

Analyzing policies and plans of the Brazilian sanitation sector

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Abstract- Sanitation is a service that needs to be provided in order to promote good health and the well-being of people. Thirteen years after the establishment of the Sanitation Law in Brazil, the sector still experiences several challenges in providing adequate access to sanitation services for the population. According to national standards, only about 55% of the population has access adequate sanitation services. There is a growing need to understand the linkages between the legal framework and the development of the institutional structure, and how the current model of the sanitation sector could be improved. This study describes the legal framework of the Brazilian sanitation sector and discusses the role of the public sector with focus on the potential impacts of increasing the participation of the private sector.

Index Terms- Brazil, legal framework, policies, plans, sanitation.

I. INTRODUCTION

The access to sanitation services is widely recognized as a basic human right. In Brazil, the management of water and sanitation is directly related to the Federal Law n° 11.445/2007 – also known as “Sanitation Law” - which establishes the National Basic Sanitation Policy. Although the term sanitation is usually used to describe “a system designed and used to separate human excreta from human contact at all steps of the sanitation service chain” [20], in Brazil the term “basic sanitation” is defined by the Sanitation Law as a set of services, infrastructure and operational facilities for drinking water supply, sanitary sewage, solid waste and drainage management. Without adequate sanitation - safe disposal of human waste – people can be exposed to infectious diseases such as diarrhea, dysentery, typhoid fever and other intestinal parasites. Discharge of untreated wastewater into water bodies contribute to compromise the water quality of receiving bodies, representing a risk to current and future use of water resources. Currently, unsafe hygiene practices are still widespread and continue to negatively impact the health and well-being of billions of people. An adequate access to sanitation has the potential to improve the life quality of the population, reduce social inequalities and improve environmental protection.

In 2013, the National Basic Sanitation Plan was launched with the aim to achieve universal access to sanitation services by 2033. The proportion of population with access to sanitation services in Brazil, however, is substantially lower than the targets established by the national plan, representing a gap between the planning

process and the real capacity of the sanitation sector. The public sector is the main provider of sanitation services in the country, with 26 State sanitation companies providing services to about 88.9% of the urban population in Brazil. However, there has been an urgent need of a greater participation of the private sector in the provision of such services. A detailed analysis of the institutional development, policies and plans were made in this study.

II. STUDY AREA

Brazil has an area of over 8 million km², occupying a large part of the territory along the eastern coast of South America. In 2019, the population of Brazil was estimated over 210 million people [9], representing about 2.74% of the worldwide population. The country is characterized by five geographic regions: South, Southeast, Midwest, North and Northeast; consisting of 26 states and a federal district. In 2010, the least urbanized region was the Northeast (72.9%), followed by the North (77.0%). The most urbanized region was the Southeast (90.3%), where the areas of high degree of urbanization are mainly located in the states of São Paulo, Rio de Janeiro and Minas Gerais. The geographic distribution of the Brazilian population varies greatly, where most of the population is located less than 1,000 km from the coastline. According to national standards, about 55% of the population has access adequate sanitation services, 18% have their sewage collected but not treated, and 27% do not have access to any type of sanitation facilities or services [2].



Figure 1. Brazil's location in the South American continent.

III. POLICIES, PLANS AND REGULATIONS

Overall, it is possible to identify the following agents involved in the sanitation sector: the government (Union, member states, municipalities), private companies and consumers. These agents can perform one or more of the following roles in the sector: planning, ownership, regulation and inspection, operation or financing [7].

(i) Planning: as defined by law (n°11.445/2007), municipal basic sanitation plans (PMSB) must include: analysis and scoping of current problems; short, medium and long-term goals; programs, projects and actions required to achieve the goals; and actions for emergency situations.

(ii) Ownership: responsible for providing the sanitation service, which can be operated directly by public administration or indirectly through a public consortium or a concession, public or private. The owner is also responsible for elaborating the PMSB, providing regulation and inspection, ensuring the quality of the service, and establishing mechanisms of social control.

(iii) Regulation and inspection: the holder of the ownership can regulate the service or delegate this role to other entities.

(iv) Operation: can be (1) provided through direct public administration or through decentralized entities (autarchies, public organizations). In this case, the role of ownership is mixed the role of operation, and therefore, it is not legally necessary to design a regulatory structure. (2) the owner can transfer the operation to a public or private entity through a concession contract. However, the concession will only be legal by previous approval of a PMSB and establishment of a regulatory agency.

(v) Financing: Union, states and municipalities are obliged by law to promote sanitation programs. This role is also open to the participation of private companies, which can act as financial agents.

In 1967 the National Housing Bank (BNH), the Sanitation financial system (SFS) and the State water and wastewater funds (FAEs) were established by the government. In this context, BNH implemented the National Sanitation Plan (Planasa) with the aim to support strategic investment in infrastructure. Officially instituted in 1971, Planasa was a milestone in the development of the sanitation sector, with the main objectives to universalize the access to water and sanitation services and promote the financial sustainability of the sector - by offering financing through state resources [1]. According to Planasa, access to financial resources was conditioned to the establishment of State Sanitation Companies (CESBs). If a state wanted to access financial resources, it would have to create a CESB, which would act as concessionaire of the municipalities. In order to align with this condition, about 75% of the Brazilian municipalities adhered to Planasa [7]. Therefore, Planasa supported the establishment of CESBs and withdrew municipal autonomy. The requirement of a single provider per state consequently allowed the CESBs to implement large scale projects that would most likely not be viable separately, especially due to their costs. Overall, this new organizational structure contributed to significantly increase the proportion of population with access to water and sanitation in the country.

In 1986, the BNH is terminated by a new government, essentially interrupting all the investments in the sanitation sector. The operational inefficiency and high costs of the business model caused the beginning of decline of the CESBs. Moreover, the increase of the demand in locations of difficult access (such as slums) required high investments, which made it difficult for companies to profit. For several years, Planasa was the main initiative of a public sanitation policy in the country. With the termination of the BNH and consequent interruption of the investments in the sector, Planasa became obsolete and the sanitation sector experienced a period of negligence in the government agenda that lasted for about two decades.

Since the 1970s, the CESBs were the main providers of sanitation services in the country. However, in 1995 the Concession Law n°8.987 marked beginning of the participation of the private segment in the sector. In 1988, the establishment of the Federal Constitution defined new laws for the sanitation sector. Nevertheless, there were many gaps in the Constitution, especially regarding the ownership of the sanitation services. Conflicts of interest between public and private agents most likely delayed the approval of laws for the sector. In 2004 the Public-Private Partnership Law n°11.079 was approved. Despite the progress, there was a clear absence of institutional and regulatory framework, which was later addressed by the Sanitation Law and the regulatory Decree n°7.217/2010. Until 2007, the absence of regulatory framework contributed to a series of issues, such as the establishment of official financial mechanisms, which consequently impacted the development of the sector [6].

In 2007, the National Basic Sanitation Law was established, that defined guidelines and a basic regulatory framework for the sector, representing an important advance in the legal structure. Since 2007, the delivery of sanitation services has been shifted to decentralized approaches, where a total of 5,570 municipalities became responsible for developing and implementing its municipal basic sanitation plan (PMSB) and implement specific

guidelines for the sector through Municipal Basic Sanitation Policy [4]. In many cases, however, municipalities are restrained (from fulfilling such role) by lack of financial and technical resources. In 2017, approximately 38.2% of the municipalities claimed to have a basic sanitation policy. Regional inequality is present in this framework, as 63.7% of municipalities in the South claimed to have such policy and only 18.6% of municipalities in the Northeast did [8].

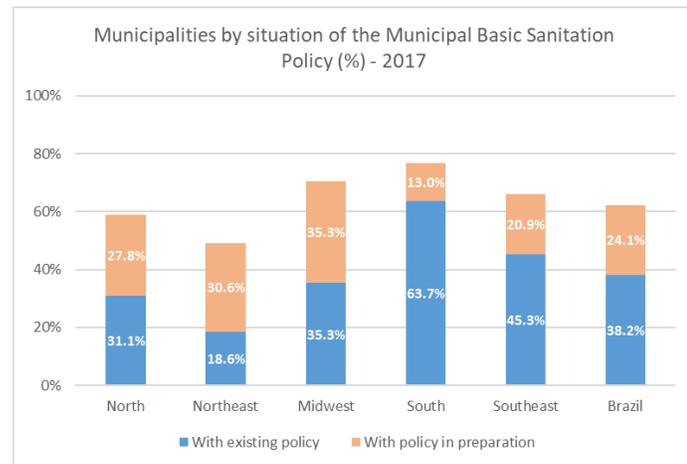


Figure 2. Municipalities by situation of the basic sanitation policy in 2017. Source: Adapted from [8].

Municipal Basic Sanitation Plans (PMSB) are important to analyze and identify problems, set objectives and actions in order to achieve universal access to sanitation. As defined by the Sanitation Law, the PMSB must englobe the four services defined by Brazilian standards as basic sanitation – drinking water supply, sanitary sewage, solid waste and drainage management. Originally, the Federal Decree n°7.217/2010 linked the access of municipalities to financial resources upon the approval of a PMSB until December 2013. Due to the challenges faced by the municipalities in elaborating a PMSB, the deadline established by the decree has been periodically extended to December 2015, December 2017, December 2019 and finally to December 2022 [3]. In 2017, about 41.5% of total municipalities had elaborated a PMSB. As a wide range of municipalities do not meet the required conditions established by the decree, it is as if they are not being reached by current policies. This clearly indicates the incompatibility of the legal framework and institutional structure with the reality of the sector.

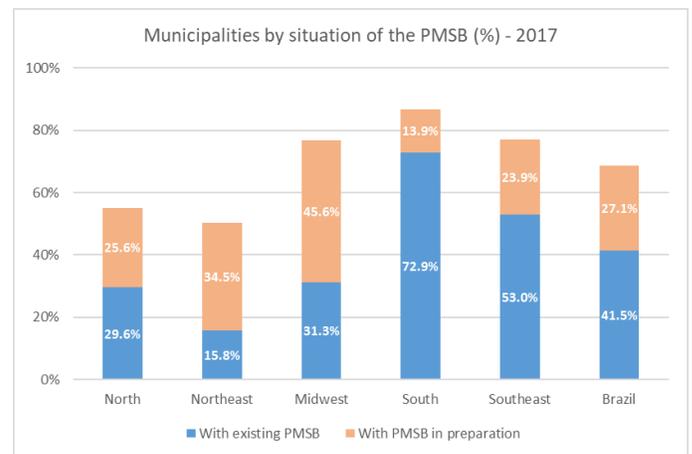


Figure 2. Municipalities by situation of the PMSB in 2017. Source: Adapted from [8].

Although the management of sanitation services is a sole responsibility of the municipalities, as discussed previously, other roles can be delegated to other entities. In this context, there are two main arrangements in terms of sanitation operation in Brazil: municipalities that delegate the provision of sanitation services to an autonomous municipal entity, state company or private concessionaire; or municipalities that remain without an institutionalized service provider. Approximately 2,982 municipalities have delegated the operation of services and 2,588 municipalities still have direct responsibility to provide such services. Although in both arrangements there are cases where the service is not provided to the population, the absence of wastewater collection and treatment is more common in the second arrangement. In the first arrangement, most municipalities have delegated the provision of sanitation services to state companies, which currently cover approximately 88.9% of the urban population. The second arrangement, however, is characteristic of small municipalities. In the east – characterized by high population density – most municipalities have delegated the operation of sanitation services to other entities. In the west, the service holders are usually municipal governments [2].

The Federal Decree n°7.217/2010 also established the existence of regulatory organizations. Regulatory agencies are government organizations with the role of inspection, regulation and control of services of public interest, such as basic sanitation. In 2017, there were 49 agencies regulating the access to sanitation services – 22 at the state level, 23 at the municipal level and 3 of municipal consortia, serving in total 2,906 municipalities. Nevertheless, there is an absence of regulation in several cities and no clarity regarding the quality of existing regulation [6].

The National Plan for Basic Sanitation (Plansab) was launched in 2013 with the purpose to establish guidelines, goals and strategic actions to achieve universal access to sanitation in 20 years. In 2033, the goal was to ensure that 92% of the urban population has access to wastewater collection and treatment [5]. The plan proposed short, medium and long-term goals divided by macro-region and presented a prospect of investments required to meet the goals. Among the set of indicators presented by the plan, the indicator E1 (“Percentage of urban and rural households with access to sewage network or septic tank”) was estimated to be 76% by 2018. However, only about 53% of the population had access

to such services in 2018. The goals defined in the Plansab became obsolete, and the failure to achieve such goals likely indicates a gap between planning and the real capacity of the sector to execute idealized activities. Originally, Plansab was based on an optimistic macroeconomic scenario, with large availability of federal resources. It did not predict the need for new financial mechanisms or realistic expenditures for municipal planning.

In 2016, the Investment Partnership Program (PPI) was launched in order to regulate the process of privatizations and concessions in the sector. As sanitation projects required high investments with returns that occur in the long run, financing is essential for the development of the sector and reassurance of the participation of the private sector. Through this program, a greater chance to increase the proportion of population with access to sanitation services might be possible, even in the current scenario of fiscal crisis.

IV. CONCLUSIONS

Brazil has a high deficit of access to basic sanitation services. As seen in this study, the public sector commitment to extend the provision of sanitation service in order to achieve universalization is essential. Despite the importance of investments in the sector, the last years have been characterized by low levels of investments in sanitation. In 2007, with the establishment of the Sanitation Law, the provision of services was shifted to decentralized approaches. Once the municipalities became responsible for their own sanitation policies and plans, in many cases there were restraints to fulfill their roles, especially due to the lack of financial and technical resources. In 2017, for example, only about 41.5% of total municipalities had elaborated a Municipal Basic Sanitation Plan. This scenario indicates an incompatibility of the legal framework and institutional structure of the sanitation sector in Brazil.

Approximately 88.9% of the urban population is serviced by State Sanitation Companies. Although CESBs have a dominant role in the sector, they face several challenges and operate under a weak regulatory supervision, which consequently constrains operational efficiency. With contracts that are automatically renewed, there are usually no revisions of the companies targets or tariff structure. Since 1971, CESBs have operated during many different governments, affected by auspicious economic measures and economic crisis. Nevertheless, the proportion of population with access to sanitation services has not substantially changed, indicating the CESBs model is most likely not the ideal institutional structure for this sector. In this context, engaging the private sector resources could potentially be a solution. The apparent increase of commitment to bring private investments into the sector through the PPI is likely a positive step towards improving the provision of sanitation services in Brazil. Attracting such investments to the sector, however, requires a transparent regulatory framework. The high initial investments and long-term capital returns – characteristics of the sanitation sector - are also challenges that need to be discussed in order to increase the participation of the private sector.

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