites can master many if not all of the technical steps required. Argentina and Brazil, for example, were able to produce the fissile material—enriched uranium or separated plutonium—necessary for nuclear weapons.

At the time, both countries claimed to have produced the material for purely civilian purposes in an effort to gain access to the full nuclear fuel cycle from uranium enrichment to plutonium reprocessing. To be sure, following such a strategy, a country does not have to make an explicit early decision to acquire nuclear weapons. In some countries, such a path is supported equally by those who genuinely want to explore an energy alternative and by government officials who either want nuclear weapons or just want to keep the option open.

Until it lost power in 1985, Brazil's military government had clearly sought to keep the nuclear weapons option open.^[1] Brazil had begun its nuclear efforts in 1975 when it signed a cooperation agreement with Germany. The government claimed the nuclear program was a response to the 1973 oil crisis, which threatened the country's trade balance. This was clearly not true as electricity in Brazil was and still is produced mainly in hydroelectric plants and not from petroleum. Building nuclear reactors would not reduce oil imports, which are used for transportation and industry. In addition, there was no shortage of electricity. Indeed, Itaipu, the 12,000-megawatt hydroelectric plant on the Paraná River—the largest plant in the world—had just been started and would satisfy increases in electricity demand during the subsequent years. As chairman of the Physics Department of the University of São Paulo, I criticized the nuclear program from the start, arguing that there was no justification for massive investments in nuclear energy at the expense of other, more acceptable energy alternatives.

When a civilian nuclear energy deal with Germany that included uranium-enrichment facilities

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“The two governments quickly negotiated an agreement, creating the Argentina-Brazil Agency for Accounting and Control of Nuclear Material (ABACC) in July 1991.” (p. 3).