

CONFLICTS IN THE SÃO PAULO MACROMETROPOLIS FROM THE PERSPECTIVE OF THE WATER CRISIS

CONFLITOS NA MACROMETRÓPOLE PAULISTA PELA PERSPECTIVA DA CRISE HÍDRICA

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ABSTRACT: This study focuses on the relationship between society and the environment, with the aim of analyzing the socio-environmental conflicts of the São Paulo Macrometropolis (commonly referred to as MMP), in terms of access to and management of water, from the perspective of the recent water crisis. The intention is to understand, through qualitative research, the manner in which models of urban water management have been approached from the perspective of representatives from civil society, in facing issues that involve the multiple uses, availability in terms of quantity and quality, as well as the actors involved. The results point to the need to construct mechanisms that may effectively contribute to water security, both in terms of availability and its uses and stakeholder participation.

KEYWORDS: Conflict; Water resources; Availability; Participation; Civil Society.

RESUMO Este estudo se concentra nas relações entre a sociedade e o meio ambiente com o objetivo de analisar os conflitos socioambientais da Macrometrópole Paulista (MMP) no que se refere ao acesso e gerenciamento da água pela perspectiva da recente crise hídrica. Visa entender, por meio de uma pesquisa qualitativa, como os modelos urbanos de gerenciamento de água são abordados pela perspectiva de representantes da sociedade civil, diante das questões que envolvem os múltiplos usos, disponibilidade frente a quantidade e qualidade e os atores envolvidos. Os resultados apontam para a necessidade da construção de mecanismos que possam efetivamente contribuir para a segurança hídrica tanto no aspecto da disponibilidade como de seus usos e participação dos atores.

PALAVRAS - CHAVE: Conflito; Recursos Hídricos; Disponibilidade; Participação; Sociedade Civil.

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INTRODUCTION

There are several approaches to discussing water-management and the limitation of hydric resources. In this debate, however, scarcity usually points to social conflicts. By observing hydric management and public demands during the water crisis of the São Paulo Macrometropolis (SPMM) from the years 2013 to 2016, one might understand the relations established in this conflict, in a way that presents elements for the positioning of issues involving availability (in quality, as well as in quantity), stakeholders and the several uses of water, through the lens of the civil society.

Conceptually, water governance tackles conflict through the lens of stakeholder diversity, which requires more specialization (be it public or private stakeholders) and is concerned with the fractioning of water-related problems (OSTROM, 1990). The focus is usually on the coordination between individuals and organizations, and results in decision-oriented recommendations. Technical-normative studies on water management produce management directives and best practices towards problem-solving (BAKKER et al., 2008). Studies with a political approach are interested in the dissemination of international water-management models, analyzing their origins and diffusion in international circles for later adaptation and adoption of processes and norms by national or territorial players (DUMOULIN; SAURUGGER, 2010). International policy models, adapted for local implementation, are presented as a tool or reference for players acting in other levels (PRESSMAN; WILDAVSKY, 1984). It is important to note that, in the formulation of public policies, the end-results are a reflection of the interactions of several stakeholders with different beliefs, opinions and values.

In the state of São Paulo, the SPMM was formed by the urbanization of a complex area encompassing the metropolitan regions of São Paulo, Campinas, Baixada Santista, Vale do Paraíba e Litoral Norte, as well as the urban conglomerates of Piracicaba, Jundiaí and Sorocaba. In it are 180 cities, occupying 52 thousand km² and home to 75% of the state's population. In 2008, the population (by then estimated at 31 million inhabitants) already required a progressive increase in water supply and continuous investments to meet its needs (DAEE, 2013). In a context of conflicts and disputes over the use of water from the regional river basins, it is important to consider the challenge the SPMM presents, as a territory, for water security and the integration of resources, given the availability and demands of multiple uses.

Within the conflicts, several concurrent interests arise regarding the water's uses (quantity and quality-wise) and its relationship with energy, irrigation, industry and domestic consumption. The state's water resources policy was implemented at a local level by legislation 7.663 (SÃO PAULO, 1991), which emphasizes integrated and decentralized management. The committees' composition encompasses citizen participation and representation through Non-Governmental Organizations (NGOs), social movements and several other types of associations and institutions, in order to equate social representation in the decision-making process pertaining the sustainable development of the basins.

The current model proposed by the State's Water Resources Policy (SWRP) established a new order for water management and broke away from the state's so far centralized and technocratic management style. Conceived before legislation 9.443

(which established the National Water Resources Policy – NWRP), the present model proposes integrated and decentralized management. It allowed for the inclusion of several social actors and outlined a new layout for the management of water resources and their multiple uses in the state of São Paulo. However, these new social actors and the conflicts related to their different demands promote disputes and negotiations in the decision-making environment. As a result, they alter that environment, which confronts the technocracy by including environmentalists, universities, NGO's and representatives from the city, the public and social movements (JACOBI; CIBIM; SOUZA, 2016).

In regards to the right to water availability, legislation requires an integrated, decentralized and participatory water management system, and it was in this context that the recent water crisis in São Paulo made evident the state's and SABESP's (the state's sanitation company) lack of capability to solve the problems that arose (JACOBI; CIBIM; LEÃO, 2015). Public participation requires openness from the institutions and the transference of several interests against the socio-environmental policies' decisions, encouraging co-responsibility of those involved. (JACOBI, 2003). However, the macrosocial transformation promoted by scientific and technological advancements produced a new form of domination: cultural. It blurs the boundaries between the public and the private sectors, altering subjectivities and promoting a new space of conflict.

In this sense, the challenge faced by environmentalism in the 21st century is the broadening of public participation in socio-environmental issues, as well as of the very scope of that participation, through the formation of networks and institutional arrangements that stimulate the involvement of new stakeholders and the recognition that society has of its own role. The conflicts of interests involved in environmentalism require cooperation towards an agenda of sustainable development, and cultural changes in the consumption patterns of present-day societies, not only among communities and environmentalist groups, but also in public participation in the design and implementation of environmental public policies.

METHODS

This study is qualitative in its approach to the problematics surrounding the topic and the information provided must be considered within its context. The qualitative approach is used to investigate and comprehend the concept attributed to a social problem. Such an approach is guided by interpretation and constructivism, as the insights obtained are relative and related to the knowledge and perspective of those involved in the study. Constructivism suggests individuals understand contexts through the subjectivity of their experiences in order to erect new paradigms (CRESWELL, 2010).

In this study, four civil-society representatives were interviewed in order to understand how stakeholders acted and organized themselves regarding the issue of water scarcity. The analysis focuses on the experiences developed by: a) a representative from an NGO acting on a global scale towards environmental preservation; b) The "Cisterna Já" Movement, an independent initiative towards urban resilience; c) a former member of the River Basin Committee (RBC) who had decision-making power, in representation of the civil society, regarding water management; and d) The

Fight for Water Collective, joining organizations and social movements concerned with defending the right to water.

The interview was structured to consider several variables to be analyzed in the context of civil society articulation. Each variable was linked to specific criteria: availability, uses and stakeholders. Based on these criteria, sub-criteria were chosen to objectively identify the interviewees' perceptions, as well as convergence points for the differences in opinions, as illustrated in table 1. In this sense, the goal of this study consists in describing and understanding the processes that surround the criteria and sub-criteria, as well as comparing the several results of all criteria in the study.

Table 1: Study Analysis Criteria

Dimension	Criteria	Sub-Criteria
Perception of the Conflict	Availability	Qualitative
		Quantitative
	Uses	Urban
		Industrial
		Irrigation
	Stakeholders	Public
		Private
		Civil Society

Source: Created by the author.

DATA COLLECTION AND ANALYSIS

In the first stage of this investigation, the topic was brought into context through bibliography and documental research, due to the recent nature of the facts involved. The investigative approach employed data from recent scientific literature about the issues pertaining to this study.

In the second stage, subjects were interviewed in order to understand the conflict related to the water scarcity caused by the crisis and the stakeholder's perceptions toward the paradigm of scarcity and the conflicts that arise through the articulation of civil society.

Data was collected by means of personal interview surveys with the respective civil society representatives, guided by a structured schedule featuring open-ended and non-disguised questions. The interviews were conducted associating the interviewees as members of the civil society, although they were representatives of organizations noted for their actions during the acute phase of the crisis.

All interviews used the same schedule, as a way to ensure answers were given to the same set of questions and to verify the similarities and differences among them. Open-ended and previously structured questions allowed for greater freedom of the interviewees to state their positions regarding the topic. This way, the initial schedule's purpose was to guide the interviews, but not to limit the answers, giving the interviewees freedom and flexibility to articulate their ideas in a way that made sense to them in face of their experiences.

Finally, the analysis established a narrative aimed at presenting the opinions'

complementarities or divergences, given the different experiences and their portrayals. This choice was due to the fact that this research prioritizes the construction of collective thought, as collected through the interviews.

THEORETICAL AND BIBLIOGRAPHICAL REVIEW RESULTS

DEVELOPMENT CHALLENGES AND OPPORTUNITIES FOR THE SÃO PAULO MACROMETROPOLIS

According to the concept of integrated urban water management, it is important to overcome the challenges posed by the sustainable use of water resources in the SPMM and come up with solutions to the risks of related services failing, especially those of water supply, sanitation, hydroelectric energy, irrigation, flood control and industrial uses. The complexity and scale of the matter indicate the need to develop new solutions to face such broad territorial and functional horizons.

The multiplicity of systems that compose urban and regional infrastructures is revealed to be a technical and regulatory challenge, constantly tensioned against the economic and social development, which approached problems in a more general scale, through fragmented data and economic reasoning (BATTEN, 2012). The SPMM's regions are immersed in conflicts and disputes involving municipalities, RBCs and infrastructure services providers. Due to its size, the SPMM is not enclosed within the limits of the river basins and requires management and planning that promote the regional integration of resources, in order to guarantee water supply (RIO; DRUMMOND; RIBEIRO, 2016).

Civil representation is predicted in the RBCs as a way to ensure public participation in the public policies' implementation processes. However, the conflicts of interest between stakeholders make integration difficult and the decisions made usually favor the interests of the dominant parties. In this sense, the water tariffs during the crisis reveal the economic value of water, as well as the articulation between multiple stakeholders in the RBCs to influence decisions according to their interests (DEMAJOROVIC; CARUSO; JACOBI, 2015).

The drought that hit the southeast region between the years 2013 and 2015 affected the SPMM and sparked debate regarding what measures could be taken to avoid the effects of scarcity, although little was said about the structures that condition the different sectorial uses of water in the several urban centers that compose the SPMM. Although the emphasis was mainly on the metropolitan region of São Paulo due to its size, the neighboring urban areas also suffer from the lack of a new scale of planning. Water scarcity made the headlines due to the restriction of the Cantareira System's output, but it also affects the SPMM through the measures taken to control availability and its effects over the territory. This context presents a double-sided vulnerability: on the one hand, related to scarcity, and on the other, to the high-waters common to the areas on the higher parts of the basin. The neighboring territories in the plateau (mainly the Metropolitan Region of Campinas and the Metropolitan Region of Baixada Santista) are also under the influence of the riverbeds' natural configuration of relatively reduced sections, with little depth

and width, and low capacity for flow and storage of significant volumes of water (TOLEDO SILVA, 2015).

In regards to availability, urban water demand projections indicate the need for a 25.3m³/s total increase in output by 2035, as indicated in Table 2. The projections also indicate that the Water Resources Management Units (WRMU) of Alto Tietê and Piracicaba/Capivari/Jundiá will demand an increase in flow output of 13.6m³/s and 6.0m³/s, respectively. Larger volumes will also be required in the WRMUs of Baixada Santista and Tietê-Sorocaba and, to a lesser extent, Paraíba do Sul (DAEE/COBRAPE, 2013).

Table 2: Public water demand by Water Resources Management Unit (WRMU)

WRMU	2008		2018		2015		2035	
	m ³ /s	%	m ³ /s	%	m ³ /s	%	m ³ /s	%
02 - Paraíba do Sul	6,37	5,8	7,13	5,8	7,51	5,8	7,85	5,8
03 - Litoral Norte	0,98	0,9	1,15	0,9	1,24	1,0	1,34	1,0
05 - Piracicaba/Capivari/Jundiá	17,36	15,9	20,24	16,4	21,43	16,6	23,36	16,6
06 - Alto Tietê	69,22	63,4	76,93	62,4	80,09	61,9	82,84	61,6
07 - Baixada Santista	7,03	6,4	8,38	6,8	8,86	6,0	9,29	6,9
09 - Mogi Guaçu	2,01	1,8	2,25	1,8	2,36	1,8	2,44	1,8
10 - Tietê / Sorocaba	6,09	5,6	7,15	5,8	7,65	5,9	8,10	6,0
11 - Ribeira de Iguape e Litoral Sul	0,007	0,1	0,15	0,1	0,17	0,1	0,18	0,1
Total	109,14	-	123,38	-	129,31	-	134,41	-

Source: DAEE/COBRAPE (2013)

In the context of the SPMM, new strategies and environmental/urban policy actions are important for the solution of socio-environmental conflicts stemming from the territory's urbanization, by means of articulating the different stakeholders and institutions involved in this negotiation process that concerns the state, municipalities and society. The environmental issue involves acting on several scales and, in this sense, the articulation of regional public policies and their relation with local actions includes the observation of institutions, as well as stakeholders involved in a basin's processes, since negotiations involve state and municipal institutions as well as the dialog with the public (ALVIM; KATO; ROSIN, 2015).

Conflicts involving the use of water resources present themselves differently in accordance to the type of usage involved and can be observed through consumptive uses, availability versus quantity or quality, or by stakeholders involved. These factors are contained in a defined institutional setting, with a set of rules created and applied to organize social and economic life, where conflict implies that this regulation is disputed. If on the one hand the dispute happens in an open and clear fashion, on the other the conflicts require negotiation and agreements between the parties involved (RIO; DRUMMOND; RIBEIRO, 2016). In this context, to manage a scarce resource and those involved is to define a clear set of rules aiming to influence and pressure the public spheres into promoting equal and just access, while still meeting the multiple demands for use of that resource.

Due to the scarcity of water in the territory, conflicts arise in the urban and environmental policies of the SPMM. It is important to include new processes in

order to sustainably plan and manage the basins. The concretion of implemented instruments depends on the negotiation between decision-making spaces and society (ALVIM; BRUNA; KATO, 2008). Water production systems (with their principal springs and urban areas) determine the degree of complexity involved in solving the socio-environmental conflicts that derive from the growing urbanization and the arrangements between different institutions and stakeholders. The preservation of springs and water reserves used for public consumption is fundamental not only to guarantee quantity but also the quality of the water. To prevent degradation of these reserves, oversight requires surveillance, maintenance, and recovery programs, as well as environmental education efforts.

As mentioned in the Water Resources Master Plan (WRMP), conflict related to water demand was already present between the stakeholders at the SPMM. Table 3 shows the demand values according to the different uses (urban supply, industry, irrigation). The WRMP projects an increase of 60.11 m³/s by the year 2035, equivalent to 26.96% of the demand in 2008 (DAEE/COBRAPE, 2013).

Table 3 – Water demand according to different uses.

Setor	2008		2018		2025		2035	
	m ³ /s	%	m ³ /s	%	m ³ /s	%	m ³ /s	%
Urban Supply	109,14	48,95	123,37	48,13	129,31	48,21	134,41	47,48
Industry	69,82	31,32	78,80	30,75	81,92	30,54	86,86	30,68
Irrigation	43,99	19,73	54,12	21,12	56,98	21,24	61,80	21,83
Total	222,96	100,00	256,30	100,00	268,22	100,00	283,07	100,00

Source: DAEE/COBRAPE, 2013

The report proposed a new institutional model to strengthen the current structures involving the Integrated Water Resources Management System (IWRMS) of São Paulo, the basin committees, the Department of Water and Energy (DWE) and the Office of Sanitation and Water Resources (OSWR). It also proposed the creation of a state operator for water resources, as a way to strengthen the management system by promoting studies and subsidies towards conflict resolution processes, without having to compete with the already existing institutions (DAEE/ COBRAP, 2013).

Among the most promising alternatives to solve short-term demands was the São Lourenço/Franca/ETA Cotia Hydraulic Scheme, an intervention using the São Lourenço System and its 4.7m³/s capacity to supply for the larger part of the western SPMM (TOLEDO SILVA, 2015).

According to the WRMP, the debate concerning water resources must happen in an integrated fashion, taking into account regional socioeconomic development and the SPMM's influence in the national scenario. The report stated that conflicts between different regions would be present and, therefore, interinstitutional negotiations would be needed. It also highlighted the urgency of short-term action in regards to decisions involving studies, projects and implementations of services, interventions and construction works, considering demand, water reuse and the system's operational guidelines (DAEE/COBRAPRE, 2013).

IMPLICATIONS OF PUBLIC POLICIES AND GOVERNANCE

The critical nature of efficiency pertaining public policies in metropolitan regions (and, therefore, in the SPMM), recognized in the frailty of the imposed management, involves the political articulation of several stakeholders, public and private sectors. Governance contributes to reflecting a government agenda that covers the SPMM's issues and its sustainable development, as several aspects (such as the scale and dimension of the current urban issues) demand integrated solutions, cooperation between stakeholders and institutions, and a transversal approach to political complexity and conflicts. A major challenge to governance is the equation of different configurations and characteristics of the municipalities, metropolitan regions and urban sprawls that constitute the SPMM. Current problems require from governance the capacity to propose integrated solutions covering the growing needs for infrastructure and urban services. Such needs stem from urban, social and environmental liabilities and require strategies and investments to be adequately met (NEGREIROS; SANTOS; MIRANDA, 2015).

According to Touraine (1996), conflict is present in the democratic process and public participation involves multiple interests. In the current context this is seen as a limitation, be it in the internal processes or on decision-making instances, which end up disfavoring public participation in public policies and water management. Another aspect that should be considered is identity, as social actors face several different contexts in the basin committees which impact on their actions (TOURAINÉ, 1996).

Conflicts emerge in the search for effective public participation in water-management issues, within a contradictory democratic process and centralizing politics that favor economic interests and serve an agenda of power interests, even though decisions are linked to a technical plan (LANNA et al, 2002).

However, the challenges faced by water management in complex urban environments include the conflicting interests of different sectors, cooperation between organizations and specialists, different views on management, power struggles, and lack of capacity to perform interventions. The challenges are enormous when taken into account the bureaucracies of planning, investments, actual public participation, conflict resolution, sustainable use of water resources, and efficient and accessible service delivery (OLSSON; HEAD, 2015).

Stakeholders from different segments (society, public managers, businessmen, researchers, NGOs and social movements, etc.) interact in the environmental management processes (LEMOS; AGRAWAL, 2006). They also facilitate solution design through the use of transdisciplinary processes (FORGET; LEBEL, 2001). Interests, values and priorities, however, vary according to different segments. This brings conflict into the process, establishing the need to search for and share information, in order to build collective knowledge. Conciliation of environmental, social and economic priorities is key (NEWMAN; DALE, 2007) and the creation of networks helps solve conflicts and coordinate multiple interests (BODIN; CRONA, 2009; SCHERER-WARREN, 2006).

When the relationship between water availability and quality with economic development is established (these are factors that regulate and drive the economy), it becomes clear that water is not managed as a strategic resource, as there is no

evident relationship between investments in the water sector and management of water resources. The challenge posed to water governance is the development of a model with an integrated, systemic and transversal approach, that considers the way ecosystems work, health preservation, economic development and quality of life. When quantity and quality are involved, it becomes important to consider access limitations, as well as regulation, control and demand reduction. When taking into account behavioral and technological aspects, the governance model includes water safety, water as a public resource, participatory governance, predictive capabilities, improvement of monitoring and basin plans with adequate funding, while public participation and mobilization strengthen the reach of environmental and hydric sustainability (TUNDISI, 2015).

The adequate use of natural resources highlights the potential conflict between sustainable use and other interests that disregard the environmental cause. Because of this, environmental problems challenge not only democratic thinking but also powerful economic interests. Ecological values, green ideology, and democracy are, therefore, insufficient, as the development of institutions and their structures also mobilizes resources of power when challenging the fundamental interests of a society which intends to create actual democratic environmental governance (LIDSKOG; ELANDER, 2007). Reality shows that there is still a gap between what was done and what needs to be accomplished to solve environmental problems. The difficulty lies in the fact the environmental policy cannot be isolated from society's needs.

EMPIRICAL FINDINGS AND DISCUSSION

CONFLICT AND ITS DIMENSIONS: A DEBATE OVER THE CHALLENGES AND NECESSARY CHANGES

Regarding the interviewees' perception of the conflict, it was classified as intense, with different levels of perception, varying according to locations. The representative of the "Cisternas Já" movement viewed decisions as being centralized in the state government and SABESP. He considers management problematic and that the discussion over alternative solutions was not participatory. The State created advanced legislation, such as the basin committees (RBCs), but these are devoid of their purpose. The need to better establish what is participation was evident, as there are, in the RBCs, civic participants that do not adequately represent the interests of the people. This way, there is still little interest in public participation and patrimonialism is still present in the actions of those that claim to represent the public. In this sense, the statutes of the RBCs should prohibit this behavior, overseeing its members.

Upon considering that stakeholders presented coherent positions on the subject, the articulation between the civic representatives and the efforts for transparency became clear. In the long run, structuring actions and proposals aimed at the managerial and behavioral problems related to water use were evidenced.

The majority of stakeholders had clear and consistent positioning over time and, even though the diversity of actors caused differences in opinions and representations, the resulting debate was valuable and able to result in proposals. The representative

of the “Coletivo de Luta pela Água”, however, stated that there were unmonitored lobbying efforts from the private sector which increased the risk related to water availability. The negative surprise was the lack of society’s involvement, as even though the private sector has much stronger connections, the greatest challenges were in the public sector.

MULTIPLE USES WITH GUARANTEED AVAILABILITY

Since water consumption is a growing trend for its many uses and both availability and quality are decreasing, water scarcity leads to conflicts between the many usage sectors. This makes planning and management actions important to minimize disputes between the multiple uses of this collective resource. It is also worth noting that, with population growth, industrial development, and other activities, water consumption tends to grow as well.

The perspective of the NGO’s representative made it clear that water resources need to be adaptively managed according to their multiple uses, as a way to guarantee water quality and quantity for them. In this sense, the severity of the crisis presented itself as an opportunity to influence that adaptation.

Availability-wise, reduced reserves made the problem evident, especially in reference to the lack of planning and investment. Considering the varieties of access, distribution to vulnerable populations is still undemocratic and there are problems related to topography, especially in the Metropolitan Region of São Paulo. According to the representative of the “Cisternas Já” movement, however, São Paulo holds enough political and economic power to demand water from other regions, in a more regional and systemic point of view.

According to the NGO’s representative, among the problems faced were the lack of oversight, a greater occurrence of climatic extremes (in intensity as well as in frequency), and the loss of forest coverage, influencing the intensifying droughts and the degradation of the spring areas. Other issues affecting availability were often related to adopted measures such as reduced water distribution pressure, leaks along the pipe network, the use of the technical reserve (which raised questions regarding the quality of the resulting water), but the lack of transparency and information was a major factor in the debate.

The former RBC representative believes that since the regulation of water’s multiple uses has historically been sectorial and decentralized, competition ensued for its demand, impacting the limits of availability in the water territories (this could be observed in the São Lourenço water system). According to the NGO’s representative, among the problems that arise from insufficient articulation between territories is the perception that the problem is not exclusive to the administrative unit, as it involves stakeholders and the low quality of information.

This way, the interviewees considered there were many articulatory problems between the sectors. The representative from “Cisternas Já” declared that these problems occurred in several scales, as there are disputes between the basins, along with internal problems in the city of São Paulo (observed in the peripheral neighborhoods and the highest regions of the city). Reduction in use was suggested to be possible through the elimination of leakages and the introduction of water recycling and reuse.

Among the main usage-related conflicts brought up by the interviewees, a few are worth highlighting: (a) those between domestic use and irrigation, where each stakeholder acts individually even though the dispute tends to worsen with the compromised availability; (b) those between industrial use and irrigation, as there is a gap in the definition of which is priority; (c) and those related to urban consumption, although not notable by the population for being restricted to those internally involved. In this sense, the improvement of RBC articulation and the conception of a circular water network for the SPMM were recommended. Another important issue is the water tariff, which influences investment and rational use. According to the NGO's representative, taxation involves barriers in management capacity and its composition influences infrastructure investments and spring area recovery; the issue over if SABESP should even be a mixed capital company was also raised.

GOVERNANCE AND STAKEHOLDER DIFFUSION

The NGO's representative considered water governance to be unsatisfactory, as recommended legislation hasn't been fully implemented (roles, instruments, and implementation of management) due to lack of action, little evolution and many dependencies from the state government. On the other hand, there are several different visions of possible solutions, be it with respect to land-use or to water treatment and its efficient use. The decision-making process is frail and lacks integration. Other issues raised by the "Cisternas Já" representative were the so-called firm-demand contracts and the lack of articulation between institutions such as municipal governments (the system's users), the state government, the National Water Agency and SABESP. Regarding the tariff, there should be a raise, in accordance to consumption ranges.

The delay in empowerment, in the adopted decisions and measures, denounced the strong role of the state government and the feeble one of the RBCs, according to the NGO's representative. The lack of indicators impeded the understanding of what was leading to vulnerability and loss of functionality. The same representative stated that policy must focus on establishing more rigorous rules for the larger users and polluters, improving the performance of the RBCs and stimulating greater participation from social organizations.

According to the former RBC representative, several stakeholders need greater legitimacy to conceive and implement policies, such as academics, specialists, social movements and society, in conjunction with the government and the private sector. Arbitrage between affected municipalities was suggested as an instrument that might contribute to conflict resolution.

The findings suggest that the adopted actions partially met the demands put forth by the conflict, but it is important to consider cultural change, greater activism and collective actions. In this sense, the former RBC representative stated that citizens must become agents of change; study and seek solutions that do not only depend on governments, in the sense of experimentations that might become public policies, as there are various points of view, solution-wise.

CONCLUSIONS

In the state of São Paulo, conflict resolution covers several aspects involving criteria related to the market, public and social utility, and environmental sustainability, in a multidimensional regulatory system. In the context of a fragmented and pulverized view of water resources, the limitations that the system and public participation face, however, evidence conflicts of interest in view of the specific needs of the sectors involved.

In addition to the increasingly intense conflicts that emerge from water governance and management in the SPMM, this study points to the interdependency of the availability/quality issue, which requires changes in the processes and in the cooperation between institutions, stakeholders and water's multiple uses. It is up to responsible management to include its duties to society and to be open to its demands. In order to face problems, integration between government, market and society becomes important.

The state system combines public policy and economic instruments, such as charging for use. The divergences in decision-making processes, however, establish several interests involving government, users and society, requiring the broadening of the discussion in its approach to the SPMM and planning instruments.

The need to create mechanisms that could effectively contribute to water safety regarding availability and its several uses was observed. In this sense, the context of the water crisis revealed several conflicts involving different stakeholders and interests. Considering political opportunities, however, conflicts emerge in regards to adopted decisions, lack of information to support decision-making, and little space for dialog and negotiations. This impacts in the articulation of stakeholders and their actual participation in the conception and implementation of adopted solutions to the crisis. Actions showed discontinuous flows of participation during the process.

The complexity of the territory and the aggravations of the water crisis stem from user and demand-related problems, as well as availability and processes pertaining to the sector's public policy management. Besides the approach through the perspective of the SPMM, it is also important to consider local and sectoral approaches to better suit solutions for water resources. Another important topic is the participation of users, society, the private sector and government institutions in order to deepen the debate regarding their several interests and to contribute to the region's water safety.

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