

Marston, A.J. 2014. The scale of informality: Community-run water systems in peri-urban Cochabamba, Bolivia. *Water Alternatives* 7(1): 72-88



The Scale of Informality: Community-Run Water Systems in Peri-Urban Cochabamba, Bolivia

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ABSTRACT: The production of the urban waterscape is an ongoing process. In this paper, I examine the strategies used by members of 'water committees' in peri-urban Cochabamba, Bolivia in their attempts to ensure the long-term integration of their community-run water systems into municipal water plans. My analysis underscores two points. First, the water committees and their advocates have engaged a range of *scalar strategies* in an effort to transform their water systems from informal to quasi-formal (and therefore more temporally stable) structures. Second, I contend that the literature on politics of scale can potentially enrich theories of urban informality. Interpreting the political strategies of informal collectives through a scalar lens highlights the fact that 'inter-institutional' alliances are usually also – and importantly – multi-scalar. The literature on politics of scale, moreover, offers an important reminder about the role of history in urban waterscapes. Scales of governance are not politically neutral, and scalar interventions can engage historical legacies that are not necessarily compatible with contemporary aspirations.

KEYWORDS: Scale, informality, urban, water governance, Bolivia

INTRODUCTION

The existence of community water-supply systems in urban areas also presents us with a dilemma. Should community water-supply strategies be integrated into urban water management, or eliminated through the expansion of networks? (Bakker, 2010: 41)

More than a decade has passed since the people of Cochabamba, Bolivia expelled the private water company *Aguas del Tunari*¹ in an event known as the Water War (*Guerra del Agua*). In material terms, urban water supply has not improved much since then. The restored public utility, SEMAPA,² still fails to supply water to the peri-urban south of Cochabamba, which is home to the city's poorest residents. Water needs here are met by a combination of tanker trucks (*aguateros*) and neighbourhood-based water supply systems known as water committees (*comités de agua*). In terms of power relations, however, there has been a significant shift in the relative influence of actors in the urban waterscape. Most noticeably, the water committees are now playing a much more visible role in Cochabamba water politics.

Against this background, this paper asks two questions. First, how have the water committees fortified their political position in the Cochabamba waterscape in the years since the Water War?

¹ Aguas del Tunari was formed by a consortium in which US-based Bechtel held the majority share (Spronk, 2007: 14).

² SEMAPA stands for *Servicio Municipal de Agua Potable y Alcantarillado* (Municipal Potable Water and Sanitation Service).

Second, what are the implications of their political engagement for theories of informality in the urban waterscape?

In response to the first question, I argue that the water committees and their advocates have engaged a range of *scalar strategies* in an effort to transform their water systems from informal to quasi-formal (and therefore more temporally stable) structures. I describe four scalar strategies used by the water committees: formation of a city-wide umbrella organisation that can contend directly with SEMAPA; affiliation with state-sanctioned units of decentralised governance known as *Organizaciones Territoriales de Base* (Grassroots Territorial Organisations; OTBs); engagement with local and international NGOs; and, most recently, elaboration of a multi-scalar co-management plan that aims to involve SEMAPA and the (currently under construction) Misicuni Dam as equal partners alongside the water committees.

My response to the second question is more theoretical, though I hope it can have some material impact. I contend that the literature on politics of scale can contribute to theories of urban informality in two significant ways. First, interpreting the political strategies of informal collectives through a scalar lens highlights the fact that 'inter-institutional' alliances are usually also – and importantly – multi-scalar. Indeed, achieving quasi-formality appears to be as much about building multi-scalar alliances as it is about seeking affiliation with formal institutions. In other words, it might be useful to talk about 'scalar bricolage' as well as 'institutional bricolage' (Cleverly, 2002) when considering the motivations for, and outcomes of, such alliance building. Second, the literature on politics of scale offers an important reminder about the role of history in urban waterscapes. Scales of governance are historically produced and are therefore never politically neutral; engaging these scales risks both re-articulating previously hegemonic ideologies and condoning their social priorities. In Cochabamba, this risk is most evident in the water committees' efforts to yoke multiple scales into a proposed co-management plan. In this proposal, the water committees have reaffirmed the importance of the Misicuni mega-dam project – the social, environmental, and economic costs of which reverberate across the Cochabamba valley.

The paper is organised as follows. I begin by exploring the conceptual overlaps between the literature on politics of scale and theories of urban informality. I then examine the scalar strategies used by water committees in their rise from unacknowledged neighbourhood associations to legally recognised water providers. From past struggles I turn to the water committees' proposal for future co-management. I conclude by reflecting on the implications of scalar strategies for theories of urban informality.

The bulk of the evidence for this paper was gathered over a four-month period between June and October 2011. During that time, I conducted over 40 semi-structured interviews with various actors involved in water governance in Cochabamba, including academics, activists, NGO leaders, local and regional state representatives, and water committee leaders. Working with a Quechua-speaking research assistant, I also conducted 56 surveys with members of water committees in a peri-urban neighbourhood known as La Maica.³ Finally, I spent six weeks walking around La Maica with water committee leaders who explained system operations and challenges. These leaders also invited me to attend committee meetings and to accompany them when they attempted to convince NGOs to donate key building supplies and when they pitched their water development ideas to local state representatives. The scalar manoeuvres that I outline in this paper reflect a combination of strategies that were described to me in interviews and strategies that I observed personally.

³ I conducted all of the interviews and the majority of the surveys in Spanish. A handful of the surveyed water committee members, however, felt more comfortable speaking in Quechua. In these cases, my research assistant acted as translator.

THE POLITICS OF SCALE: INFORMALITY AND WATER GOVERNANCE

The 1990s witnessed an intense theorisation of the 'scale question' in the social sciences, largely in response to the perceived scalar impacts of rapid changes in global economic, political and technological conditions (Herod and Wright, 2002: 4). Two questions guided most of these theoretical interventions. How is it that social life has come to operate across an apparently fixed, nested series of levels that range from the body to the local, regional, national and global? What limitations do these societal scales impose on 'local' actors, and to what extent can the limitations be overcome? The majority of scholars who were engaged in answering these questions followed a broadly historical materialist tradition, and by the end of the 1990s they were reaching some definitional consensus. Scales, they posited, are the product of social relations. Rather than predetermined stages on which social processes play out, they are the outcome of those processes (Swyngedouw, 1997; Delaney and Leitner, 1997). Although scales are in a constant state of flux, they appear deceptively stable and atemporal in any given moment (Swyngedouw and Heynen, 2003). Moreover, given their apparent durability, past scalar formations influence the ways that future social relations unfold across space (Lebel et al., 2005).

Most of this politics of scale conversation afforded an explicit but limited agency to actors wishing to 'transcend the local' and influence politics at a larger scale. The most commonly cited mechanism for such transcendence was 'scale jumping', wherein a local actor or group of actors bypasses the immediate scalar hierarchy and forms alliances with national or global networks of social movements, activists, or NGOs (Glassman, 2001). In the early 2000s, however, these theories struck several scholars as theoretically and politically restrictive. Critics argued that the politics of scale scholarship reified a hierarchical perception of the world in which the global acts upon the local, effectively silencing local resistance movements (Marston et al., 2005; Massey, 2005). They suggested that it would be preferable to "develop a relational sense of space as open, multiple and becoming" (MacKinnon, 2010: 21).

In an attempt to find some middle ground that acknowledged the tenacity of scale while leaving room for local contestation, a third wave of scalar scholarship began to suggest that scales might be better conceptualised as co-constituted with lateral networks (Cox, 1997; Amin, 2002; Leitner, 2004). While scales are associated with vertically nested political formations, networks stretch across space and connect places horizontally. A mutual constitution of scales and networks would imply that scales are constantly re-interpreted, reconfigured, and contested (Leitner, 2004: 250). Kevin Cox, moreover, argued that the network theory lessens some of the problems associated with the concept of scale jumping. While scale jumping implies a unidirectional process, Cox contended that scalar manoeuvring typically also involves the consolidation of many smaller scales through a process that can be understood as the creation of a 'network of associations'. The production of scale, therefore, is an intra-scalar as well as an inter-scalar process.

The debate about scale and scalar contestation can be read in parallel to debates about urban informality. Much of the conversation about informality has been motivated by a desire to understand how marginalised people relate to broader urban contexts. Are the poor a largely passive group who make very little mark on urban politics, as Oscar Lewis's 'culture of poverty' theory suggested (Lewis, 1959)? Or are they overtly political actors, actively organised in defence of collective interests, as per Janice Perlman's argument about Brazilian *favelas* (Perlman, 1976)? Or, as Asef Bayat (1997, 2004) compellingly argues, are the poor making molecular gains against wealthy urban property owners and the state through individual actions that together constitute 'quiet encroachment'? The answers vary significantly across time and space, but underlying the questions is an interest in the ways that 'informals' – understood as people living and working in marginal urban spaces – relate to large-scale political, economic and social processes. Put this way, the conceptual overlap between discussions of informality and discussions of scale is straightforward: both are interested in the processes by which the local and global interact.

This point has been made before, though with a different conceptual purpose. In her 2005 article, Ananya Roy argues that there are two main tendencies within literature about urban informality: one that deplores the inescapable political economic structures that drive urbanisation, and one that celebrates the entrepreneurial spirit – or agency – of the urban poor (in the vein of Hernando de Soto's 2000 book *The Mystery of Capital*). Both frameworks, according to Roy, "embody a false dichotomy in which global and local are presented as mutually exclusive categories. It is more useful to contemplate action and agency as *multiscaled*, nimble enough to jump scales and work in multiple theaters of action" (Roy, 2005: 154, emphasis added).

For Roy (2005: 154), drawing scale into a theory of informality allows the latter to escape a paralysing structure-versus-agency debate that has been projected on to the global-versus-local dualism. She also suggests that scale jumping might be conceived as "a strategic engagement with multiple sovereigns", a point that directly links varieties of sovereign (public, private, non-profit, informal, etc) to scales of governance. My argument builds on hers by suggesting that scalar theory provides a useful set of tools for conceptualising the agential mechanisms by which "multi-sovereign" alliances are formed.

In particular, I find the concepts of 'scale jumping', 'network of associations' and 'multi-scalar formations' to be useful means of understanding the processes by which informal water distributors come to gain a kind of quasi-formality in the urban waterscape. These concepts resonate with Francis Cleaver's concept of 'institutional bricolage', which she uses to describe mixed forms of urban water management (Cleaver, 2002). Cleaver uses the terms 'bureaucratic' and 'socially embedded', rather than formal and informal, to distinguish between institutions that have been created and/or sanctioned by government or development agencies, on the one hand, and those that are enacted through residents' daily water practices, on the other. For her, the term 'institutional bricolage' suggests "how mechanisms for resource management and collective action are borrowed or constructed from existing institutions, styles of thinking and sanctioned social relationships" (Cleaver, 2002: 16). This concept raises an important question about who – or what – assembles these new mechanisms. Like Roy, and like many scalar theorists, Cleaver conceives a distributed, incomplete agency. She understands actors as "conscious and unconscious social agents, deeply embedded in their cultural milieu but nonetheless capable of analysing and acting upon the circumstances that confront them. Individual action is characterised by both agency and structural constraint" (Cleaver, 2002: 16).

Scalar theory has much in common with Cleaver's institutional bricolage, but an attention to scale adds a sense of history. This is particularly true for international water management practices, which have undergone a series of scalar 'trends' over the last half century. If scales of water governance are produced under particular historical conditions, it follows that they carry with them then-dominant attitudes towards water governance. Engaging these scales in the present necessarily implies articulating the logics and values that went into their production. Put differently, scale jumping or scalar manoeuvring can unintentionally lend strength to past water governance arrangements. Each of these past arrangements had advantages but also brought about varied negative outcomes; uncritical engagement with historically produced scales of water governance threatens to repeat these results.

Some context will clarify what I mean by the historical emergence of scales of water governance. From the 1950s to the 1970s, many development agencies and states around the world attempted to address water shortages with technical, interventionist, and extremely large-scale solutions. This era is often associated with the explosion of 'mega-dams', which caused massive rural dispossession and environmental devastation around the world (Bakker, 2010). It is also associated with 'productionist' urban water supply, which attempted to meet growing urban water demand by building expensive, state-owned distribution networks that grew much more slowly than the urban population (Swyngedouw, 1995).

Since the 1980s, the scalar pendulum has been swinging in quite the opposite direction. At that time, development agencies and NGOs began to preach the virtues of local- or community-level water governance (Reed and Bruyneel, 2010). While the ecological and social repercussions of mega-dams certainly contributed to a desire for more context-specific, small-scale solutions to water problems, interest in local-level water management was also broadly congruent with a more general trend towards decentralised governance of all varieties (McCarthy, 2005; Purcell and Brown, 2005). Emphasis on local participation and devolved responsibility in the water sector can therefore be seen as evidence of 'state retreat' and 'roll-back neoliberalisation' (Jessop, 2002; Peck and Tickell, 2002). Put differently, uncritical celebration of local-level water governance has much in common with descriptions of informal 'entrepreneurialism', in that both are supported by neoliberal values that laud individual action and decry state interventionism. Much like these broader moves towards decentralisation, local water management has been criticised on the grounds that the community is not necessarily a more equitable or harmonious scale of governance than any other, and that substantial exclusions can be generated or reinforced (Bakker, 2008). Managing water at the local scale, moreover, is particularly difficult because it is a 'flow resource' – that is, it circulates through ecosystems and social spaces and cannot easily be contained within any given scale (Bakker, 2003).

The current predilection for small-scale water governance must therefore be understood in the context of a global emphasis on decentralisation. But these global trends always interact with place-based politics, histories and priorities. In Latin America, neoliberal economic restructuring of the 1980s had devastating social impacts (Perreault and Martin, 2005). In many Latin American countries, however, the second wave of 'soft' or 'roll-out' neoliberal policies of the 1990s inadvertently provided tools for anti-neoliberal resistance movements (Yashar, 2005; Bustamante et al., 2012). In these cases, governance decentralisation took place in tandem with the introduction of multicultural reforms that "gave indigenous populations contradictory positions within which to rework or resist economic, social, and political reforms" (Radcliffe and Laurie, 2006: 90). 'Community' therefore plays an ambiguous role in Latin America: strengthened not only by neoliberal policies but also by the platform from which anti-neoliberal resistance is mobilised. This is the contradictory position that the Cochabamba water committees occupy.

Each scale of water governance therefore stems from a particular ideological era and carries with it a particular set of hazards. As I will demonstrate, the Cochabamba water committees, although usually associated with the 'post-neoliberal' era in Bolivia (Terhorst et al., 2013), are employing scalar strategies that articulate ideologies rooted in previous eras of regional water governance.

FROM NEIGHBOURHOOD ASSOCIATIONS TO RECOGNISED WATER PROVIDERS

'Water committees', or community-owned and -operated water systems, can be found throughout the city of Cochabamba. They exist wherever a group of neighbours decided to pool resources to drill a well, install a pump, and build a network of pipes to connect the households. Membership to a water committee does not preclude access to, and use of, other water sources: many people in the north and city centre are very likely to have public water connections alongside their community water connections, and others might also supplement with water from private vendors who move around the city in tanker trucks (*aguateros*).

The vast majority of water committees, however, are located in the *zona sur*, or the peri-urban south of the city, where the public water network has extremely limited coverage. Not coincidentally, the *zona sur* is also the poorest region of the city and has the highest population growth rate. According to the 2001 census, Cochabamba has a population of just over 500,000 with a growth rate of 2.5%; the

zona sur, by contrast, has a growth rate of 8.9% (Ledo, 2008: 10).⁴ Many migrants come from the highlands, where they were miners prior to the collapse of global demand for tin in the early 1980s (Kohl and Farthing, 2006). Others were subsistence farmers, many identified as indigenous (primarily Quechua), who migrated to the city in response to the decreasing economic viability of small-scale agriculture and uncertain territorial land claims.

Water committees in the *zona sur* reflect the heterogeneous backgrounds of their members, whose knowledge of miners' unions, peasant unions, and indigenous community structures have influenced management practices. These practices have also been shaped by church-based and non-profit organisations, which in many cases were instrumental to the water committees' initial formation. Water committees usually have at least a president (elected or appointed) and a secretary who keeps track of water payments. In La Maica, the region of the peri-urban south where I gathered most of my primary data, many water committees have full directory boards that meet on a monthly basis to discuss water system maintenance and governance strategies. Water committees vary significantly in age, but the oldest that I encountered had been operational for 25 years. Some of the newer committees, many of which were set up in cooperation with local NGOs, do not actually have access to sufficient groundwater to meet the needs of their members. Instead, these committees rely on shared cisterns that they fill with water purchased in bulk from *aguateros*. The long-term goal of many such committees is to connect their networks to a more reliable source of water, as promised by the Misicuni Dam.

Water committees in the peri-urban south breached municipal, national, and international consciousness more or less simultaneously with the outbreak of the Water War in 2000. Along with urban water users and rural irrigators, peri-urban residents played a major part in the *Coordinadora de Defensa de Agua y Vida* (Coordinator of Defence of Water and Life), the grassroots organisation that led public protests against the foreign private conglomerate Aguas del Tunari. Although most water committee members had not previously been connected to the public utility – and therefore did not experience the skyrocketing tariffs that are commonly cited as motivation for the Water War – the water committees' autonomy was threatened by the Potable Water and Sanitation Law (*Ley de Servicios de Agua Potable y Alcantarillado Sanitario*, Law No. 2029), which had been hurriedly passed in 1999 in order to provide a framework for private participation in the water sector (Shultz, 2008). This law introduced a system of concessions and licences for potable water, where the former were to be awarded to centres of over 10,000 people and the latter would cover smaller populations. Concessions were to last for 40 years, whereas licences could only be obtained for five; concessionaires, moreover, "would have exclusive rights over the concession area, which meant that existing local organizations such as cooperatives or neighbourhood associations would be forced to enter into contracts with the concessionaires" (Assies, 2003: 17). In other words, this law authorised Aguas del Tunari the right to take control of all peri-urban water systems without compensating the people who had built them (Olivera and Lewis, 2004).

Successful protests resulted in the passage of a modified law (Law No. 2066) on 11 April 2000. From the perspective of water committees, the most salient improvements of Law 2066 were that peasant and indigenous organisations would be able to obtain indefinite water licences and that concessionaires would not have exclusive rights to water in their concession areas (Perreault, 2006). This victory legitimised the water committees' presence and can be interpreted as a kind of quasi-formalisation. They now have the opportunity to be recognised by the state, though not all (or even most) of them have chosen to pursue this option.

There are a number of resonances between the water committees' involvement in the Water War and Asef Bayat's (1997) theory of the 'quiet encroachment' of urban 'informals'. Bayat argues that,

⁴ A more recent census was conducted in 2012, but statistics for suburban regions have not yet been made available.

although the urban poor are offensive in their attempts to lay claim to urban spaces, they advance unobtrusively and independently. In moments of threat, however, they will defend their hard-won territory loudly and collectively. Although the water committees have always been collective rather than individual endeavours, they were relatively isolated from one another prior to the Water War. The threat that Aguas de Tunari posed to community autonomy, however, was sufficient to bring these disparate organisations into cooperation with one another. But what happens after a group of independent organisations has united forces and succeeded in vanquishing a communal threat? Bayat does not ask this question, but it is important for understanding the contemporary Cochabamba waterscape.

SCALAR ARTICULATIONS FROM THE WATER WAR TO PRESENT

Water committee members joined the Water War to secure continued access to their respective community systems, but the act of joining forces with other committees led to a reorientation of scalar demands: instead of demanding autonomy for one neighbourhood, they were demanding security for water committees as a group. This broader battle did not end with the reinstatement of the public water utility.

In 2004, four years after the Water War, many water committees banded together to create the umbrella organisation ASICASUDD-EPSAS.⁵ This alliance was not a purely grassroots initiative, however. In fact, it was the brainchild of the first post-Water War SEMAPA directory board, which was frustrated by the difficulty of working with scattered water committees to develop a water plan for the *zona sur*. The SEMAPA directors, in conjunction with Centro Vicente Calles, a church-affiliated NGO, set up a six-month training session for water committee members, out of which emerged ASICASUDD-EPSAS (Grandydie Felipe and Tinta, 2006: 243; Achi and Kirchheimer, 2006: 217). Today, ASICASUDD-EPSAS receives most of its funding from international donor agencies, especially the Italian organisation CeVI (*Centro di Volontariato Internazionale*).

Since its inception, therefore, ASICASUDD-EPSAS has been linked both to the state (via SEMAPA) and to foreign funding bodies. In contemporary water politics, however, ASICASUDD-EPSAS tends to bill itself as the autonomous voice of water committees of the *zona sur*. Indeed, according to Travis Driessen (2008), ASICASUDD-EPSAS started coming into conflict with SEMAPA and the local state quite soon after its inauguration. Driessen argues that ASICASUDD-EPSAS was repeatedly marginalised in the discussion and execution of a plan, started in 2007, to expand SEMAPA's network into the *zona sur*. This animosity remained palpable in my interviews with ASICASUDD-EPSAS representatives, water committee presidents, and SEMAPA engineers. That said, ASICASUDD-EPSAS is not advocating autonomous water governance; rather, it is lobbying for a co-management solution (as outlined in the next section).

The formation of ASICASUDD-EPSAS was a scalar consolidation: it linked together numerous neighbourhood-based water committees in a form that could be interpreted, following Cox, as a network of associations. Its creation allowed the water committees to engage on a more even footing with larger-scale actors such as SEMAPA and the municipal government. Indeed, the adoption of the word 'EPSAS' into its title is evidence of the organisation's efforts to attain the same political status accorded to SEMAPA and other public water utilities. When the Potable Water Law (No. 2066) was modified following the Water War, it created a system of licences (for larger water providers or municipal governments) and registries (for indigenous communities and peasant associations/unions).

⁵ ASICASUDD-EPSAS stands for *Asociación de Sistemas Comunitarios de Agua del Sud, Departamental y Entidades Prestadoras de Servicio de Agua y Saneamiento* (Association of Community Water Systems of the South, of the Department, and Provider Entities of Water and Sanitation Services).

All the entities that were granted either a licence or a registry would be recognised as an EPSA. Later, the 2009 Bolivian Constitution made privatising water or granting concessions illegal and enshrined the licence/registry system (Article 373: II), making EPSA status significantly more valuable. Since its founding, ASICASUDD-EPSAS had been known simply as ASICA-SUR,⁶ but it added the suffix in 2010 after receiving legal recognition through a departmental decree (No. 2457). This move was more than scalar: it also further muddied the line between formal and informal modes of governance. ASICASUDD-EPSAS is now one of the most important actors in the city's waterscape.

Not all the water committees opted to join ASICASUDD-EPSAS, however. Others chose the distinct scalar strategy of associating themselves with state-sanctioned units of decentralised governance, the OTBs (*Organizaciones Territoriales de Base*, or Grassroots Territorial Organisations). These latter were created through the 1994 *Ley de Participación Popular* (Popular Participation Law, LPP), which divided the country into more than 300 municipalities (*municipios*) and directed 20% of national tax revenues towards them (Perreault, 2008). OTBs have access to funding for development projects through their municipalities and have been granted responsibility for "creating community development plans, ensuring local oversight and mobilising community labour for public works" (Kohl and Farthing, 2006: 132).

Many scholars argue that the creation of OTBs facilitated grassroots mobilisation, as in the case of Evo Morales's ascension from the president of the national *cocalero* (coca producer) union to President of the Republic (Farthing and Kohl, 2005; Yashar, 2005). To a certain extent, this is true. Many OTBs are essentially repackaged political structures that pre-date the implementation of the LPP (and, in some cases, the water committees). They adhere to their own governance norms but now have access to public funding for internally designed projects. As such, they could be interpreted as a redistribution of state resources that makes space for genuine participatory planning. But on the other hand, the OTBs have become the only sanctioned space for participatory and decentralised governance. The nested hierarchy that describes endorsed decentralisation, although not always neat, extends from the nation-state to departments, provinces, municipalities, cantons, parishes, and OTBs (Andolina et al., 2009: 85). Organisations that do not fit in this hierarchy are excluded from the flow of public funds.

The relationships that water committees maintain with their respective OTBs vary from nearly complete cooperation (with water committee presidents sitting on the OTB directorate) to direct antagonism (Quiroz, 2011). For example, I worked with six water committees in La Maica that were cooperating with an OTB in order to access state funding that would help them build a larger distribution network (Marston, in press). Indeed, in some cases water committees were established *by* OTBs, or by OTBs working in concert with NGOs. But other water committee presidents told me that they maintained their political distance from OTBs, citing the latter's vulnerability to state manipulation. For example, Gastón Zeballos, who is both a water committee president and employee of the NGO Fundación Abril, expressed the following concerns:

The problem is that the OTBs are really politicized, no? They receive money from the government's popular participation [law], from the municipality, so they are in the service of the municipalities... Since the committees are autonomous, there's no direct [financial] line. But the OTBs want to pull people into their organization, and sometimes the committees have to say no, no we don't want to be politicized (Zeballos, 2011).

Of course, water committees *are* politicised, and are also vulnerable to elite capture (though OTBs are more notorious for this – cf. Driessen, 2008). But most water committees maintain a critical distance from political *parties*, including current Bolivian president Evo Morales's party, the MAS (*Movimiento al*

⁶ ASICA-SUR stands for *Asociación de Sistemas Comunitarias del Agua del Sur* (Association of Southern Community Water Systems).

Socialismo) (Terhorst et al., 2013). This distance allows them to claim autonomy and neutrality, even when these descriptors are not entirely accurate.

Given the complicated relations between OTBs and water committees, it cannot be said that these two entities engage with one another as distinct sovereigns, but rather that they collaborate (or cleave) internally. In this case, the idea of 'jumping' does not quite capture the scalar manoeuvres at play: it is a lateral link that is being fostered, but it gives the water committees access to a set of vertical government scales to which they would otherwise not be privy. The process of creating or maintaining linkages with OTBs, however, is a far cry from neutral endeavour. These entities were created by neoliberal restructuring and are consistent with a neoliberal aspiration to devolve governance responsibility while retaining state authority. The water committees that affiliate with OTBs are articulating the recent neoliberal history that, even while supporting their immediate goals of improving water access, could undermine their long-term autonomy.

The third scalar strategy frequently undertaken by water committees involves direct collaboration with NGOs, a manoeuvre that can coexist with affiliations to OTBs or to ASICASUDD-EPSAS. NGOs, not surprisingly, represent the most commonly cited platforms for scale-jumping. They are usually multi-scalar in orientation: some have their headquarters in one country (most often Europe or North America) and local offices all over the world, while those that were created locally often network aggressively with foreign donors to stay afloat, especially in hostile political environments. The 'NGO-isation' of Latin America (Bebbington, 2004; Alvarez, 2009) corresponds with state retreat during the neoliberal era of the 1980s, 1990s and early 2000s, when international donors increasingly identified NGOs as both legitimate representatives of 'the people' and more efficient project managers than their state-run counterparts. Although neither contention was true in all (or even most) circumstances, NGOs nevertheless became prominent nodes in the international development network. Social movements looking for international support often use NGOs as podiums from which to jump scales or 'throw boomerangs' to global activist networks and foreign funding bodies (Smith, 1984; Keck and Sikkink, 1998).

The number of water-oriented NGOs working in Cochabamba has increased exponentially since the Water War. Some, such as Water For People and Aguaturya, concentrate on technical solutions to water access in Cochabamba; others, such as the more activist-based Agua Sustentable and Fundación Abril (the latter of which was founded by Water War leader Oscar Olivera) are focused on capacity-building through solidarity networks. To the water committees, NGOs offer access to funding, volunteers, and technology. But these investments, as one water committee president commented to me resignedly, always come with conditions. Many NGO-led projects must meet specific criteria, imposed by donors and executive boards, and the water committees are sometimes correspondingly obliged to conform to aspects of 'best practices' rhetoric.

Several NGOs have collaborated closely with ASICASUDD-EPSAS in producing and disseminating ideas about the future of municipal water governance in Cochabamba. The dominant vision that has emerged from these discussions is one of 'co-gestión', or co-management. This plan would entail multiple scalar manoeuvres that hinge crucially on the completion of the elusive Misicuni Dam project.

MISICUNI AND THE DREAM OF CO-GESTIÓN

I think that one possible solution for Cochabamba would be for some entity – like Semapa, or Misicuni – to make a large network, for example one line that goes all around the city. Just an idea: one good tube, filled with good quality, high-pressure water, nothing else. And each little system could connect itself to this tube... I think that that would be a much better kind of governance, a shared governance, co-management, where there's citizen participation through the

cooperatives, from the water associations, as well as state participation (Heredia, 2011) – President of the NGO Aguatuya.⁷

In reality, the only solution is Misicuni... It has become the dream of every Cochabambino (Quiroz, 2011) – Environmental economist working with Centro AGUA, at the Universidad Mayor de San Simón (Cochabamba).

Discussions on the future of municipal water governance in Cochabamba have reached a stalemate in recent years. Many people hold on to a vision of a vastly extended and improved public network to which even the city's most marginal people have access. In this script, the water committees are framed as merely temporary fixes along the road to a universally networked public service. Water committee members, however, do not necessarily see this scenario as either likely or desirable. Many peri-urban residents remain distrustful of the local state, which sold their water rights to a private company in the not-so-distant past, and are wary of surrendering their hard-won autonomy. In this context, a number of water committees, led by ASICASUDD-EPSAS and supported by many activists and academics, are insisting that any plan for future water governance must integrate the water committees as indivisible decision-making units through a co-management scheme with SEMAPA.⁸

As it stands, however, neither universal public coverage nor co-management is likely in the near future. According to Carlos Pelaez, head of SEMAPA's planning department, SEMAPA does not currently have enough water in its network to supply the peri-urban south, whether through a co-management arrangement or direct provision (Pelaez, 2011). Both sides are therefore awaiting the completion of the Misicuni Dam, whose as-of-yet unrealised promise of abundance has shaped regional water politics for decades.

There are some variations on the co-management proposal, but in essence it would involve the sale of Misicuni water from SEMAPA to the water committees, the latter of which would control the distribution and pricing of water in their respective communities. From the perspective of the water committees, the co-management plan promises lower water prices and relative resource autonomy. The price that individual users would pay for water is expected to be lower than the price that SEMAPA charges its urban customers because all the purchases would be made in bulk (Quiroz, 2011).⁹ Even more importantly, in the surveys that I conducted, committee members stressed that they liked knowing that their president would be swift to react if something were to happen to the water network because she or he would otherwise be risking the wrath of the neighbours. The general perception of SEMAPA is that of a distant authority figure whose interest in the well-being of peri-urban residents is minimal at best. The water committees are willing to work with SEMAPA if it means reducing their dependence on the high-cost *aguateros*, but allowing SEMAPA to make decisions in their name is unacceptable for residents whose historical interactions with the water utility have been largely negative.

In their attempts to rationalise the co-management plan, water committee leaders and advocates have enlisted ideological justifications that correspond with multiple scales of water governance. First,

⁷ Aguatuya is a local NGO that was created by a private company called Plastiforte, which sells plastic pipes for water distribution networks. I have elaborated on this conflict of interest elsewhere (Marston, in press).

⁸ A similar co-management strategy was implemented in the nearby town of Tiquipaya in 2001. The project elicited much controversy among water committee members, who felt that it had been poorly publicised and threatened their community distribution networks (Faysse et al., 2007). The co-management proposal in Cochabamba aims to avoid these struggles by involving water committee members in the negotiations.

⁹ This tariff arrangement has its drawbacks, however. Economist Franz Quiroz argues that the fees that SEMAPA charges its urban users are substantially lower than the cost of production (about 2.6 bolivianos per cubic metre versus 4.5 bolivianos per cubic metre). According to him, further lowering of the tariffs by selling water in bulk would be politically popular but not financially feasible (Quiroz, 2011).

they appeal to two sets of global discourses about the relative value of governance at the local scale. Local water governance plays a major role both in 'alter-globalisation' discourse, where the community is framed as an alternative to the public-private dichotomy that has characterised water governance for the past several decades (Shiva, 2002; Bakker, 2008), and in more mainstream development literature, in which it is often posited that local actors' interest in conserving resources for the future will result in economically efficient and environmentally sustainable resource use. The water committees recruit elements from both of these discourses.

Water committees appealed to ideals about 'community' and indigenous identity both during the Water War and in the years afterwards. They drew on the language of *usos y costumbres* (uses and customs) to justify their continued access to water that was legally, at that point, part of a larger concession area (Perreault, 2008). Advocates of the co-management water governance plan, moreover, often describe the committees as founded on values of solidarity and reciprocity, which are ideals associated with the alter-globalisation discourse (Olivera and Lewis, 2004; Grandydiez Felipe and Tinta, 2006). But these same advocates also make the case that water committees would be better economic stewards than SEMAPA because they have a personal interest in ensuring that no one else taps their pipes. As the director of the local NGO Aguatuaya put it: "[i]f there's a leak in SEMAPA's network, SEMAPA will repair it in six months. But the same system, if it's a community system, they'll repair it the next day, because they don't have the luxury of wasting money" (Heredia, 2011). In this way, they are also appealing to economic efficiency arguments characteristic of neoliberal water management discourse.

Neither of these discourses, however, is able to justify the Misicuni Dam project. In order to explain the way that this large-scale, interventionist project has been incorporated into the co-management scheme, a few words are needed about the history mega-dams in general and Misicuni in particular.

For much of the twentieth century, 'big dam' projects epitomised western conceptions of development. From the Hoover Dam on the Colorado River in Nevada (1936) to the Three Gorges Dam on the Yangtze River in China (2006), development 'experts' across the decades have touted colossal dams as the solution to rural poverty, food shortages, energy crises, and general 'underdevelopment'. These dams typically cost many millions of dollars, often prompting governments to withdraw equally colossal loans, the most common lender of which was undoubtedly the World Bank (Roy, 1999). In addition to their purported developmental necessity, big dams also symbolised nation building, mastery of nature, and the path towards modernity (Bakker, 2010). With the global shift away from Keynesian economics and towards neoliberal policies in the 1980s and 1990s, interest in these goals has similarly waned, though it certainly has not disappeared (WCD, 2000: 9). Frequently cited factors for reduced interest in dams include huge ecological damage, enormous numbers of displaced people, and unsatisfactory economic gains (cf Fisher, 1995; Qing et al., 1998; Khagram, 2004). Although the displacement of the big dam paradigm by a market-based paradigm is by no means complete, there has been at least a partial shift away from state management and towards decentralised governance.

Misicuni is a classic product of the mega-dam era. First conceived in the early 1950s, it occupies an ambivalent position in the hearts of Cochabambinos and the politics of their city.¹⁰ On the one hand, Misicuni can be interpreted as a hangover from the big dam era, during which time "the harnessing of and control over water was inscribed in the political-economic struggles that underpinned Latin American urbanisation processes" (Swyngedouw, 1995: 392). But on the other hand, the dam is of the

¹⁰ Construction did not begin immediately, however. Plans and budgets for Misicuni were drawn up in the 1970s, but were thwarted when General Hugo Banzar Suárez seized state power and diverted funding towards petroleum-rich Santa Cruz. The project surfaced again in the early 1980s, but a national economic crisis prompted international finance to withdraw its support (Laurie and Marvin, 1999). In the latter part of the decade, Misicuni was presented to the city as an option: dam or airport? By referendum, the city chose the airport. Misicuni was returned to the backburner (Vera Varela, 1995).

utmost importance from the perspective of regional identity and autonomy. Beyond offering an answer to the anxiety-producing questions of rapid urbanisation and potential desertification currently threatening the Cochabamba valley, Misicuni was sold to Cochabambinos as a way of cementing regional independence by guaranteeing 'local' control of water; that is, by relying on water from the Cochabamba valley catchment (Laurie and Marvin, 1999).

Since the Water War, construction of the dam is finally underway with some momentum, having attracted funding from the Inter-American Development Bank. The main aim of the project is to dam and divert water from the Misicuni, Viscachas, and Putucuni watersheds, which are separated from the city by the Tunari mountain range. These watersheds drain northwards, away from the city; once dammed, the water will be channelled southwards, through a 20 kilometre long tunnel that cuts through the mountainside (Laserna, 2000). From there, a pressurised piping system will transport the water to a hydroelectric plant roughly 1000 metres below (see Laurie and Marvin, 1999, for a detailed map; IDB, 2009). Once completed, Misicuni will theoretically resolve scarcity problems for potable water and irrigation in the municipality of Cercado (in which Cochabamba proper is located) as well as the neighbouring municipalities of Quillacollo, Tiquipaya, Colcapirhua, Vinto and Sipe Sipe, all while generating 80 megawatts of electricity per year (Los Tiempos, 2009). Recent projections indicate that Phase 1 of the dam will be complete by 2016 and that Phase 2 will be complete by 2021 (MMAyA, 2013). With the completion of Phase 1, Misicuni should be producing 3100l of water per second, 2000l of which are earmarked for drinking water and 1100l which will supplement irrigation water.

In their 1999 paper, Laurie and Marvin trace Misicuni's frequently foiled plans up to the end of the century, looking specifically at the ways that these plans interacted with more recently introduced neoliberal policies (movement towards the privatisation or 'capitalisation' of industry, reliance on the logic of the market, etc). Their central argument, that a particular nexus between neoliberalisation and globalisation has created spaces for alternative interpretations of modernity, hinges on this key point:

Although Misicuni has been linked to a technocentric definition of modernisation, at different points the project has been able to reinvent itself to appeal to the particular development ideology of the time by shifting from an emphasis on an integrated project to a focus on electricity and then to a concern with drinking water. So now in the 1990s, in the face of the neoliberal challenge of water trading, Misicuni is attempting to reinvent itself again, this time as a cultural resource (Laurie and Marvin, 1999: 1409).

More than a decade after the publication of Laurie and Marvin's article, Misicuni remains central to a water agenda that has supposedly moved beyond the neoliberal institutions of the 1990s. If Misicuni was re-imagined in the late 1990s as a regional cultural resource, it is now being cast as the largest scale of a multi-scalar co-management scheme. The co-management proposal could be categorised as aspiring to an "alternative modernity" (Escobar, 2010), but the foundation on which it is built (Misicuni) is inextricably related to previous epochs and then-hegemonic views of modernity. More importantly, Misicuni is still likely to have many of the social and ecological impacts that made big dams infamous. Indeed, this has already been the case, as people living in the area surrounding the dam project have been forced to relocate because their land was going to be flooded (Laurie et al., 2002).

Many questions remain about post-construction management of the dam, and there is certainly no guarantee that its completion will result in the implementation of co-management.¹¹ But what is certain

¹¹ According to the local newspaper Los Tiempos, SEMAPA will be charged with managing all the potable water produced by Misicuni (Jordán Arandia, 2011). This produces much anxiety for surrounding municipalities – each of which has its own public utility that will have to coordinate with SEMAPA to receive water – as well as for SEMAPA itself, which does not have the necessary infrastructure to deal with the influx. In collaboration with Japanese International Cooperation Agency (JICA), SEMAPA has been expanding its network throughout the south-eastern part of the city in the hope of being prepared for the water when Misicuni is ready to deliver it. But the question of how best to navigate through the network of water committees remains salient.

is that, at this moment, the meaning of Misicuni is being reworked to make it adequate for a multi-scalar, needs-driven, and community-based vision of future water governance. Yet the technocratic, state-centric, productionist history of Misicuni is difficult to shake. Enlisting Misicuni implies enlisting the ideologies that were fundamental to its initial conception, despite the incongruities with the water committees' espoused political commitments and long-term interests.

CONCLUSIONS

In the years since the Water War, the Cochabamba water committees have engaged in a variety of scalar manoeuvres, including the consolidation of multiple smaller scales into an umbrella organisation (ASICASUDD-EPSAS), affiliation with state-sanctioned units of decentralised government (OTBs), and cooperative engagements with local and multinational NGOs. The water committees are, moreover, actively involved in constructing a vision of future municipal water governance that appropriates the large-scale, state-led Misicuni Dam in order to make possible a community-centred *alternative* to large-scale, state-led water supply.

While these interventions might be understood as informal governance structures forming alliances with multiple sovereigns, I argue that interpreting their actions as scalar strategies – scale-jumping, associational network-building, and enlisting scalar discourses – has the potential to enrich debates about informality. Many of these conversations have attempted to understand the degree to which 'informals' are able to influence their broader political, economic and social context. In a very similar way, scholars participating in the debates on politics of scale have grappled with the political potential of the local scale relative to global political frameworks and capital flows. The literature on politics of scale, however, offers two theoretical openings for debates about informality. First, politics of scale theory enables a reconsideration of the reasons why, and the mechanisms by which, informals enter into alliances with other urban 'sovereigns'. The process of strengthening informal institutions is not just a matter of forming alliances with formal entities. Just as importantly, it is also a process of increasing scalar influence. Such a distinction is significant because it implies that governance structures might remain informal in the sense of not having legal property/user rights, yet still exercise substantial political influence as a relatively permanent feature of the urban waterscape.

Second, history plays a much more prominent role in the literature on politics of scale than it does in the bulk of literature on informality. Re-interpreting urban 'sovereigns' as scales of urban water governance decentres the focus on contemporary alliances and emphasises instead the ideological currents that gave rise to each member of the alliance. This, in turn, points to the role that the past continues to play in the present. Scales of urban water governance have deep historical roots. Careful analysis of the historical conditions that gave rise to a particular scale is necessary to evaluate the political potential of contemporary engagement with that scale.

The water committees' vision of co-management demonstrates the historically produced ambiguities of scalar manoeuvres. Co-management is billed as a multi-scalar alternative to both public and private water supply, yet it is held together with ideological arguments that range from neoliberal 'good governance' lessons (local actors are more efficient than city bureaucracies), to alter-globalisation romanticism (community is inherently egalitarian), to state-led interventionism (the Misicuni Dam is the only way to ensure that the *zona sur* will have sufficient water). Each of these ideological currents is associated with a particular scale of water governance (the local or community scale, as I mentioned earlier, has been doubly articulated by neoliberal and post-neoliberal discourse). The water committees and their allies are attempting to define a break from previous eras of water governance, yet their scalar engagements implicate politically ambiguous histories.

In making these points, I am not attempting to suggest that the water committees should avoid scalar engagements, or that they are capable of generating an alternative water management system that completely avoids other scales of governance and their discursive justifications. I am not even

suggesting that such a scenario would necessarily be desirable – the water committees are political entities that generate inequalities and exclusions, just like other forms of governance. What I am suggesting is that inter-institutional alliance-building is driven in part by a desire to increase scalar influence, and that the outcomes of these alliances are historically shaped. The water committees that chose to approximate the state by affiliating with OTBs may have difficulty asserting their continued independence from SEMAPA and the municipal government; those that have engaged more with international NGOs and activists may find the need to tailor their practices to fit international rhetoric about efficiency, sustainability, and social equity. Just as scales are not predetermined, they are not politically neutral, and scalar interventions are political acts that articulate historical legacies.

ACKNOWLEDGEMENTS

I am grateful to Karen Bakker, Leila Harris, Cynthia Morinville, Megan Peloso, and three anonymous reviewers for their comments on multiple drafts of this paper. Thanks also go to the editors and other contributing authors of this special issue; the questions that they raised during a workshop in December 2012 greatly helped refine the focus of this paper. Finally, my deepest gratitude goes to my interviewees and all those who helped me in the field, especially Rocío Bustamante and Yhasmany Medrano. This research was funded by a grant from the Social Sciences and Humanities Research Council of Canada.

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