Addressing the water and sanitation deficit

Brazil needs to address the low efficiency of its investment in costly water and sanitation projects that delay development.

Solangne Monteiro

BRAZIL’S WATER AND SANITATION DEFICIT has long been known, but in recent years, its high price for Brazilians has become more evident. In 2015, the water crisis in the Southeast demonstrated how much waste there is in the water distribution network—about 37%—as well as how little has been done to recycle water. The outbreak of the Zika virus carried by the Aedes Aegyptus mosquito underlined the precariousness of urban sanitation: inadequate storage of house water and collection of sewage ensure a breeding ground for mosquitos. These emergencies have not been adequately addressed.

Of 16 countries in the region, Brazil ranks 9th in urban water supply services and 12th in sewage collection and disposal, according to the Trata Brazil Institute. The slow expansion of the water and sewage networks and the low quality of the services are not compatible with Brazil’s income level.
Since 2007, when the Growth Acceleration Plan (PAC) was launched, the amount allocated to water projects and sewage has doubled. In these nine years, however, this financial effort proved not only inadequate but also ineffective. Between 2007 and 2014, average annual investment in the sector was R$8.2 billion. To universalize water and sewage services by 2033, however, Brazil must invest an estimated R$15.2 billion annually.

“The current level of investment, we will reach the universalization of sanitation only by 2052,” says Marcela Altai, FGV Infrastructure and Environmental Solutions. Moreover, Raquel de Freitas, FGV Center for Studies in Regulation and Infrastructure (CERI), points out, “Since 2007, access by the population to tap water increased by only 2 percentage points, and to sewage disposal systems only 8 points.” And according to Trata Brazil, in early 2016, of 337 water and sewage works under PAC in Brazilian cities with more than 500,000 inhabitants, 124 were behind schedule or totally paralyzed.

**Widespread inefficiency**

IBRE researchers Armando Castelar and Julia Cavalcante point out that, even with changes in the 1990s, such as privatization of infrastructure, investment in infrastructure as a percentage of GDP was lower in the 1990s than in the 1980s, reaching only 3.6% in 2011 and 2.4% in 2013 because of “institutional bottlenecks and other barriers.” One of the first actions of Acting President Michel Temer was to set up the Investment Partnership Program (PPI) to encourage private investment in infrastructure.

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CERI researchers de Freitas and Irene Altafin are studying the effectiveness of investments in sanitation. Using data from the federal savings bank (CEF) on investments in and loans for water and sewage infrastructure since 1988, they have found that of total loans of R$39.2 billion from 1988 to March 2016, 73% were contracted in 2007, when the PAC was created. Of investments since 2007, only 14% have been completed and 24% are on schedule. “The result is that about 61% of investments involving R$17.5 billion are considered to be in an inadequate situation,” de Freitas says.

Because the study is still underway, as yet there is no definitive information on what steps of the contracting process may cause unnecessary delay, though “In interviews with sanitation sector players, it was possible to identify such factors as the lack of well-prepared projects and institutional capacity to process contracts,” Altafin says.
“With the current level of investment, we will not reach universalization of sanitation until 2052.”

Marcela Altail

At the round table on “Sanitation: High-impact Social Investment,” organized by the Brazilian Institute of Economics (IBRE) in early May, Carlos André Lins Rodrigues, national manager of the CEF credit sector for infrastructure, highlighted the disconnect between the rapid rise in financial resources for sanitation and the need to reorganize the infrastructure sector to carry out work: “No one had detailed projects for this money boom. The sanitation projects available were outdated, demanded revision, and this affected execution of the PAC.” Edison Carlos, chief executive of Trata Brazil, adds that “Even today we pay the price of the demobilization [in the sanitation sector] in previous decades.” Altafin emphasizes the lack of technical capacity at the municipal level to process sanitation projects, in addition to difficulties in obtaining environmental licenses.

Altafin believes that one problem today is that the federal government is not concerned about strengthening project management. “It’s no use the federal government providing financial resources and establishing goals without taking responsibility for improving project management, by, for instance, modernizing registries and defining technical and operational efficiency indicators,” she explains.

In a letter to Bruno Araújo, the new Minister of Cities, Trata Brazil has argued that without planning and support from the federal government,

Status of sanitation works in May 2016

- 44% of the works are paralyzed
- 10% of the works have been concluded, but have pending contractual obligations and are not operational

Source: FGV/CERI.
improving sanitation will not be possible, especially in smaller municipalities. The institute supports regionalization of sanitation planning through water basin committees and consortiums. It notes that because some water basin committees were politicized or lost expertise, it is necessary to stimulate their revitalization so that decisions are made regionally to generate economies of scale, reduce equipment and other costs, and streamline project analysis.

In the document published in January, the National Confederation of Industry (CNI) argued that there is a need to build sectoral policies, citing the lack of projects as a symptom rather than a cause of sanitation sector problems. “The deadline for delivering municipal sanitation plans has been extended three times, which shows that simply requiring plans is not sufficient to achieve sanitation goals,” says Ilana Ferreira, CNI policy and industry analyst. The CNI recommends creation of an institutional framework for the technical staff of public agencies, establishment of a sanitation project database, and appointment of a Secretary of Planning and Sanitation Projects within the Ministry of Cities. FGV’s Altai believes the private sector can also be persuaded to help build technical capacity through such instruments as a sanitation investment fund that would allow investors to participate in the management and operations of sanitation companies.
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Irene Altafin

More funding

Johnny Ferreira, Acting National Secretary of Environmental Sanitation of the Ministry of Cities, says that in the last 10 years, of 26 state sanitation companies—operating in 80% of Brazil’s municipalities covering 75% of the population—only 13 were able to borrow from the National Development Bank (BNDES) and the CEF. “Just three sanitation companies account for almost all available credit,” he adds. Gesner Oliveira, partner in GO Associates and professor at the FGV Business Administration School of São Paulo (EAESP), believes that one way to facilitate access to finance is reduce the cost of investments. He advocates for Draft Law 95/2015 establishing the Special Regime of Incentives for Sanitation Development to grant tax credits on investments for sanitation projects approved by the Ministry of Cities.

Sanitation indicators by region (%)

Oliveira also calls for more federal government efforts to guarantee the independence and capacity of sanitation regulators. In *Bureaucracy and Impediments to the Sanitation Sector*, CNI points out that the large number of sanitation regulatory agencies in Brazil reduces their technical capacity and effectiveness and calls for assigning regulation to state institutions. According to the Brazilian Association of Regulatory Agencies, Brazil has 26 state agencies, 20 municipal, and 3 consortia of municipalities for a total of 49. “In many municipalities, regulatory agencies simply act as another government department without independence and financial autonomy,” says CNI’s Ferreira. For the private sector the large number of regulatory agencies is a problem. “Today we operate in 45 cities under 40 regulatory agencies with different technical capacities,” explains Hamilton Amadeo, president of Aegea. Gabriel Toffani, CEO of Suez Latin America, cites Mexico’s model, where a federal regulator is responsible for setting operating guidelines for the entire country, which ensures consistency in the performance of local regulatory agencies.

**Sanitation investment needs over the next 20 years according to the National Basic Sanitation Plan**

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<thead>
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<th>R$ billions</th>
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<tbody>
<tr>
<td>Total</td>
<td>508</td>
</tr>
<tr>
<td>Water</td>
<td>122</td>
</tr>
<tr>
<td>Sewage</td>
<td>182</td>
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<tr>
<td>Urban waste solids</td>
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<tr>
<td>Drainage</td>
<td>69</td>
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<td>Management</td>
<td>112</td>
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Source: Ministry of Cities.

**Brazil's water losses are very high**

Water losses by region

- North: 50.8
- Northeast: 45.0
- Southeast: 33.4
- South: 35.1
- Mid-West: 33.4
- Brazil: 37.0

[In Mexico] a federal regulator is responsible for setting operating guidelines for the entire country, which ensures consistency in the performance of local regulatory agencies.

Private investment
Streamlined regulation, experts say, is critical to attract private investors to the sanitation sector, which is becoming even more important in view of the limited borrowing capacity of state governments. Trata Brazil’s Carlos considers more private sector participation to be essential to make sanitation services more efficient. The CNI survey shows that private companies, which now control about 5% of municipal and state sanitation services, have a service quality index that is 10% higher than the public sector ones.

Oliveira believes the interim government program is positive. “The idea of stimulating public-private partnerships and seeking transparency and greater coordination among government agencies is well-designed; so is the concern with competition and with coordination among regulatory agencies in general,” he says. “Now we need to see the details,” he says, reflecting the concern of many operators in the sanitation sector, especially about the fate of PAC projects not yet completed.

Aegea’s Amadeo is optimistic about attracting the private sector: “If the business is presented with full transparency, there will be no lack of private money. This is the experience of our company, which is getting plenty of funding.” The International Finance Corporation holds 2% of the company, which also has as an investor Singapore’s sovereign fund, and which recently borrowed R$320 million from the Inter-American Development Bank (IDB).

Postcard
The metropolitan area of Rio de Janeiro is eager to open up sanitation operations to the private sector. The case of Rio de Janeiro is symbolic. Featured on one of the most popular postcards of Rio de Janeiro has 21 municipalities that together with the state government will set the rules for new concession sanitation contracts.
Janeiro, Guanabara Bay is also the most visible example of the inefficient use of resources to address sanitation problems. During Eco 92, the government announced a project to reduce pollution in the bay, funded by Japanese and IDB resources; today the city is on the eve of the Olympics without meeting its goal of reducing pollution of the bay by 80%.

To remedy the situation, the Metropolitan Council of Rio de Janeiro is planning a sanitation management project for the metropolitan area to ensure fulfillment of that promise. The council will offer concession contracts for water and sewage services for the 21 municipalities in the metropolitan area. This was possible by the 2014 Supreme Court ruling that established that utilities services of common interest of several municipalities should be governed by a municipal council comprising the state governor and mayors.

Jorge Peron, head of the Environment Division of the Federation of Industries of Rio de Janeiro (FIRJAN), points out that concessions have brought about positive results. “In Niterói city, collection and treatment of sewage is close to 93%, almost three times the average for the state,” he says. “If the Metropolitan Council can design a good governance model for concessions that harmonizes the different interests of industry, agriculture, and population, it can certainly organize a successful waste management and sanitation operation,” he says. Luiz Firmino, superintendent of the Rio Metropolitan Council, acknowledges that today participation of the private sector in infrastructure is not a matter of choice. Last year, Fitch downgraded the investment grade of both the city and the state, and in early June the National Treasury denied approval for Rio de Janeiro to borrow R$989 million from the National Development Bank to construct the fourth metro rail line.

Firmino also underlines the importance of the sanitation works for the resumption of economic activity. The Ministry of Cities estimates that investments of R$508.4 billion under the National Basic Sanitation Plan would generate 7.4 million direct jobs, 4.4 million indirect jobs and 17.5 million jobs in the works. The CNI estimates that for every R$1 invested in sanitation, the Brazilian economy would see GDP rise by R$3. If R$12.5 billion a year were invested in sanitation, the annual increase in GDP would be R$22.7 billion. Firmino estimates that the planned sanitation concession contracts would create 2,500 management jobs and 5,000 to 8,000 construction jobs.

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