

9 Public banking and public water in the transition from authoritarian neoliberalism to the “new” pink tide

Success against the odds in the Brazilian Northeast

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Introduction

At a time when many cities across the world are taking water back into public control through remunicipalization (McDonald 2018; McDonald et al. 2021), Brazil is experiencing an upsurge in privatization. While 81 per cent of the Brazilian population have access to public drinking water networks, only 55.8 per cent have access to public sewage networks (Sistema Nacional de Informações Sobre Saneamento 2022). This leaves almost 93 million Brazilians with no other option than resorting to individual and informal solutions for water and sanitation, which are not always safe (Sousa & Guimarães Barrocas 2017, 1). Moreover, a large part of the wastewater that is collected goes untreated (Sistema Nacional de Informações Sobre Saneamento 2022).

Large upfront infrastructure investments are required to address this situation, which raises pressing policy questions: which actors have the capacity to mobilize this finance? What are the best financial mechanisms? What role can Brazil’s public development banks play? One of the perennial challenges in the WSS sector is that many areas with service deficits are also the least profitable or otherwise risky from the point of view of company finances and operational matters. These areas include rural communities, sparsely populated and impoverished areas, such as the *quilombos* in Brazil’s Northeast—communities established by slave ancestors of today’s black Brazilians.

Brazil has robust state-owned social infrastructure for the provision of WSS services thanks to decades of public investment. But during the recent administration of Jair Bolsonaro (2019–22), the drive to universalize WSS has served as a justification for privatization. His far-right government introduced legislation to deepen the sector’s penetration by private capital (Diário Oficial da União 2020). This legislation placed severe constraints on public WSS operators, notably restricting their access to credit from public

banks, which are their main source of borrowing (Cicogna et al. 2022; Cruxên 2022; Sant’Anna et al. 2021).

This chapter explores the longstanding but recently tumultuous relationship between public WSS operators and public banks in Brazil, asking what role public development banks *do and should* play in financing WSS. I focus on a case study of the Bahia Water and Sanitation Company S.A. (Empresa Baiana de Águas e Saneamento S.A., or EMBASA), which is one of 26 state-owned Basic Sanitation Companies (Companhias Estaduais de Saneamento Básico, or CESBs) that were established in the 1960s.¹ CESBs are public enterprises owned primarily by provincial states, and they remain the main WSS providers in the country (Pimentel & Miterhof 2022). EMBASA serves the state of Bahia in the Northeast of Brazil. The Northeast has low levels of water and sewage coverage, but EMBASA stands out as a success, with 98.4 per cent of the urban population served by public water networks and 54.6 per cent by public sewage networks compared with 90.1 and 39.2 per cent, respectively, in the Northeast as a whole (Sistema Nacional de Informações Sobre Saneamento 2022; EMBASA 2022a, 2022b). This relative success with coverage and investments informed the choice of case study.

The state-owned banks Caixa Econômica Federal (Caixa) and Banco Nacional de Desenvolvimento Econômico e Social (BNDES) are central to this investigation given that they provide the bulk of WSS finance in Brazil. Out of 1689 projects that received external finance for water, wastewater and integrated sanitation between 2007 and 2019, BNDES and Caixa financed 1665 of them, or 98.6 per cent (Sant’Anna et al. 2021, 172). Crucially, Caixa and BNDES are EMBASA’s two main creditors (EMBASA 2022a).

This study finds that Brazil’s state-owned WSS operators are no stranger to public banks, and vice versa. Public banks are old allies of WSS, dating back to the initial construction of Brazil’s WSS system. This means that public banks have in-house expertise about WSS accumulated over decades, and it seems that no private bank can compete on this score. Yet, public banks are *dynamic* institutions (Marois 2021), and so is their relationship to WSS.

Within Brazil’s turn to “authoritarian neoliberalism” under Bolsonaro, public banks in Brazil play a dual role. On the one hand, they serve as instruments for privatization. Bolsonaro’s government erected obstacles to prevent public banks from lending to public WSS utilities, and their finance has been increasingly directed to private operators in recent years (BNDES 2022; Britto & Heller 2023; Montenegro 2023). CESBs have been starved of external investment finance, and this is indeed EMBASA’s case (EMBASA 2022a, 2022b). Nevertheless, public banks continue to finance the water sector.

Whilst cautioning against one-size-fits-all solutions for the financing of WSS, this chapter argues that public banks’ sectoral expertise and favourable financing conditions place them in a superior position compared with private sector financing alternatives. Long repayment periods match the investment–revenue cycle in WSS, and low borrowing costs facilitate water affordability.

This is particularly relevant in a country where extreme poverty rose by 48 per cent between 2020 and 2021 (Belani 2022) and where the costs of borrowing are very high. Recently, the Central Bank of Brazil set the bank rate at 12.75 per cent (Banco Central do Brasil 2023). In short, there is strong case to be made that public banks should finance public water as part of the government's efforts to alleviate poverty and reduce the costs of investment financing.

This case study is informed by interviews with high-level officials at EMBASA, BNDES and Caixa. The questions focused on the extent and type of lending to WSS, public banks' policy and mandate vis-à-vis the public WSS sector, and asked the two sets of actors to assess their relationship and scope for future collaboration. Interviews were also conducted with current and former staff from CESBs elsewhere in Brazil, a former national secretary for sanitation, and with key experts from civil society.

The chapter is organized as follows. The first section maps the Brazilian system of WSS provision, explaining who the actors are that currently serve the Brazilian population. Section two gives an overview of the centrality of public banking credit in the construction of Brazil's WSS. Section three is devoted to a case study of the state-owned utility Bahia Water and Sanitation Company (EMBASA) and its relationship to Caixa and BNDES. Finally, the chapter provides policy recommendations for the future of public banking and public WSS in Brazil.

Brazil's system of water and sanitation provision

The creation of 26 state-owned WSS operators, or CESBs—one for every state in Brazil—dates to the period of military rule (1964–85). Brazil's modern WSS system was built in this context of technocratic planning, centralization and authoritarianism (Heller 2009; Cunha 2011, 16). Today, municipalities are legally responsible for WSS services, but they may provide it directly or they may delegate it to third parties. While there is considerable heterogeneity in service modality, including direct municipal administration, autonomous public enterprises and private enterprises (Sistema Nacional de Informações Sobre Saneamento 2022, 41–54), most municipalities delegate water and sanitation to CESBs (interview 6).

CESBs' shares tend to be almost fully owned by the state in which they operate. Most are responsible for the full value chain (bulk and retail), and when they form contracts with municipalities they are allowed to collect tariffs from households and other users (interview 6). As of 2019, CESBs provided water for 75 per cent and sewage services for 50 per cent of the urban population. Private provision, although increasing in recent years, accounted for only 6 and 12 per cent of the urban population, respectively (Cruxên 2022, 92). As such, CESBs remain the main WSS providers in Brazil (BNDES n.d.-b; Pimentel & Miterhof 2022).

When discussing *who* provides WSS in Brazil, *how*, and for *whom* (Bayliss & Fine 2021), it is inevitable to note the stark regional inequalities that mark

the Brazilian water and sewage landscape. The Southeast, which includes São Paulo, Rio de Janeiro, Minas Gerais and Espírito Santo, consistently ranks better than national average in terms of access to services and network efficiency (for example, water losses). By contrast, the North and the Northeast are amongst the worst performers, with only 75 per cent of the population having access to public water networks and only 30 per cent having access to public sewage networks in the latter (Sistema Nacional de Informações Sobre Saneamento 2022, 78–81).

Inequalities in access translate into inequalities in revenue collection, and this gap has enormous ramifications for the prospects for investing in service expansion. Tariffs are the most important source of WSS investment finance, with operators' own resources accounting for 64 per cent of spending (Cunha 2011; Sistema Nacional de Informações Sobre Saneamento 2022, 78–81). The relatively wealthier Southeast concentrates almost half of national operating income from water and two thirds of national operating income from sewage. Half of Brazil's WSS investment in Brazil takes place in this region. In contrast, the relatively poorer Northeast collects about 19 per cent of operating income from water and 11 per cent from wastewater. Despite the huge deficit in WSS provision, the Northeast only accounts for 21 per cent of national WSS investments (Sistema Nacional de Informações Sobre Saneamento 2022).

Brazil's history of the relationship between public banks and public water

Public banks have played a central role in financing the WSS sector in Brazil. The National Plan for Sanitation (PLANASA), launched in 1971, introduced a division of labour where WSS responsibilities were allocated to different levels of government (Heller 2009, 323, 333; Pimentel et al. 2017, 237). PLANASA mobilized funds at a federal level and channelled them into the newly created CESBs (Cunha 2011). In 1964, the military government established the National Housing Bank (Banco Nacional da Habitação), a fully state-owned bank which financed housing and water and sewage infrastructure in Brazilian cities. In 1966, the government launched the Workers' Compensation Fund (Fundo de Garantia do Tempo de Serviço) to mobilize severance and social security contributions deposited by employers, which could be used in the case of redundancy, death or illness. The fund was managed by the National Housing Bank from its foundation, and the latter was responsible for approving WSS projects (Diário Oficial da União 1966; Diehl & Trennepol 2011; Heller 2009, 323; Pimentel et al. 2017, 237). The Workers' Compensation Fund became a major source of funding for urban development and WSS, and its funds provided a stable and predictable source of financing (Heller 2009; Diehl & Trennepol 2011).

A former national secretary for sanitation highlights the National Housing Bank's role as a source of stable WSS finance that set the country apart

(interview 9). Brazil had a state-owned financial institution with funds in national currency, with workers' deposits as its source. This fund was available to finance the construction of a sector that primarily required non-tradables (materials that were not imported). The expansion of WSS infrastructure did not depend on financing from the World Bank and other international financial institutions, although there were some loans from these actors. The Workers' Compensation Fund enhanced a degree of autonomy for the WSS sector since it offered an alternative to borrowing on international markets, on-lending such funds after converting them into national currency and repaying them in dollars. This arrangement thus avoided currency risk, which in turn helped to keep the costs of services low, since such risks would otherwise be pushed onto households in the form of higher tariffs.

Notwithstanding these merits, WSS credit was allocated in a highly centralized manner. Access to credit from the Workers' Compensation Fund was made conditional on municipalities delegating WSS services to the newly created CESBs (Pimentel et al. 2017, 237; interview 9; Cunha 2011, 17). Thus, while public banking credit served to expand WSS infrastructure, it also forced centralization and economies of scale, which transformed the political geography of WSS provision in Brazil.

The National Housing Bank was absorbed by Caixa in 1986. The original Caixa Econômica, which mobilized savings from popular classes, and Monte de Socorro, which provided credit to the "less fortunate classes," had been established in 1861 (Câmara dos Deputados 1861). A century later, in 1969, CAIXA was instituted as a public enterprise with responsibilities for social services, the promotion of citizenship and national development (Caixa n.d.). When absorbing the National Housing Bank, Caixa acquired the institution's legacy and took over the management of the Workers' Compensation Fund, which it continues to do until today. The National Housing Bank's employees, including the engineers, were transferred to Caixa. Caixa became Brazil's most important financier of housing and a prominent actor for the financing of urban development—especially water and sanitation—which came to constitute a crucial share of its portfolio (D'Amico 2011, 48; Caixa n.d.; interviews 8, 10).

Public banks and WSS during the "pink tide"

A new period within the Brazilian WSS system started with the Workers' Party (Partido dos Trabalhadores, or PT) governments from 2003 led by Lula Ignacio da Silva ("Lula") and Dilma Rousseff (Heller 2009, 322), which benefitted from favourable global conditions, particularly a commodity boom which permitted fiscal room for manoeuvre (Campello 2015; Saad Filho & Morais 2017). The Workers' Party established the National Secretariat for Environmental Sanitation, which diagnosed a series of problems, including underinvestment, financial problems and a democratic deficit among the CESBs. Seeking to tackle this, Law No 11.445/2007 was

Brazil's first-ever national WSS law. The initiative was “ground-breaking” (Heller 2009, 330–3; Pimentel et al. 2017, 241–3). The law established the principle of universal access and basic sanitation as a state duty (Albuquerque & Ferreira 2012, 285; Heller 2009; Pimentel et al. 2017, 242, 245). The National Plan for Basic Sanitation (O Plano Nacional de Saneamento Básico, or PLANSAB), which was launched in 2013, set ambitious targets. By 2033, 99 per cent of the population was to have access to water supply and 92 per cent sanitation (Pimentel et al. 2017, 241–3; Pimentel & Capanema 2018, 394).

Law No 11.445/2007 instituted “public–public partnerships” as a distinctive contractual form. These are called “programme contracts” (*contratos de programa*) and are legally distinct from the “concession contracts” (*contratos de concessão*) which govern public–private partnerships. With this new law, public entities were no longer required to do a public tender to enter a contract with a public utility (interview 6; Pimentel & Capanema 2018, 392). Law 11.445/2007 insulated public–public partnerships from market-led competition and offered protection against the making of private profits in supplying WSS services (Pimentel et al. 2017, 241–3).

During the Workers' Party administrations, public banks continued to have a major responsibility for financing the public WSS sector (interview 6). At the turn of the millennium, Caixa was the major creditor to WSS, with resources from the Workers' Compensation Fund, and continues to mobilize contributions from workers with formal employment contracts to this day (interview 8).

The superintendent for credit to sanitation, transport and logistics at BNDES highlights the shift in public banking finance for WSS during the Workers' Party administrations (interview 4). Until then, BNDES had been a marginal player in WSS, but with the launch of the Growth Acceleration Programme (Programa de Aceleração do Crescimento, PAC), a major infrastructure investment programme launched by the Lula and Rousseff administrations, it acquired a prominent role (cf. Britto & Heller 2023; Pimentel et al. 2017, 248). The government chose a series of projects, and in the public sector, it was the states and the municipalities that selected the creditor institution (interview 5). BNDES has several financing mechanisms available for WSS, and the conditions have been among the bank's most favourable (Pimentel et al. 2017, 259).

PAC I (2007–10) included public investments in transport, housing, energy, water resources and sanitation. PAC II (2011–14) focused on energy, transport, social and urban infrastructure, housing, water and lighting and community services in health, education and culture (Pimentel et al. 2017, 248). CESBs were part of both phases of the PAC. R\$40 billion (US\$20 billion) was allocated to WSS in PAC I, whilst PAC II allocated R\$45 billion. This was provided by general government transfers, contributions from states and municipalities and credit from BNDES and CAIXA (Pimentel et al. 2017, 248).

PAC involved a flexibilization of public debt rules vis-à-vis CESBs, provincial states and municipalities. The National Monetary Council (NMC), which is composed by the minister of finance, the minister of planning and budgeting and the president of the Central Bank of Brazil, regulates debt levels among public entities (interview 9). Under PAC, projects selected by the Ministry of Cities were exempt from the NMC's debt restrictions (Ministério da Fazenda n.d.; Pimentel et al. 2017, 248). Arian Bechara Ferreira, the Superintendent for Credit to Sanitation, Transport and Logistics at BNDES, highlights the centrality of the fiscal policy framework and public debt rules in channelling public banking funds to CESBs. As he explains:

PAC was nothing more than a credit management discount to the public sector from the National Treasury. It gave permission for subnational entities to go into debt. That's what PAC was.

(Interview 5)

With this authorization, public sector actors could approach public banks to seek funding for projects. Ferreira goes on to explain:

That's when the BNDES started to play a relevant role in the sanitation sector. From then on, the BNDES started to create a portfolio. Today our sanitation portfolio for the public is approximately R\$6-7 billion.

(Interview 5)

Following PAC's launch, the funds that were contracted started to be reflected in actual investments, which reached R\$12.1 billion in 2014, an 88 per cent increase from 2007. Non-repayable fiscal transfers became more important as a source of investment finance, but the use of water operators' own funds also increased (see Figure 9.1). The flexibilization of debt rules also translated into an increase in loans (Pimentel et al. 2017, 253–4). CESBs were the main investors in the WSS sector and a major destination for BNDES funds. Estimates suggests that they received approximately 52 per cent of BNDES funds for WSS between 2002 and 2018. Other beneficiaries included state governments, municipal governments and private enterprises (Britto and Heller 2023).

Notwithstanding these investment efforts, investments were lower than the needs defined by PLANSAB (Pimentel et al. 2017, 250–4). Officials from BNDES highlight problems with governance and revenue generation capacity among the CESBs as obstacles against lending to these institutions (Albuquerque and Ferreira 2012, 291–2). Furthermore, the regional distribution of investments was highly uneven. PLANSAB was concerned not only with the absence of services but also with unsatisfactory services. The Northeast accounted for 30 per cent of the country's water deficit and 32 per cent of the wastewater deficit but received only 24.5 per cent of national water investments and 13.2 per cent of sewage investments. By contrast, the

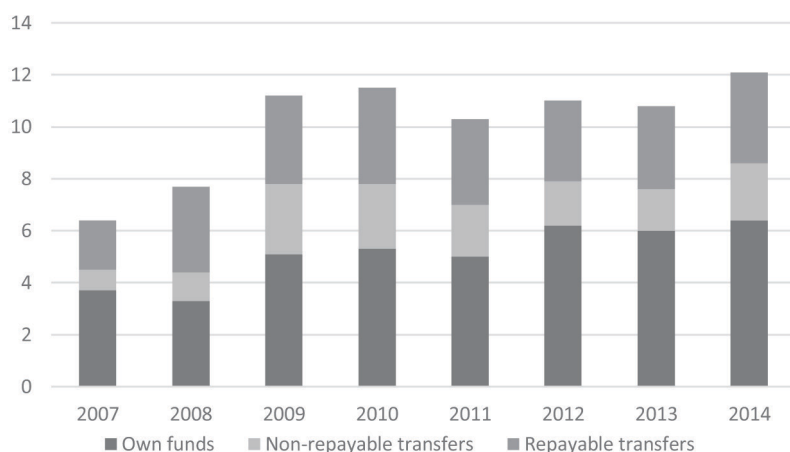


Figure 9.1 WSS investments by source (R\$ bn in 2014 prices).

Source: Pimentel et al. (2017, 253).

Southeast was the major beneficiary (Pimentel et al. 2017, 255). Despite the Workers' Party's commitment to expand services to low-income households, the most impoverished parts of Brazil remained marginalized in terms of WSS investments.

Public banks and WSS under Bolsonaro

Brazil entered a deep recession and social crisis in 2014. Political polarization culminated in Dilma Rousseff's impeachment and Lula's imprisonment over corruption convictions, which were later annulled (Al Jazeera 2022). The rise of the far right engendered a fierce attempt to transform, marketize and privatize WSS. Former presidents Michel Temer and Jair Bolsonaro both issued decree laws and undertook legal projects for WSS. According to a board member of a CESB in the Northeast, "[t]he coup against Dilma led to a change in the behavior of public agents, and of financiers." He believes "an attempt was made to hurt state-owned sanitation companies once and for all—initially through public-private partnerships and subsequently through the New Regulatory Framework—to make resources available for the private sector" (interview 1). Bolsonaro's Federal Law No 14.026, or the New Regulatory Framework for Sanitation, was passed in July 2020. It made profound changes to Law No 11.445/2007 inherited from the Workers' Party administrations, undermining the role of CESBs (Cruxên 2022, 20; Marcos 2023).

The 2020 Law seeks to re-engineer the sector to enhance its profitability. It makes competitive bidding processes through public tender compulsory

whenever WSS services are delegated to third parties (Diário Oficial da União 2020). Importantly, it bans new public–public partnerships between municipalities and state-owned WSS providers, which are predominantly those contracts held by CESBs (EMBASA 2022a, 19). In doing so, it attacks state-owned companies, along with the legal framework that facilitated non-profit-maximizing public–public partnerships.

Public banks have also played a key role in this reprivatization of WSS, having become facilitators of private concessions. As Gustavo Montezano, President of BNDES for most of Bolsonaro’s time in power, and a privatization secretary in the Ministry of the Economy before that, has noted: “we established the BNDES as the world’s largest development bank structuring concession agreements, PPPs, and privatizations, with a portfolio that includes more than 150 projects and more than R\$300 billion in mobilized capital” (BNDES 2022, 6). Water and sanitation have been key targets:

BNDES is no longer just a financier of the sanitation sector, providing funding for projects. [It has] become a [coordinator] of concessions, transferring sanitation services to the private sector. The New Sanitation Framework [...] created a legal regulatory environment that accommodates and attracts the private sector.

(Interview 5)

BNDES and Caixa also remain by far the most important WSS creditors (interview 5, 7, 8, 10), having financed 98.6 per cent of externally financed WSS projects between 2007 and 2019 (Sant’Anna et al. 2021, 172). Private banks are now entering the market but they have little sector-specific knowledge and focus on private utilities (interview 5).

However, the relationship of public banks to the main providers—the CESBs—has been weakened, and their credit is also now increasingly channelled into private utilities. Caixa’s contracts with WSS utilities through the Sanitation for All programme have been relatively stable over the last four years, but the flows of finance shifted to the private sector in 2021 after the New Regulatory Framework was passed. Approximately, R\$1.46 billion (\$US267.3 million) was allocated to public utilities in 2020 but this dropped to R\$395 million in 2021, while funds allocated to private utilities increased almost nine times from R\$158.5 million to R\$1.38 billion (Montenegro 2023).

BNDES has also increasingly directed credit to private WSS entities. During public tenders, private concessionaries approach BNDES about financing conditions, and the bank provides finance according to the needs outlined in the tender (interview 7). In general, BNDES’ financing volume for WSS was relatively low from 2015 onwards. The bank only signed ten contracts with the sector between 2019 and 2022. However, it is now booming. In 2023, the total amount contracted or awaiting approval amounts to R\$3.7 billion, up from R\$0.7 billion in 2022 (Britto & Heller 2023; Rigamonti 2023). Much

of BNDES' credit for WSS has been channelled through the bank's purchase of bonds issued by private WSS utilities. BNDES' funding for CESBs, on the other hand, has been in decline. BNDES only signed two contracts with CESBs between 2019 and 2022, and the remaining eight were with private companies. Only 2.7 per cent of the contracted amount was allocated to CESBs (Britto & Heller 2023). When asked to evaluate BNDES' collaboration with public water operators, Ferreira noted:

[F]or a good while BNDES has practically not operated with the public sector [due to a] lack of public sector debt capacity. So, we have a very outdated track record. It's been practically four years since we've had direct funding for the public sector.

(Interview 5)

BNDES and Caixa face severe obstacles against lending to public operators. These relate to the fiscal policy framework, debt ceilings and the use of state guarantees (interviews 5, 10). As noted, public sector actors, including states and municipalities, require authorization from the NMC to borrow (Montenegro 2023). With this authorization, public entities can approach the banks. According to Ferreira (interview 5), "these authorizations [...] for indebtedness at the subnational level [...] have practically not existed in the last few years [...] so, nobody comes here to ask for financing." He said that "at the end of the day, it is not BNDES that controls this" but "the Treasury in Brasilia."

Furthermore, the New Regulatory Framework has created uncertainty around the future existence of the CESBs, and according to Caixa's former vice president for government, Tatiana Thomé de Oliveira (interview 10), this affects Caixa's lending behaviour. For Thomé de Oliveira, "what changed over the last few years is that we don't do any more credit operations [with the CESBs] because most of them were very indebted ... [and] because of the uncertainty that the New Sanitation Law brought."

Notwithstanding these constraints, high-level officials at BNDES and Caixa expressed openness to directing more finance to the public WSS sector (interviews 5, 7, 10). Cautiously speculating about possible changes with Lula's third government, Ferreira said that "the public sector *should* return" as a recipient of BNDES funds. When asked whether there should be mechanisms in place to allow the channelling of public banking funds into CESBs, Ferreira maintained that "[t]his is the big question in the sanitation sector." This is because there are "deficit companies" in "regions where tariffs do not necessarily cover the operation of the service." Hence, the question is "who will finance these investments" given that "tariffs will not" (interview 5). Thomé de Oliveira signalled that Caixa has capacity to expand its work on WSS with public actors and spare lending capacity. The Sanitation for All programme, which uses resources from the Workers' Compensation Fund, budgeted R\$18.35 billion between 2019 and 2022, but only R\$6.96

billion, or 35 per cent, was committed (Montenegro 2023). Notwithstanding public banking officials' availability to work with public WSS operators, this is ultimately first and foremost up to policymakers at the national level, since Caixa and BNDES are policy instruments of the Brazilian government.

Public banks and public WSS in the Northeast of Brazil: the case of EMBASA in Bahia

Having been the first CESB in Brazil to qualify for a loan agreement from the National Housing Bank, EMBASA has a long history of working with public banks—national and multilateral alike (EMBASA n.d.). EMBASA was established by state-level legislation in 1971. The government of Bahia owns 99.75 per cent of the shares, and the federal government, municipal governments and private individuals hold the rest. Being a state-owned WSS utility that operates in a region that is partly semi-arid, serving a socially vulnerable population—with 15.8 per cent of Bahia's population living in extreme poverty (IBGE 2023, 64)—EMBASA can be considered a successful public WSS enterprise. This is evident from Bahia's WSS indicators and from EMBASA's investment record, financial position and role in social policy.

While the Northeast has historically suffered from low WSS investment levels, Bahia outperforms other states in the region and indeed the rest of Brazil in a range of WSS indicators. Of Bahia's urban population, 98.4 per cent have access to public water networks, which is higher than the national average (93.5 per cent). When it comes to urban sewage provision, Bahia (55 per cent) is well ahead of the Northeast (39 per cent), although large upfront investments remain a task for the years ahead (Sistema Nacional de Informações Sobre Saneamento 2022; see Table 9.1). EMBASA merits most of the credit for these impressive WSS indicators, since it is the largest but not the only WSS provider in Bahia. EMBASA provides water in 367 of Bahia's 414 municipalities and sewage services in 114 municipalities (EMBASA 2022b, 1). Bahia has a separate state-owned company that serves the rural areas, the Environmental Engineering and Water Resources Company of Bahia (Companhia de Engenharia Ambiental e Recursos Hídricos da Bahia).

Table 9.1 WSS indicators in Bahia

	<i>Brazil</i>	<i>Northeast</i>	<i>Bahia</i>
Urban population served by public water networks	93.5%	90.1%	98.4%
Water losses	40.3%	46.2%	39.7%
Urban population served by public sewage networks	64.1%	39.2%	54.6%
	(114.8 million)	(16.3 million)	
Wastewater treatment	80.8%	77.9%	83.2%

Source: Sistema Nacional de Informações Sobre Saneamento (2022).

Booming investments and public–public relationships

EMBASA has been the main implementer of Water for All (Água para Todos, or PAT) in the state of Bahia. The Government of Bahia launched PAT in 2007, in the context of Lula’s second administration’s Law No. 11,445/2007. PAT was funded with monies from PAC, the federal government, the Government of Bahia and EMBASA’s own resources (EMBASA n.d.). Between 2008 and 2009, shortly after PAT’s launch in Bahia, EMBASA’s investments skyrocketed, after having dropped off in the 2000s. This was largely the outcome of an upswing in sewage investments. Between 2000 and 2022, EMBASA invested a total of R\$15 billion, and of this, R\$11 million was undertaken under PAT. In 2021, the company took over the coordination of the programme from the Government of Bahia (EMBASA 2022a, 44–6; 2022b, 7).

In recent years, EMBASA has been beating record after record as far as investments are concerned. In 2021, they invested almost R\$900 million in WSS infrastructure, the largest investment volume ever. The number of sewage connections increased by 38 per cent that year (EMBASA 2022a, 45, 63). In 2022, they beat another record, investing over R\$1.15 billion (EMBASA 2022b, 1, 6). Thus, EMBASA has a strong ability to carry out planned investment, and this capacity continues to improve. In 2021, EMBASA invested 73 per cent of the resources that had been planned for investments (the highest since 2018), and in 2022, this rate reached 84.5 per cent. EMBASA reports an “increased capacity to carry out CAPEX [capital investments]” (EMBASA 2022a, 43; 2022b, 6). Hence, EMBASA does not have a problem with executing works, which BNDES analysts have identified as a major constraint, even when resources were made available through PAC (Pimentel et al. 2017, 250; Pimentel & Miterhof 2022).

EMBASA’s expanding public–public partnerships with municipalities have helped to achieve these impressive investment results since these have allowed the CESB to grow its presence throughout the state. In 2016, EMBASA had 92 programme and concession contracts with municipalities, and by 2021, this had more than tripled, reaching 303 (EMBASA 2022a, 41).

Bolsonaro’s New Legal Framework for Sanitation has created a series of difficulties. The banning of new programme contracts has meant that EMBASA could no longer establish new public–public relationships with municipalities without winning a public tender (EMBASA 2022a, 41). Adding further insult to injury, the law bans EMBASA from renewing expired programme contracts. Despite being deprived of a contractual certainty, EMBASA continues to serve these municipalities but is precluded from making progress with the required upfront investments. As previously mentioned, the thrust of the 2020 Law is to encourage private concessions, but as officials from CESBs in the Northeast warn: “the private sector only serves areas that are profitable.” Many municipalities with expired contracts are small and remote, situated in arid and semi-arid regions where the population “cannot

bear a tariff increase” and where “there is no economic return.” Hence, private investors are uninterested (interviews 1, 2).

Cash generation and socially inclusive pricing

EMBASA has a strong ability to raise cash, and this conditions the company’s relationship to public banks. EMBASA has a much stronger ability to generate revenue from tariffs than some other CESBs. There are external factors that condition revenue collection capacity, including demographic, social, political and legal factors, as well as historical gains in service expansion. Users’ ability to pay water bills cannot be taken for granted, nor can state actors’ enforcement capacity. There are CESBs in the Northeast that serve entire areas where billing is in suspension and where socio-economic vulnerability is a major driver of non-physical water losses. That is, unbilled and unpaid water can pose a challenge to WSS operators’ capacity to raise revenue (CAEMA 2020, 27–8; interview 1).

EMBASA does not face this situation (interview 2). Their cost recovery rate is 93.61 per cent (EMBASA 2022a, 120). Moreover, EMBASA has pursued tariff increases when faced with post-pandemic inflation and higher costs for energy, chemicals and maintenance services (EMBASA 2022b, 8). The net income was R\$456.8 million (USD 86 million) in 2022, an 18.3 per cent increase from 2021, and the net financial result was R\$286.2 million (EMBASA 2022b, 1). Being a surplus-producing state-owned company, EMBASA is fully self-sustained through tariffs when it comes to operating expenditure (interview 2). Reflecting this, EMBASA is regarded an “independent” public enterprise. This makes it distinct from “dependent” CESBs, which rely on fiscal transfers (interview 9).

This revenue generation capacity does not imply that EMBASA exclusively focuses on profit maximization, or that it disregards water affordability. Nor does EMBASA’s ability to fully recover operational costs imply that the company only cares for profitable areas. Like other CESBs, EMBASA defends the cross-subsidy principle, and practices this. Cross subsidies allow CESBs to mobilize funds from wealthy or revenue producing areas and use these funds to subsidize WSS in impoverished or unprofitable areas. This puts EMBASA in a position to serve municipalities in remote, arid or semi-arid areas where the population has a low payment capacity (interview 2). EMBASA also has a differentiated tariff structure, which distinguishes between customer groups according to their social profile and societal function. For example, they charge “social tariffs” to impoverished households that are recipients of the cash transfer programme Bolsa Família, and these households were not affected when EMBASA raised tariffs in 2021 (EMBASA 2022a, 42).

The drying up of investment finance under Bolsanaro

Despite having a strong ability to raise cash, tariffs do not suffice to pay for large upfront investments that are needed to universalize WSS across Bahia.

As a result, EMBASA requires external finance for major capital expenditures (interview 2; EMBASA 2022a, 118). Obtaining this has become more difficult in recent years. Alluding to Bolsonaro's New Legal Framework for Sanitation, EMBASA refers to "limitations of external resources still in place in under the political-economic scenario" (EMBASA 2022b, 6). EMBASA has faced a marked contraction of external sources, including non-repayable transfers and repayable loans from public banks. External resources accounted for 42 per cent (R\$282 million) of total investment costs in 2019 but dropped to 32 per cent (R\$254 million) in 2020, 23 per cent (R\$206 million) in 2021 and 10 per cent (R\$115.57 million) in 2022 (EMBASA 2022a, 45; 2022b, 6). EMBASA has continued to invest despite an adverse financing environment, including public banking funds and state-level fiscal transfers (EMBASA 2022a, 118).

Faced with this adverse financing environment, EMBASA has committed more and more of its own resources to financing investments. Tariffs charged of households and users form the bulk of investment finance. With a fast pace in investment growth, EMBASA's own resources going into investments has skyrocketed, increasing from R\$416.9 million in 2020 to R\$1.035 billion in 2022 (EMBASA 2022b, 6). Currently, EMBASA has only two sources of capital expenditure: its own resources and loans from public banks. The former accounted for 90 per cent of investments in 2022 (EMBASA 2022b, 6; interview 2). EMBASA's investment results have been facilitated by a strong cash-generation capacity, but a heavy reliance on tariffs is likely to be unsustainable going forward given the scale of financing needs.

Back to Lula—an evolving relationship with public banks

As of 2021, EMBASA had four sets of loan agreements, with all of the funds deriving from public banks (EMBASA 2022a, 179). The loans were primarily from BNDES and Caixa. First, EMBASA signed various contracts with Caixa between 2007 and 2012 to obtain funds from the Workers' Compensation Fund under the Sanitation for All programme. The purpose was to finance institutional development and water and sewage expansion in several Bahian municipalities. Second, EMBASA signed contracts with Caixa in 2013 to obtain funds from one of BNDES' credit lines that finances acquisition of machinery and equipment. The loan involved a public-public partnership between BNDES and Caixa. Third, EMBASA has a financing agreement with BNDES, with resources originating from the Workers' Support Fund. The purpose of this loan, with maturities in 2024, 2027 and 2029, is to finance expansion and modernization of water supply and sewage systems in cities in Bahia (EMBASA 2022a, 179; interview 4; BNDES n.d.-a). There was also one loan agreement between the Government of Bahia and the Inter-American Development Bank. The Government of Bahia transferred funds to EMBASA, as "co-executor," and the latter was obliged to reimburse the funds according to the terms of the contract. The loan was provided in US dollars, unlike the others, with 3.31 per cent interest rate. The Federal State

provided guarantees (EMBASA 2022a, 179), which is common in Brazil when loans are from a multilateral public bank (interview 5).

As of January 2023, EMBASA's only financing agreements were with BNDES and Caixa. From EMBASA's perspective, there are no private banks in Brazil that can compete with the terms that have been offered by Brazil's development banks in terms of loan amounts, repayment periods and borrowing costs. EMBASA staff described the amount that public banks have provided as generous (interviews 2, 3). EMBASA is satisfied with the repayment periods, which are amortized over a period of about 24 years. A member of staff at EMBASA referred to the repayment periods as "very long" and "compatible with the sector." EMBASA is also satisfied with BNDES' 4–5 years' grace period. The staff member elaborated on the specific nature of the investment–revenue cycle in WSS and how this begs for differentiated financing conditions with long-term loan maturities. The informant said that in WSS, "you don't recover the investment costs quickly," and that, for example, "if you construct a treatment plant," it is not possible to recover the investment costs in a short period such as 10 years. Therefore, "you really need differentiated repayment terms to be able to repay investments" (interview 2).

Finally, EMBASA considered public banks' financing costs to be "quite competitive." Their BNDES loans (with maturities in 2024 and 2027) benefit from a preferential long-term interest rate between 1.55 and 2.71 per cent. The interest rate on Caixa's loans is 3 per cent (with maturities in 2023), and 8.5 and 9.7 percent (with maturities in 2034) (EMBASA 2022a, 179; interview 4). As a testimony to public banks' superiority in lending to WSS, private banks play a minor role in financing EMBASA. The company's first private bank loan ever was a Santander bridging loan in 2022 with a "tight" repayment period (interview 2).

Notwithstanding the favourable terms offered by public banks, EMBASA interviewees reported having had a "poor" overall experience with public banks of late. Since Bolsonaro's New Legal Framework for Sanitation came into force, EMBASA has not been able to access BNDES funds under loan contracts that are already signed and operational. At the time of the fieldwork, EMBASA had also been unable to sign a new loan agreement with CAIXA (interview 2).

Faced with the rapid contraction in external investment finance, EMBASA is dissatisfied with the access to funding for capital investments due to a "change in BNDES' role" given its role in facilitating privatization processes. Echoing the comments of BNDES officials regarding the recent changes to the bank's lending practice, EMBASA staff concluded that "public banks only lend money to the private sector," further noting that "BNDES does not have any available credit lines. In practice there are none [for public WSS utilities]." While such credit lines may be listed on BNDES' website, in practice "they do not exist!" (interview 2).

EMBASA staff also point to Caixa's bureaucracy as a constraint. Negotiations over a R\$730 million loan have taken over two years. The loan

agreement had passed all internal approval stages at Caixa (risk, engineering, project analysis, etc.), yet it did not get signed. EMBASA officials believe there to be a political bias built into the process. Caixa is a policy instrument of the Federal Government, which until recently was led by Bolsonaro, while EMBASA serves the state of Bahia, which is governed by the Workers' Party. The stalling of the loan agreement meant that works planned in ten municipalities could not begin (interview 2).

In the absence of public bank financing, EMBASA has been compelled to develop a survival strategy. For the first time, EMBASA has turned to private capital markets: "We are turning to the capital market this year. Since the doors are closed we have been unable to access BNDES. At least for the time being, [since] we don't know the position of the new government. We are turning to the capital market precisely because of this, since we need to raise our investment level to minimum of R\$ 1.5 billion...per year to universalize by 2033."

(Interview 2)

As of January 2023, EMBASA was planning the second bond issuance in the company's history. The first bond auction took place in 2010, but the bonds were exclusively sold to BNDES and its subsidiary BNDES Participações (EMBASA 2010). To advance the most recent auction, EMBASA had been in contact with ten private banks and presented them with a business plan, long-term strategy and resource capture plan (interview 2).

EMBASA staff are conscious that turning to open capital markets is far from ideal. The repayment period is unfavourable compared with the public banking alternative. In January 2023, EMBASA expected that the bonds would have a 12-year maturity, half of Caixa's repayment period, and that the interest rate would be 16 per cent (interview 2, 3). It now turns out that the bonds will mature in 2028 (EMBASA & Vórtx 2023, 8). In a monetary policy climate where the federal funds interest rate is as high as 12.75 per cent (Banco Central do Brasil 2023), bond issuance will bring far higher borrowing costs than CAIXA and BNDES's credit lines. The high interest rates will necessarily need to be incorporated into the tariff structure. In the words of one official at EMBASA, "the entire population ends up paying an additional cost for this more expensive debt service." Due to the impact on water affordability and the short repayment period, which does not accommodate for the long investment–revenue cycle in WSS, EMBASA cannot fully finance investments and expansion on capital markets (interview 2).

As of September 2023, the auction of bonds worth R\$300 million was still in process (EMBASA & Vórtx 2023). Meanwhile, it appears that the stalled loan agreement with CAIXA was finally signed on July 18, 2023. This happened after a transition to Lula's third term, which led to a change in CAIXA's leadership. EMBASA's new president, Leonardo Góes' reported that: "We signed a memorandum of understanding concerning R\$730 million

to be distributed among [...] municipalities, to universalize sanitation in Bahia. For some time, there has been no funding like this here in the state [of Bahia]” (as quoted in Fahel 2023).

This is likely to be welcome news for EMBASA officials who urged public banks to return to their old role of financing public infrastructure and offering loans with subsidized interest rates. Staff from the company made a human rights case for why public banks should finance public water (interview 2). Short of this, private capital market finance could compel CESBs to raise tariffs at the expense of water affordability. Hence, without affordable finance, the price mechanism could interfere with the human right to water and wastewater services. It is neither socially nor financially viable to fully finance WSS expansion and investments on capital markets. EMBASA staff were in no doubt that together with a regularization of public–public partnerships between the CESB and municipalities, public banking finance can better enhance investment to make swift progress with universalizing WSS in Bahia (interview 2).

Conclusion

In the context of Lula’s third government, a third PAC (or “Novo PAC”) has been launched, and “water for all” is one of nine pillars, whilst sewage is covered by another pillar on “sustainable and resilient cities.” Novo PAC is to be funded partly by BNDES and Caixa (Agência gov 2023; Presidência da República 2023; BNDES 2023), and it can be expected that BNDES funds will be channelled to the WSS sector. Given the long-term investment–revenue cycle that is specific to the WSS sector, and given the large-scale investments that are needed in sewage, public banks have a crucial role to play. BNDES and Caixa continue to have deep expertise in the sector—so much so that private banks approach BNDES for training (interview 5). Private banks still play a marginal role in financing the public WSS sector (Sant’Anna et al. 2021) and do not offer the maturity and low financing costs that Brazil’s public banks can offer (interview 5). Public banks can be considered the most viable alternative as far as bank loans for Brazil’s CESBs are concerned.

In Lula’s third government, there needs to be a social, political and cultural acceptance that water and wastewater provision cannot always be revenue generating, let alone profitable. Contrary to the idea that WSS can be delivered by the private sector, the WSS informants interviewed for this study warned that private investors are uninterested in concessions to deliver WSS to marginalized, remote, rural and racialized communities in the Northeast (interviews 1, 2). If this is true, state-owned enterprises will remain the only available providers. It is thereby crucial to retain and strengthen these institutions. Moreover, the CESBs consistently said that there are areas that are deficit producing, and others that are surplus producing. This needs to be accepted and accommodated through the continued use of cross subsidies,

which CESBs have practiced for decades. To allow the use of this water solidarity mechanism, it is vital to resist pressures to privatize in areas where WSS is profitable.

Given the diversity in human water geographies in Brazil, the present study does not recommend a one-size-fits-all financing matrix for the fulfilment of the human right to WSS. Instead, there needs to be an openness to various types of financing, depending on users' ability to pay tariffs and fiscal capacity at state and federal levels. Water companies' financing options are conditioned by the socio-economic environment in which they operate. EMBASA has a strong revenue generation capacity and can act independently of financial markets.

There are other CESBs with far less capacity to collect tariffs, and which are not in a position to issue bonds. But whether CESBs' revenue generation capacity is strong or weak, external finance for investment is needed in some shape or form. Whilst external investment finance must necessarily be tailored to fit concrete water realities, it is important to note that financial sustainability at firm levels sometimes means squeezing more tariffs out of households, which could exacerbate poverty. When deciding the appropriate funding matrix to finance investments in WSS, affordability should be given a high priority. Hunger and deprivation have recently risen in Brazil, and the absence of potable drinking water and access to sewage systems are among the facets of poverty. This is particularly true in the Northeast, the region with the highest incidence of poverty (48.7 per cent) and extreme poverty (16.5 per cent) in the country (IBGE 2023, 62). In light of this, there is a strong case for Brazil's public banks to reclaim the public-public focus they had in the past and redirect their credit towards the *public* WSS providers.

In a monetary policy environment characterized by high interest rates, public banking loans can help make water and sanitation services affordable. With Novo PAC having been launched, there needs to be a purposeful and deliberate engineering of financial flows at the level of fiscal policy and WSS legislation to allow fiscal transfers and public banking funds to be channelled into CESBs. This may include flexibilization or suspension of debt rules and a more extensive use of federal government guarantees for CESBs who borrow from BNDES, CAIXA and regional public banks such as Banco do Nordeste. The use of federal state guarantees is currently permissible, but more widely used when CESBs borrow from multilateral public banks (interview 5).

Finally, it is imperative that fiscal rules, public debt rules and the *politically* defined guidelines that inform BNDES' and Caixa's strategies and lending address the regional bias in WSS investments which was not successfully addressed by PAC. Brazil's North and Northeast, which are marginalized in terms of WSS investments and access, need to be given the highest priority.

Note

1 CESBs are responsible for portable water and sewage, which is the focus of this chapter. In Brazil, the concept of “basic sanitation” refers to an integrated set of activities: portable water, sewage, solid waste and drainage.

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Appendix A: Interviews conducted

<i>Interview</i>	<i>Name</i>	<i>Role</i>	<i>Date</i>
1	Anonymous A		January 23, 2023
2	Anonymous B		January 17, 2023
3	Anonymous C		January 23, 2023
4	Anonymous D		November 17, 2023
5	Arian Bechara Ferreira	Superintendent for Credit to Sanitation, Transport and Logistics, O Banco Nacional do Desenvolvimento	January 12, 2023
6	Edson Aparecido da Silva	Secretary General, ONDAS – Observatório Nacional dos Direitos à Água e ao Saneamento. Sanitation Advisor, Federação e Confederação Nacional dos Urbanitários – Central Única dos Trabalhadores	January 11, 2023
7	Eduardo Christensen Nali	Head of the Environmental Sanitation Department, O Banco Nacional do Desenvolvimento	January 12, 2023
8	Felipe Teles I. Cunha	National Manager for Privatization, Partnerships and Special Services, Caixa Econômica Federal	January 6, 2023