WATER: THE URGENCY OF A TERRITORIAL AGENDA[1]

GISELA AQUINO PIRES DO RIO[2]
HELENA RIBEIRO DRUMMOND[3]
CHRISTIAN RICARDO RIBEIRO[4]

Introduction

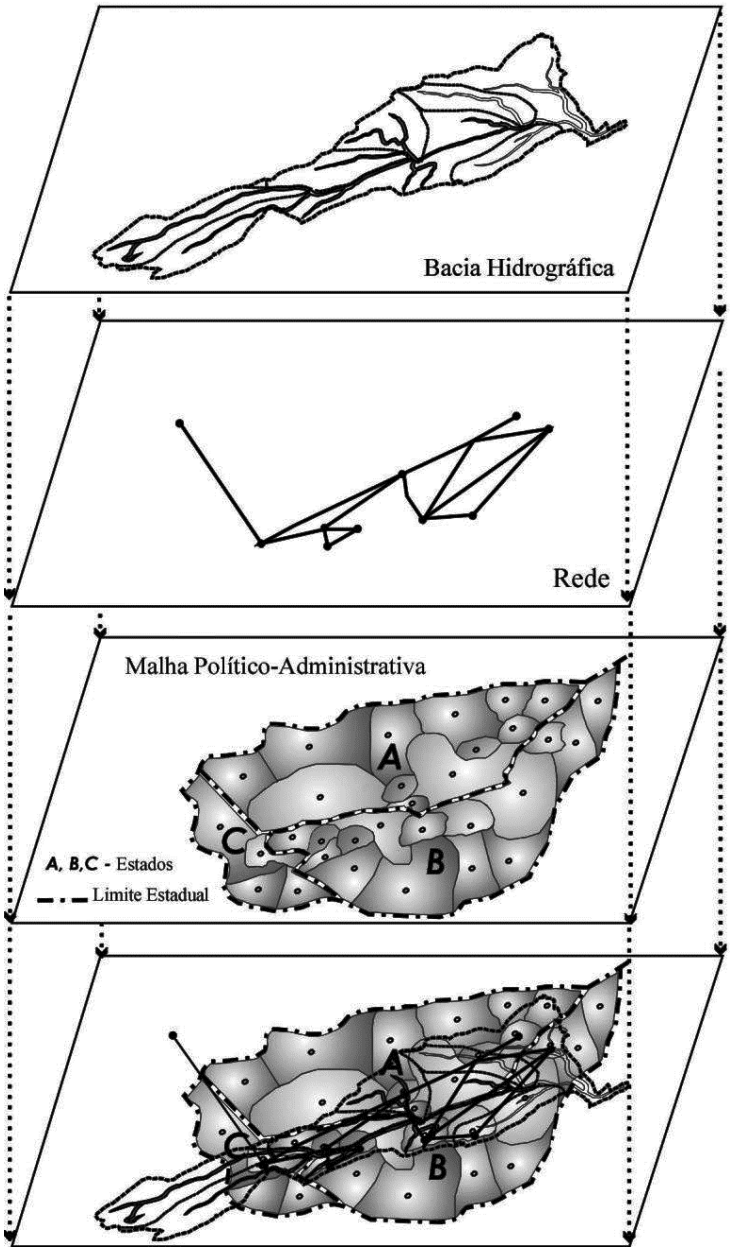
The wide-ranging repercussion of the water supply crisis in the Brazilian Southeast region, which took place in the 2014/2015 summer, indicates many underlying issues related to water management. To some extent, the crisis scale unfolds articulation situations that goes way beyond the hydrographic basin. The solutions identified by representatives of the water supply company owned by São Paulo state, SABESP, in interviews to several newspapers, tend to replicate widely known solutions: interconnection of basins, such as those announced – Atibainha river to Jaguari river, and from Pequeno river to Represa Billings [Billings Reservoir] -, the construction of Jaguari-Atibaia water main, which implies in abstraction of Paraíba do Sul waters, and the drilling of 24 artesian wells in Guarani Aquifer. All those actions concern the expansion of water provision for two metropolitan areas: Campinas and São Paulo.

The abovementioned actions are solutions concerning the water supply crisis status, caused by the extended dry spell, amplified by the precariousness of infrastructure maintenance and by the lack of policies towards more rational consumption. In addition to these problems, and answers from the state company, other issues were raised in different scale and nature. These other issues will be discussed on this paper.

The term geo-institutional is used according to the meaning specified by Pires do Rio (2008), that is, the domain, ownership, and the monitoring of land and water systems. The geo-institutional analysis is based on the acknowledgment of interactions and relations between technical networks, regulation, and space. On the subject of water, this implies to take into consideration the growing polarizations between public and private parties, between different scales (global, regional, and local) and/or between environmental policies, regulation policies and those who lead behavior (CUNHA and COELHO, 2003). This is, therefore, the overlapping of different regulation surfaces, as already suggested in Pires do Rio and Peixoto (2001) and presented in Figure 1.

1. Work prepared with the support of CNPq; it indicates results of research performed in the last two years.
2. Geographer, Full Professor of Geography Department, Universidade Federal do Rio de Janeiro – UFRJ, CNPq researcher. Contact: giselario@ufrj.br.
3. Geographer, doctoral candidate in the Programa de Pós-Graduação em Geografia [Geography Graduate Program] – PPGG/UFRJ. Contact: helenardrummond@gmail.com.
4. Geographer, doctoral candidate in PPGG/UFRJ. Contact: christianric@hotmail.com.

Figure 1: Overlapping of regulation surfaces in the territory



Source: Pires do Rio and Peixoto (2001).

The exploitation of water resources and the water distribution require a sophisticated institutional organization, supported by agreements and concessions systems, federal and/or state ownership of water bodies, services access, fee management, etc.Therefore,

reference can be made to a spatial organization, which involves a growing number of political and economic agents and social actors. In these terms, significant geo-institutional challenges emerge for the services and resources management related to them, and that, as indicated by the ongoing crisis, these challenges were not duly addressed by the current regulatory structure of Water Law. The geo-institutional challenges demand the development of a territorial agenda and, as suggested by Ribeiro (2009. p. 114), "it is necessary to consider the natural dimensions, such as water provision but, mainly, policies, by means of accommodation of diversified interests which use water in different ways".

The crisis and the recent conflicts arising from it

The concept that water resources use conflicts assume many forms that can be classified in different modalities is already well-established: conflict between consumptive and non-consumptive use, quantity and quality, or according to actors involved. Meanwhile the studies dealing with the first two modalities are likely to show the conflicts inside of certain basin, the third modality gives priority to the services provision granted and the federated entities (HELLER *et. al.*, 2010). The main argument of this paper assumes that the supply crisis has been clearly demonstrating tension between two extreme poles: conflict under rules and conflict about rules, such as the social sciences dictionaries suggest. While the conflicts under rules occur in a well-defined institutional framework, the conflicts about rules comprise contestation of the own rules that regulate certain activity or surface.

These are situations of permanent tension, which involve the optimal functioning of things and activities. In other words, in the terms used by Polany ([1944] 1983), the set of rules and regulations intentionally created and applied in order to organize social and economic life. The contestation of part or the set of rules implies in open and declared crisis, whereas the conflicts under rules demand legitimate commitments and negotiation between the parties involved. In this tension lies the opposition between: i) shared management of a specific resource that is relatively scarce and, therefore, demand clear and well-established rules; and ii) the different organizations and levels of power affecting, influencing and pushing the rearrangement of appropriation rules or transfer of large volumes of the same resources.

Among the goals of the establishment of the Sistema Nacional de Recursos Hídricos [National Water Resources System], in 1997, two of them – arbitration in conflicts situations caused by competition between multiple uses and associated management of quantity and quality issues – suggest the need of a negotiation field for the functioning of the own system (PIRES DO RIO and PEIXOTO, 2001). However, the current crisis is being covered as a natural problem: extended dry spell decreasing water stock in the set of water reservoirs that regularize the flow in the supply systems.

Therefore, what would be the particularities of the current crisis? Three particularities were chosen in this paper.

First, there are quantity conflicts that express themselves in the water availability for different uses. The crisis status results from the absence of rains that ensure the fill-

ing of reservoirs and the reconstitution of watersheds. On a global scale, extreme events – droughts and floods – related to the incidence of El Niño, provide the general aspects that explain, in some extent, the water supply crisis in the year of 2014. The climate variability alone does not explain, however, the intensity and the period of dry spells and droughts: precipitations level, storage capacity of water in lands, overexploitation of aquifers, extension, capillarity, water structure quality, and consumption standards are elements that equally influence the water availability in certain regions and places.

The consequences of these situations of precariousness, stress and relative shortage are well known: the impairment of water supply services and/or rationing, decrease or interruption of river navigation, impairment of the capacity of hydropower generation, partial or total loss of agricultural crops, decrease of the water volume in aquifers, among other consequences. These effects suggest mainly that the problem cannot be analyzed in local scale; the current crisis is not limited exclusively to São Paulo supply.

In the state of São Paulo, 37 small and medium-sized cities located in several regions were forced to be subjected to reductions of flow, control, decrease and cut of water provision in alternate periods in the 24 hours of the day or in days of the week, as a companies strategy to handle the decrease in the available volume and to monitor the water consumption. In cities whose supply systems are in charge of Serviços Autônomos de Água e Esgoto [Water and Sewage Autonomous Service] (SAAE), restriction actions in the water distribution were taken, combined with educational campaigns and imposition of fines, as in Cruzeiro, in the middle São Paulo state Paraíba valley. Similarly, municipalities part of Região Metropolitana de Campinas [Metropolitan Region of Campinas] (RMC), in the basin of Piracicaba, Capivari, and Jundiaí rivers, have implemented rotation and rationing, as occurred in Valinhos.

Even if the abstractions of several municipalities are not held directly in Paraíba do Sul river, but in its tributaries, whose streams are located in Serra da Mantiqueira, the decrease of flow in the tributaries has relevant effects to this river. This shortage situation explains the emphasis in the flow control. On another point, the decrease of flow from 40 m^3/s to 10 m^3/s in the Jaguari power plant has caused equally decrease in the flow of Paraíba do Sul river, which supply a significant number of cities in Vale do Paraíba of the São Paulo, Rio de Janeiro, and Minas Gerais regions, in addition to the Região Metropolitana do Rio de Janeiro [Metropolitan Region of Rio de Janeiro] (RMRJ). This subject, which is key to the agreement entered into in November 27, 2014 between the governors of the three states, will be discussed below.

Second, the conflicts of use between hydropower generation and human consumption indicate broader issues of the supply and electricity generation system in the metropolitan area. Furthermore, Paraíba do Sul basin irrigations are also impacted by the decrease of water availability.

The Agência Nacional de Águas [National Water Agency] (ANA) issued, between May and July, 2014, three administrative rules (nos. 700, 898, and 1038), authorizing the decrease to the minimum limit of downstream tributary flow of Santa Cecília (RJ) reservoir, from 190 m^3/s to 173 m^3/s until July, and, subsequently, to 165 m^3/s, in July. These were decreases of meaningful volumes, of 17 m^3/s at first, and of 25 m^3/s in the

last administrative rule. This transposition enables the electricity generation in the Light System, by means of Santa Cecília lift station, in the municipality of Barra do Piraí. From this reservoir, the water (163 m^3/s in normal conditions) is transferred to Guandu river basin and it is used by CEDAE for the water supply of RMRJ.

The continuous decreases of flows raised reactions by the municipalities located downstream, as by the Operador Nacional do Sistema Elétrico [Electric System National Operator] (ONS). Municipalities located in the low stream appealed to the Public Prosecutor's Office against actions of decrease of flow of Paraíba do Sul river. ONS estimated that the decrease of Jaguari river flow would result in cascading effects in the reservoirs of Paraibuna, Santa Branca, and Funil power plants. According to the Operator, the action of Companhia de Eletricidade de São Paulo (CESP) directed one-sided request to the agency in order to decrease the flow of Jaguari hydropower plant.

Third, institutional nature conflicts are not fully resolved. Intra-regional conflict between the interests of the Região Metropolitana de São Paulo [Metropolitan Region of São Paulo] (RMSP) and the Basin Agency and the Paraíba do Sul Basin Committee begin to emerge. In this case, this is a matter of conflict about rules, since the state law no. 7,663/1991 turned the basin committees into advisory and deliberative bodies. Basin committees may be, and often are questioned regarding its prerogative to regulate, allow or prohibit certain activity or action. The state government of São Paulo (through SABESP, Secretaria de Saneamento e Recursos Hídricos [Secretariat of Water Resources and Sewerage] and Departamento de Águas e Energia Elétrica [Department of Water and Electricity] – DAEE) questioned the authority of NOS and ANA in regulating the flows in rivers owned by the state[i], raising questions concerning the legitimacy of the agencies and leading tensions with the neighboring states that share resources in the Paraíba do Sul basin.

The award of these tensions, and the subsequent temporary solution outside the courts, indicates that the crisis suits to format and make more solid the current institutional parameters. Taking into account the specifics of the crisis, the incidence, the manifestation and the potential solutions involve conflicts and cooperation under rules and about rules.

A history of increasing complexity and transpositions

The transpositions integrate, in time, what is defined as water structure, that is, the set of infrastructure and facilities for the extraction, transportation, storage and distribution of water: weirs, dams, channels, cisterns, distribution networks and water trucks. Its dimensioning is taxable of population density of areas to be covered by the transposed water flow from a basin to another. The engineering solutions enable the water abstraction to be performed by increasingly distances, and once accomplished, express articulations and provide synchronicity between spatial units previously isolated and not connected. (PIRES DO RIO, 2008).

These structures represent surfaces in which tensions, conflicts, and disputes around all one-sided project will be necessarily regional. This is a significant aspect when considering the territorial agenda: the structures provide relations between places, building specific

topology regarding water management. The surface becomes more complex because of the variety of agents and places that such structures put into interaction. It is based on this feature that the shortage argument is built and the outlines of water crisis are defined.

In the set of scales, the paths of supply have resulted in the resumption of old strategic transpositions and in the reactivation of old projects. Both cases arise from the same logic: to grant, during a long period, stability in the supply of metropolitan regions and urban axes. Lajes Hydroelectric Complex, incorporated to the water supply Guandu-Lajes-Acari System, clearly exemplifies the structures complexity, the synchronicity between distant units and the monitoring of affluence in order to ensure the supply of large part of the Metropolitan Region of Rio de Janeiro. In the recent election campaign of 2014, the elected candidate had as slogan in the sewage sector the improvement of well know poor services in Baixada Fluminese through the construction of Guandu II station and new water mains in order to meet the demands of this municipalities. In other words, RMRJ is largely dependent not only of the transposed water of Paraíba do Sul, but also the short-term solutions move toward a greater dependency.

In addition to the transposition of Paraíba do Sul river waters to Guandu river, projects outlined in the decade of 1920, such as the transposition of Paraibuna river to Paraíba do Sul river, in the state of São Paulo, were resumed in the Master Plan for the Exploitation of Water Resources of the state (COELHO, 2012), and most recently, in the Master Plan for the Exploitation of Water Resources for the São Paulo Macrometropolis, issued in 2013[ii]. In the latter, the solutions for the supply in this region focus on the increase of provision by transposition. According to the plan, "the Paraíba do Sul river hydrographic basin is connected with the solutions to the São Paulo Macrometropolis, by involving the abstraction of regularized flows by the Jaguari and Paraibuna reservoirs, with transpositions to the Alto Tietê hydrographic basin". Similarly, Baixada Santista may have the demand complemented by "Alto Tietê basin transferences by means of discharges of Henry Borden Hydroelectric Power Plant".

The history of transpositions cannot be summed up to Paraíba do Sul. Directly related to the current crisis, the conflicts in the Piracicaba/Capivari/Jundiaí and Alto Tietê systems were already analyzed by Carmo and Hogon (2006). Campinas, which at that moment was the most recent metropolitan formation of the state, opposed to the Metropolitan Region of São Paulo (RMSP) regarding the renewal of the regulatory authorization of Cantareira System, whose source of abstraction depends on Piracicaba/Capivari/Jundiaí. SABESP, in charge of the Cantareira functioning, the main supply system of RMSP, was forced to set new standards to share the water volume intended to RMC. These are examples of adjustments under rules which remain latent, and, in critical situations, may return, becoming chronic ones, and still do not imply in challenge of rules that guarantee the resource distribution.

Technical systems, basin and metropolitan fact

Many authors already restressed the water management template by hydrographic basin as the one that broadly reacts to the assumptions of decentralization (CUNHA

and COELHO, *op. cit.*). The water supply crisis that intensified from September 2014 suggests just the opposite. The immediate reactions were articulated by the government of the three states, reinforcing its regional nature, and the centralization in handling negotiations between the relevant parties. Where are, in this crisis scenario, the criteria repeated at length of decentralization and participation of the Water Law? One can note the symptomatic lack of importance of bodies such as the basin committees and sewage services regulatory agencies, from the point of view of the unfolding of the crisis and the suggested solutions.

The RMRJ water structure had grown towards available water resources in the Paraíba do Sul river basin. The RMSP supply systems now expand in the same direction. Management devices, particularly the Master Plan of Exploitation of Water Resources for the São Paulo Macrometropolis (2013), are concerned with the water availability to the region, considering the decrease of "stalemate and intra-regional occurrence risks".

The design and dimension which are referred as regional scale of conflicts do not confound with the regions, but express after all the different management structures overlapped in the territory and activated by the agents and actors in their alliances and conflicts. Resuming the discussion undertaken by Pires do Rio and Drummond (2013), the scale is understood as the result of material cases and with material consequences, that is, they are not "specific things, but settings of institutionalized arguments/standards. (PAASI, 2004, p. 537, free translation). Chart 1 and Map 1 exemplify this complexity.

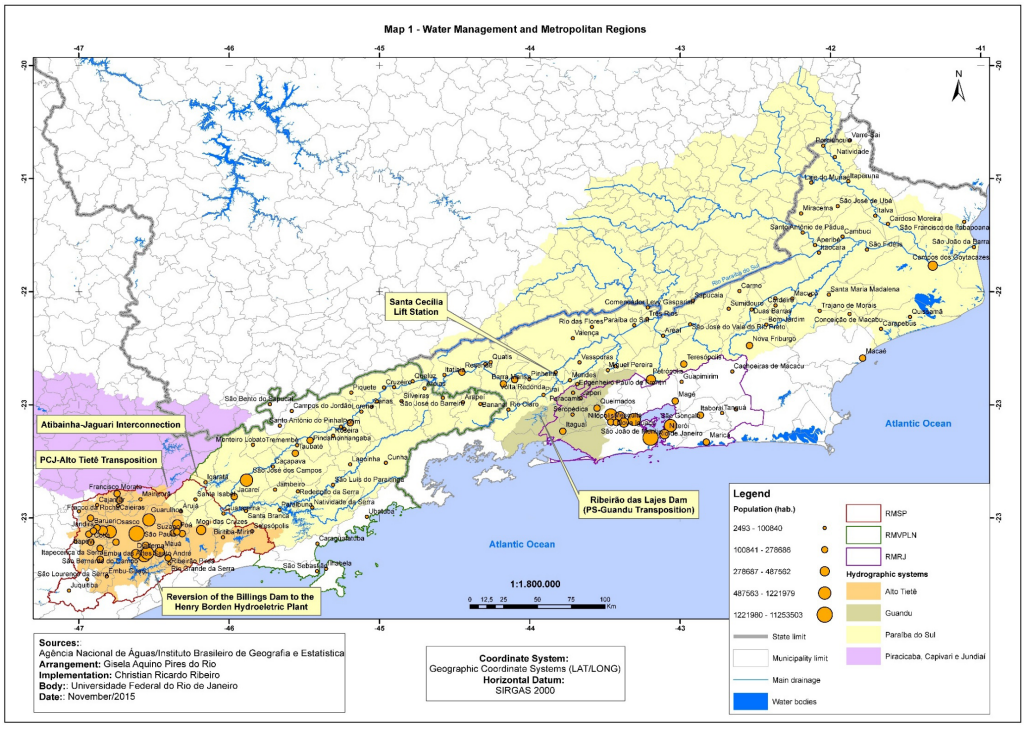
Chart 1 – Regulation surfaces, number of municipalities and population, according to states and metropolitan systems.

Regulation surfaces	States	Number of municipalities	Population in 2010 (Inhab.)
Paraíba do Sul Hydrographic Basin	Minas Gerais	88	1,630,521
	Rio de Janeiro	57	3,064,644
	São Paulo	39	4,016,437
Total	---	184	8,711,602
Metropolitan Regions	Rio de Janeiro	21	11,835,708
	São Paulo	39	19,683,975
	Vale do Paraíba and Northern Coast	39	2,264,594
Total		99	33,784,277
São Paulo Macrometropolis	Minas Gerais	4	64,107
	São Paulo	176	30,902,091
Total	---	180	30,966,198

Sources: IBGE [Brazilian Institute of Geography and Statistics] (Census of 2010).

The crisis expresses itself in the regional scale, and this regional scale has different spatial cutouts, that, put together, lead to the discussion about the role of major cities and cities-region, high demographic concentration and water demand areas. The current supply in the RMSP, is added to the shortage status in the reservoirs throughout Paraíba do Sul basin, and also the conflicts arising from this situation, which cannot be considered as a surprise for the analysts that monitor the sector in the last decades. Pires do Rio *et. al.* (2011) indicated the low water availability in RMSP and the critical situation regarding the quantity and quality of the available volume for supply. These authors pointed out the 90% dependence of RMRJ of Guandu system, and the need of short-term expansion to meet the increasing demand.

Chart 1 and Map 1 reveal how the geo-institutional dimension of water management is related to different surfaces of the hydrographic basin. Paraíba do Sul river basin, whose waters partially drain the territories of Minas Gerais, Rio de Janeiro, and São Paulo states, covers a total of 184 municipalities and a population of more than 8,700,00 inhabitants. However, when the metropolitan systems involved in the dispute for the appropriation of its water resources (Rio de Janeiro, São Paulo, Vale do Paraíba, and Northern Coast) are taken into consideration, the population total reaches 33,700,000 inhabitants, even though the number of municipalities (99) is significantly lower.



The transposition of Paraíba do Sul river waters to Guandu river, aiming to supply RMRJ, as well as the transposition of Piracicaba, Capivari, and Jundiaí river basins waters to Alto Tietê basin, through Cantareira system, for the supply of RMSP, are important examples of conflict between the management water structure and the hydrographic basin, reinforcing the role of the water structure as the surface in which the transposition solutions and conflicts identified indeed operate. The transpositions structure that ensure the water supply of the two major metropolitan regions of the country corresponds to spaces not contained in the hydrographic basin, but covering the connections and pipelines network which pass through the stability of natural units. Thus, the water structure emerges as a privileged surface for the emergency of conflict situations, whose resources are subjected to the same regulatory condition. (PIRES DO RIO, 2006).

The territorial dynamics imposes itself in the handling of tensions and rivalries that arise around disputes by the water use. By decreasing the problems of institutional nature regarding the upstream-downstream relation[iii], the casual relation is privileged, rather than a perspective considering the dynamism of the institutional, economic, social and environment procedures. There are no apparent manifestations more or less subtle of the regional authority that affects the choice and the adoption of quality and quantity criteria of water in different levels and in the adaptability to crisis situations (PIRES DO RIO, 2009a; PIRES DO RIO and DRUMMOND, 2013).

The São Paulo Macrometropolis stands out as a planning device, whose spatial logics is directly based in the water structure. Known as the major productive center, and the area of higher urban density in the country, the macrometropolis comprise, totally or partially, areas of eight Water Resources Management Units of the state of São Paulo (UGRHIS), and five metropolitan regions (São Paulo, Baixada Santista, Campinas, Vale do Paraíba and Northern Coast, and Sorocaba), two urban agglomerations (Jundiaí and Piracicaba), and two micro-regions (São Roque and Bragantina) are included in this area. The macrometropolis comprises, inclusively, the four Minas Gerais municipalities of the Piracicaba, Capivari, and Jundiaí rivers hydrographic basin, and mainland municipalities of the São Paulo North Coast. With a population of around 31 million inhabitants in 2010, the macrometropolis is presented, therefore, as a new spatial unit of reference to the water management in the state of São Paulo, what supported the preparation of an integrated Master Plan of Water Resources Exploitation for all its area of scope.

The water, and by extension, the supply infrastructures, are configured as potential elements to grant territorial cohesion to the macrometropolis. The infrastructure networks, existing in several levels, represent a way of integration and of structuration of territorial cohesion in the sense that they force the adoption of commitments entered into between agents and territories (PIRES DO RIO, 2009b). According to the abovementioned plan, the exhaustion of watersheds responsible for the water supply in the metropolitan region, and the increasing conflicts arising from water use between adjacent hydrographic basins and the commitments issued by DAEE Ordinance no. 1,213/2004, giving priority to the decrease of the dependence by SABESP regarding Cantareira System, are the elements that explain the decision of the São Paulo government to plan the provision of raw water throughout the macrometropolis area based on the concepts of "water security" and "integrated exploitation".

The conclusion that the current setting of hydraulic structures responsible for water supply in the intersection between the eight hydrographic regions involved does not provide enough capacity to ensure the flows necessary to meet the demand planned in short and long terms, including in relation of a subsequent hydrologic situation very poor, compose the basis for its planning on a regional scale, that is, for São Paulo Macrometropolis.

It is estimated that, in case of trend scenario shown in Table 1, the additional necessity of a flow of 60 m^3/s, in order to meet a demand of 283,07 m^3/s in 2035. The addition corresponds twice as much the current capacity of Cantareira System and four times the capacity of Guarapiranga System. Basically, three demand zones are considered: (i) Demand Zones depending on integrated or regional solutions, of greater complexity; (ii) Demand Zones not depending on integrated or regional solutions; (iii) Baixada Santista and Northern Coast, which have integrated or regional solutions assuming the own water resources of its hydrographic basins.

Among the demand zones depending on integrated or regional solutions, it is highlighted: (i) the axis specified by the metropolitan regions of São Paulo and Campinas, interconnected by Bandeirantes and Anhanguera highways, with virtually nonexistent possibility of local/micro-regional solutions; (ii) Médio Tietê/Sorocaba hydrographic basin, in two areas: demand zones located upstream the Ituparanga reservoir and demand zones located around Tietê river, in the upstream segments to Itu municipality; and (iii) Paraíba do Sul river hydrographic basin that, despite the current self-sufficiency condition in terms of water resources, must be considered in the analysis of integrated or regional solutions, due to potential alternatives, which include abstraction of regularized flows by Jaguari and Paraibuna reservoirs, with transposition to Alto Tietê hydrographic basin.

Table 1 – Forecast of water demands in São Paulo Macrometropolis (m^3/s) in 2035

UGRHI	Trend			Growth Intensification			Actions and Operational Monitoring		
	URB	IRR	IND	URB	IRR	IND	URB	IRR	IND
Paraíba do Sul	7.85	6.64	6.96	8.45	6.64	7.75	6.49	5.81	6.67
Northern Coast	1.34	0.10	0.59	1.58	0.10	0.70	0.95	0.10	0.55
Piracicaba/ Capivari/Jundiaí	22.37	19.23	17.13	24.98	19.23	18.88	18.79	17.30	16.33
Alto Tietê	82.84	4.54	39.56	86.72	4.54	40.31	72.40	3.96	37.70
Baixada Santista	9.29	0.02	10.12	10.97	0.02	12.10	6.69	0.02	9.61
Mogi Guaçu	2.44	10.76	4.91	1.98	10.76	4.21	2.02	9.68	4.68
Tietê/Sorocaba	8.10	20.48	7.59	8.46	20.48	7.39	6.39	17.81	7.24
Ribeira de Iguape/Southern Coast	0.18	0.00	0.00	0.15	0.00	0.00	0.16	0.00	0.00
Total per Use	134.41	61.80	86.86	143.31	61.80	91.36	113.93	54.71	82.80
Total Demandl	283.07			296.47			251.44		

Key: URB = urban; IRR = irrigation; IND = industrial.
Source: Government of State of São Paulo (2013).

Therefore, on a scenario characterized by arising disputes and conflicts among municipalities, regions, hydrographic basins committees and hydraulic infrastructures operators, which are not restricted to the natural limits of hydrographic basins, São Paulo Macrometropolis emerges as new possibility (or even necessity) of territorial unit for water management, mainly in the segment that includes the intersection between three large hydrographic systems – Paraíba do Sul, Tietê, and Piracicaba/Capivari/Jundiaí -, in which the growing and increasingly complex articulation of reservoirs network, channels and water mains require integrated planning of water resources in the regional scale, in order to guarantee the water supply according to demands of several uses. As can be seen by analysis of Table 1, it is precisely in this area that the majority of water demand in São Paulo Macrometropolis in the adopted forecasts will be concentrated, in terms of total demand (virtually 86%) and demand per use, whether urban (slightly more than 90%), irrigation (more than 80%), or industrial (more than 80%).

Final Considerations

The agreement entered into between the states of São Paulo, Minas Gerais, and Rio de Janeiro, accepting the beginning of bidding procedures for the contracting of water transposition work from Jaguari River to Cantareira system, clearly exemplifies the water management as a geo-institutional issue. It is not only a matter of mobilizing instruments and bodies created by sectorial regulation of 1997, but, mainly, of spaces that, forced to

the binomial cooperation-conflict inherent to water structures, now need to be articulated in a regular agenda.

The current urban supply crisis in RMSP, and the alarming situation of reservoirs throughout Paraíba do Sul River, even though anticipated at length by sector analysts and technicians, worsened and led to questioning of the current regulatory framework. One can also ask if it contributed to make it more solid, since the establishment of negotiation forums. The increasing complexity of the water structure and its transposition systems, remarkable features of great cities, has put the interests of the two larger metropolitan regions of the country in conflict, having as dispute object the water resources of a basin in which: i) none of the two metropolitan regions is located; and ii) is characterized by complex environmental and urban and industrial occupation history. The solutions proposed to this scenario include new regional scale of planning that could allow the addition of cities-region and metropolis as agents to be considered. It was on the metropolitan scale that the supply crisis has emphasized the relevance of the water structure as substrate of synchronic articulation of spaces. Coverage and extension of this geographic object and strategies related to it reinforce, in our understanding, the urgency of a territorial agenda.

The territorial agenda is urgent, once is based on it that the discussions fall outside the scope of only thinking in terms of flow, thus reaching the territory environmental management (GUSMÃO, 2009), required to ensure access to water resources in its multiple and sometimes conflicting activations. Here, the current crisis expressed in regional scale will need to be addressed in association with other scales, particularly the local one, so that metropolises, cities and regions can ensure the access to water by means of negotiation forums and cross-sector association.

Notes

i The state agencies failed to comply with ANA's administrative rules since the beggining of 2014, regarding the quantity of water collected from the Cantareira system. In August 2014, the state of São Paulo decided, on a one-sided basis, to decrease the flow in Jaguari, contradicting the ANA and ANEEL administrative rules.

ii Available at: <http://www.daee.sp.gov.br/index.php?option=com_content&view=article&id=1112:plano-diretor-de-aproveitamento-dos-recursos-hidricos-para-a-macrometropole-paulista>.

iii As a physical unit, the hydrographic basin limits do not match with several political-administrative divisions and, therefore, the consolidation of committees as a new institutional arrangement fade away in the social, economic and political dynamic.

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WATER: THE URGENCY OF A TERRITORIAL AGENDA

GISELA AQUINO PIRES DO RIO
HELENA RIBEIRO DRUMMOND
CHRISTIAN RICARDO RIBEIRO

This paper presents and discusses the water supply crisis and the resulting risk of rationing in regional scale in the Brazilian Southeast (2014/15). Considering the extension, magnitude and intensity of this crisis, particularly in São Paulo metropolitan areas and throughout Paraíba do Sul river, it is argued that new spatialities are emerging and imposing adjustments to water management. According to this paper, the latter is a question of geo-institutional nature. It is not possible to understand the water supply crisis and emergency actions as exclusively related to flow control and reduction. From this understanding comes the urgency of a territorial agenda, that is, one that considers the relations between different spaces, diverse agents, and the environmental history itself in Paraíba do Sul river basin.

***Key words*:** water crisis, Paraíba do Sul river, territorial management, regulation surface.

Este trabalho apresenta e discute a crise de abastecimento de água e o consequente risco de racionamento em escala regional no Sudeste brasileiro (2014/15). Considerando a extensão, magnitude e intensidade dessa crise, em particular nas áreas metropolitanas paulistas, e ao longo da bacia do rio Paraíba do Sul, argumenta-se que novas espacialidades estão emergindo e impondo ajustes à gestão de águas que, no entendimento do trabalho, é questão de natureza geoinstitucional. Não é possível compreender a crise de abastecimento de água e as medidas emergenciais consideradas como exclusivamente relativas ao controle e redução de vazão. Desse entendimento decorre a urgência da agenda territorial, isto é, uma agenda que considere as relações entre os diferentes espaços, os diversos agentes e a própria história ambiental da bacia do rio Paraíba do Sul.

***Palavras-chave*:** crise hídrica, rio Paraíba do Sul, gestão do território, superfície de regulação.

Este artículo presenta y analiza la crisis de suministro de agua y el consiguiente riesgo de racionamiento en escala regional en el sureste de Brasil (2014/15). Teniendo en cuenta la extensión, magnitud e intensidad de la crisis, especialmente en la area metropolitana de Sao Paulo y a lo largo de río Paraíba do Sul, se argumenta que nuevas espacialidades están surgiendo e imponem ajustes en la gestión del agua. Esta última es una cuestión de carác-

ter geo-institucional. No es posible entender la crisis de suministro de agua y las medidas de emergencia como atado exclusivamente al control y reducción de flujo. A partir de esta comprensión viene la urgencia de una agenda territorial, es decir, una que considera las relaciones entre los diferentes espacios, diversas agentes, y la historia ambiental en la cuenca fluvial de Paraíba do Sul.

Palabras clabe: crisis del agua, río Paraíba do Sul, gestión territorial, superficie de regulación.