

# **Peri-urban Participation in Urban Watershed Management in the Metropolitan Region of São Paulo, Brazil**

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## Acronyms<sup>1</sup>

CBH	<i>Comitê da Bacia Hidrográfica</i> Watershed Committee
CBH-AT	<i>Comitê da Bacia Hidrográfica Alto Tietê</i> Alto Tietê Watershed Committee
CETESB	<i>Companhia de Tecnologia de Saneamento Ambiental</i> Environmental Sanitation Technology Company
CT	<i>Câmara Técnica</i> Technical Committee
DAEE	<i>Departamento de Água e Energia Elétrica</i> Department of Water and Electric Energy
EMAE	<i>Empresa Metropolitana de Aguas e Energia</i> Metropolitan Water and Energy Enterprise
EMPLASA	<i>Empresa de Planejamento da Grande São Paulo</i> Greater São Paulo Planning Enterprise
FEHIDRO	<i>Fundação Estadual de Recursos Hídricos</i> State Water Resources Fund
FIPE	<i>Fundação Instituto de Pesquisas Econômicas</i> Economic Research Foundation Institute
FUSP	<i>Fundação da Universidade de São Paulo</i> São Paulo University Foundation
GT	<i>Grupo de Trabalho</i> Workgroup
IBGE	<i>Instituto Brasileiro da Geografia e Estatística</i> Brazilian Institute of Geography and Statistics
MSP	<i>Município de São Paulo</i> Municipality of São Paulo
NGO	Non-Governmental Organization
RMSP	<i>Região Metropolitana de São Paulo</i> Metropolitan Region of São Paulo

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<sup>1</sup> I have chosen to refer to institutions, organizations and documents by their Portuguese language acronyms rather than their English translated counterparts. This facilitates the abilities of readers to pursue further information as many of the case documents are available only in Portuguese.

SABESP	<i>Companhia de Saneamento Basico do Estado de São Paulo</i> São Paulo State Basic Sanitation Company
SCBH-PP	<i>Sub-Comitê da Bacia Hidrográfica do Alto Tietê – Pinheiros Pirapora</i> Pinheiros-Pirapora Subcommittee of the Alto Tietê Watershed
SEHAB	<i>Secretaria Municipal de Habitação</i> Municipal Housing Department
SIGRH	<i>Sistema Integrado de Gerenciamento de Recursos Hídricos</i> Integrated Water Resources Management System
SRPP	<i>Sub-região Pinheiros-Pirapora</i> Pinheiros-Pirapora Subregion

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## 1.0 Introduction<sup>23</sup>

Water is an important feature of urban studies integrating a range of disciplines from planning to economic development and environmental health. Access to safe and reliable water supplies and sanitation continues to be one of the major challenges to improving socioeconomic conditions for marginalized communities marked by poverty and lack of infrastructure (United Nations 2003). There are four most widely suggested solutions for achieving water resources sustainability: integrate management of all water uses; adopt a watershed-scale approach; include ‘stakeholders’ in decision-making; and recognize the importance of water by giving it economic value. Over the past two decades, almost every country has adopted at least one of these approaches and there are currently increased efforts to institutionalize this further.

It is within this discourse that the concept of ‘participatory watershed governance’ has become so popular from the local community level to international agreements such as Agenda 21. Regional watershed-based authorities have been present in industrialized countries for a significant time with various levels of authority, and public and private control (Bongaerts 2002; Burchi 1985; Castro et al. 2003; Newson 1997). Latin America has been a leader in institutionalizing watershed management, formally including the participation of civil society in

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<sup>2</sup> I would like to express my gratitude to Ellie Perkins, Gene Desfor and Pedro Jacobi for their thoughtful comments on previous versions of this paper.

<sup>3</sup> This research paper is based on several chapters from my major paper submitted to the Faculty of Environmental Studies in completion of a Masters of Environmental Studies (Planning) entitled “Downstream Pollution, Upstream Power: Rescaling Water Management in Metropolitan São Paulo”, May 31, 2004. This research received the generous support of the The Sister Watershed Project (Projeto Bacias Irmãs), a 5-year joint capacity-building project between the Faculty of Environmental Studies at York University, the Graduate Program in Environmental Sciences (PROCAM) at the University of São Paulo, and the ECOAR Institute for Citizenship - a Brazilian NGO that works to develop civil society capacity and knowledge in environmental issues. It is funded by the Canadian International Development Agency.

policy-making (Tortajada 2001). The restructuring of Latin American water sectors along these principles is based on the assumption that within these new institutional arrangements, processes of exclusion will be transformed into processes of inclusion whether through direct participation or representation.

Yet, there is a tendency for these institutions to become overly comfortable in the rhetoric of participation resulting in a lack of reflection and redefinition of whom they are actually benefiting (or not benefiting). The incorporation of previously ‘contested spaces’ into ‘collaborative spaces’ implies that inclusivity will be achieved through membership and networks, and results in marginalizing analyses of inequality through the rhetoric of participation (Mayer 2003). The focus tends to be on “how we are participating” rather than “is everyone who should be participating actually participating.”<sup>4</sup> There may even be internal resistance to expanding and redefining legitimate groups by actors who have only recently gained access to the participatory space, and are reluctant to risk the power they have struggled to achieve. Without this reflection, however, there is a strong chance of enhancing exclusion of certain groups who are not initially identified as legitimate ‘stakeholders’ or are excluded from the networks – or social capital – that might give them some representation.

The São Paulo State water legislation of 1991 was a key product of contested politics from within state institutions and civil society (Keck 2002). It set the stage for the establishment of new watershed institutions that would depend on providing an open, deliberative space where state agencies would have to share power with municipal governments and ‘legitimate’ civil society representatives. Compared with other states, São Paulo’s could be considered one of the most progressive and participatory water governance structures in the country thus far (Brannstrom *et al.* 2004). The proposed implementation of water charges creates deep implications in terms of economic access to water resources and provides strong reasons for ensuring that these forums are decentralized and democratic. In a country suffering from high

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<sup>4</sup> For example, see da Cunha (2004) and Brannstromm (2004).

levels of socioeconomic inequalities, particularly in urban areas such as the Metropolitan Region of São Paulo (RMSP),<sup>5</sup> where the geographic distribution of poverty is so highly associated with differential access to urban services (Silva 2000, 2000b), the selection of legitimate ‘stakeholders’ and processes of participatory and representative governance could have extreme repercussions for marginalized communities as well as having the potential to create new powerful actors. Access to information and opportunities are key to ensuring that participation is as wide and inclusive as possible.

Due to the size and complexity of the RMSP, the participatory watershed management framework has been further decentralized to peri-urban subregions, in an effort to be more responsive to local issues. In a study of the metropolitan region of Mexico City, which has very similar growth patterns to the RMSP, Aguilar and Ward (2003) concluded that aggregate regional data does not reflect the drastic changes that are occurring in peri-urban development compared to central city growth, and that these changes are highly uneven. Without adequate research into these socioeconomic differences, decentralization efforts within metropolitan-wide administrations will most likely not result in very democratic and representative institutions. Thus, the existence of heterogeneous subregions within the larger watershed area pose an interesting challenge considering they each have a different set of priorities and needs, as well as socioeconomic power relative to each other and the urban core.

This research paper explores the power transformations that have been and are occurring with the reconstruction of water management from traditional political scales to the watershed scale, and with the production of new institutional arrangements to control decision-making about water in São Paulo. In particular, I question: who has (or does not have) access to these new political spaces and what are the implications for the redistribution of power over water decision-making across geographic scales? I have attempted to answer these questions based on an

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<sup>5</sup> Note that all acronyms are based on their original Portuguese versions to preserve consistency with researchers in Brazil. Full names can be found in the beginning of this paper.

exploratory case study of the Pinheiros-Pirapora Watershed Subcommittee (SCBH-PP), part of the RMSP watershed management framework that has been based on a model of deliberative democracy between representatives of ‘stakeholder’ groups for over a decade.<sup>6</sup> As it is a legislated institution with decision-making powers, rather than solely forming a consultative body, and it is considerably more progressive through its inclusion of a wider group of stakeholders, the RMSP framework is an appropriate case from which to explore the effects of scale in participatory watershed management, particularly in terms of redistributing power between urban and peri-urban scales. An embedded case study of a highly polemic water conflict in a marginalized peri-urban town will highlight issues of representation and scale that limit the inclusivity and effectiveness of the watershed committee. The similarity of the RMSP socioeconomic geography to other metropolitan areas in Latin America (Aguilar and Ward 2003) means the exploratory nature of this research can uncover wider lessons or considerations that may be relevant to understanding dynamics within other participatory urban institutions in the region.

The next section overviews theoretical concepts of scale and representation, attempting to demonstrate how they can be applied to watershed governance. Following that, I introduce the participatory watershed management policy of Brazil and the State of São Paulo, highlighting the institutional and organizational issues. Section four presents the hydrosocial environmental contexts of the Metropolitan Region of São Paulo and the Pineiros-Pirapora Subregion, as well as Pirapora do Bom Jesus, the focus of the case study. Finally, I analyze the role of the Pinheiros-

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<sup>6</sup> Field research was undertaken between May and October 2004 in the city of São Paulo with frequent field visits to Pirapora do Bom Jesus, the site of the embedded case study. The research is partly based on twenty semi-structured audiotaped interviews with actors both within and outside the Pinheiros Pirapora Watershed Subcommittee, who were involved in the Pirapora case, as well as actors outside of the Pirapora case that were intimately familiar with the subcommittee. A significant part of the research also involved analysis of archived documents, and tracing the history of pollution in Pirapora through technical and newspaper reports over the last 30 years. I am grateful to collaborators at DAEE, CETESB, SABESP, the SCBH-PP and the Municipality of Pirapora do Bom Jesus for helping me locate documents.



Pirapora Subcommittee in addressing this issue, reflecting on how discursive representation and limited perception of scale may be impacting the subcommittee's actions.

## **2.0 Participatory Watershed Governance: Conceptualizing Scale and Representation**

Watershed governance can best be defined as “the range of political, organizational and administrative processes through which communities articulate their interests, their input is absorbed, decisions are made and implemented, and decision makers are held accountable in the development and management of water[shed] resources” (Bakker 2003). Depending on the scale at which these decisions about water resources are applied, they can result in very different outcomes depending on the social, environmental and economic context, which are inherently place-specific. Advocates of participatory watershed-scale governance argue that stakeholders – those that are or could be affected by decisions – are able to contribute local knowledge to the process of decision-making ensuring that the policies and actions taken are appropriate. While watershed management may be an objective of a particular governance regime, the rhetoric of inclusion - particularly when it is claimed for traditionally marginalized groups - implies that governance success should be assessed not only through end results, but also through the process of achieving them. This section provides a theoretical outline of the principles of watershed governance and discusses inclusion (exclusion) in terms of the reproduction of scale and representation.

### **2.1 Principles of Watershed Governance**

Environmental and conservationist discourses have long been focusing on the watershed as the most appropriate scale for water management based on its ecological conceptualization as a

bio-geographical physical area defined by the hydrological flow of water (Newson 1997; Barrow 1998). It can be visualized as the entire land area that ‘sheds’ water to a specific point in a river or tributary; the limits become the highest peaks on the periphery forming a ‘closed’ unit wherein most environmental interactions can be said to be contained. But there is also a recognized relationship between this naturally produced scale and the sociopolitical interactions it mediates; society is linked by its dependence on water within a watershed and the historical evolution of human organization has been significantly, though not entirely, based on these hydro-geographical qualities (Barham 2001). The social and hydrological processes within the watershed can be conceptualized as a “hydrosocial cycle” (Swyngedouw 1996) – they have a mutually constitutive relationship so that changes in one can create significant implications for the other. Thus, watersheds present appropriate units for analysis and management as hydrosocial processes tend to be mediated within this scale.

Democratic decentralization based on public participation in environmental policy is essential for managing water resources where “information is both dispersed and central to decision-making, there are high levels of uncertainty, problems often have more than one cause, and their resolution usually requires collaboration among public and private sectors” (Keck 2004:44). This implies that the multiple and competing uses of water should and can be mediated within an institutional framework of sector integration that transgresses political and social boundaries, manifested through a decentralization of power from state levels of organization to local administrations, particularly in Latin America where heavily centralized state governments have been implicated in the failure of institutions to appropriately respond to local conditions and conflicts (Tortajada 2001). Silva & Machada (2001) note that democratization in public services provision is even more important in Latin America where there are still significant sectors of the population lacking access to basic services and structural social inequalities create distortions in perceived demand. These marginalized groups often lack access or experience with democratic participation, limiting their abilities to influence policy change. The idea is that by building

participation and accountability at local levels, local governments will become more responsive to civil society demands, and ‘stakeholders’ will be more inclined to cooperate in negotiating conflict over resource use.

The transformation to participatory watershed governance ideally results in the production of new social and political spaces for previously marginalized groups. Decentralization of decision-making to local spaces on the watershed scale can increase accessibility to resources and responsiveness to local needs. It suggests that geographic spaces marginalized through capitalist accumulation processes of uneven development - for example, downstream communities subjected to upstream urban pollution - now have opportunities to challenge these hegemonic dynamics. In addition, these newly democratized spaces can provide an opportunity for political emancipation through ‘social learning,’ leading to a potential redistribution of socioeconomic inequalities and power (Blair 2000; Habermas 1996; Johnson & Wilson 2000). All of these benefits depend on opportunities for direct participation or representation requiring an informed and delicate selection of ‘identity’ groups. They also depend on a dedicated transfer of power to these democratic institutions, legitimizing the participatory process and creating tangible local benefits.

These normative ideals are difficult to achieve in practice without an understanding of hegemonic relations of power and a commitment to ensuring its redistribution to the traditionally marginalized. Empirical research has pointed to limits to participation in water resources management for factors including: socioeconomic (Brannstrom 2004; Fletcher 2003); procedural, such as difficulties in the identification and number of legitimate groups (Johnson & Wilson 2000; Koontz & Johnson 2004; Tompkins *et al.* 2002; Tortajada 2001); and limited access to knowledge (Jacobi 2004a).<sup>7</sup> The rhetoric of participation itself often limits discussion of *how* to increase ‘inclusivity’, becoming an exercise in institutionalizing inequalities and legitimizing elite

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<sup>7</sup> For case study evidence of limits to participation in Brazil’s watershed management institutions, see Johnson & Lopes (2003).

domination (Fraser 1992; Kujinga & Manzungu 2004). Considering that these issues are still not adequately understood or addressed within current scales of enviropolitical organization, rescaling water management to a watershed scale can potentially result in further exclusion of those traditionally without power.

## **2.2 Discursive Representation and the Politics of Scale**

Consider the following case of a small town on the peri-urban hinterland of a large metropolitan city. Within the town, there is a locally produced scale of contested struggle for social and political power creating powerful and marginalized actors, most likely manifested across geographical space (Harvey 1996). Its position relative to the ‘city’ aggravates these conditions further as it absorbs and contributes to processes of accumulation and growth, creating contingent reproductions of local space - itself mediated through interactions at higher scales such as national regulation modes (Lauria 1997) – and transforming relationships of power. Where at the local scale the dominant elite may control political and economic power, on the scale of the metropolitan region, this elite now struggles for control with a whole new set of actors and political conditions. Those marginalized may now find new spaces with which to gain political control, or become further marginalized by processes of exclusion, particularly if opportunities are mediated only through the local elite. Depending on the outcome of these processes, the town may find itself further marginalized from political and social space relative to the scale of interaction.

Although a crude example, this narrative illustrates the likely implications of creating new institutions on a scale such as the watershed. The political construction of scale – “the changing scales on which political processes are organized and the concomitant struggles of social actors, movements, and institutions to influence the locational structure, territorial extension, and qualitative organization of those scales” (Brenner 1998: 460) – becomes an

important factor influencing the potentials and limitations of watershed institutions. The processes of articulation within and outside institutions determine the actual ‘reach’ these new scales will have and also depends on the scale-dependent positions – ‘place’ - of the actors involved (MacLead & Goodwin 1999; Swyngedouw & Heynen 2003). Cox (1998) conceptualizes this through distinguishing between ‘spaces of dependence’ and ‘spaces of engagement’. Spaces of dependence are the localized social relations that are essential for securing interests, such as the home and the workplace. The degree to which people can secure their interests depends on interactions with social powers at other scales – spaces of engagement – and might require ‘jumping scales’ or ‘downscaling’. So, for example, in the case of a watershed management institution we might say that these spaces of dependence are the legal frameworks, plans, offices and territorial space in which the watershed management institution operates (Tompkins *et al.* 2002). In order to ensure the institution achieves its objectives, it needs to gain legitimacy through creating a space of engagement at different scales – e.g. state actors, municipal administrations, civil society organization, media and international discourses - each of which has its own spaces of dependence and engagement. Thus, the production of scale is influenced by its “networks of interaction” (Cox 1998) and the extent to which the institution is able to define its scale of action will depend on the ‘reach’ of its network.

Actors operating from within subjective positions of dependence and engagement will define how the participatory process will result in a decision. As Keck (2004:46) asserts, “actors are *situated individuals* whose networks of individual and institutional linkages categorize them in others’ eyes and are constitutive of their self-understanding, jointly with their ideas and their interests.” Thus, actors within a participatory space each have set ‘locations’ from which they ‘map’ the world and, depending on their ability to articulate and the relative power that space affords them, the net decisions become aggregates of discursive positions (Smith 1992; Keck 2004). These decisions are then applied concretely where they are translated into outcomes depending on the sociopolitical dynamics of that contextual space.

Discourse is a key element of this process. Participatory democracy is generally based on the theory of deliberative democracy developed by Jurgen Habermas (1989, 1996) who believed that democracy could best be achieved in a public sphere where communicative rationality – through discussion and argument – would lead to consensus based on articulation of autonomous political positions (i.e. without cooptation). Participation within a “democratic” space is mediated by intersubjective relations that create power and affect individual or group dynamics, and, ultimately, the *effectiveness* of participation as a legitimate tool in sustainable governance (Benhabib 1996; Calhoun 1992; Fraser 1992). Considering that representation of stakeholder groups is the most common form of participatory watershed governance (as opposed to direct participation by all interested), the relevant question is whether the democratic institutional space and the associated reproduction of scale actually *represents* the watershed. Agents that are ‘selected’ to represent their stakeholder groups articulate ideas that may partly be a result of consultation with their constituents but are largely informed by their position within their spaces of dependence and engagement. They are individuals with ‘ideas’, not institutions or constituents, engaged in discursive representation (Keck 2004). Their ability to articulate positions is a result of their intersubjective position with other representatives. How these agents came to be in that space is the result of struggle on other scales.

Networks – spaces of engagement – are thought to be important tools for extending the ‘reach’ of social power and for legitimizing representation. The social capital literature asserts that these networks enhance circulation and extension of trust and knowledge, precursors for collaborative planning, and recent research demonstrates that this relationship may be directly constitutive of institutional performance (da Cunha 2004; Healey 1998; Ostrom 1990, 1996). Tompkins *et al.* (2002) suggest that the development of networks through and outside institutions contributes to ensuring inclusive processes, and that the potential for empowering more participation might be a benefit, which is greater than the realized outcome. However, as Mayer (2003) points out, these discourses can still serve to obscure exclusivity by focusing on the

potentials of social capital to ‘mobilize’ without addressing the traditional categories of power, domination and exploitation. Thus, the difficulty presented by having only one representative per stakeholder groups is legitimized by the assumption that accountability will be achieved through networks, where marginalized groups can ‘participate’ through their connections to representatives and other groups, facilitating collaboration (or contestation). Yet, the scale of these networks may not necessarily reach all who should be included and, within them, there continues to exist power relationships, which may directly exclude some groups from participating. Without addressing these processes of exclusion and reevaluating representation of heterogeneous identity groups, the benefits of social capital - in terms of redistributing access and power over policy process - is limited.

The urban contexts of many developing countries also complicates efforts to create representative and decentralized democratic institutions. According to the United Nations, an estimated one billion people live in urban slums concentrated in Africa, Asia and Latin America (United Nations 2003). Latin American urban areas continue to experience rapid population growth, spilling over into peri-urban areas and transforming local socioeconomic dynamics. Metropolitan regions comprise multiple local jurisdictions - large agglomerations of shifting capital and people – where the importance of the urban centre is changing vis-à-vis its periphery. However, even though the scale of social and economic transformation may be shared, there is rarely a common governance structure to mediate these exchanges (Aguilar & Ward 2003). Thus, peri-urban areas are often in direct competition with each other as they attempt to attract capital investment and facilitate local growth. Without coordinated (or shared) governance structures, however, the transformations continue to be mediated by hegemonic processes operating from the urban core.

Decentralization efforts can be dangerous as there is a lack of research into the relationships between peri-urban areas with their metropolitan core, resulting in a “disjuncture between these spaces and the opportunities for representative and participative democratic

structures to emerge within and between them” (Aguilar & Ward 2003:5). In Latin America there is very little research into the development of peri-urban areas, despite the region having a 77% urban population (United Nations 2003). Most urban research in these countries is dedicated to suburban development or urban restructuring, using metropolitan-wide data that fail to distinguish periphery-core differences, and lack analyses of how peri-urban transformations are undermining rather than enhancing human development (Aguilar & Ward 2003). Cross-jurisdictional participatory institutions, such as the watershed committee described in this paper, that fail to address these shifting power dynamics will also fail to be effectively democratic and inclusive.

### **3.0 Participatory Watershed Management in São Paulo**

Brazil’s 1997 *National Water Resources Policy* is the product of almost two decades of discussions at national and state levels on the most effective model for integrating water management, which until then had taken a strongly sectoral, centralized approach (Abers & Dino 2004). With the end of authoritarian rule and the shift to a democratic regime in 1982, the discursive space was widened for more progressive and participatory models of governance that would direct the transformation of Brazil’s institutions to reflect its new social and political framework. The 1988 Federal Constitution declared water to be a public good that should be managed under a national system, and introduced key principles of participation, decentralization and integration as essential to public policy (Porto 1998). Within this context, the water resources sector was able to gain a platform for proposed reforms that had been developing amongst technical water specialists since the beginning of the 1980s, particularly in São Paulo State (Keck 2002). By the time the national law was approved in 1997, the participatory watershed framework had already been institutionalized by many Brazilian states with the approval of new water laws.



São Paulo was the first to pass a State Water Law in 1991, and its framework served as a model for other water sector reforms in the country. Starting in the 1970s, a generation of reform-minded state water technicians and administrators, particularly in the State Department of Water and Electrical Energy (DAEE), frustrated with the existing ‘energy logic’ and fragmented horizontal policies that had dominated the water resources sector since the start of the 20<sup>th</sup> century and had resulted in heavily polluted rivers with little or no control over industrial and residential effluents, initiated a discourse on integrated water management (Keck 2002; Keck & Jacobi 2001). It wasn’t until the 1980s, however, with the end of authoritarian rule and shift to a democratic state, that the status quo was sufficiently disrupted to create discursive space for new processes of formulating public policy. Although there were significant contributions made by social movements particularly in the Alto Tietê and Piracicaba regions organizing around water pollution, the water sector reform in São Paulo was driven by embedded state actors who understood that, in addition to being a technical issue, water was intrinsically political and its sustainable management could only be accomplished with municipal and civil society participation (Keck 2002). According to Keck (2002), there were three factors that contributed to the idea of water reform: the pressure to democratize all levels of government, even within state agencies; the economic crisis of the 1980s, which reduced agency budgets, prompting focus on economic and sector efficiency; and, the shift in loan policies of multilateral agencies away from large capital projects such as dams. By 1997, twenty committees had been established to manage all of the state’s 22 watersheds.

The Integrated Water Resources Management System (SIGRH) has three institutional functions: deliberative, technical and financial. The State Council on Water Resources sets guidelines for management in the State Water Resources Plan, manages conflict between watershed committees and represents the state on the National Water Council. The watershed committees (CBHs) are responsible for developing and approving watershed plans, debating and resolving water resource issues, promoting state sector integration as well as municipal and civil

society participation, and allocating financial resources for investment in the watershed. Both forums are deliberative and require equal representation of state agencies, municipal governments and organized civil society entities.<sup>8</sup>

Technical committees (CTs) and work groups (GTs) are established to provide technical support and advice to the CBHs. Although the CTs require civil society participation, most often this involves representatives of technical or research institutions that are capable of discussing highly specialized and scientific issues (da Cunha 2004). In general, the CTs meet more often than their respective committees, and it is well known that these are the forums where most of the debate and planning occur, whereas the CBHs have more of a political atmosphere where the plans and projects receive final approval.<sup>9</sup> In the interests of ensuring that municipal and civil society sectors have power to influence water policy, their representation in the CTs, where most of the action occurs, is as important as in the watershed committees.

The State Water Resources Fund (FEHIDRO) represents the financial arm of the SIGRH and is a feature unique to São Paulo as this is the only state to have an institutionalized funding source to support the committees' watershed management activities in the absence of a functioning water charging system. FEHIDRO funding is allocated to projects that meet priority criteria of the respective watershed plans and State Water Resources Plan. Entities from all three sectors, including outside the watershed committee, are eligible to apply for funds for infrastructure or technical projects, research and development, or environmental education. The allocation of funding is hotly contested within the deliberative space of the watershed committees. Between 1995 and 2001, 1192 contracts were awarded throughout the state totaling

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<sup>8</sup> Although very similar to the National Policy framework emphasizing decentralization, participation and the implementation of water charges – the state law is distinct in its definition of participation. In contrast to federal watershed committees, which allocate a maximum of 40% of votes to government institutions collectively, São Paulo's state policy isolates state and municipal governments, requiring equal participation of each as well as of civil society.

<sup>9</sup> A number of interviewees confirmed this, as well as recent empirical research studies, for example: Alvim (2003), Brannstrom et al. (2004), da Cunha (2004), Johnsson & Lopes (2003), and Keck & Jacobi (2001).

more than R\$112 million (CAD\$50 million)<sup>10</sup>, an average of about R\$94,500 (CAD\$42,000) per contract (Alvim 2003).

In the future, water tariffs collected within the watershed will provide the bulk of resources for FEHIDRO funding. Representative and democratic participation in the committee, along with the stipulation that the fees be reinvested within the same watershed, should ensure that all impacted stakeholders, particularly the water users, will be supportive of the new program and have some power in determining priority areas, “add[ing] muscle to the democratic influence that these bodies were intended to have” (Keck & Abers 2004: 30). At the time of writing, of the more than 100 committees implemented throughout Brazil, the only watershed to have implemented water use charges is the Rio Paraíba do Sul. The slow implementation is attributed to political resistance by powerful lobbyists, which in turn have slowed down the momentum of the watershed management system over the past decade. Until the water charging system is implemented, these funds are not nearly enough to address the water issues that require attention in the region, particularly in the Alto Tietê watershed where investments in wastewater treatment, erosion control, flooding and water source protection are critical priorities.

The Alto Tietê Watershed Committee (CBH-AT) in the RMSP acts as a participatory democratic space to coordinate water resources management among its 39 municipalities. The CBH-AT is unique in that it has created 5 subcommittees where ‘local’ water resource issues can be more effectively addressed. The subregional decentralization was considered necessary due to the extreme heterogeneity in water resource issues, land uses and municipal priorities, and it was hoped that these forums would provide greater opportunities to resolve ‘local’ issues, while the CBH-AT concentrated on the larger scale of the metropolitan region. In these subregional committees, peri-urban municipalities each share the same amount of power with the central core, and there are expanded opportunities for local civil society participation. Yet, depending on the

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<sup>10</sup> All Canadian values reported are approximate based on the average 2004 exchange rate reported by [www.Oanda.com](http://www.Oanda.com): 1Brazilian Real = 0.4452 Canadian dollars.

socioeconomic dynamics within each subregion, the effectiveness of each subcommittee to be participatory and to resolve local water conflicts varies tremendously.

#### **4.0 Pirapora do Bom Jesus: A Case Study of Unevenness in the Metropolitan Waterscape**

Despite many proposals, a metropolitan-wide system of urban governance for the RMSP has not yet been implemented.<sup>11</sup> Alvim (2003) suggests that the CBH-AT is proving to be successful in contributing to the only instance of regional organization in the RMSP, making up for the ‘black hole’ in metropolitan administration. This sounds positive and perhaps could be true for some significant issues; however, while Alvim concentrated on the scale of the CBH-AT, most of the real planning and debates occur in its five subcommittees, which were set up in 1997 and 1998. There are significant differences between the subregions, however, in terms of urban growth patterns, land use, socioeconomic opportunities and popular organizations. The Pinheiros-Pirapora subregion (SRPP), for example, is one of the most polluted and degraded due to high rates of urbanization on unsuitable land and its relative position downstream from the RMSP. Thus the experiences of the subcommittees are and have been quite different in terms of various factors including participation, issues and effectiveness. Previous research in the watershed has demonstrated that most debate and significant actions occur at the level of the subcommittees where there is greater interaction and participation of local municipal and civil society actors (Alvim 2003; Jacobi 2004; Keck & Jacobi 2001). Given the growth character of the RMSP, where the urban poor are being constantly being pushed further outside of the city, each subcommittee then represents an interesting case study in the production and representation of scale.

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<sup>11</sup> In February 2005, the state government published a proposal announcing its intention to set up the Metropolitan Region administration (Emplasa 2005). The proposal is going through a process of public consultation before it is presented in the Legislative Assembly.

The Alto Tietê region, roughly analogous to the boundary of the RMSP, is the most urbanized and complex watershed in the State of São Paulo facing conditions of critical water availability and high erosion, and extreme water pollution from untreated urban and industrial effluent discharges. The Alto Tietê watershed drains an area of 5,985 km<sup>2</sup>, 37% of which is urbanized (FUSP 2002), and includes all or partial territories of 40 municipalities, however only 36 are participating members in the CBH-AT.<sup>12</sup>

The Alto Tietê Watershed Plan (FUSP 2002) points to six critical water issues: availability of water due to lack of water source protection planning and groundwater extraction monitoring; lack of wastewater treatment resulting in a 'dead' Tietê River; poor solid waste disposal resulting in an estimated 3 million cubic metres of sediment and rubbish withdrawn from the Tietê and Pinheiros Rivers; and frequent flooding that has led to an intricate, mechanical system of canals and dams throughout the RMSP.

The most important region in the country in terms of industrial production and urbanization - contributing 18% (US\$147 billion) to the nation's GDP and concentrating about 10.5% of its population (IBGE 2000), the RMSP is a site of contradictory politics, socioeconomic inequalities and geographic unevenness. A diagnosis of the Alto Tietê highlighted four socioeconomic patterns shaping the region's development: 1. the last few decades have seen a concentration of urban growth in the periphery areas of the region, particularly in the protected water source areas; 2. these new developments are primarily characterized by a low socioeconomic profile; 3. congestion in these areas is high even though average density is low suggesting crowded, favela-type conditions in relatively natural areas; and, 4. there are huge

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<sup>12</sup> These 36 are part of the RMSP territory, which involves a total of 39 municipalities; the three remaining municipalities make up only 0.45% of the total population (IGBE 2000). Since the RMSP can be considered virtually synonymous with the Alto Tietê watershed, data for the Alto Tietê will be presented for the entire RMSP.

inequalities in public services connectivity (FUSP 2002).<sup>13</sup> Based on data produced by FIPE/SEHAB (the Favela Census), the estimated proportion of São Paulo's population living in favelas rose from 9% in 1987 to 19.3% in 1993, mostly located on the edge of the city or in neighbouring municipalities [Taschner 1997 (in FUSP 2002)].<sup>14</sup> There is a direct correlation between distribution of income and jobs, with a higher concentration of employment opportunities in areas of medium to high income, aggravating even further disparities in socioeconomic development (Silva 2000).<sup>15</sup> These conditions also create adverse environmental conditions as access to basic infrastructure, such as sewers and solid waste collection, is minimal and development on inadequate land results in high rates of erosion.

The SRPP includes eight municipalities: Osasco, Carapicuíba, Barueri, Itapevi, Jandira, Santana de Paraíba, Pirapora do Bom Jesús and the western districts of the Municipality of São Paulo – Lapa, Butantã and Pirituba – with a total territorial area of 692 km<sup>2</sup>. Although all of the SRPP is considered to be urbanized land, urban development is concentrated on an estimated 1/3 of the entire territory spreading from the Municipality of São Paulo (MSP) (Emplasa 2003). Fairly small in population and size within the RMSP, compared with the periphery municipalities, the SRPP has the highest density, concentrating 20% of the population on only 8.3% of the periphery area.<sup>16</sup> Except for Osasco and Carapicuíba, the entire region is growing at rates much

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<sup>13</sup> See Silva (2000a) for an excellent analysis of services connectivity in relation to water, energy and phone services. His study shows a correlation between income distribution and networked utilities as well as with the availability of jobs.

<sup>14</sup> The 1996 IBGE Population Count estimated that 7.61% of São Paulo City's population was living in favelas, however, it defines favelas as conglomerations of more than 50 units of subnormal housing. The data from FIPE/SEHAB, which defines favelas as being more than 2 units, suggests that the IBGE might be grossly underestimated.

<sup>15</sup> The increase in poverty can be attributed to a reduction in real wages since the 1980s, an inadequate schooling structure, relocation of industry to other areas of the state accompanied with increased rural to urban migration, and overall, a lack of public policy dealing with popular housing and socioeconomic planning (Silva & Machada 2001).

<sup>16</sup> I have chosen to use, when possible, the RMSP peri-urban municipalities – the RMSP excluding the Municipality of São Paulo – as the most appropriate unit of comparison as these are the areas that are currently experiencing the most environmental, social and economic transformation due to expulsion of the urban poor farther outside the city, expansion of elite suburban development, and investment in infrastructure (Aguilar & Ward 2003; Jacobi 2004a). A comparison of the SRPP within the periphery provides an important point of analysis to understand its position relative to the periphery region.

higher than the average rates for São Paulo, the RMSP and the other four subregions, and this trend will most likely continue, particularly with the high rate of land development and improved access offered by the construction of a new highway.

The average income per head of household was R\$1,068 (CAD\$475) in 2000 indicating the region is relatively poor compared with the RMSP average of R\$1,265 (CAD\$563). Only Barueri and Santana de Paraíba have average monthly incomes higher than the MSP or RMSP owing to the presence of wealthy elite neighbourhoods. The rest of the region is characterized by low-income families where the head of the family makes less than 5 minimum salaries. Considering that in 2000 a *cesta basica*<sup>17</sup> cost R\$109.44 (CAD\$49) and the estimated monthly income for a worker to support a family of four was estimated to be about R\$919 (CAD\$409), or 6 minimum salaries (DIEESE 2000), it is evident that almost ¾ of household heads in the region are not making enough to meet the minimum standards for family survival. Thus, the experiences within the subregion, although sharing a common feature of being marginalized on of the periphery, are highly stratified geographically, with some communities and municipalities having higher levels of power and opportunities than others.

Pirapora do Bom Jesus is the smallest municipality in the SRPP, making up just 0.8% of the region's population. The town has some of the lowest social and economic indicators in the region where illiteracy rates are about 10% and about one-third of heads of households made less than one minimum salary (R\$151) in 2000 (IBGE 2000). Its population is concentrated in three principal areas, one of which is the historical center of the town located on the banks of the river. The town was founded in the 1500s when farmers 'miraculously' found a statue of Jesus floating in the river. Since then the town has become a destination for religious pilgrimages bringing hundreds to thousands of people each weekend. Numerous families used to operate boating excursions for tourists, however, that economic activity has been unviable for almost twenty

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<sup>17</sup> The Cesta Basica, or food basket, consists of 13 basic staple food products and is calculated every month for the major cities in the country as a means of tracking the average cost of living.

years due to the pollution and foam. There is a particular pride by residents in the historical patrimony of the town and recently it has been “rediscovered” as the birthplace of Paulista samba. This has led to the renovation of the old cultural center into a new site of community culture and expression.

The most extreme form of pollution in the SRPP is found in Pirapora do Bom Jesus. Here, the Tietê River, loaded with raw sewage and industrial effluents from its passage through the RMSP, falls 35 metres at the Pirapora Dam where the turbulence from the fall results in the production of foam due to the detergents in the water. Although the detergent is biodegradable, it is unable to break down due to the lack of dissolved oxygen in the river, which, in turn, is due to the pollution overload representing an estimated 633 thousand tonnes of biological oxygen demand per day (CETESB 2004). Since 1975, the foam has been systematically present ranging in height from a few inches to five metres. The foam creates extremely noxious smells, particularly on Mondays when the dam is opened again after closing during the weekend in the interests of tourism. Foam passes under the two main bridges of the city often in summer and almost daily in winter, where it can reach heights of up to five metres depending on climatic conditions. Wind often blows the foam into open windows and onto children’s playgrounds. Bacterial studies in 1983 demonstrated that the foam samples collected in front of the dam had fecal coliform concentrations more than 100 times the concentration in the river water (de Castro & Martins 1984). It also showed high concentration ratios of oils and greases, and heavy metals (aluminum and iron), ranging from 71 to 86 times more concentrated than the river water. There are reportedly much higher rates of respiratory illnesses in the town center, although systematic health studies have not been undertaken. The toxins in the air lead to oxidation of statues in the town center and leaves black stains on houses facing the river so that they have to be cleaned and painted frequently. Over the past decade, there has been increased settlement along the margins of the river, where the impacts of the foam are the worst, by poor families fleeing the crowded conditions of the MSP. The municipality has been gradually changing in the past few decades



with a significant shift in centrality from the traditional center to the higher region of Parque Payol where the effects of the water pollution are virtually invisible. Yet the strong ties to religion and the tourists it brings is still a dominant feature in the center.

On June 28, 2003, newspapers throughout Brazil and internationally reported that foam reaching as high as five metres was plaguing the town of Pirapora, spreading onto streets and creating health issues. The levels of foam had actually begun increasing dramatically as early as April and had already overflowed onto one of the bridges that divide the town's centre, as well as onto the children's playground. This was one of several similar events over the past twenty years, however, it was the first time that international media had picked up on it and the result was a national and international media hype highlighting the "attack of the foam". It was also the first time such an extreme event had occurred since the Pinheiros-Pirapora Watershed Subcommittee had been created in September 1998.<sup>18</sup> This event was the result, not only of natural climatic conditions at the time and the presence of untreated wastewater from the RMSP upstream, but a lack of institutional coordination between the state agencies involved – EMAE, DAEE, SABESP – as well as the municipality. In this context, it would have been reasonable to expect that the SCBH-PP, where all these institutions have representatives, would provide a discursive space and the resources to address the Pirapora issue. Considering its position downstream, the SCBH-PP could also play an advocate role at the larger scale of the Alto Tietê region to pressure for wastewater treatment.

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<sup>18</sup> Note that the foam continues to appear on a yearly basis for several consecutive months in the winter months, however, only on rare occasions has it reached high enough levels to overflow onto city streets and bridges.

## **5.0 Who Speaks for Pirapora? The Role of the Pinheiros-Pirapora Watershed Subcommittee**

The Pinheiros-Pirapora Watershed Subcommittee (SCBH-PP) was the last subcommittee to be created - on September 15, 1998. At the time of writing, the SCBH-PP was entering its fourth term having completed just over six years as a regional watershed management unit. The subcommittee is composed of 27 members and their respective substitutes – 9 from each of the state, municipal and civil society sectors – with elections occurring every two years. The SCBH-PP has met at least four times per year in plenary since 1999, and the agenda has mainly been directed towards approving FEHIDRO projects and institutional issues involved with organization and keeping up with projects. According to its Statute, the main tasks of the SCBH-PP are to facilitate integration of regional and municipal-level policy, develop regional watershed and water source protection plans, and promote participation of all three sectors, particularly through helping create water user associations and intermunicipal consortia. Despite not initially having any sites considered for water source protection and the accompanying polemic that appeared to have initiated and sustained other Alto Tietê subcommittees (Alvim 2003), the SCBH-PP has been meeting regularly and can be said to be making a positive contribution to water resources management and planning in the region through some of its initiatives including a recently completed study on land degradation that is leading to more comprehensive land management efforts.

Analysis of the SCBH-PPs activities reveals that there had been many discussions about Pirapora, not so much within the political forum of the committee, but in the technical committee. The Pirapora mayor, who was also the President of the SCBH-PP, and his representatives from the Municipal Secretary of Health continuously pushed the issue, as well as the municipal representative of Santana de Paraíba, an urban planner, where foam was also a problem though not to the same degree. However, the discussions were usually symbolic rather than action-

oriented. The only real action was in the form of FEHIDRO funding for two municipal proposals totaling almost R\$250,000 (CAD\$111,000) during the 2003/2004 term; of six projects proposed that year, the Pirapora mayor - in partnership with SABESP - was granted 30% of the total available FEHIDRO funding for the fiscal year. Recognized as being a palliative measure, the project was considered to be an “emergency” response and was approved despite having to reduce funding to other projects.<sup>19</sup>

Interviews with SCBH-PP members revealed contradictory perspectives about the role of the subcommittee in Pirapora. There was some confusion about what the FEHIDRO project actually entailed; a few interviewees believed that the SCBH-PP had contributed to the construction of a wastewater treatment plant, a project announced by the State Governor. Others believed that there had been no real effort of the committee to address the issue. Part of the reason for the confusion could be the fact that everyone wanted to “do something” about Pirapora and thus the project was approved with little discussion in the technical committee; most of the discussion focused on changes they would have to make on other projects. Despite interviewees’ claims that the SCBH-PP had been involved in the project, no one (outside of Pirapora –based members) knew whether any advancements had been made on either the treatment plant or the actual project that was approved by the SCBH-PP – a camera monitoring system.

It is evident that the SCBH-PP did not play a significant role in addressing the conflict in Pirapora, despite the issue being both relevant to the entire region (in terms of a shared concern with upstream pollution) and nationally publicized as a major water issue in the RMSP (and Brazil). Part of the reason for the lack of action may be due to the assumption that the State was already addressing the issue with *Projeto Tiete*, a multibillion dollar project to substantially

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<sup>19</sup> The reduced FEHIDRO funding left over for the other projects in the subregion resulted in the reduction of one of the proposed Carapicuíba projects, which resulted in a lot of controversy and discussion by representatives as well as external actors from the municipality and local civil society groups.

increase wastewater treatment in the RMSP.<sup>20</sup> However, the case study interviews reveal that there this was not necessarily a unanimous assumption and that there existed significant issues with representation and scale that limited SCBH-PP participation.

One of the main criticisms by state and (technical) municipal representatives is that the civil society actors that participate actively in the SCBH-PP have very narrow agendas and an inability to “think regional,” as well as a lack of technical knowledge and experience to participate effectively. The progress of the SCBH-PP has been slow in terms of collective strategies for regional watershed management. Interviewed members state various reasons for this: the lack of continuity in membership; very narrow interests focusing on ‘local’ neighbourhood-scale issues and preventing the development of a regional vision; civil society lacks the technical knowledge to participate effectively; very low representation of municipalities making the coordination of urban and environmental planning difficult; and, particularly in the last term, there were complaints about the lack of civil society participation, attributed to the sector’s active participation in the upcoming municipal elections, as representatives or campaigners.<sup>21</sup> It is clear that within the subregion Pinheiros-Pirapora there appears to be less experience with participatory governance than other subregions, such as the Billings-Tamanduatei subregion where local activists have been involved in water resources management issues since the 70s. This suggests that *development of participation* as well as knowledge of water resources issues is necessary in order for the space to be effectively participatory. Yet, there were strong reactions, particularly from state members, that they were not willing to invest the time and energy needed to develop this capacity.

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20 Phase I is predicted to be completed in 2005, with an increase in collection and treatment to 84% and 70%, respectively, decreasing untreated sewage by an additional 300 million litres per day. There is a Phase III planned for gradual improvements in the capacities of the five water treatment plants throughout the city; however, based on the population projections for the RMSP, it will be at least twenty years before sewage treatment is expected to be at full capacity (FUSP 2002).

<sup>21</sup> State-wide municipal elections were held in October 2004.

In terms of the 'places' represented by the SCBH-PP members, there is not a wide regional representation. All of the state agency representatives are centralized in offices in São Paulo and Osasco. The civil society organizations directly involved in the SCBH-PP are mostly rooted in the areas of the MSP and Osasco, except for the a Barueri lawyer's organization representing 'diffuse citizen interests'. The 2003/2004 elections resulted in one representative from Carapicuíba and one from Barueri. Of the 198 civil society organizations registered in the database for the last election, 157 are in the domestic user category, mainly neighbourhood associations, and 17 are environmental groups; only 35 are from municipalities west of Osasco – in other words, representation is still concentrated in the urban core.

Civil society representation is based on 'stakeholder groups' not 'regional' identity. The organization of representation in this way is based on an assumption that the appropriate stakeholder groups have been selected and that, since representatives are selected in elections of peer groups, they will be accountable to and 'represent' the group in question. However, there are no guidelines or 'rules' about selected representatives maintaining communication with constituencies to foster accountability. Evidence in the SCBH-PP suggests that once the elections are complete, there is very little effort to communicate with groups registered within each category – the members tend to act on their own basing their representation on their particular spaces of dependence and engagement. This suggests that there is a low possibility that an environmental group in Pirapora, for example, will be 'represented.'

This anomaly is addressed by another assumption: that elected political leaders 'represent' their communities and subregions. Thus, if an organization failed to be represented by an identified stakeholder group or its representative, at the least it would be represented by its mayor. In research on participatory budgeting in Brazil, Posner (2003) argues that municipal mayors in Brazil, who tend to have significant resources and power granted through federal initiatives in administrative decentralization, can play significant roles in enhancing public participation and downward accountability. This depends, however, on the commitment of such

mayors to grassroots mobilization and transparency. Where political leaders win elections by narrow majorities, it might be unrealistic to assume that they are representative of their communities. The other problem is that often the mayors do not attend the meetings, sending a technical expert from the planning or environment departments, whose degree of accountability to the citizens depends on the local political and administrative environment. In Pirapora, there is almost no communication by the mayor of SCBH-PP activities or effort to encourage civil society participation through media, workshops or consultations.

Most of the participation of civil society members in the 2003/2004 term appeared to be centred on the highly politicized issue of the Lagoa de Carapicuíba, where a park was being proposed.<sup>22</sup> The Carapicuíba case demonstrates that capacities to participate in the SCBH-PP may not necessarily be dependent on participants' technical knowledge but on their abilities to obtain power within the subcommittee. It also demonstrates that participation of civil society may be key to securing local benefits, particularly if there is no local participatory space to influence policy process. Many of the civil society actors in the 2003/2004 term were active in the Carapicuíba region or were interested in the issue so there was already a common objective could unite representatives, helping them to "direct debate". In contrast, there were no civil society actors from Pirapora in the SCBH-PP to foster the same type of directed action nor was there any form of participation evident through networking. None of the civil society members interviewed had any network connections with Pirapora. In the database of the SCBH-PP there is only one Pirapora civil society group registered, which, by 2004, no longer existed. The absence of local civil society action may be a principle reason why the foam problem has not had more effective articulation in the subcommittee. Given that the spaces of engagement of civil society

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<sup>22</sup> This issue was polemic for several reasons: the state was using the lake as a dumping ground for dredged river sediments that environmentalists claimed were toxic; the proposed park meant the relocation of nearby favelas; and it involved local municipal politicians, state agencies, environmentalists, and local communities with very different objectives.

organizations have not appeared to extend to all groups in the region, it is difficult to conclude that there is anything more than discursive representation.

Representation of the state is highly questionable as well despite claims to be willing to talk about the foam issue. Theoretically they should be able to 'represent' their agencies' activities in the region, yet, in 2003, when the Pirapora foam became a critical issue, there was no attempt to obtain information and introduce it to the subcommittee by either SABESP, the Environmental Sanitation Technology Company (CETESB) or EMAE even though they were involved in the issue. Technical agents responsible for resolving the issue in Pirapora did not have any reported communication with their organization's subcommittee representative. This is not surprising considering experiences in the CBH-AT where the state has demonstrated its unwillingness to highlight projects that could be polemic (Alvim 2003; Chandra *et al.* 2004). There is still a very strong state-centralist attitude that prejudices the democratic and participatory legitimacy of these committees.

The presence of 'true' representation does not necessarily imply that the water pollution in Pirapora would have been better addressed. There is another problem related to the politics of scale and the perception of the subcommittee relative to the scale of the RMSP. There is general agreement that the problem of water pollution in the region will not be addressed until all the upstream municipalities implement wastewater treatment. There is belief that the issue is already addressed by the state with Projeto Tietê. Although many also feel that a significant problem is the municipalities that do not have concessions with SABESP and have very little wastewater treatment, there is a general expectation that the CBH-AT will adequately account for and address these subregional differences. The discursive 'framing' of the issue as being beyond the reach of the SCBH-PP essentially disempowers action within the subcommittee.

## 6.0 Conclusion

The only subregion that has been relatively isolated from the debates on water source protection is Pinheiros-Pirapora. Until recently, it did not include any territories that were priorities for water source protection planning, indicating that alternative “instruments of articulation” would be needed to create discursive space and facilitate coordination. In addition, its location as the western-most region in São Paulo where the polluted Tietê River leaves the Alto Tietê watershed, effectively makes it the only subregion to be downstream from the rest of the RMSP, absorbing the ecological externalities of the capital accumulation process from all subregions. The concept of water management in São Paulo has been synonymous with the logic of energy production and disjunctured from priorities of sanitation and health, leading to a series of political struggles that would lead to the development of the present politique of watershed committees, and would continue to affect the subregion up to the present. The manufactured ‘hydroscape’ fuelled economic growth and urban development, while the small fringe community of Pirapora has suffered under toxic foam and noxious smells for over thirty years, receiving few of the benefits of São Paulo’s wealth.

The lack of participation or representation in Pirapora is not an issue that has been addressed in the subcommittee, although no one appears to be under the assumption that ‘true’ representation exists. There have been no initiatives by any of the sectors to address inequalities in representation across sociopolitical space or regional scale and there are strong assumptions that where there is conflict, civil society will organize. The SRPP is the only region where prior significant popular movements or regional organization did not exist (Alvim 2003).<sup>23</sup> In conditions where local politicians do not foment this type of experience in political participation

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<sup>23</sup> The other subcommittees were implemented in conditions where there were grassroots popular movements, intermunicipal consortia or high incentives for such organization, particularly in relation to water source protection planning.



or where there is little empowering knowledge of these processes, it might be naïve to expect self-organization (Jacobi 2004; Posner 2003). Without recognition of power, heterogeneity and ‘exclusion’ in representative watershed governance, participation becomes rhetorical and only serves to empower “power over” rather than “power of” (Kujinga & Manzungu 2004; Johnson & Wilson 2000; Perrons & Skyers 2003).

The assumption that civil society representatives will ‘represent’ the sector for which they were elected – i.e. representing *all* neighbourhood organizations across the RMSP – lacks a critical understanding of the extremely heterogeneous socioeconomic and political conditions that exists within each sector. The CBH-AT has already been noted to be dominated by discursive representation rather than constituent representation (Keck & Jacobi 2001). This strongly limits the opportunities for Pinheiros-Pirapora groups to be represented by their sector representatives unless they are actively involved in networks with representative organizations. If, as I argued earlier, participating members in the committees can only be considered situated individuals where their discursive interactions are determined, in large part, by spaces of dependence and engagement, as well as intersubjective dynamics, then the outcomes of these processes result in a production of scale that may not physically or distributionally ‘reach’ the limits of the watershed. Thus, the exclusion of local civil society in Pirapora from both direct participation and networked participation means that they lack influence to *expand the scale* of the SCBH-PP. Although the Pirapora mayor has a strong political role and has been able to achieve some benefits for the town, there has been little effort to extend access (and knowledge) of the SCBH-PP or to encourage participation and networking by local civil society.

From these processes it is clear that the political construction of scale (Brenner 1998) has resulted in the effective exclusion of Pirapora despite the physical scale in which the SCBH-PP is supposed to operate. Representation within the subcommittee does not extend its scalar reach (Cox 1998) to include local civil society either through networks or facilitation of direct participation. The identification of ‘stakeholder groups’ who democratically elect representatives

theoretically legitimates these actors to deliberate as if they were speaking for their constituent. Yet, evidence in the SCBH-PP demonstrates that there is very little constituent representation; there is virtually no effort by representatives – state, municipal and civil society - to communicate with who or what they represent. Instead, representation is discursive (Keck 2004) where each member participates as individuals with place-specific, context-dependent opinions.

The *perception* of scale may also be an important factor in the SCBH-PP lack of direct action in Pirapora. None of the inside actors interviewed felt that the subcommittee should take on a role to ‘represent’ the subregion to the rest of the RMSP. The principal reason given was that the objective of the SCBH-PP is to deal with ‘subregional’ issues, while the CBH-AT would deal with wider-scale water resources issues. Yet, this ignores the integrative function of rescaling water management to the watershed for which the CBH-AT was designed. The subregion is only part of this watershed where social and hydrological processes are mutually constitutive within and between municipal borders. Many problems within the SRPP can be linked to socioeconomic and hydrosocial processes happening upstream, including urban development and water pollution. Aguilar & Ward (2003) demonstrate that human and social development within peri-urban regions is highly uneven and the lack of research of these changes masks extreme inequalities across scale.<sup>24</sup> Without a conceptualization within the subcommittee of its position relative to the scale of the watershed, it runs the risk of being marginalized in decision-making processes in the CBH-AT and loses its opportunity to access political space for which to pressure for improvements in a subregion that has been one of the most drastically marginalized from the socioeconomic benefits of the RMSP’s urban development process.

It is important to note, however, that it is not expected that the SCBH-PP should have reached the ideal of ‘true’ representation or that it ever will. It is still a relatively young

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<sup>24</sup> For example, most research might compare a peri-urban community to average metropolitan indicators masking trends in internal movement of people and capital (Aguilar & Ward 2003). Other techniques would be to assess access to public services by analyzing schematic maps instead of using percentage of coverage (Silva 2000). By adopting this perception, studies within the subregion would be more ‘empowering’ in terms of knowledge of difference across geographic scales.

institution growing from conditions where there was not a prior tradition of political participation and collaborative action. The recent resolution of the Lagoa de Carapicuíba issue represents the subcommittee's first successful experience with collective decision-making involving all three sectors and perhaps sets the stage for more progressive objectives and visions. Future challenges to the institutional processes within the SCBH-PP (spurred by the recent increase in concrete research on São Paulo watershed committees) will ideally lead it to identify and redefine *participation* and *representation*. Without self-reflection on what "good participation" should be or how representation can improve the legitimacy and the reach of decision-making, the watershed committees in the RMSP remain exclusive sociopolitical spaces that prejudice the potential for participatory watershed governance to be effective.

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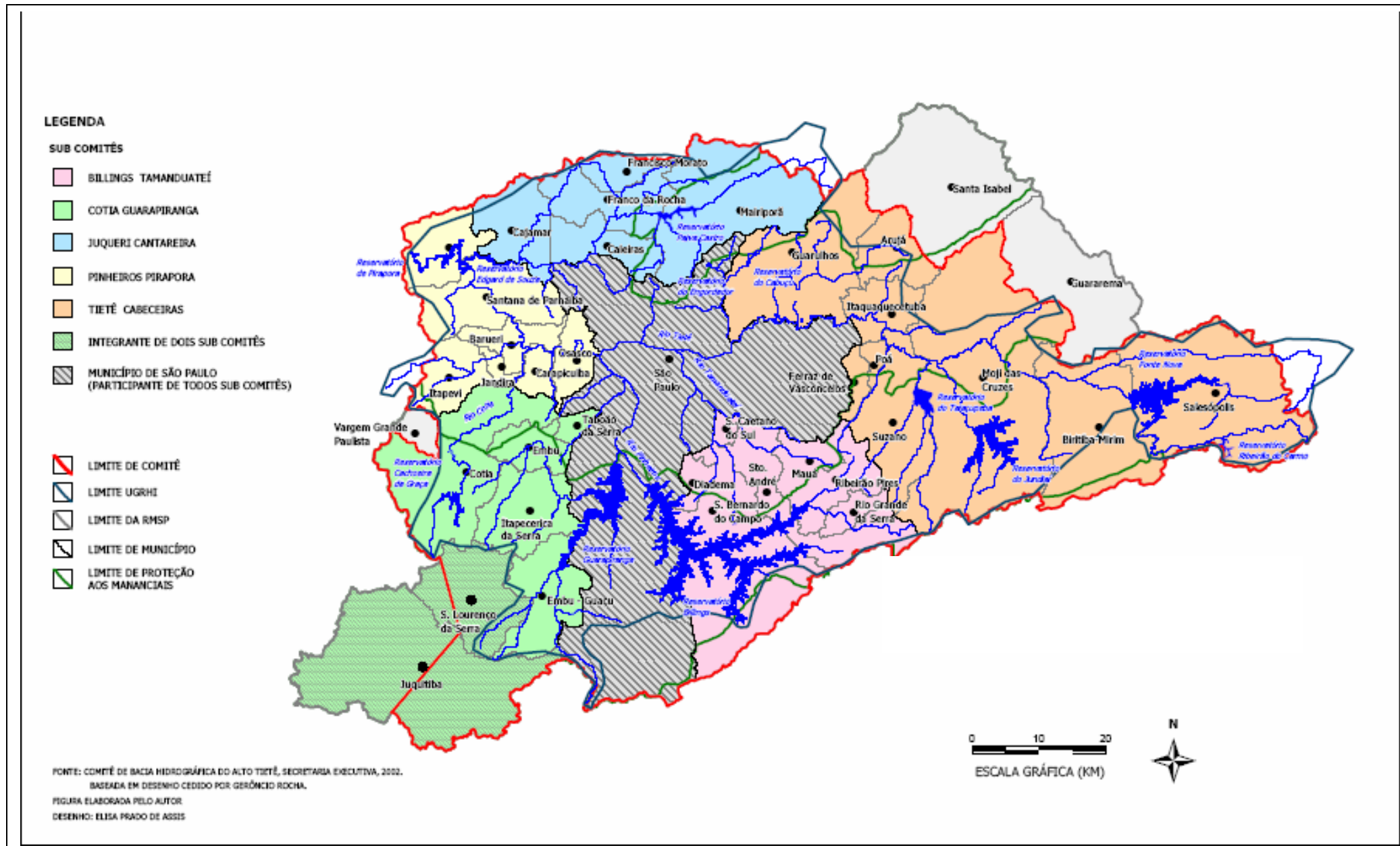
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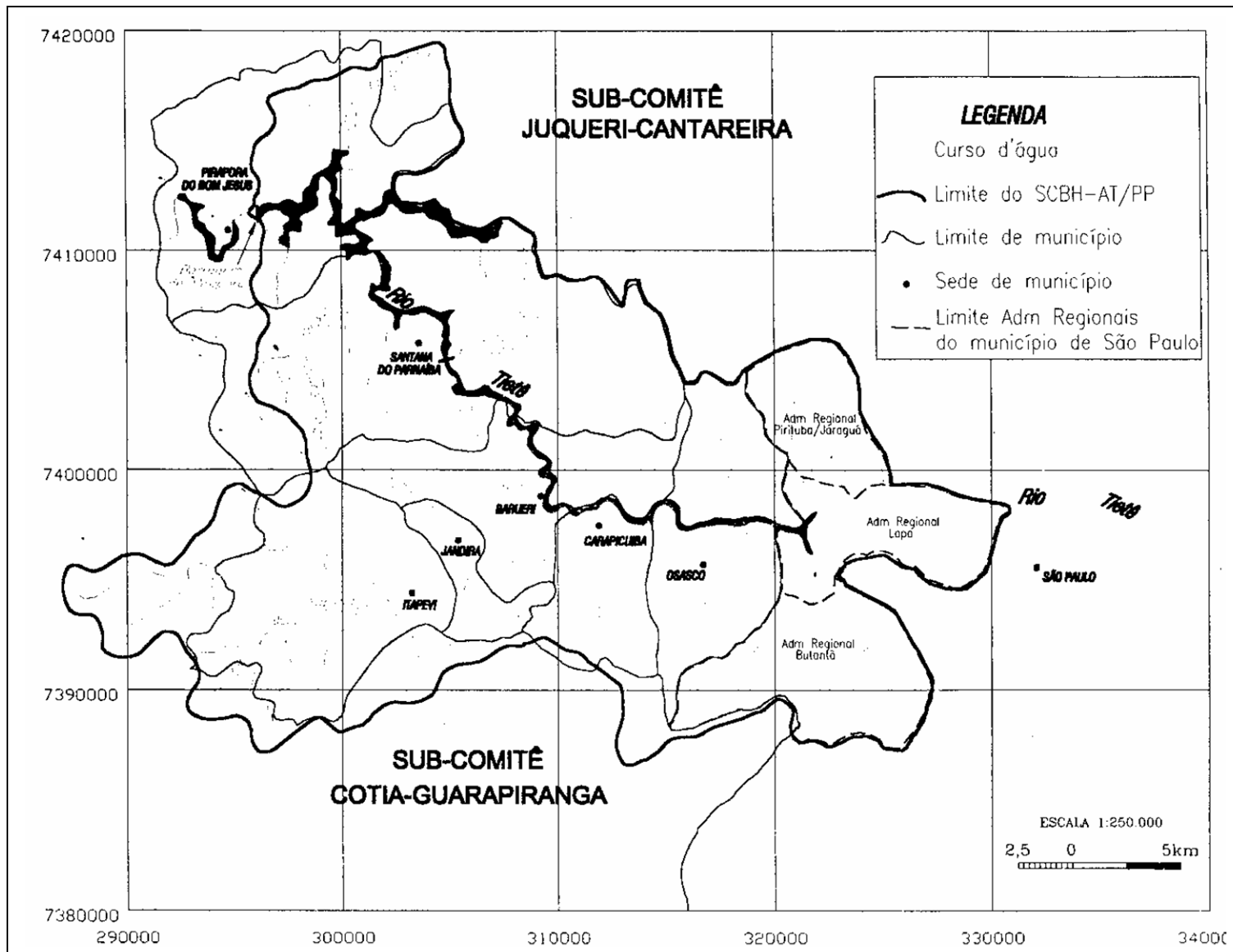
## Appendix A. Map of the Subcommittees of the Alto Tietê Watershed, São Paulo



Source: Alvim (2003).



## Appendix B. Map of the Pinheiros-Pirapora Sub-region



Source: SCBH-PP archives.

## Appendix C: Photos of Tietê River Foam in Pirapora do Bom Jesus



*Historical Centre of Pirapora facing the Tiete River [SABESP Photo 2003].*



*River foam overflowing into the playground [SABESP Photo 2003].*



*River foam overflowing onto the waterfront [SABESP Photo 2003].*



*Foam overflowing over the main bridge in Pirapora [SABESP Photo 2003].*