

Water discourses management: Water supply crisis communication in the RMSP (2014-2015)

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Abstract: The current article is an investigation on how the water supply crisis taking place in the Metropolitan Region of São Paulo (RMSP) was addressed during the 2014-2015 biennium. Aspects of information monopoly and scientific expertise mobilization by São Paulo State's Sanitation Company and by São Paulo State's Government were herein addressed, as well as the instrumentation of these aspects through mass communication focused on this event. In total, 63 documents published by these actors were herein analyzed based on the Social Studies of Science and Technology and on the Framing theory. Results pointed towards a discursive plan aimed at shaping the interpretation of the water supply crisis by relativizing public agents' condition and by reinvigorating a specific water supply network-expansion model. The contribution of this investigation lies on the identification of public discourse as an instrument of action over urban sanitation infrastructures.

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Introduction

During the two-year period that started in January 2014, society witnessed the gradual exhaustion of water-producing systems that had served the Metropolitan Region of São Paulo (RMSP) at that time, with emphasis on the largest one, which is known as Serra da Cantareira system (henceforth, Cantareira system) (FABHAT, 2019). At the apex of the water shortage crisis, the Cantareira system had not only drained all its useful volume, but also most of its dead volume (PORTO; PORTO; PALERMO, 2014). This scenario also counted on a world-renowned event, the 20th FIFA men's soccer cup, which was hosted by Brazil, as well as on the electoral race for São Paulo State government whose governor, Geraldo José Rodrigues Alckmin Filho – henceforth, Geraldo Alckmin –, was running for re-election. The electoral campaign conducted by candidates running for São Paulo State's executive power took place in late 2014, when Cantareira system reached its lowest level (Figure 1).

Thus, we herein advocate that the analysis applied to how the water supply crisis was addressed sheds light on controversies that marked the aforementioned period; this analysis also enabled understanding the role played by scientific expertise in these disputes. These controversies involved politics, expert knowledge and ways of thinking about both the city and its hydraulic infrastructure. We also argue that there was a dispute that mainly involved the role played by the Basic Sanitation Company of São Paulo State (also known as Sabesp) and by São Paulo State's Government (also known as Gesp) in solving the water crisis, based on two main forms of understanding, namely: a) the crisis seen as deriving from human errors, with consequences for the ongoing political dispute, at that time; b) the crisis seen as resulting from climate variables, a fact that exempted both the state-owned company and São Paulo State's Government from any accountability.

We show that the controversy around the water crisis' causes and accountability attributions mainly involved expertise mobilization, which, in this case, was monopolized by Sabesp, based on a pattern described in previous cases (VIGLIO; MONTEIRO; DA COSTA FERREIRA, 2018). This expert-knowledge monopoly has significantly conditioned the skills of different actors to intervene with processes focused on framing the water crisis in the analyzed discourses and to influence the public perception of the discussed events.

In addition to the current introduction, the present study was organized as follows: Section 'Water context' maps both the actors and circumstances involved in the analyzed case; section 'Rhetorical rationing' addresses the problem guiding the herein presented research; section 'Water Discourses' presents both the arguments and contributions of the current research; section 'Narrative fluidity' describes the methodological choices made for the current study, in details; and section 'Water parallax' addresses the empirical instances involved in the investigation process. Empirical analyses are presented in section 'Climate determinism in crisis communication'. Finally, the conclusion states that public discourse, in association with scientific knowledge, was the instrument used to interpret the water supply crisis faced by RMSP during the 2014-2015 biennium, to act in São Paulo State's sanitation management model, as well as to conform the infrastructure

and the water supply technologies integrating it.

Water context

Urban water supply in Brazil is covered by basic-sanitation economic sector, which also comprises sanitary sewage, rainwater management, urban cleaning and solid waste treatment stations (BRASIL, 2007). Based on data provided by the National Sanitation Information System (also known as SNIS), Sabesp claims to account for 30% of total investments in basic sanitation in Brazil (BRASIL, 2023; SABESP, 2023b).

The aforementioned São Paulo State-owned company was launched in 1973. It is a mixed economy company that has Gesp as its largest shareholder since Gesp keeps 50.3% of Sabesp's shares in its power. On the other hand, 36% of the remaining Sabesp's shares are offered on B3 - Brazilian stock exchange - and 12.41% of them are offered on the NYSE - New York Stock Exchange (SABESP, 2023b). Based on the financial report declared by the Company in 2022, its profit reached BRL 3.1 billion and its market value reached BRL 39.2 billion (SABESP, 2023a).

According to Sabesp, RMSP accounts for 70.73% of the revenue of all 375 municipalities that hire the company to provide basic sanitation services to them (SABESP, 2021a). The state-owned company operates in 37 of the 39 municipalities forming the aforementioned region. In addition, it accounts for supplying 'wholesale' water to other two cities in the conurbation area, namely: São Caetano do Sul and Mogi das Cruzes (SABESP, 2021a); consequently, it ends up covering the water supply of 100% of RMSP's municipalities.

Sabesp and Gesp's (Sabesp's main shareholder) absolute control over both the quantity and the quality of water flowing through RMSP enables these agents to influence the way urban water is "narrated", seen, managed and explored. Thus, the natural trend to monopoly, which is a "market failure" (CANDIDO, 2013) typical of the basic-sanitation economic sector (CARVALHO; SAMPAIO, 2015; CRUZ; RAMOS, 2016), extends itself to the symbolic, political and technological fields.

Therefore, the sanitation perspective and its components were herein adopted as sociotechnical system. According to Smith and Stirling (2008, p. 6), this perspective enables approaching and understanding the development and use of technologies based on complex adaptive processes capable of forming interdependencies between material and social factors. The supply crisis witnessed during the 2014-2015 biennium offered unique conditions to the analysis applied to this phenomenon.

Rhetorical rationing

The way Sabesp and Gesp - as technical and political leaders of sanitation services in São Paulo State - publicly communicate their decisions during water supply crises affects several aspects of the social field. The main topic in the current article, which concerns the Social Studies of Science and Technology context (SISMONDO, 2010;

PREMEBIDA; NEVES; ALMEIDA, 2011), lies on the power relationship between city water managers and citizens, who depend on a given infrastructure whose operation and control they have poor knowledge about and little power over.

Thus, on the one hand, there is an association between a political-representative power agent (Gesp) and a technical-scientific agent (Sabesp), who control a given water supply infrastructure, which is embedded under floors and walls, as well as expert-knowledge, information and applied technologies' demanding. On the other hand, there are infrastructure users, who are attached to the sociotechnical network (EDWARDS, 2003) formed by pipes, engineers, pumps, calculations, laws, formulas and faucets, in order to have access to water, which is an essential element for any activity.

Water discourses

It is worth emphasizing that Gesp and Sabesp's discourses were not herein strictly approached from the linguistic criticism perspective. The current study proposed assessing, in an interdisciplinary way, the public discourse influenced by several factors external to language, which plays the role of instrument of action in the social field (BOURDIEU, 1989; FAIRCLOUGH, 1992; TRACY, 2001; DA SILVA, 2005; MOREIRA; FRAGALE, 2018).

This approach takes into consideration intra-discursive resources comprising linguistic devices, such as form (morphology), combination of words (syntax) and meaning relationships (semantics), besides relying on extra-discursive resources that encompass different communication circumstances, such as framing, medium (printed, visual, sound), form (text, film, music, graphic), interlocutors' identity, communication intentionality and rhetorical devices associated - above all - with persuasive argumentation (CHARAUDEAU, 2015). Moreover, it must take into consideration aspects of the social context its application is inserted in - such as values, ideologies and involved cultures - in order to complete the meaning of discourse as instrument of action (HERRERA, 1980; BOURDIEU, 1989; PETERS, 2013).

Another perspective substantiating the herein conducted analysis was based on theories from the Social Studies of Science and Technology, which address infrastructures and their transformations as sociotechnical processes (EDWARDS, 2003; BOLTON; FOXON, 2015), and large-scale physical and temporal artifacts (EDWARDS, 2003). Water supply systems are shaped by factors like water availability in a given region, demographic density, housing features and technological advancement level (equipment necessary for water supply systems' installation and operation). Simultaneously, society's cultural relationship with water, legal arrangements on land use and occupation, and the interests of actors who control the water supply system, also account for how that network of artifacts is formed and adjusted, as well as for how it evolves.

The concept of sociotechnical system (SMITH; STIRLING; BERKHOUT, 2005; SMITH; STIRLING, 2008) becomes suitable for water supply infrastructure when we assess both the processes and the components found in it. From the perspective of treated

water distribution systems, urban society is nestled by a submerged network, which is an intense science- and applied technology-based venous system working under its feet and within the walls of the buildings sheltering it. This (intra and infra) structure is physically rooted and culturally situated, besides integrating routines as a ubiquitous second nature (STAR, 1999; ANAND, 2017; 2018; ANAND; GUPTA; APPEL, 2018).

Accordingly, Felgenhauer (2012) has emphasized users' alienation from this infrastructure, since both the language and the understanding of the functioning of systems forming this infrastructure demand specific and in-depth knowledge. It also forces users to live under a 'blind trust' condition. Based on this logic, citizens' lay behavior towards this infrastructure's functioning is herein presented as central aspect. Gesp and Sabesp, which are RMSP supply system developers, experts and controllers, regulate both water and data flow; they treat both the water and the information to be distributed.

Thus, discourse used as an instrument to manage water supply crisis and to act in the infrastructure serving the RMSP takes place from the very moment a given water shortage event is classified as crisis (RIBEIRO, 2014). This term, which is loaded with values, such as suddenness, unpredictability, abrupt rupture of the current system and limited duration (BOBBIO; MATTEUCCI; PASQUINO, 1998), has emerged in Sabesp's and Gesp's discourse as resource (i) to question both the reasons and previous accountability for the causes of the assessed event, (ii) to prioritize emergency decisions and resources to mitigate this event, based on their concepts and governmental projects, and (iii) to value and leverage its management and solution in order to transform the process to overcome the critical event into a victorious achievement.

Narrative fluidity

The herein analyzed material results from the reading of all communications published by Sabesp and Gesp in their respective electronic mails that were sent to the press (SABESP, 2021b; SÃO PAULO, 2021) between January 1st, 2014 and December 31st, 2015. In addition to the CHESS report - acronym for Crise Hídrica, Estratégia e Soluções da Sabesp [Sabesp's Water Crisis, Strategy and Solutions] (SABESP, 2015b) – Sabesp has published 30 documents about the water supply crisis in RMSP, whereas Gesp accounted for publishing 32 communications (63 documents, in total).

The content analysis applied to this material focused on climate framing as a critical factor for water supply crisis' incidence. Then, this framing was used to analyze how the argument used by Sabesp and Gesp was built. Based on this analytical process, it was possible to trace the following logical-discursive sequence:

1. Climate determinism: This argument described lack of rain and high temperatures as the only pillars for both the outbreak and duration of the water supply crisis.
2. Individual consumption as mitigating factor: Based on climate determinism, individual consumption was highlighted as the first and main factor to be at-

tacked. This narrative brought water consumers to the center of the discussion arena and forced them to take accountability for mitigating the water supply crisis, along with Sabesp and Gesp.

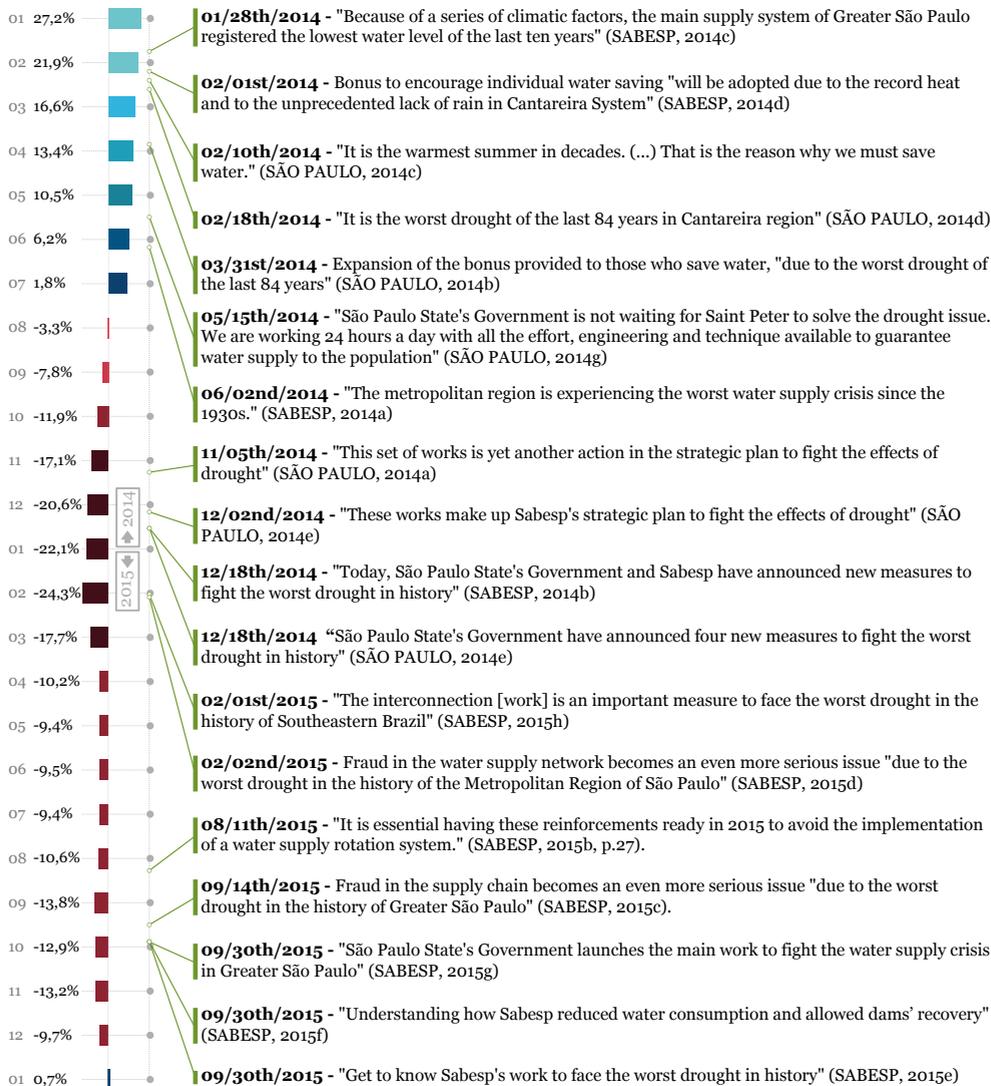
3. Construction works as optimal solution: Despite the high costs, environmental impacts, long duration and publicity protocols involved in hiring public undertakings (BRASIL, 1993; 1997; SÃO PAULO, 2012), new water springs' intervention and exploration works were addressed by Sabesp and Gesp as the best possible solutions to the water supply crisis. Their implementation processes were reported as fast and meritorious; thus, they reinforced, through public discourse, the current water supply infrastructure expansion and development model established for the RMSP to drain new water sources.
4. Victimization: Throughout the water shortage event, Sabesp and Gesp discursively placed themselves as victims of climate, of consumers who refused to save water, as well as of those who made irregular connections to the water supply system.
5. Glorification: The glorification narrative stage can be seen at times when Sabesp and Gesp have mainly credited the process to overcome the water supply crisis to actions taken by them to face this critical event, despite the return of rainfall events. The glorification of actions also gained contours of "discursive production of a heroic figure" when it was linked to the name of Governor Geraldo Alckmin, in the 2014 election race context (MAGALHÃES; DA SILVA; BATISTA, 2007, p. 18), since it portrayed someone who led the RMSP population across the critical time resulting from water shortage.

The analysis of press releases was carried out, in association with the analysis applied to the monthly water level variation observed in Cantareira system, to establish the action of, and the reaction to, Gesp and Sabesp discourses about the water supply infrastructure (Figure 1). This provision is justified by the fact that the aforementioned system was adopted by the press as symbol of the water supply crisis in the RMSP, due to the fast depletion of its reserves, which accounted for supplying 57% of the RMSP population, in early 2014 (SABESP, 2015b).

Figure 1 - Discourse by controllers of the 2014-2015 water supply crisis in RMSP

The discourse by controllers of the 2014-2015 water- supply crisis in the RMSP

Assertions published by Gesp and Sabesp during the 2014-2015 biennium, associated with the reserve indices recorded for Cantareira system (The authors, 2021)



Source: Elaborated by the authors

Figure 1 enables visualizing discourses regarding reservoir level; these data were generated by sociotechnical data measurement instruments and, subsequently, plotted into graphics. Numbers linked to label '%', which correspond to the first day of each month, express the water volume rate available at that time; colors linked to these data show the water supply emergency level. Assertions highlighted in this graphic sum up

the discursive tone used by actors to act in data, and give them certain interpretations that mitigate its negative levels or that highlight the positive ones.

Water parallax

Sabesp and Gesp's discourse, during the 2014-2015 biennium, presented a crisis framework based on climate determinism. However, studies have shown that proper water supply governance requires integrated planning and constant action over factors, such as urban land occupation, public policies focused on environmental education, urban cleaning, the conservation of water spring areas, among others that contribute to recharge water tables, as well as the adherence of these aspects to the master plans of municipalities forming the metropolis (MARCONDES, 1999; BUSTOS, 2003; BAR-RAQUÉ; FORMIGA JOHANSSON; BRITTO, 2008; DINIZ, 2016).

Based on this logic, science plays a relevant role in the appropriation, by Sabesp and Gesp, of the value of truth versed on a dataset and on facts generated by technological instruments, which were developed and calibrated based on methods by scientists; moreover, they were culturally acknowledged within a set of common values that were built over time. These components are turned into instruments in their discourse, since they set the interpretation of the investigated phenomenon, based on circumstances addressed within a given framework. This process results in a syntactic and semantic network, whose data, instruments, risks and values are arranged to neutralize contrary or controversial arguments.

Thus, Sabesp and Gesp are empowered by the role of scientific expertise-based discourse carriers, and this empowerment is amplified by the fact that they control both the operation and the generation of data and information produced by RMSP's water supply infrastructure. It is so, because they offer a supposedly accurate product, which is free from influences external to the scientific sphere, as well as are objective, exact and apolitical, to the receiving public of their argumentation.

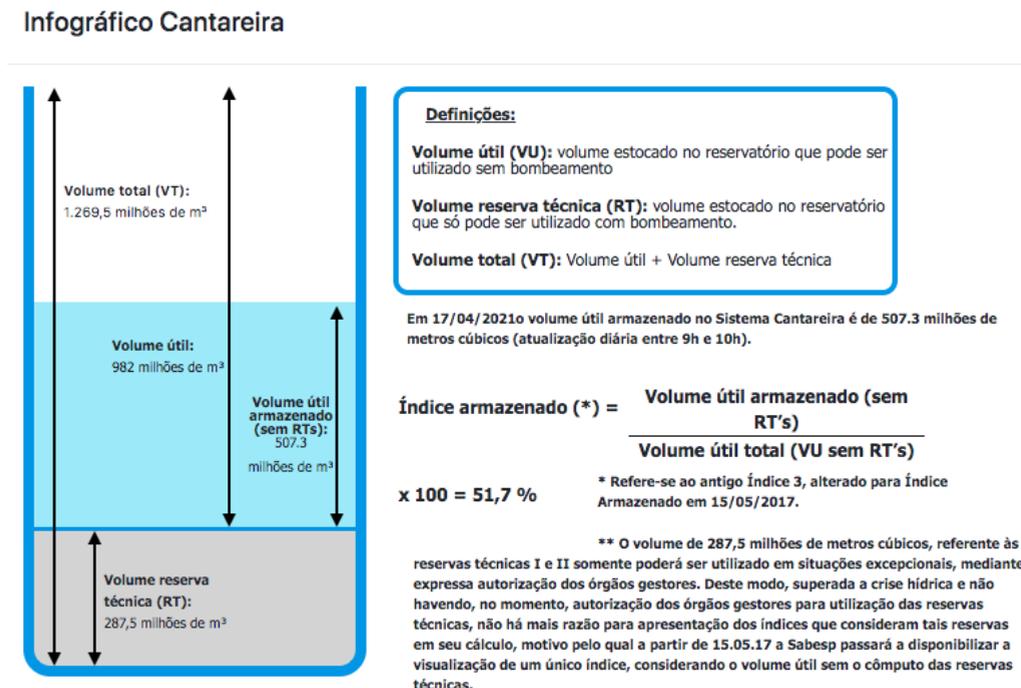
Climate determinism in crisis communication

The climate determinism narrative advocated by Sabesp and Gesp, between January 2014 and December 2015, is presented below. In addition, water volume indices recorded for Cantareira system, along with the publication date of press releases, are herein arranged to establish the relationship between public discourse and water supply in RMSP, during the critical event (Figure 1).

The water volume index recorded for the largest water reservation system controlled by Sabesp and Gesp at that time (FABHAT, 2019) comprised several elements that can explain the effect of technical and scientific monopoly on public discourse. These elements have guided the herein presented research. Because Cantareira system comprises 6 reservoirs (*ibid.*), the calculation of its water volume index has a limiting factor for its understanding, given its complexity, and for the consequent criticism by the

public (Figure 2).

Figure 2. Calculating the water volume index of Cantareira system



Source: Sabesp (2021b)

During the 2014-2015 water supply crisis, Sabesp considered the so-called “dead volume” (PORTO; PORTO; PALERMO, 2014) as “technical reserve” (Figure 2) to avoid reporting negative water levels in the main RMSF reservoir, although the water level in it was below operational zero. In other words, when the useful water volume was depleted, the state-owned company used the dead volume - whose original function is to maintain the physical features of the reservoir bed (PORTO; PORTO; PALERMO, 2014) for supply purposes - and named it as technical reserve in order to dissociate the term ‘dead’ from that portion of water, since this term can lead to the interpretation of a putrefied, inert liquid (LEITE; MONTEIRO, 2016).

January 28th, 2014. Water volume rate recorded for Cantareira System (CS): 22.9%

The first press release by Sabesp about the upcoming adverse period-of-time presented the discourse tone that would permeate its entire communication throughout that two-year period-of-time. The document titled “The main water supply system of Greater São Paulo recorded the lowest water level in the last ten years” (SABESP, 2014c)

presented the weather as the only factor accounting for this event. According to the aforementioned company,

“The causes for this worrisome situation [were] the following:

- Only 1,090 millimeters of rain were recorded in all four dams forming the Cantareira System, in 2013. The annual historical mean rainfall volume reaches 1,566 millimeters. In other words, the recorded rainfall rate did not even cover 70% of what it was expected to. The rainfall rate recorded in 9 out of 12 months was lower than it should have been;
- December 2013 was especially bad: it recorded 62 millimeters of rain, when the historical average is 226 millimeters. It was the worst December since the measurement began 84 years ago;
- January 2014 has followed the same path; although the rainfall rate often reaches 300 millimeters in this month, the index reached 81 millimeters on the 22nd;
- The rainy season, which fills the dams, takes place from October to March; however, the rainfall rate has been 50% lower than the expected since October 2013 and forecasts that storms would arrive have not been confirmed;
- Temperatures are 5% above the historical mean in January; since it does not rain (which would help lowering the temperature), water consumption ends up remaining at high levels all day.” (SABESP, 2014c)

However, this argument was not new. Sabesp had already gone through similar situations – risk of supply issues in the RMSP -, and the discursive stance established in 2014 has followed a previously observed argumentative pattern. Four different events indicate this standardization:

- I. On October 12th, 1994, almost twenty years before the herein analyzed critical event had started, an article in the newspaper *O Estado de São Paulo* reported a statement by São Paulo State’s Secretary of Water Resources, Sanitation and Works at that time, Antônio Felix, according to whom, “if it did not rain within fifteen days”, the water supply to the Eastern zone of the capital city would be rationed (*O ESTADO DE SÃO PAULO*, 1994);
- II. According to Sabesp, in 2000, water rationing implemented between June and September affected the lives of three million people in São Paulo City, due to “low rainfall rate” in the first months of that Fall (*FOLHA DE SÃO PAULO*, 2001a);
- III. On April 17th, 2001, the newspaper *Folha de São Paulo* reported the reasons given by Sabesp for the water supply rationing that would start that day and that would reach 300 thousand inhabitants in the RMSP. According to the

state-owned company, Alto Cotia System, which is one of the eight systems supplying the urban agglomeration, was suffering the consequences of the previous year's drought - which was "considered the worst [drought] in the last hundred years - as well as of rainfall rates lower than the historical mean recorded in January and February" (FOLHA DE SÃO PAULO, 2001b);

- IV. On July 5th, 2001, when Sabesp's president, Ariovaldo Carmignani, was asked about the reasons for spending R\$ 4 million on advertisement campaigns to encourage the population to save water, he justified such an amount by saying that the city was facing "the worst drought of the last 70 years" (GONÇALVES, 2001).

This discursive agency of climate, which was observed decades prior to the 2014-2015 biennium, calls into question the argument that it would not be possible setting a structure to face the severity of that crisis, as observed in the herein analyzed Sabesp and Gesp's communications. With that caveat in mind, we move on to the second press release published by the water supply company.

February 1st, 2014. CS: 21.9%

On February 1st, 2014 - therefore, four days after the first communication -, Sabesp announced a bonus program for consumers who were served by Cantareira System and who also saved water (SABESP, 2014d). It was the first measure aimed at mobilizing the population adopted by the state-owned company to deal with the event that would be later called the 'water crisis'. Among other data, that communication informed the population that Cantareira system had registered "its lowest level in history¹", on that day; that only 1,090 millimeters of rain were recorded in 2013, whereas "the annual historical mean is 1,566 millimeters", and that January 2014 surpassed the historical record of heat registered in the capital city (SABESP, 2014d).

From that communication onwards, the approach to the water shortage event under the climate behavior framework was also adopted by Gesp.

February 10th, 2014. CS: 19.6%

The first communication published by the State's government about the water supply issue in RMSP, which was titled "Alckmin expands water consumption reduction program to more than 1,500 schools" (SÃO PAULO, 2014c), presented a statement by the governor, who emphasized the rarity of that moment, as well as confirmed the association between rainfall shortage and water supply.

"The heat is quite strong. It is the most intense summer in the last decades. It is

1 - Contrary to what Sabesp claims, this level was not the lowest one ever recorded in Cantareira system, until then. On December 1st, 2003, Sabesp indicated 1.6% water volume for that water spring (SABESP, 2023c).

often very hot and it rains a lot in summer. However, we are experiencing a very hot and rainless summer. That is the reason why we must save water.” (SÃO PAULO, 2014c).

February 18th, 2014. CS: 18.4%

Similarly, according to a document titled “Bonuses given to citizens who reduced water consumption make water available to supply 600,000 people” (SÃO PAULO, 2014d), Geraldo Alckmin stated that:

“It is the worst drought experienced in Cantareira region in the last 84 years. Rainfall events registered from Thursday to Sunday helped stabilizing the system. We will have some dry days this week; however, from the weekend, onwards, we will have heavy rains, according to the weather forecast. Nonetheless, it is essential that it rains in the right place.” (SÃO PAULO, 2014d).

By classifying the 2014 event as the worst water shortage of the last 84 years, Alckmin used the scientific expertise of meteorological measurements, as well as data generated by technological devices, to link his argument to an effect of truth (CHARAUDEAU, 2015) in order to reduce the likelihood of disputes over the causes of that event. Besides using the socially accepted science as instrument to support the climate argument as uncontrollable factor, the head of São Paulo State’s executive branch also combined the need of having rain falling in specific locations to the climate factor; this combination was another variable used to intensify the argument of an indomitable event. The change from ‘dryness’ to ‘drought’ in the governor’s speech play significant role in strengthening the argumentative tone used in the crisis communication process.

Ribeiro (1999) has shown how the term ‘drought’ is closely linked to the North-eastern geographic determinism. Based on the Brazilian social imagery, the discursive appropriation of water shortage as a negative factor, as a wound imposing misery on the population living in the semi-arid region, had its instrumentation based on the use of the noun ‘drought’. “Dryness” carries linguistic contours found in the scientific discourse, whereas “drought” carries a semantic impact observed in literary, political and journalistic narratives focused on portraying the constant suffering experienced by the population living in the Brazilian semi-arid region. The most relevant aspect in this ‘picture’ lies on the inevitability of the miserable condition imposed on those individuals (RIBEIRO, 1999).

Thus, by stating that it was “the worst drought in Cantareira region in the last 84 years” (SÃO PAULO, 2014d), Alckmin leveraged the scientific expertise inherent to rainfall measurement instruments and to hydrology. At the same time, he relied on two conceptual aspects, namely: the seventeenth-century Herderian philosophy, according to which, “the divine plan could be read in the world and the destiny of mankind would be marked in the environment it lives in” (RIBEIRO, 1999, p. 65), and the symbolism carried by the term ‘drought’ in the Brazilian social imagery (id.).

March 31st, 2014. CS: 13.4%

On March 31st, 2014, Gesp published a communication, according to which, the

governor announced the expansion of the bonus program for properties located throughout the RMSP, whose residents saved water, “due to the worst drought in the last 84 years”, as well (SÃO PAULO, 2014b).

May 15th, 2014. CS: 8.2%

According to Alckmin, in a speech given during the pumping system activation to capture the dead volume of Jaguari dam:

“São Paulo State’s Government is not waiting for ‘Saint Peter’ to solve the drought issue. We are working 24 hours a day with all the effort, engineering and technique available to guarantee water supply to the population.” (SÃO PAULO, 2014g).

A statement about the uniqueness of climate behavior would be written again in another excerpt from the same communication:

“The 2013-2014 hydrological year recorded quite unfavorable rainfall rates in Cantareira system. It was the worst drought since measurements by meteorological institutes began 84 years ago. (...) The dryness, in its turn, was associated with high mean temperatures, which reached the highest values recorded in the last 70 years.” (SÃO PAULO, 2014g).

June 2nd, 2014. CS: 6.1%

A last press release was published by Sabesp before the pre-election period, when public agents running for re-election were prevented from using official channels for announcement purposes (BRASIL, 2016b). By informing the press about the awareness action, according to which, Sabesp’s employees would circulate in São Paulo City to distribute information brochures to citizens, the company took the opportunity to warn about the critical condition experienced by the city at that time: “The metropolitan region is going through the worst water crisis since the 1930s.” (SABESP, 2014a).

November 5th, 2014. CS: -17.5%

The climate determinism expressed by Gesp was also emphasized in an announcement about the inauguration of treated water reservoirs in Southern São Paulo City. Gesp stated in this announcement that “[that] set of works [was] yet another action established in the strategic plan to fight the effects of the drought” (SÃO PAULO, 2014a).

December 2nd, 2014. CS: -20.7%

Similar to the communication published on November 5th, Gesp stated, at the beginning of December, that “[those] works were part of Sabesp’s strategic plan to fight the effects of the drought” (SÃO PAULO, 2014f).

December 18th, 2014. CS: -22.4%

Two communications published in 2014 ended the discursive reinforcement of climate determinism as justification for the water supply crisis. Together, Gesp and Sabesp announced the implementation of a surcharge for consumers who increased their water consumption. The first one stated that “[the] State’s Government [had] announced four new measures to fight the worst drought in history” (SÃO PAULO, 2014e), whereas the second one stated that “both São Paulo State’s Government and Sabesp [had] announced [on that day] new measures to combat the worst drought in history” (SABESP, 2014b).

Although 2015 was wetter than the previous year, climate determinism still guided Sabesp and Gesp’s discourse

Although 2014 was notably dry, since it recorded mean rainfall rate 13% below the historical series started in 1933 (IAG/USP, 2014b), 2015 was the eighth wettest year recorded in this series (IAG/USP, 2015a). However, because the water supply model adopted by Sabesp deeply and constantly drained the water springs, rainfall events would only recover the water level in them in the second half of the year. Consequently, the water supply crisis centralization in climatic factors remained in the arguments by Gesp and, most of all, in those by Sabesp: throughout the year, Gesp published two press releases emphasizing both rainfall shortage and heat as justifications for the critical scenario, whereas the state-owned company published ten documents addressing this topic. However, São Paulo State’s government was the first to speak out on that matter.

January 27th, 2015. CS: -24.2%

In 2015, Gesp published a series of press releases stating that “Governor Alckmin delivered the work that would increase water catchment in Alto Tietê System” (SÃO PAULO, 2015d). According to Gesp, the aforementioned work would guarantee water supply to the population “despite the worst drought in the history of Southeastern Brazil” (SÃO PAULO, 2015d).

February 1st and 2nd, 2015. CS: -24.3%

Five days later, Sabesp announced the public call for the interconnection work between Jaguari (Paraíba do Sul basin) and Atibainha (Cantareira System basin) dams. In doing so, the state-owned company echoed Gesp’s discourse by stating that this work was essential “to face the worst drought in the history of Southeastern Brazil” (SABESP, 2015h).

Similarly, at the following day, Sabesp announced actions to fight the irregular connections diverting water from the distribution system, which were called “frauds” (SABESP, 2015d), and it claimed that they were an even more serious issue “given the worst drought in the history of the Metropolitan Region of São Paulo” (id.).

June 25th, 2015. CS: -9.3%

Gesp announced a new stage of the work that had been initially announced by Sabesp on February 1 and that would connect Jaguari dam to Atibainha dam. On June 25th, Governor Geraldo Alckmin signed, along with the federal government, a financing term for the aforementioned undertaking. The press release by Gesp described that work as “an important measure to face the worst drought in the history of Southeastern Brazil” (SÃO PAULO, 2015b).

August 11th, 2015. CS: -11.6%

On that day, Sabesp published the report titled “Sabesp’s Water Crisis, Strategy and Solutions for the Metropolitan Region of São Paulo” (CHESS) (SABESP, 2015b). On page 9, it used a study conducted by the National Center for Monitoring and Alerting of Natural Disasters (CEMADEN - Centro de Monitoramento e Alertas de Desastres Naturais) and by the Center for Weather Forecasting and Climate Studies (CPTEC - Centro de Previsão de Tempo e Estudos Climáticos) - which were linked to the National Institute for Space Research (INPE - Instituto Nacional de Pesquisas Espaciais) - as reference to describe the climate behavior accounting for preventing rainfall formation during the spring and summer of 2013 (the historically rainy seasons in Southeastern Brazil).

“Cantareira region recorded 444 mm rainfall in this period of the hydrological year (from October/13 to February/14), when the mean rainfall rate often reaches 995 mm (-55 %)” (SABESP, 2015b, p. 9).

Moreover, the fourth chapter of the CHESS report started with a statement that had confirmed the climate condition as exclusive factor worsening the water crisis:

“At the beginning of the 2014/2015 Hydrological Year, between October and December 2014, the expectations that hydrological normality rates would come back to normal levels were frustrated, month after month, because the rainfall expected for the season did not start. (...) From October/14 to January/15, rainfall rates were below the expected average in all systems; consequently, it significantly decreased the affluent flows into the systems.” (SABESP, 2015b, p. 26).

Then, based on the same discursive tone, the company stated that, because the arrival of summer, at the end of 2014, presented an even more critical hydrological behavior, it worsened the water shortage scenario experienced throughout that year.

“In February and March 2015, rainfall events finally took place (...), although they were well below the mean values expected for the respective months (...). In other words, the recovery of the water springs during this period was not enough to bring the water supply back to normal.” (SABESP, 2015b, p. 27).

September 14th, 2015. CS: -12.8%

Sabesp, once again, stated that frauds accounting for diverting water from the sup-

ply network had intensified the severity of their consequences “due to the worst drought in the history of Greater São Paulo” (SABESP, 2015c), when it published a press release showing the set of actions aimed at fighting them.

September 30th, 2015. CS: -13%

Sixteen days later, Gesp announced the launching of the interconnection work between Rio Grande and Alto Tietê systems, which were both part of the Integrated Metropolitan System, and linked it to the governor’s name: “Alckmin launches the main measure to fight the water crisis in Greater São Paulo” (SÃO PAULO, 2015c). On that very same day, Sabesp published five press releases. In one of them, the state-owned company resounded the launching of the “main work to fight the water crisis in Greater São Paulo” (SABESP, 2015g), which was inaugurated at a time when RMSP water reservation systems were showing signs of improvement.

In another press release, the company stated that “despite the improvement, the situation remains worrisome. The record lack of rainfall, which turned 2014 into the worst year in history, did not improve much in 2015” (SABESP, 2015a); in another document, the company invited readers to get to know the works put in place “to face the worst drought in history” (SABESP, 2015e); another press release, which highlighted the company’s discourse focused on the retrospect of the crisis, presented the assertion that the “the worst drought in the history of Cantareira System, and the lack of rainfall that also affected other systems in Greater São Paulo, forced Sabesp to adopt a series of quick measures to guarantee water supply to the population” (SABESP, 2015f).

October 2nd, 2015. CS: -12.8%

The last press release reinforcing the climate determinism thesis was published in early October 2015, due to the new stage in the process to promote the interconnection work between Jaguari and Atibainha dams – at this time, it announced the authorization to start the operation. In this document, Gesp reinforced the message that “the interconnection is an important measure to face the worst drought in the history of Southeastern Brazil” (SÃO PAULO, 2015a)

By concentrating the framing of its discursive strategy on a single causal factor, namely: climate behavior, and by filling it with statements that attributed the reason for the crisis exclusively to lack of rainfall and to intense heat, Sabesp and Gesp have centralized their rationale in the risks inherent to the operation of an infrastructure that, from this perspective, solely depended on an uncontrollable factor. Thus, they discursively neutralized other coefficients associated with metropolitan water management and shaped the water supply crisis in the RMSP as a “system accident” (PERROW, 1999).

Thus, discourse emerged as an instrument of action over the causes of this critical event; it was equipped with risks associated with the indetermination of climatic factors, data and information that, once placed in a given framework, produced value and truth

effect for the interpretation by agents carrying this discursive instrument.

Other social actors placed their discourses in the controversial field opened by the water supply crisis affecting the RMSP during the 2014-2015 biennium. The press was the most incisive actor in the dispute over the interpretation of that critical event; it called on specialists from different fields, such as engineers, chemists, climatologists and sociologists, and it highlighted the interdisciplinarity of urban(ized) water (LEITE, 2018). Civil society had its discourses represented by the Non-Governmental Organization (NGO) called Article 19, which is a US entity founded in 1987 that released a report in October 2014, titled “The Cantareira System and the water crisis in São Paulo: lack of transparency in the access to information” (MARTINS, 2014); as well as by Aliança pela Água [Alliance for Water] - it is a group of NGOs formed by Coletivo de Luta pela Água [Association for the Fight for Water], Greenpeace and the Brazilian Institute of Consumers’ Defense (IDEC - Instituto Brasileiro de Defesa do Consumidor) -, which published a report titled “Water crisis and human rights – Report on the violation of human rights in São Paulo State’s water management process” (MARTINS et al., 2015).

Final remarks

The circumstances introduced by the 2014-2015 water supply crisis in the RMSP provided unique conditions to analyze the association between public discourse and the management of water supply infrastructures, which are fundamental sociotechnical devices for modern urban society. Scientific rationality and its acceptance as impersonal and non-politicized entity were used by discourse bearers, along with data generated by consensual technological instruments, to handle the interpretation of the water shortage episode in a way that was convenient for the management strategy applied to the water supply network of Greater São Paulo.

Classifying this event as crisis initially made it possible for Sabesp and Gesp to neutralize prior accountability for not taking preventive measures capable of mitigating it. The discursive establishment of a crisis also enabled prioritizing decisions and emergency resources aimed at mitigating it, as well as valuing its management and solution processes to turn the conclusion of this critical event into a victorious achievement.

Based on the climate determinism framework, whose value and effect of truth were mainly exerted by statistical data, Sabesp and Gesp described individual consumption as factor capable of mitigating the water supply crisis, whereas civil works were described as optimal solutions reported to neutralize contrary or questioning opinions about the effectiveness of projects focused on fighting the ongoing crisis, as well as their environmental and social impacts, and future consequences. Despite the effective role played by exceptional weather conditions in the near collapse of the RMSP’s water supply system, Sabesp and Gesp’s discourse was watered by an adjective arrangement that relativized the position of those controlling the RMSP’s water supply infrastructure, who glorified themselves as the ones responsible for overcoming the water crisis episode, when rainfall rates went back to normal levels in 2015.

Expertise associated with the water supply system operation also extends to the strategy adopted to make this episode understood, recorded and remembered from the perspective of an argumentative plan that resulted in a conceptual product that could be used in a wide variety of ways to guide political decisions and agendas. Thus, the discourse adopted by Sabesp and by São Paulo State's Government about the water supply crisis in the RMSP, during 2014 and 2015, has evidenced both planning and strategy aimed at its interpretive conformation. Within this deliberate statement about the critical water shortage event one finds the dispute for power to both control and expand a given urban infrastructure, based on the omnipresence of water seen from the profile conceptualizing modern life, namely: not water accessible in its raw state, in rivers and wells, but water accessible through a second nature, which is formed by pipes and devices that users fully and permanently depend on.

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Gerenciamento de discursos hídricos A comunicação da crise de abastecimento de água na RMSP (2014-2015)

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Resumo: Este artigo investiga a forma como foi discursada a crise de abastecimento hídrico registrada na Região Metropolitana de São Paulo (RMSP), durante o biênio 2014-2015. São enfocados aspectos de monopólio de informações e mobilização da expertise científica pela Companhia de Saneamento Básico do Estado de São Paulo e pelo Governo do Estado de São Paulo, e da instrumentação desses aspectos na comunicação massiva dedicada ao episódio. Amparados nos Estudos Sociais de Ciência e Tecnologia e na teoria do enquadramento (framing), foram analisados 63 documentos publicados por esses atores. Os resultados apontam para um plano discursivo que buscou moldar a interpretação da crise, relativizando a condição dos agentes públicos e reavivando determinado modelo de expansão da rede de abastecimento hídrico. A contribuição dessa investigação é a identificação do discurso público como instrumento de ação sobre a infraestrutura urbana de saneamento básico.

São Paulo. Vol. 26, 2023

Artigo Original

Palavras-chave: Crise hídrica. Região Metropolitana de São Paulo. Comunicação de risco. Sabesp. Análise do discurso.

Gestión de los discursos del agua Comunicación de la crisis del abastecimiento de agua en la RMSP (2014-2015)

Douglas de Albuquerque Leite
Marko Synésio Alves Monteiro

Resumen: Este artículo investiga cómo se abordó la crisis del abastecimiento de agua en la Región Metropolitana de São Paulo (RMSP) durante el bienio 2014-2015. Se enfocan aspectos de monopolio de la información y movilización de conocimientos científicos por parte de la Empresa de Saneamiento Básico del Estado de São Paulo y del Gobierno del Estado de São Paulo, así como la instrumentación de estos aspectos en la comunicación masiva dedicada al episodio. Apoyados en los Estudios Sociales en Ciencia y Tecnología y teoría del framing, se analizaron 63 documentos publicados por estos actores. Los resultados apuntan a un plan discursivo que buscó moldear la interpretación de la crisis, relativizando la condición de los agentes públicos y revitalizando un modelo particular de expansión de la red de abastecimiento de agua. El aporte de esta investigación es la identificación del discurso público como instrumento de acción en infraestructura de saneamiento urbano.

São Paulo. Vol. 26, 2023

Artículo Original

Palabras-clave: Crisis hídrica. Región metropolitana de São Paulo. Comunicación de riesgos. Sabesp. Análisis del discurso.