

# Environmental sanitation in São Paulo Macrometropolis: perspectives for a multi- level governance

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**Abstract:** The present article analyzes the likelihood of multi-level environmental sanitation governance in São Paulo Macrometropolis. After introducing the theoretical and methodological approaches, the article critically addresses the current situation faced by the water and sewage services, the trajectory of sanitation policy, the repartition of competences among federative entities and the normative structure. Next, it analyzes aspects related to horizontal and vertical integration, citizen participation and territory, as the basic variables taken into consideration to better understand the functioning of institutional arrangements of Córrego Limpo Program and the renewal of water granting of the Cantareira System. Given the historical inequality condition concerning access to sanitation services, it is urgent reasoning about the necessary institutional changes focusing on contributions to the accomplishment of more resilient, fair and democratic political practices.

**Keywords:** Environmental Sanitation; Multi-level Governance; São Paulo Macrometropolis.

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## Introduction

Reaching universalization of sanitation services remains a great challenge in Brazil. According to Trata Brasil (2020), approximately 33.1 million Brazilians do not have access to drinking water and the coverage of the sewage collection service is even worse, leaving 94,7 million Brazilians without access to this essential public service. Although São Paulo, considering the general national picture, which is quite heterogeneous, is in the highest position in comparison to the other Brazilian states, inequalities in access to sanitation services mainly affect the most vulnerable population in the state.

The national literature points out that the basic sanitation policy, besides dealing with multiple challenges to accomplish universalization, and struggling to reach efficiency in service supplying, faces several barriers related to structural organization and to its political-institutional development (HELLER, 2018). Even though sanitation is characterized by its intersectoral and multi-level nature, involving multiple scales, there are significant barriers to be overcome, such as unarticulated actions among federative entities, and a lack of social participation and control. However, actions remain incipient and prioritize market interests to the detriment of sanitation concepts that address sanitation as a public service and a fundamental human right (BRITTO et al., 2012; SILVA et al., 2018).

The current Covid-19 pandemic has evidenced how serious the consequences of lack of basic sanitation services are, since they mainly affect neighborhoods that house the poorest population. One of the measures to prevent and control this disease – recommended by the World Health Organization (WHO) – lies on the act of often washing hands (WHO, 2020), but it depends on having access to drinking water. The state of São Paulo has 1.7 million people without access to sewage and drinking water, and 4.6 million individuals who do not have access to sewage collection services (SNIS, 2018). The presence of SARS-CoV-2 in sewage has been reported in recent studies (BOMBARDI; NEPOMUCENO, 2020), and it increases the indices of close relation between urban infrastructure precariousness – such as lack of sanitation system – and pandemic evolution (TRAVASSOS; MOREIRA; CORTEZ, 2020). Therefore, one can consider that it is essential carrying out studies to better understand the possibility of disease transmission through sewage (HELLER; MOTA; GRECCO, 2020).

Thus, how to face a historical condition of unequal access to basic sanitation services that leads to outstanding socio-environmental damages to the marginalized and most vulnerable population? How is it possible improving political articulations in sanitation with other policy fields, such as housing, health and water resources, in order to reach better cooperation among federative entities and to assure and broaden control and social participation in decision-making processes in order to plan fairer and more resilient systems? How can government and society make joined decisions to assure access to drinking water and sanitation? These questions guide the present study, they show that issues faced by basic sanitation policies are complex and multiple, as well as that they demand the implementation of new institutional arrangements and the updating and innovation in governance practices and processes committed to social equality and

justice in access to drinking water and sanitation.

Given the high and growing economic, logistics, social and environmental interdependences among different urban agglomerations, limitations of municipal and state governments in properly facing such risks are becoming evident, they are highlighting the need of intermediate governance structures at both the metropolitan level and at the scale of the city-region (FREY, 2019). Estimates have shown that the number of houses under precarious conditions in São Paulo Macrometropolis (SPMM)<sup>1</sup>, where sanitation coverage is considered dissatisfactory, reaches more than 1 million people (MARQUES et al., 2013, p. 28), and it puts the SPMM within a particularly vulnerable scenario.

The aim of the present study was to identify and discuss the possibility to accomplish multi-level environmental sanitation governance in SPMM. The concept of environmental sanitation encompasses broader concerns with environmental matters and the promotion of overall environmental health, rather than just sanitation and infrastructure (MORAES; BORJA, 2014). The legal definition of basic sanitation in Brazil regards urban drainage and solid waste, as well as water supply and sewage collection (MCIDADES, 2014). Water and sewage services were the very focus of the current article, as they are essential components of integrated environmental sanitation approaches.

The next section is a description of theoretical and methodological framework adopted to introduce a summarized panorama of the basic sanitation situation in SPMM. Next, it addresses the institutional structure of the sanitation policy and explains the historical-institutional context, competence repartitions and the normative structure at SPMM level. Right after that, the cases chosen to deeply represent the institutional arrangements of the sanitation policy are introduced, namely: Córrego Limpo and the renewal of water granting of the Cantareira System. As a conclusion, some final considerations are provided, they point towards old and new challenges for the multi-level environmental sanitation governance in SPMM.

### **Theoretical and methodological framework**

The concept of multi-level governance (MLG) was initially proposed as new theoretical-analytical perspective to describe and understand the institutional and political changes resulting from the integration of countries in the European Union (HOOGHE; MARKS, 2003). Its use was systematically broadened to other contexts and regions worldwide, it embodied different configurations depending on specific historical, political and territorial contexts. “Thus, MLG allows us to capture multifarious configurations of political decision-making and policy-making processes as well as other patterns of producing ‘common goods’” (BEHNKE; BROSCHEK; SONNICKSEN, 2019, p. 4). Overall, analyzing a policy through the lens of MLG means investigating it beyond state action, observing negotiation, articulation and decision-making processes that take place in the

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1 - SPMM is formed by five Metropolitan Regions (São Paulo, Baixada Santista, Campinas, Sorocaba and Vale do Paraíba, and Northern Coast), two urban agglomerations (Jundiaí and Piracicaba) and one regional unit “Bragança Paulista”, which comprises 174 counties (TORRES; RAMOS; POLLACHI, 2020).

realm of different institutional arrangements and cover different governmental levels, different territorial scales, giving emphasis on interactions among multiple actors (FREY, 2018).

**Chart 1 – Analysis matrix adopted to assess multi-level environmental sanitation governance in SPMM**

<b>Environmental sanitation governance in SPMM</b>		
<b>Dimension/variable</b>	<b>Inquiries/analysis</b>	<b>Main references</b>
Sanitation situation (water and sewage)	Collecting the main data to characterize sanitation-related problems	SNIS (2018); TRATA BRASIL (2020)
Institutional legacy	Reconstructing the institutional trajectory of the sanitation sector	ARRETCHE (1999); SABESP (2008, 2014); BRITTO et al. (2012); HELLER (2018); SILVA et al. (2018)
Competences/ accountability	Assessing the repartition of competences and responsibilities among federative entities	BRASIL (2007, 2010); BRITTO et al. (2012); SNIS (2018)
Regulatory/normative structure	Characterizing the instruments and normative guidelines	BRASIL (2007); GALVÃO JUNIOR et al. (2009); IBGE/MUNIC (2017); SÃO PAULO (2019a)
<b>Institutional arrangements of the Córrego Limpo Program and the Renewal of Water Granting of the Cantareira System</b>		
<b>Dimension/variable</b>	<b>Inquiries/analysis</b>	<b>Main references</b>
Horizontal integration/ Intersectorality	Identifying articulation processes among actors from different policies	<b>Córrego Limpo</b> RODRIGUES (2016); BUSTOS (2018); SÃO PAULO (2019b)
Vertical integration/ federative subsidiarity	Assessing the degree of integration in the federative arrangement based on the division of competences and on federal relationships among federative entities	
Social participation/ control	Describing the participatory arrangements and the monitoring of policies/programs by non-state actors	<b>Sistema Cantareira</b> FRACALANZA e FREIRE (2015); LEÃO e STEFANO (2019)
Territory/ territoriality	Assessing territorial particularities and properness of policies/programs to the heterogeneity and diversity of different territories	

Source: Elaborated by the authors. Partially based on Lotta and Favareto, 2016.

The approach investigates and aims at better understanding, on the one hand, interactions that happen vertically among political actors from different governmental levels, from different jurisdictional and territorial spheres and, on the other hand, the complex horizontal interactions among state and non-state political actors. Therefore,

it encompasses concerns with social participation as mechanism to assure that the interests, values and concerns of society and its citizens – who equally act at different levels and scales – are fulfilled and that they can have impact on decision-making within the governance regimes.

In order to get to better understand how environmental sanitation governance is structured and takes place in SPPM, and to discuss the possibility of accomplishing MLG, the present study was divided into two parts: the first shows (i) basic sanitation conditions in SPMM, (ii) institutional legacy, (iii) repartition of competences among federative entities and (iv) the normative structure of the sanitation policy at the state level. In the second part, based on the framework proposed by Lotta and Favareto (2016), the institutional arrangements of the Córrego Limpo Program and the process of renewal of water granting of the Cantareira System are described and analyzed to find aspects related to horizontal integration, vertical integration, citizen participation and territory. Chart 1 introduces the herein adopted analysis matrix in order to help better understanding the multi-level dimension of environmental sanitation governance.

## Results

### *Sanitation situation in the SPMM*

The SPMM faces great challenges in order to reach basic the universalization of sanitation services and to assist its entire population – estimated in 34 million inhabitants. With respect to indices of sanitation service coverage, which are summarized in Table 1, it is possible to observe that 10.9% of the SPMM population is not served by sewage collection and that 3.1% of it does not have water supply, what corresponds to approximately 1 million people without access to treated water. It is calculated that 77% of the total sewage produced in the SPMM is being collected, but only 77.5% of it is treated. The index of loss in water distribution networks reaches 36.2%. These numbers highlight the huge challenge to be overcome in order to assure the right to basic sanitation in the SPMM. This is a significant number of people living under inadequate conditions and exposed to daily risks to human health.

**Table 1 – SPMM and São Paulo State sanitation indicators**

Variable	SPMM	São Paulo
Total population (number of inhabitants / estimated by IBGE 2018) [A]	34,013,020	45,270,936
Total population with access to water supply [B]	32,946,044	43,547,974
Total population without access to water supply [A-B]	1,066,976	1,722,962
% of the total population that does not have access to water supply [(A-B)/A*100]	3.1%	3.8%
Total population assisted by sanitary sewage collection [C]	30,315,830	40,660,922
Total population that is not assisted by sanitary sewage collection [A-C]	3,697,190	4,610,014

% of the total population that is not assisted by sanitary sewage collection [(A-C)/A*100]	10.9%	10.2%
Sewage collection index	77.0%	80.34%
Sewage treatment index	77.5%	64.5%
Water loss at distribution index	36.2%	34.13%
Index of total access to water supply	96.9%	96.19%

Source: Elaborated by the author. Based on data by *Sistema Nacional de Informação do Saneamento (SNIS)*, 2018 and *Trata Brasil*, 2020.

Note: We used the total of the sum of each one of the variables composing the respective index in order to calculate the SPM indices in the last three lines of the table - SNIS calculation formulas were applied later on, these formulas are available at [http://www.snis.gov.br/downloads/manuais-atualizados/Glossario\\_Indicadores\\_AE2018.zip](http://www.snis.gov.br/downloads/manuais-atualizados/Glossario_Indicadores_AE2018.zip).

#### *Institutional development of the basic sanitation policy in the state of São Paulo*

Based on the theoretical-analytical “path dependency” approach (NORTH, 1993), authors such as Britto et al. (2012) and Heller (2018) have discussed how the institutional legacy of sanitation policy in Brazil impairs chances in this sector, even after the regulation rule provided by the 1988 Federal Constitution and by the Federal Sanitation Law from 2007. With respect to State of São Paulo, before the creation of the Basic Sanitation Company of the State of São Paulo – SABESP, basic sanitation services were carried out by the state itself within four organizational formats and at different action scales (CAMPOS, 2005; SABESP, 2008, 2014; AVERSA, 2016): (i) Hiring a private foreign company to set the sanitation system in the city of São Paulo, in 1875, (ii) nationalization of the company in 1891 – the state government accounted for sanitation services, but its action in the city of São Paulo remained small, (iii) creation of a public sanitation autarchy – The Water and Sewage Department (DAE), in 1954, to act in the cities of São Paulo and Guarulhos, São Caetano do Sul, Santo André and São Bernardo do Campo; and (iv) creation of the following mixed-economy companies: São Paulo Metropolitan Water Company, in 1970, and Vale do Ribeira Regional Water and Sewage Company, in 1971.

The creation of SABESP in 1973 resulted from the fusion of all these regional companies, as well as from the national policy, which launched the National Sanitation Plan (PLANASA) in 1971 to grant the municipal sanitation service to state companies and to establish the Sanitation Financing System (SFS). This system used the National Housing Bank (BNH) as resource to get funding from the Government Severance Indemnity Fund for employees (FGTS) to finance municipal services and state companies, which led to significant broadening of the coverage of the service (ARRETCHE, 1999; SILVA et al., 2018).

Recently, several events, mainly in São Paulo Metropolitan Region, have influenced the current institutional sanitation structure in this area, with emphasis on the implementation of the Cantareira System, in 1974, and on the Water Supply Master Plan, in 1976, which recommended the structuring of the Metropolitan Supply System (SABESP, 2008).

Given the aims of the current article, it is worth highlighting that, since its very beginning, the sanitation policy was centered in the state government. However, its action (up to the military regime) was limited to the territory of the municipality of São Paulo, working in partnership with the other municipalities comprising Greater São Paulo. Yet, due to institutional changes boosted by the military regime, and to the conditioning of resource availability to state companies (ARRETCHE, 1999); SABESP ended up prevailing in the planning and operation of water and sewage services in the region. The implications of this pattern are long lasting and it is not surprising that until the Federal Sanitation Law was enacted in 2007, only few changes took place in this scenario. The sanitation structure in São Paulo will be addressed later on the article, but there is another aspect to be highlighted: the new legal basic sanitation framework in negotiation in the Congress. On June 24, 2020, the Federal Senate approved Bill n. 4.162, from 2019, which was still waiting for presidential sanction at the time the current article was written. Among the main changes proposed in the Bill, one finds: (i) broadening the participation of private capital in the provision of sanitation services, since programmatic contracts between municipalities and state utility companies will not be allowed anymore and biddings will be mandatory; (ii) establishment of a grace period for the bidding process to be enacted. Until 2022, the current contracts will be able to be extended for more 30 years; (iii) the possibility of municipalities to get together to hire services jointly for their regions; (iv) the determination to the National Water Agency to account for regulating sanitation services, controlling the fares, regulating contract instruments, defining standards of quality and efficiency and for expanding targets of service coverage, as well as for coordinating the sub-national regulating agencies; and (v) the creation of the Inter-ministerial Basic Sanitation Committee (ROUBICEK, 2020; SENADO FEDERAL, 2020).

Such a change in the Federal Law must lead to significant institutional and structural changes in the basic sanitation policy, mainly if one takes into consideration the possibility of state companies to be replaced by private companies. Several experiences in other countries have shown that sanitation privatization does not lead to service improvements, but to late re-nationalization processes or to returning these services to local authorities (PIGEON et al., 2012).

#### *Repatriation of competences among federative entities*

While the national sanitation financing model PLANASA was being extinguished, the country was facing deep changes due to the 1988 Federal Constitution, which gave the municipalities the status of third-degree federative entities, greater autonomy as well as broadened and exclusive competences concerning “local interests”, although this concept was not so clearly defined (RODRIGUES, 2018). Such a complexity was also expressed in sanitation, given the disputes and different interpretations of the constitutional text about the distribution of competences among the three governmental levels.

The matter regarding competence distribution and accountability for sanitation in Brazil remained within a “normative institutional vacuum” throughout the 1990s

(VALENTE, 2019, p. 1073). This subject was once more addressed during Lulas' administration due to the Basic Sanitation Policy Bill, which proposed making the municipality accountable for these services. However, because of political pressure, the Bill about sanitation municipalization and the creation of a national sanitation system was vetoed (SOUSA; COSTA, 2013).

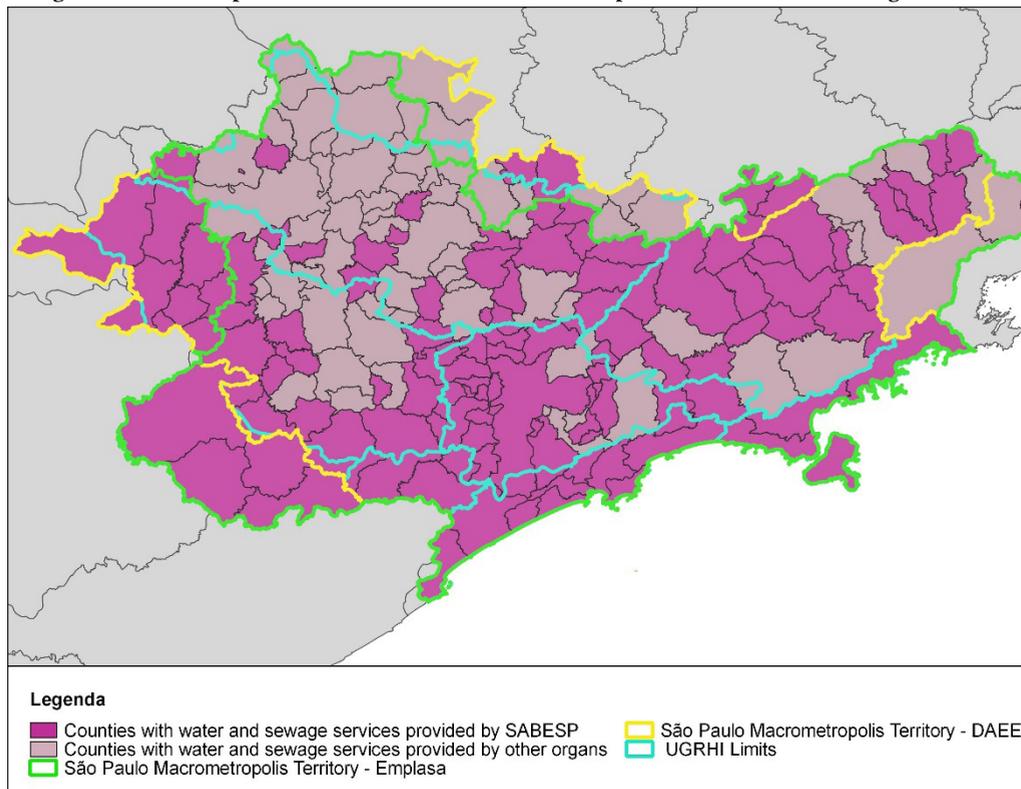
Despite the limitations, the guidelines set by the Federal Basic Sanitation Law (n. 11.455/2007) and by its regulating decree (n. 7.217/2010) pointed towards the implementation of a new basic sanitation governance model based on inter-sector principles, on cooperation among federative entities and on social participation. In 2014, it also conditioned the transfer of resources to the existence of a collegiate organ (SILVA et al., 2018). Given the importance of actions taken by municipal entities in sanitation, the legal framework enacted in 2007 addressed, among other factors, the elaboration of sanitation plans by municipalities, the adoption of watersheds as reference unit for planning, and elaboration of supply contracts substantiated by municipal sanitation plans, as well as the need of presenting an investment plan developed by sanitation concessionaires (BRITTO et al., 2012; BRASIL, 2007, 2010)

Although the text of Law n. 11.455/2007 did not clearly define the accountability for sanitation services, the Supreme Court understood, back in 2013, that it should be shared by states and municipalities in metropolitan regions<sup>2</sup> (ABEES, 2013). In the specific case of São Paulo, SABESP has been setting contracts of programs with municipalities through cooperation deals signed between city halls, state government and SABESP itself, to provide municipal public services of water supply and sanitation – usually for a period of 30 years<sup>3</sup>.

Nowadays, SABESP accounts for the water and sewage service in 116 of the 174 municipalities comprising the SPMM, as shown in the map depicted in Figure 1. It is possible to observe that SABESP is the only supplier in some Water Resources Management Units (UGRHI), whereas only a minority of municipalities is assisted by SABESP in the PCJ UGRHI – where the municipalities count on relevant cooperation within the watershed committee and the municipal consortium.

2 - This understanding derived from Direct Actions of Unconstitutionality issued due to state laws in Rio de Janeiro and Bahia states.

3 - There are exceptions, such as the recent 40-year sanitation concessions in the municipalities of Guarulhos and Santo André. The contracts can be accessed at <http://site.sabesp.com.br/site/interna/Municipio.aspx?secaoId=18&id=001>.

**Figure 1 – Municipalities in SPMM where SABESP provides water and sewage services**

Source: SNIS, 2018. Elaborated by Gabriela Modenezi, 2020.

### *The institutional structure of the state sanitation policy in the SPMM*

The extinction of PLANASA financing model took place at late 1980s and it had strong impact on the operation of State Company, which started an economic restructuring process triggered by the opening of its capital in São Paulo's stock market in 1997 and in New York in 2002. SABESP was divided into regional Business Units that follow the guidelines set by the central direction board but have autonomy to make decisions and to plan their own financial resources (ARRETCHE, 1999; AVERSA, 2016).

The state of São Paulo established its own Sanitation Policy through Law n. 7.750 from 1992. After this Bill was approved, the institutional structure of the policy faced some incremental changes, mainly due to the promulgation of the Complementary Law n. 1.025 in 2007, which, in compliance with the Federal Sanitation Law, created the São Paulo State Sanitation and Energy Regulatory Agency (ARSESP) and remodeled its policy.

Currently, there are three main organs in charge of planning and formulating the general state policy guidelines, two are indirectly managed by the State - SABESP and ARSESP - and one directly – the Infrastructure and Environment Secretariat (SIMA),

which accounts for planning, coordinating and performing the State Sanitation Policy. SIMA<sup>4</sup> must provide technical support to municipalities, to the Executive Secretariat of the State Sanitation Council (CENESAN) and to the Technical Chambers of Sanitation implemented in the Watershed Committees through monitoring the development of its activities (SÃO PAULO, 2019a).

Therefore, it is clear that there is a whole diversity of institutional networks related to sanitation and water policies, which act at different levels – municipal, state, watershed, whereas SIMA-, on behalf of the state government, plays an important role in coordinating policies and activities.

According to Galvão Júnior et al. (2009), the State Sanitation Plan and the State Sanitation Fund (FESAN) are the main instruments for the policy implementation. CONESAN comprises 33 representatives, which are divided into the following segments: State government, municipalities, and civil society, each one with 11 seats in the council<sup>5</sup>. It is worth highlighting that decision-making about sanitation takes place in other institutional spaces, such as in the Watershed Committees, in ARSEP's<sup>6</sup> Orientation Council of Basic Sanitation and in the Management Committee of São Paulo's Water and Sewage Services.<sup>7</sup> It is important pointing out the key role played by SABESP as the performer of the sanitation policy, being responsible for the elaboration of the investment plans to expand the coverage of the provision of water and sewage services, as well as for the development of essential projects such as that about the depollution of the Tiête and Pinheiros rivers. It is also fundamental pinpointing that the state government signed UN's 2030 Agenda, and added its goals to the Multiannual Plan, which aims Sustainable Development Goals (SDG) and addresses programs focused on accomplishing the universalization of basic sanitation<sup>8</sup>.

If one takes into account the main role played by the municipal entity, based on the Federal Sanitation Law, it is necessary assessing the institutional structure of the municipalities comprising the SPMM. In order to do so, data self-declared by the municipalities for the supplementary IBGE research (2017) about Basic Municipal Information (MUNIC) were consulted. According to this database, of the 174 municipalities composing SPMM, 107 have declared to have their own municipal sanitation policy. Only 37 municipalities have a municipal sanitation council, of which 27 have exclusive sanitation committees, whereas the other 10 have informed that the sanitation topic is dealt with in different municipal councils together with other policies. Only 19 municipalities have the necessary specific municipal funds for sanitation policies. Regarding the existence of a municipal sanitation plan, which is the main instrument for the implementation of actions in this field, 128 municipalities have declared to already have their plans approved, 27 said that their plans were under elaboration and the other 19 municipalities have informed that

4 - It is worth recalling that after the publication of State Decree n. 64.059, from January 01, 2019, the functional field of SIMA covers more than the environmental policy, but also the power, mining, water resources and sanitation sectors.

5 - <https://www.infraestruturameioambiente.sp.gov.br/conesan/regimento-interno/>

6 - <http://www.arsesp.sp.gov.br/SitePages/COSB.aspx>

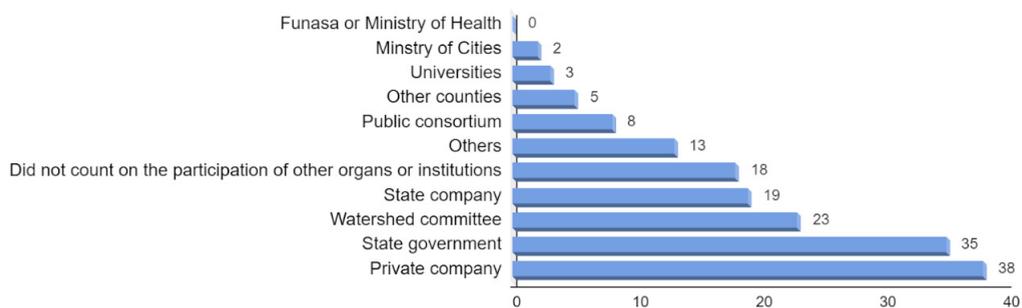
7 - <https://www.infraestruturameioambiente.sp.gov.br/comitegestor/>

8 - <http://www.ppa.sp.gov.br/Audiencias/Agenda2030>

they still do not have a plan.

Of the 128 municipalities in SPMM that have declared to have a sanitation plan, 18 have elaborated it without the participation of other organs and institutions. The other ones mainly counted on the collaboration of private companies, the state government, and the watershed committees and/or of SABESP (Figure 2). It is interesting noticing the almost inexistence of support from Federal Departments in the plan elaboration, only two municipalities have declared to have had the participation of the former Ministry of Cities<sup>9</sup> in the elaboration of their plans.

**Figure 2 – Partner institutions during the elaboration of the 128 municipal sanitation plans found in the 174 municipalities comprising the MMP**



Source: Elaborated by the author. Based on IBGE, 2017.

*Analysis of Córrego Limpo Program and of the renewal of water granting of the Cantareira System: institutional arrangements*

### *Córrego Limpo Program*

The Córrego Limpo Program is coordinated by SABESP and is run in the city of São Paulo, it focuses on depolluting urban rivers located downstream Tietê River. It was launched in 2007 by SABESP's Business Unit North to depollute the Carandiru Stream due to the implementation of the Juventude Park by the state government. This initiative became an official governmental program that completed the Tietê River Depollution Project (RODRIGUES, 2016). According to data provided by SABESP<sup>10</sup>, until 2019, 152 urban streams were benefited by the program.

Although the program was structured by a partnership between the state and

9 - The Ministry of Cities was launched in 2003, it was extinguished in 2019 and its attributions were incorporated by the Ministry of Regional Development. More information is available at Federal Decree n. 10.290, from March 24, 2020.

10 - <http://site.sabesp.com.br/site/interna/Default.aspx?secaoId=116>

municipal governments – which is nowadays formalized by SABESP's 2010-2039 Investment Plan for the city of São Paulo and by the 2019 Municipal Sanitation Plan (SABESP, 2010; SÃO PAULO, 2019b) – each one of these entities has specific competences within its own scope, but SABESP still plays the main role in the conduction of the project. SABESP is in charge of identifying sewage discharge in rivers and in rainwater galleries, as well as of expanding the sewage collection infrastructure and residential connections to the sewage network. The municipal government is responsible for the requalification of the urban streams, counting thereby on the cooperation of different secretariats. This action is often linked to programs developed to regulate and urbanize areas occupied by low-income populations. Such a process must imply the reallocation of families under risk conditions, for instance, the ones occupying the riverbanks and threatened by flooding (JACOBI; FRACALANZA; SILVA-SÁNCHEZ, 2015).

Besides its proposition to be a program to act along with the city hall, Córrego Limpo also expects the involvement of residents in the maintenance of streams benefited by the program (RODRIGUES, 2016; BUSTOS, 2018). Throughout the existence of the program, different formats were implemented by SABESP in order to make citizen participation easier. Initially, participation was planned by Metropolis Study Center (CEM/CEBRAP), a research institute hired by SABESP in 2009, which recommended a collaborative governance model to involve local leaderships and residents. However, later on, this model was adapted by SABESP's direction board, which elaborated its own manual to guide its Business Units during program implementation. It is important pointing out that each SABESP unit dealing with different socioeconomic and territorial conditions is autonomous to plan and organize its program implementation, including the definition of participation strategies (RODRIGUES, 2016). Therefore, based on the evaluation by Bustos (2018), population involvement in the Córrego Limpo Program has been happening through a hybrid governance model that added elements aimed at citizen participation, bureaucratic management, and the implementation of business strategies.

Among the main difficulties and limitations faced by Córrego Limpo, one finds the hard time making adjustments to match the agendas of state and municipal governments, and to adjust the agendas of different policies, such as housing and environment (JACOBI; FRACALANZA; SILVA-SÁNCHEZ, 2015) and the occasional existence of financial limitations, as it was observed during the water crisis, when the budget was reduced and some participation spaces were disjointed (RODRIGUES, 2016). According to Rodrigues (2016) and Bustos (2018), the involvement of street-level bureaucracy – SABESP technicians who act together with local community leader – in the mobilization and maintenance of the participatory spaces, and the population are important elements for the relative success of the program. Differences in project effectiveness are also related to the engagement degree of community leaders to projects, as well as to their ability to mobilize the local community (BUSTOS, 2018). Córrego Limpo Program is on-going and, nowadays, it is part of the Program Contract issued by São Paulo City Hall, which predicts a 95% sewage collection rate until 2039 (SABESP, 2010). According to São Paulo Municipal Sanitation Plan, 11 urban streams are expected to be depolluted by 2020 (SÃO PAULO, 2019b, p. 87), with emphasis on Ipiranga Stream Depollution, as part of

Ipiranga Museum's restoration.<sup>11</sup>

### *Renewal of Water Granting of the Cantareira System*

As previously explained, at PLANASA's time, during the military regime, decision-making processes were centered in the federal and state governments. Even after the re-democratization process, in 1988, and the consequent end of PLANASA – given the fact that BNH was extinguished –, the sanitation policy remained in what the literature has been calling “institutional vacuum” until the Federal Basic Sanitation Law was enacted in 2007. As a paradox, that was exactly the time when one could observe progressive evolution in structuring the environmental policy in Brazil, which also encompassed water policy. The public management of water resources faced deep structural and institutional changes given the implementation of a new integrated and participatory management model for watersheds. A new institutional arrangement for water governance was established and it predicted the participation of different state government sectors, municipalities and civil society in decision-making processes concerning the regulation of the use of river and lake water, as well as the use of other waterbodies (ABERS et al., 2009).

Accordingly, the basic sanitation service is seen as water-resource user and is subjected to the rules set by the water policy, including the obtainment of the right-to-use the water for public utility purposes (ROCHA; KHOURY; DAMASCENO, 2018). It is worth highlighting that the water resources policy regulates access to water, but does not regulate access to basic sanitation resources.

Although the water granting process is regulated by the water resources policy, it is essential for the analysis of multi-level environmental sanitation governance to understand that decision-making processes that have significant impact on territories of huge extension and extreme population density involve a large number of jurisdictions and of managerial and political entities – all of them affected and threatened by this process, as clearly shown by the case of the 2014-2015 water crisis. Theoretically, this case presents all elements to accomplish a multi-level governance approach, because it concerns broad cooperation between multiple agents in order to find solutions that fulfil the needs of the region as a whole.

The Cantareira System was projected to provide water to São Paulo Metropolitan Region. It comprises six water reservoirs, of which four are in the watersheds of the rivers Piracicaba, Capivari and Jundiá (PCJ), and two in the Alto Tietê Basin (LEÃO; STEFANO, 2019). The first Cantareira System water granting to SABESP was issued in the military regime, in 1974, by the federal government, which authorized water capture for 30 years (LEÃO; STEFANO, 2019; FRACALANZA; FREIRE, 2015). According to Fracalanza and Freire (2015), the renewal of Cantareira System water granting started one year before the first expiration date of the water granting, in 1974. The role played by

11 - The Museum is expected to be reopened in the year Brazil completes 200 years of its independence, and this event will be widely outspread by the state government, <https://www.saopaulo.sp.gov.br/ultimas-noticias/sabesp-anuncia-projeto-de-despoluicao-do-corrego-ipiranga/>

the civil society was essential at this moment, since it claimed for a shared management system of the Alto Tietê and PCJ regions in order to replace the centralized management system inherited from the military regime. The different mobilization campaigns, debates and the effort of civil society groups to outspread information and data were a key factor for success, since they forced SABESP to accept the shared management system and a whole series of technical rules deriving from the increasing water shortage scenario, at the time (FRACALANZA; FREIRE, 2015). The third water granting renewal should have happened in 2014, however, given the reduced water volume in the waterbodies and the extreme events that have led to extreme rainfall reduction, it was extended by The National Water Agency (ANA) and the São Paulo State Department of Energy and Water (DAEE) to 2017, when the granting in force was issued (it will be valid for 10 years). According to Leão and Stefano (2019), water shortage and the resulting conflicts between different actors, had strong influence on the new terms of the current granting.

If one takes into account the different variables in the herein adopted analytical matrix – presented in Chart 1 – Chart 2 shows the main findings concerning the institutional arrangements of the Córrego Limpo Program and of the process of renewal of water granting of the Cantareira System.

**Chart 2 – Featuring the institutional arrangements of the Córrego Limpo Program and the Renewal of Water Granting of the Cantareira System**

Horizontal integration	Vertical integration	Citizen participation	Territory
<b>Córrego Limpo</b>			
<p>There is no direct participation of other state government sectors in the program implementation; SABESP was the only institution in charge of conducting the program in the state government.</p> <p>At municipal level, the program depends on the articulation among the secretariats of housing, the environment, infrastructure and public works, as well as on the boroughs [sub prefectures], which should coordinate the actions in the locations. However, studies have shown difficulties in effectively implementing an inter-sectoral approach.</p>	<p>While the responsibility for sanitation is shared between the state and the municipality, the role played by the Federal government is limited to defining the basic principles to be followed by the policy, based on the National Basic Sanitation Law. The division of competences between state and municipality regarding program implementation is clear and SABESP has the major role in the project management. There is municipal and state resource input.</p> <p>Unbalance between state and municipal agendas are often reported.</p>	<p>Citizen participation is seen as necessary to the maintenance of the quality of the rivers. SABESP business units and the local borrows are accountable for mobilizing the local community. The great variation in recorded results is related to the effectiveness of citizen participation and mobilization, as well as to the main role played by local community leaders.</p>	<p>Although there is orientation about the depollution process, there is also the need of elaborating specific projects to each urban stream.</p> <p>As the social condition of settlements changes, the community mobilization and participation strategies also change, depending on the territory and on the socio-environmental conditions of each location; it encompasses the demands and expectations of the local population, based on the direct cooperation of local leaderships.</p>

Renewal of the Water Granting of the Cantareira System			
<p>Intersectoral action happens through PCJ's watershed committees and through cooperation with the Alto Tietê Committee, since 2004. Both count on the participation of different state government sectors. However, the 2004 water granting showed the ultimate roles performed by SABESP and by civil society itself, whereas state agents were in charge of making mediations.</p>	<p>Since there is water capture from one inter-state river in play, such a process involves the participation of the federal entity, as well as the state and municipalities in the PCJ and Alto Tietê committees. It is also important highlighting the role played by DAEE and ANA as organs that conclude the water granting process, based on the recommendations issued by the committees and on the watershed plans.</p>	<p>There is the participation of non-state actors, which takes place through the watershed committee. It is worth mentioning that the civil society also acted outside the institutions, trying to influence the decision-making processes in the committees, based on mobilization, debates and on making available information and data to the decision-makers.</p>	<p>Water granting is based on the Watershed Plan and on the Water Resource Situation Report, taking into consideration the water resources' conditions and their different uses observed in each watershed. However, the growing interconnection between supply systems and the water transposition between watersheds – accelerated by the water crisis – tends to weaken the watershed committees and favour SABESP's dominating position, which points towards the need of broadening the cooperation between different committees, as happens in the Cantareira System.</p>

Source: elaborated by the authors.

### Final considerations

The aim of the current article was to identify and discuss the possibility of accomplishing multi-level environmental sanitation governance in SPM. Through the time the study was still under elaboration, Covid-19 pandemic quickly became a serious global crisis. With respect to Brazil, it emerged as an issue closely related to the precarious offer of drinking water and the lack of adequate systems to collect and remove sewage, particularly in the suburbs of great metropolises. Such a serious situation forced the immediate need of reasoning about more resilient and fair sanitation governance systems capable of dealing with uncertainties and risks.

As one could observe throughout the study, there are significant obstacles for the sanitation policy to accomplish the universalization of water and sewage services in Brazil. Thus, sanitation shortage issues are not limited to unbalanced expansion of metropolitan areas or to the development of appropriate technical solutions, not even, primarily, to greater availability of financial resources, but mainly to issues related to decision-making processes that, as one could see, have been historically associated with centralized control by state companies, since the 1970s. This profile has defined the priorities for water and sanitation services, either in terms of amount and of territorial distribution. Therefore, the State and, consequently, society, somehow keep on losing their autonomy to make decisions democratically about water as a common good and about society's real needs.

Modifications in the regulatory framework of sanitation set by PL 4.162/2019 will make it possible broadening the private sector participation in water and sewage service

supply. Such a change goes against what increasingly happens in many developed countries which are re-nationalizing their services given the challenge of politically guiding the transition process to sustainable environmental sanitation (PIGEON et al., 2012). These regulatory changes tend to reinforce the trend towards the mercantilization of water and the depoliticization of water governance.

However, it is possible observing some promising institutional changes and new collaborative practices in course, as it can be seen in the two herein assessed cases. The first case: the Córrego Limpo Program evidences that SABESP had to take into account the need of acting together with the municipality and of involving residents of the benefited neighborhoods – these residents became essential for the success of the adopted measures – in order to reach the goal of depolluting urban streams. It was also possible observing the new role played by the city of São Paulo in elaborating its sanitation municipal plan and in establishing universalization targets that were included in the granting contracts. However, the collaboration of the municipal government with the program was below the expected, as pointed out in the referenced studies.

With respect to the second case, the renewal of the water granting of the Cantareira System, the article highlights the requirements of the water policy, according to which, the capture of water resources by SABESP, since 1990, depends on a water granting process. Such a process must be in compliance with the guidelines established by the integrated water management in watersheds. It predicts the participation of the committees, which must bring along society representatives and, thus, broaden the possibility to take into consideration the territorial particularities in the decision-making processes.

Despite all the limits and contradictions of the assessed cases, both of them present new practices that can cooperate to reinforce environmental sanitation governance in the SPMM. Institutional arrangements are arenas where one finds the possibility of disputes between different political actors and of exchanging arguments in order to find solutions in favor of the common good. Based on the documental analysis and on secondary academic research, the evidences observed in the present study suggest the relevance of a multi-level governance, which combines vertical and horizontal integration with broad citizen participation and control in order to improve sensitivity towards the particularities of each territory and community. These factors would be the main condition to reach diversified, contextualized, and sustainable solutions, as well as to contribute to strengthen democracy.

Unfortunately, the concern that the privatization proposals in the new legal framework for sanitation may contribute to the enforcement of the rationale of private profit in the provision of water and sewage service remains worrisome, since it can impair the application of innovative and participatory approaches to collaborative governance. Nevertheless, building a resilient sanitation system for SPMM capable of adapting to drastic changes faced in times of growing uncertainties, and to different threatening conditions, such as climate change and the current pandemic – fair and engaged to democratic practices – is a matter of survival for metropolises. Such a system demands new governance and cooperation patterns, as well as different development models, since “time is running fast”.

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# Saneamento ambiental na Macrometrópole Paulista: perspectivas para uma governança multinível

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São Paulo. Vol. 23, 2020  
*Artigo Original*

**Resumo:** Este artigo analisa as possibilidades para uma governança multinível do saneamento ambiental na Macrometrópole Paulista. Após apresentar a abordagem teórica e metodológica, o artigo discute criticamente a atual situação dos serviços de água e esgoto, a trajetória da política de saneamento, a repartição de competências entre os entes federativos e a estrutura normativa. Na sequência, analisa aspectos relacionados à integração horizontal e vertical, participação popular e território, como variáveis básicas levadas em consideração para melhor compreender o funcionamento dos arranjos institucionais do Programa Córrego Limpo e do processo de renovação da outorga do Sistema Cantareira. Diante de uma histórica situação de desigualdade no acesso aos serviços de saneamento torna-se urgente refletir sobre as necessárias mudanças institucionais que contribuem para práticas políticas mais resilientes, justas e democráticas.

**Palavras-chave:** Saneamento Ambiental; Governança Multinível; Macrometrópole Paulista

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# Saneamiento Ambiental en la Macrometrópolis Paulista: perspectivas para la Gobernanza Multinivel

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*Artículo original*

**Resumen:** En este artículo se analizan las posibilidades de la gobernanza del saneamiento ambiental en múltiples niveles en la Macrometrópolis Paulista. Tras presentar el enfoque teórico y metodológico, el artículo analiza críticamente la situación actual de los servicios de agua y alcantarillado, la trayectoria de la política de saneamiento, la división de competencias entre las entidades federativas y la estructura normativa. A seguir se abordan los aspectos relacionados con la integración horizontal y vertical, la participación popular y el territorio. Estas variables básicas se han incluido considerando la importancia de mejor comprender el funcionamiento de los arreglos institucionales del Programa Arroyo Limpio en la ciudad y el proceso de renovación de la subvención del Sistema Hídrico Cantareira. Ante una situación histórica de desigualdad en el acceso a los servicios de saneamiento, se hace urgente reflexionar sobre los cambios institucionales necesarios que contribuyan a la elaboración de prácticas políticas más resilientes, justas y democráticas..

**Palabras-clave:** Saneamiento Ambiental; Gobernanza Multinivel; Macrometrópolis de São Paulo.

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