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## Transforming Water Supply Regimes in India: Do Public-Private Partnerships Have a Role to Play?

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**ABSTRACT:** Public-private partnerships (PPP) are an important governance strategy that has recently emerged as a solution to enhance the access of marginalised residents to urban infrastructures. With the inception of neo-liberal economic reforms in India, in Indian cities too PPP has emerged as an innovative approach to expand coverage of water supply and sanitation infrastructures. However, there has been little study of the dynamics of partnership efforts in different urban contexts: What role do they play in transforming existing infrastructure regimes? Do reform strategies such as partnerships result in increased privatisation or do they make the governance of infrastructures more participative? Reviewing some of the recent literature on urban political analysis, this article develops the concept of water supply regime to describe the context of water provision in three metropolitan cities in India. To further our understanding of the role of PPP within regimes, this article sketches five cases of water supply and sanitation partnerships located within these three metropolitan cities. From these empirical studies, the article arrives at the conclusion that while PPP are always products of the regime-context they are inserted within, quite often strategic actors in the partnership use the PPP to further their interests by initiating a shift in the regime pathway. This leads us to conclude that PPPs do play a role in making water supply regimes more participative but that depends on the nature of the regime as well as the actions of partners.

**KEYWORDS:** Water supply regimes, politics, public-private partnerships, cities, India

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### INTRODUCTION

It is widely known that Indian cities, like many others in developing countries, are conspicuous for their acute lack of environmental wholesomeness. Numerous international, national and regional groups have gathered at celebrated conventions such as the UN Millennium Development Goals, World Summit on Sustainable Development (WSSD) in order to chart out possible pathways to rectify the dysfunctional nature of urban services in less affluent cities. Public-private partnerships (PPP) are an important governance strategy that has recently emerged to enhance the functionality of infrastructure flows, especially in augmenting access to marginalised urban residents. With the inception of economic reforms in India, in Indian cities too PPP has emerged as an innovative approach to expand coverage of water supply and sanitation (WSS) infrastructures. Whereas in itself these innovations are significant for their attempt to improve the urban environment, what is of interest to scholars is to comprehend the effectiveness of these partnerships – how they become enmeshed within the existing political endowments in Indian cities and how these efforts catalyse the transformation of water supply regimes. The important question to ask is what is the role of partnership efforts in transforming water supply regimes in India: Are partnerships a means of privatising infrastructure regimes (as many have suggested) or will it contribute to a more participative infrastructure regime? In order to understand the role that partnerships play, it is first necessary to fathom the constitution of water supply regimes. Urban political analysis is a useful point of departure for such an exercise and in the next section we conduct a selective review of some recent trends in urban political analysis with a focus on "national infrastructures" (Sellers, 2005). However, as we shall note, urban politics alone cannot sufficiently

explain the presence of distinct patterns of infrastructural provision. This requires some creative conceptual integration. This article will attempt to do so by developing the concept of water supply regimes. This understanding will then be utilised for analysing the politics of urban infrastructural partnerships from an empirical study of five water supply and sanitation partnerships in three metropolitan cities in India.<sup>1</sup> The article will conclude with some salient points regarding the role of public-private partnerships in transforming existing water supply regimes.

### TRENDS IN URBAN POLITICAL ANALYSIS

The emergence of urban governance as a robust theoretical proposition that can be used to explicate a range of political and managerial actions one now witnesses in contemporary cities around the world is a development that forms the point of departure for my review of the literature on urban political analysis. Using an institutional approach to analyse urban governance processes this article examines some recent attempts to compare urban governance processes in different contexts.

The burgeoning literature on urban regime theory and network governance provides a point of entry into the theoretical literature on urban governance. Urban Regime Theory is a direction of research that emerges from the study of urban politics in American cities. This theory recognises the process of building informal coalitions of governmental and non-governmental actors to enhance the capacity to govern cities as urban regimes. The crux of this conceptualisation revolves around an understanding that power exerted by these coalitions is witnessed in social production or "by gaining... a capacity to act – power to, not power over" (Stone, 1989). Thus, for example, the focus would be on a city regime that constructs the water infrastructure in the city. This focus on the "power to do" in urban regime theory is also increasingly articulated in contemporary research on network governance that sees the increasing coordination across the public-private divide in attaining collective goals as evidence of a fundamental transformation in emphasis from governments towards governance (Rhodes, 1994; Stoker, 1998; Pierre and Peters, 2000). Networks at the heart of governance are a fundamentally new form of social ordering. Scholars have presented governance as a fundamental change in the pattern of governing that is different from bureaucratic hierarchy or markets. This theoretical shift has important consequences for a study of urban governance, which is more than just a model for understanding the mechanics of public-private coordination; it also provides a means for apprehending politics in urban contexts. The prominence for urban governance marks a shift in orientation in the urban political discourse away from "social control" to "social production". Whereas classical urban political theories (pluralist, elitist, Marxist theories) were concerned with questions of how social cleavages exert "power over" urban governments, contemporary political conceptualisation is largely concerned with "power to" produce public services (Judge et al., 1995).

Studies of urban governance, reflecting the trend prevalent in political science, have attempted to employ an institutionalist basis for their analysis (Pierre, 1999). Pierre sees value in an institutionalist direction because it can clarify how urban governance processes are embedded within the wider economic, political and ideological frameworks. The insertion of urban governance processes within the larger national and regional contexts is valuable because it lends itself to comparative analysis of governance processes in different urban contexts. This is a significant direction of inquiry because it conceives a departure from a nation-centric agenda in comparative politics towards one that uses the locality or urban region as the dominant unit of analysis (Sellers, 2005). This is significant because such an analysis affords the ability to recognise local agency and local structures as sources of political influence on urban governance processes. While some recent research has sought to use modes (Pierre, 1999), institutional milieus (DiGaetano and Strom, 2003) or national infrastructures (Sellers, 2002) to grasp the political valences of urban governance processes, a uniting thread across these

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<sup>1</sup> The comparative dimension of this research resonates with Mollinga's delineation of a comparative aspect in the political sociology of water resources research (Mollinga, 2008).

research directions is the appreciation for the insertion of urban governance processes within state, regional and local processes.

Such a comparative approach is missing to a large extent in the developing country context. With the prominence given to public-private partnerships that span the state-society divide in contemporary public management literature in developing countries, studies of urban governance have acquired some contemporary academic interest, which has coalesced into two dominant approaches. The first *functional approach* to urban governance has seized upon public-private partnerships as an effective means for enhancing public service delivery (Batley, 1996; Franceys and Weitz, 2003). Much of the functionalist writing on urban governance in the developing world (often influenced by international donor priorities) is predominantly prescriptive in orientation and interprets the pervasive lack of accountability and transparency (Pieterse, 2000; Savage and Dasgupta, 2006): poor resource mobilisation, poor information and poor institutionalisation (Vira and Vira, 2005; Zerah, 2005) as indicators of governance inadequacies. Efforts to 'improve' urban governance in developing world cities within this functionalist literature are attracted by the promise of public-private partnerships (Forsyth, 2005).

The second, *critical analytical approach*, has sought to closely interrogate the institutional dimensions of urban governance in developing countries to comprehend their varying linkages to sections of society. These studies have conceptualised governance largely as a reflection of the extensive webs criss-crossing society and state. According to this approach, cities in developing nations possess severe social disparities that then become critical to understanding the processes and circuits of governance. The unequal power of social relations in cities results in different and separate "policy circuits" (Benjamin and Bhuvaneshwari, 2006) through which the poor and the affluent mesh within urban governance. Urban governance as a means of understanding urban politics, according to this approach, reveals the capture of politics by the unequal power relations that pervade cities in the developing world. Specifically, these have sought to understand the nature of the relationships between stakeholders and their contested negotiations within the governance process (Porio, 1997); of the impact different actors have on the decision-making process (Devas, 2001; Nunan and Satterthwaite, 2001); of the conditions under which governance and "policy circuits" of the poor become restricted (Benjamin and Bhuvaneshwari, 1999; Beall, 2001); and of the disjuncture between formal state relations and urban poor social relations (McCarney and Stren, 2003).

### **THEORISING WATER SUPPLY REGIMES**

Two substantive criticisms can be brought against the foregoing review of the theorising on urban governance in developing country contexts. Expanding on these critiques, this article proposes to theorise water supply regimes as a hybrid, integrative concept that effectively integrates these two criticisms into its conceptualisation. In doing so, it provides the opportunity to initiate a novel research trajectory for urban politics.

The first critique concerns the preoccupation of urban governance research with coalition building and coordination rather than with the product that is being produced by the coalition. The focus of urban governance research has been by and large concerned with the nature of coalitions and networks that span the public-private divide. The focus has primarily been on how these networks are constructed and how they attain stability. Research has been directed at the efforts of individuals who act as network builders, or on how structural divisions influence the kinds of networks that are built. Broadly, the interests of this research direction have been on the exercise of power through network-building strategies of partners rather than through the actual product that is being built and its position in the urban landscape (Gullberg and Kaijser, 2004). Thus, for example, urban regime theory has been concerned less with the influence of distinct patterns of infrastructure and how they guide future choices in infrastructural development but more with the individuals involved in the coalition.

Urban Infrastructure Regimes is a concept that seeks to integrate this criticism of contemporary directions in urban political analysis by incorporating infrastructure as a unit of analysis. The Merriam Webster dictionary has defined a regime as a *mode* of management commonly understood to be a form of government. It is in this sense as an encompassing mode of management that includes the residue of historical choices, informal pathways, and political and technical imperatives that we understand regimes in this article.<sup>2</sup> Such an inclusive understanding of regimes is also evoked in a recent conceptualisation of "urban infrastructure regimes" (Monstadt, 2009). Monstadt suggests five factors that shape and dynamically construct infrastructure regimes and should be included in any regime analysis (*ibid*):

1. Existing technostucture used in the production of infrastructural services.
2. Nature of resource flows mediated by infrastructures.
3. Existing built environment and physical geography of an urban region.
4. Socio-political organisation of urban production.
5. Spatial and institutional governance of urban infrastructure.

For the more limited purpose of this article, all these five factors will not be explicit analytical categories in describing water supply regimes. Instead, two variables, political significance and resource significance that roughly correspond to and incorporate the five factors outlined above, will be utilised for detailing regimes. These are described later in this article. The important point to make here is that these categories are understood here as dynamic historical entities that exert an influence on each other. Thus political significance and resource significance are not independent of each other but are together products of specific historical contexts. A high political significance will usually imply a resource significance that is also high. But, at the same time, a high resource significance usually further enhances the political significance of the city. Such an understanding suggests that these categories do not vary independent of each other. Therefore, cities that possess high political significance with low resource significance or vice-versa are usually quite unlikely.

A second point of critique brought to bear arises from a deep structuralist orientation that is present in both functionalist and critical formulations of research in urban politics. Despite their differing expectations from governance strategies, both these approaches share a lack of hope in urban governments and the provision of urban services. While both functionalist and critical formulations find municipal governments to be hopelessly captured by structural inequalities in the society, they differ in the role they assign to governance efforts such as partnerships. While functionalist writing expects local governments to partner with society through governance strategies but paradoxically remaining immune from society's politicising influence, critical approaches on the other hand characterise the local state so hopelessly captured by the structural inequalities of society that politics does not grant any reprieve to partnership efforts. Both these approaches do not credit urban government as an arena for autonomous action, given their diagnosis that it is structurally mired. Against this context, a conceptualisation of regimes as persistent modes of urban infrastructure governance that is grounded within specific sectors of infrastructure brings the possibility that historical patterns of infrastructural provision can create a space for political action. This requires that we pay attention to the dynamics of urban infrastructure regimes within particular political contexts. The existence of these dynamics provides different opportunities for politically astute individuals to push their agendas. In some

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<sup>2</sup> In the field of innovation studies and technology studies regimes have a much more specific meaning. Understood as socio-technical regimes, regimes in this context suggest shared rules, laws and cognitive routines underpinning the operation of institutional and political structures of large technical systems like infrastructure (Rotmans et al., 2001; Geels, 2004; Berkhout et al., 2004). This definition of regimes, as rule following, normative entities are, I think, more appropriate to the formal, standardised systems of infrastructure common in Western Europe where much of the empirical cases in this research are based.

situations, this could translate into opportunities to resist efforts to reform infrastructures in a neo-liberal mould. In other cases, the existence of regime dynamics reduces opportunities for such autonomous action. But this requires the scholar to investigate the differential opportunities that regimes grant for autonomous action. This article does that through a comparative study of public-private partnerships located within different urban water supply regimes.

## RESEARCH METHODOLOGY

Comparative urban analysis is conducted at the level of the city and the locality with special attention to water supply infrastructures in cities. At the urban level, the dynamic of the administration of water supply in specific cities is tied closely to the political significance the city exerts in regional politics and to the historical pattern of water supply provision in the city. Finally, at the locality level, strategic actions of political actors involved in public-private partnerships in water supply and sanitation development are the basis for their success or failure.

This research was conducted over a period of 1 year between June 2006 and June 2007. The study of infrastructure partnerships was conducted in three cities in India – Bengaluru, Chennai and Kochi. At the urban level, the dynamic of water infrastructure administration is understood with respect to these three cities.<sup>3</sup> These are the largest cities in the states of Karnataka, Tamil Nadu and Kerala, respectively. With the exception of Kochi where one partnership case was studied, two cases of infrastructure partnerships were studied in Bengaluru and Chennai to understand the strategic dynamics that sustain or suspend these partnerships. In conducting this analysis of water partnerships in India an eclectic methodological mix was utilised that included semi-structured interviews, media archives and analysis of policy documents. In order to fathom the political dynamics of cities, the researcher gathered data from news media archives and from semi-structured interviews with news correspondents, scholars, activists and other observers of the urban scene. Grasping the evolution of partnerships required meeting key participants of these ventures as well as following developments reported in the media and in scholarly journals.

## REGIME DYNAMICS OF URBAN WATER SUPPLY

Drawing upon Monstadt's integrative framework for urban infrastructure regimes, water supply regimes in different Indian cities are understood to possess political, technical, and institutional variables that are directly related to the historical specificities such as the relation between state and city governments, patterns of political competition, the nature of civil society, and technical and biophysical nature of water supply infrastructure. The existence of these robust biophysical, technical, institutional, and political endowments instils an autonomous dynamic into water supply regimes. Broadly, these regime endowments are categorised into biophysical and political particularities, which influence the pathways for water supply development and provide a means to grasp the autonomous significance of infrastructure regimes in their respective states. I will employ two categories to examine the biophysical and political particularities that urban water regimes possess – resource significance and political significance, respectively. Resource significance tries to gauge the significance that the biophysical resource and technical and institutional patterns of water supply infrastructure have on the governance of the infrastructure in the city. Political significance seeks to capture the autonomous significance the city has in the wider regional political arena in the state by focusing on the relations between state governments and municipal governance, the nature of political competition and the role of civil society in the city. In some states, for example, cities have a greater political significance as a result of a particular history of political contestation, while other cities exert little independent political weight in their corresponding states. Now, these categories are not understood as being static variables

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<sup>3</sup> Bengaluru, Chennai and Kochi were formerly known by their anglicised names as Bangalore, Madras and Cochin.

but as categories that are historically constituted through complex processes that cannot be easily untangled. This exercise only presents a snapshot of how they present themselves to an observer.

## **Bengaluru**

*Political Significance:* Despite its phenomenal growth as a centre for technology-enabled entrepreneurship, Bengaluru's autonomous significance in state-city relations has been quite subdued. At least three factors account for the subsidiary position of Bengaluru in Karnataka's politics. The primary reason is the overwhelming rural bias in the political calculus of state politics. Karnataka's politics has been rooted in caste relations that are predominantly rural. Government formation in Karnataka since at least the 1950s has been dependent upon caste-based coalitions dominated by the numerically populous castes of *Vokkaliga* and *Lingayat*. However, since the 1990s, caste coalitions have become increasingly murkier and more fractious with smaller caste groupings voicing a greater say (Assadi, 2004). The preoccupation with maintaining these fragile coalitions has made state political elites pay more attention to their rural social bases. This has also made rural issues predominate on the state's political landscape. Thus, despite Bengaluru's remarkable growth as a globalising city, the city's political significance has remained relatively muted within state politics. The increasing fragility of caste equations in contemporary Karnataka politics has made state elites veer away from taking a strident position in city development issues lest they be seen as ignoring their rural social bases. A second factor that has contributed to Bengaluru's low political significance is the diminished role of the city government in municipal affairs. This has been achieved by limiting the authority of the mayor and elected council both procedurally and functionally. The Bengaluru Mayor is elected for a term of one year although the council is elected for five years. Karnataka is one of the few states in India where the term of the mayor is decided by the state government rather than by the elected civic body. This is cited by councillors as a reason for their inability to terminate the practice of electing a new mayor every year. Incumbent mayors thereby rarely have the opportunity to learn the ropes and then impel a package of urban policy changes through the thicket of bureaucratic red tape, interest alignments and inertia. Functionally too, the elected city government finds its hands tied in implementing and scrutinising ward-level works. A common complaint voiced by councillors is that municipal administration (accountable to the state government) often hives projects into small chunks that can avoid council scrutiny. Larger municipal projects are often initiated by the state government or by statutory parastatal bodies and so again short-circuit council scrutiny. The proliferation of functionally autonomous parastatal entities that manage municipal infrastructure is yet another reason for the erosion of municipal capacity and therefore its diminished role. A final factor behind Bengaluru's subdued role is the contested nature of its rise to global prominence. Bengaluru's increasing importance in the global economy has emboldened the English-speaking, "new middle classes" (Fernandes, 2000, 2004) to take upon a more strident role in governance. However, this increasing engagement has been contested by Bengaluru's "new trade unions" (RoyChowdhury, 2003) representing the interests of the marginalised urban poor, and by the deep-rooted Kannada language movement (Nair, 2000). Both the new trade unions and the Kannada language movement focus their energies on pressuring the Karnataka state, even as they identify Bengaluru and its urban problems as being within the domain of the state government.

*Resource Significance:* The only perennial water source in the city's vicinity is the Cauvery river, located about 100 km away and about 600 m below the city's altitude. Despite the availability of some local sources, BWSSB (the city's public water utility) has developed an ever-increasing reliance on the Cauvery. BWSSB has executed a series of sophisticated technical projects (Cauvery Stage I-IV) to tap the water from the Cauvery for the city. Each of these projects withdraws water from the Cauvery river and pumps the water uphill to the city. A project of this scale could, clearly, not have been accomplished without the involvement and engagement of the Government of Karnataka to iron out the numerous administrative, legal and jurisdictional wrangles the project would have stirred. Being a parastatal

entity, BWSSB projects are accomplished under the aegis of the state government. For another reason too, Karnataka remains engaged with the provision of Bengaluru's water supply. Because Bengaluru's water supply must be pumped over long distances, a large fraction of the utility's revenue goes towards meeting its energy bill. This fraction has increased to about 75% with the steep rise in Bengaluru's water supply demand from the mid-1990s.<sup>4</sup> As a result of the lack of revenue for large-scale system expansion, the utility remains dependent for project funding upon international donors. These sources of funding are again only available through the state government. The role of the Government of Karnataka in harnessing the Cauvery river for water supply development has irretrievably tied the regime to Karnataka's interests in the river. The Cauvery river, it needs to be noted, has extraordinary political traction in Karnataka politics. The significance of the river arises from two factors – first, the importance of the river as the economic and cultural lifeline of the state and second, the protracted dispute between Karnataka and the neighbouring state of Tamil Nadu over sharing of riparian rights on water in the Cauvery river. The extensive development of irrigated agriculture (about 1 million acres of land) in the Cauvery basin has directly contributed to the growth of powerful farmer associations that now wield enormous clout in state politics. In addition to political economy, Cauvery occupies a revered position in the minds of the inhabitants of the state. The Cauvery basin is widely regarded as the cultural heartland of the state and as the cradle of the Kannada language. The protracted nature of the riparian dispute between Karnataka and Tamil Nadu over sharing the Cauvery river is largely a result of these cultural and economic considerations.<sup>5</sup> By relying on water that is tied to Karnataka, despite its global status, Bengaluru remains tied to and subsidiary to Karnataka's interests. The significance of the resource therefore reinforces the low autonomy of Bengaluru in Karnataka politics.

## Chennai

Chennai, in contrast to Bengaluru, possesses due to at least two factors a high independent regime significance – Chennai's critical position in Tamil Nadu's Dravidian politics and Chennai's overweening dependence on subsurface water from its peripheral areas.

*Political Significance:* Three factors have enhanced the significance of Chennai in Tamil Nadu politics. The primary reason that has heightened the city's importance in the state's political calculus is the vicious rivalry that characterises the relations between the DMK and the ADMK (the two rival Dravidian parties in Tamil Nadu politics) in Chennai. Since both DMK and ADMK share a common ideological foundation in the Dravidian movement, they have sought to differentiate from each other in the nature of their populist mobilisation that addresses different social bases. DMK has been particularly strong in the urban regions of the state while the ADMK has focused on the very marginalised. Chennai is a major stronghold of the DMK party, which since the 1960s has swept the polls in the city in numerous national, state and municipal elections. Chennai's political significance is heightened by the fact that members of the highest echelons of the DMK party (both Karunanidhi and M. K. Stalin) have nurtured their constituencies here and have been involved in electoral battles in the city. By displacing its rival DMK here in Chennai city, the ADMK party seeks to not just displace the DMK from its control over the city but also irreparably damage the organisational cohesion in the DMK party thereby weakening it very effectively. ADMK as the underdog in the city has consistently tried to wrest control of the city from its rival party.<sup>6</sup> A second reason for the heightened significance of Chennai arises because it is a

<sup>4</sup> *The New Indian Express*. BWSSB fighting a losing battle? 4 March 2005.

<sup>5</sup> Although Bengaluru receives its water supply from the Cauvery, it has no legal standing as an independent entity in the riparian dispute. Bengaluru draws its water from Karnataka's share of the water. By an agreement between Tamil Nadu and Karnataka, each state does not object to the other using Cauvery water for drinking water supply as long as it uses the share of its water for the purpose (*The Hindu*. The 1998 story of Hogenakkal. 5 April 2008). Although a small fraction of Karnataka's share (less than one in twenty), a common refrain among the state's politicians is that Bengaluru residents receive water because of sacrifices of those living in Mandya, Mysore and other districts (*The Hindu*. Farmers up in arms against Narayana Murthy. 13 April 2007).

<sup>6</sup> *The Hindu*. The battle for Chennai. 27 April 2006.

showpiece of DMK's vision of technocratic rationality.<sup>7</sup> By strengthening municipal governance and through several public infrastructural projects, the DMK party has sought to strengthen a technocratic approach to Chennai's development. A major innovation of DMK was to make the Mayor of Chennai a directly elected office not accountable to the council hall. Within the predominantly parliamentary system in India, this made the Mayor of Chennai an independent political figure. During the period 1996-2001, Stalin as the Mayor of Chennai launched the Beautiful Chennai (*Singara Chennai*) initiative that addressed urban infrastructure in the city through efforts that directly monitored water supply distribution in the city, slum rehabilitation and created flyovers to improve traffic flow. A final reason is the close alignment between civil society organisations in Chennai and the Dravidian parties. The hegemonic presence of Dravidian parties in the political scene in the state has made it a very hostile space for oppositional mobilisation. As a result, civil society organisations in Chennai fall into two separate networks that roughly map the political divides in the city landscape. One is the network of technocratic civil-society associations while the other is the network of charity organisations each of which corresponds to the DMK and the ADMK.<sup>8</sup> Associational life in Chennai has been enriched by the presence of numerous technocratic organisations that draw upon Chennai's reserves of middle class, middle- and upper-caste professionals from such diverse backgrounds as retired administrators, management consultants, social activists, engineers, bankers and lawyers. Organisations such as EXNORA, SUSTAIN, and CAG figure prominently within this network. These organisations are motivated by a belief that the leadership of rationally enlightened individuals can develop the technical and administrative capacities of infrastructural services (e.g. waste management) in Chennai. The technocratic ideology of this network has opened the way to forging enduring linkages with the DMK.<sup>9</sup> With the undivided attention of politics focused on the city and in the absence of alternate voices in civil society, Chennai has acquired great significance in the state's political calculus.

*Resource Significance:* The significance of water resources has enhanced the significance of Chennai's water supply regime in two ways. First, the city of Chennai experiences a structural deficiency of water as a result of several biophysical factors such as the absence of a perennial source of water in the vicinity, the variable nature of rainfall in the city, and the absence of major riparian systems. Second, a fragmented institutional setting that purveys water in the greater Chennai region has also contributed to the significance of its resource. Since there are no major riparian systems in Chennai's vicinity, the city is dependent upon water stored in reservoirs and on sub-surface water. Chennai's geographical location on the east coast of India makes it dependent on the more-fickle northeast monsoon rains to fill its reservoirs. Despite an annual rainfall average of 120 cm, Chennai periodically finds itself in the grip of severe water shortage.<sup>10</sup> Due to these reasons, Chennai displays a high degree of dependence on groundwater from the city's peripheral areas. This dependence has been the impetus for the development of an elaborate technical infrastructure composed of high-power pumps, tanker trucks, and distribution tanks that extract water from the peripheral areas solely to meet the needs of Chennai's urban core.<sup>11</sup> The constant extraction of peripheral water resources has devastated the agrarian economy in the peripheral areas and immiserated communities dependent on agriculture for their survival (Janakarajan, 2007). The existence of this rapacious withdrawal of groundwater from surrounding areas has heightened the significance of the resource in urban governance. A fragmented

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<sup>7</sup> DMK with its roots in the iconoclast Dravidian movement rejects tradition and religion in favour of rationality and a scientific outlook.

<sup>8</sup> This roughly maps Harriss' characterisation of Chennai's associational life into the Brahmin-dominated, South-Chennai network and the Christian-dominated, North-Chennai network (Harriss, 2007).

<sup>9</sup> EXNORA had awarded Mayor Stalin with the "Model Mayor" award in 2001. Mayor Stalin had for his part commended the work of organisations such as EXNORA in improving the lives of Chennai residents. (*The Hindu*. The best Mayor of them all? 4 April 2001). M. K. Stalin has encouraged numerous EXNORA initiatives in his capacity as Mayor and currently (2006-2010) as the Local Administration Minister. See *The Hindu*. Home EXNORAs planned. 29 September 2000; *The Hindu*. Desilting of 10 lakes to begin soon: Mayor. 30 August 2000; *The Hindu*. Corporation may follow EXNORA's zero waste model. 7 May 2007.

<sup>10</sup> See Gopakumar, 2009b for details about Chennai's water resource situation.

<sup>11</sup> Ruet and others present a detailed picture of the water extraction from peri-urban areas in Chennai (Ruet et al., 2007).

institutional setting has also contributed to this significance. Metrowater (Chennai city's water supply provider) is a parastatal body that operates an efficient supply system that has consistently reported a revenue surplus. While Metrowater provides water within city limits, water supply in the peripheral areas is in the hands of TWAD Board, a parastatal body that constructs and operates water supply systems in urban and rural areas of the state. Unlike Metrowater, TWAD Board's standing is considerably weaker because of the inability of rural areas to pay for their service.<sup>12</sup> Recent reform efforts taken by the state using innovative infrastructure in financing and implementing vehicles have raised further questions about TWAD Board's viability in the changing institutional climate.<sup>13</sup> A combination of a fragmented institutional setting and an entrenched, predatory nature of water supply extraction in Chennai have given water resources a high degree of significance. Compounded with the dominance of the city in Tamil Nadu's politics, Chennai's water supply regime has acquired an enhanced significance.

### Kochi

The significance of Kochi's regime is intermediate to that of Bengaluru and Chennai. Kochi's water resources possess a higher political significance than those of Bengaluru, but it is less predatory than Chennai's. Again, unlike Bengaluru's minimal presence on the state political landscape and Chennai's regnant presence in Dravidian politics, Kochi possesses an intermediate but growing presence on the landscape of state politics.

*Political Significance:* Kochi and other cities in Kerala have traditionally occupied a minimal presence in state politics primarily because rural issues such as agrarian land reform have animated the dominant leftist politics in the state. Shifts in the state's political economy and in political competition have reinforced the significance of cities. Recent shifts in the state's political economy have seen a large body of migrants who repatriate sizable sums of their earnings to Kerala, and drive economic growth in the state with their consumptive expenditure in consumer goods, homes and telecommunication services (Kannan, 2005; Subrahmanian, 2006; Pushpangadan and Parameswaran, 2007). Much of this consumptive growth is concentrated in cities in the state (Harilal and Andrews, 2000). State politics in Kerala has been marked by the political gridlock between the two dominant political fronts, one led by the Communist Party of India and the other by the Congress Party. While the left front has concentrated on mobilising workers and peasants behind it, the Congress Party has traditionally attracted powerful religious minorities and caste groups to it. Since the social bases of either of these political fronts do not represent a majority of the electorate, both fronts are susceptible to strong anti-incumbency swings that have denied two consecutive government terms to either front. Thus a steady alternate pattern of government formation characterises state politics. The left front has attempted several strategies to break this electoral logjam including using major policy initiatives as a means to boost party mobilisation (Tharakan, 2004). Recently, the left front has tried to lure religious minorities to it by employing the patronage game that the Congress Party has played very effectively. The left front has increasingly turned to Kochi and to its influential Catholic church to attract catholic voters in the state.<sup>14</sup> As a result, one now sees a greater desire among political elites in the state to be engaged more with Kochi's urban issues and to promote a pro-business development agenda.<sup>15</sup> Shifts in the state's political economy and greater attention to patronage politics have enhanced Kochi's visibility on the state's political landscape.

*Resource Significance:* Kochi possesses a dedicated drinking water supply from the Periyar river. However, unlike Bengaluru, the water from the river is shared with towns and villages that adjoin Kochi.

<sup>12</sup> *The Hindu*. TWAD Board projects suffer as local bodies fail to clear bills. 11 November 2002.

<sup>13</sup> *The Hindu*. Reforms Minimising TWAD Board role? 23 November 2002; *The Hindu*. Tirupur water supply project poised for take off. 28 March 2005.

<sup>14</sup> *The New Indian Express*. Latin Catholic Church finds a new friend in LDF. 18 June 2005.

<sup>15</sup> *The New Indian Express*. LDF takes Vision document to poll arena. 29 April 2004.

For two reasons, the mode of water supply in Kochi has enhanced the significance of the city. First, the rising demand for water in Kochi city has come at the expense of peripheral villages and towns. The state was long-known for a unique pattern of urbanisation characterised by an urban-rural continuum with cities merging seamlessly into the surrounding countryside (Sreekumar, 1990). However, recent changes in Kerala's political economy marked by increases in the tertiary services sector have enhanced the importance of cities as centres of consumption vital to the economy. The increasing population of cities in the state, especially in the larger cities like Kochi, combined with the changing lifestyle in these cities has translated into a rapidly increasing demand for water. In Kochi city the rising demand for water has come at the expense of the availability of water in adjoining villages. The diversion of resources meant for settlements adjoining Kochi has been the source of ongoing contentious episodes and protests involving surrounding villagers. The diversion of water supply to the city has heightened the significance of the resource in the city. The nascent predatory nature of water supply in Kochi city is the primary reason for the increasing significance of water resources. The second reason for the increased resource significance is the opacity in regulation of the water supply system due to a long history of municipal management marked by political interference, poor technical management and inadequate record keeping.<sup>16</sup> The history of irregular system management has been a hindrance for regulating, in transparent manner, a schedule for distribution of water to the different supply zones in the system. This lack of transparency in system operation provides plenty of opportunity for the money and influence of Kochi's elites to divert water away from surrounding towns and villages to service their needs.<sup>17</sup> This facet of the system has made the distinction between Kochi and its peripheries all the more stark, thereby raising the profile of the city. The combination of enhanced political visibility and nascent predatory impulses in its water supply aggregation has enhanced the significance of Kochi's water infrastructure regime.

Figure 1 represents the significance of water supply regimes in the three cities of Bengaluru, Chennai and Kochi on a scatter plot. The use of the scatter plot to visually describe the regime significance of the cities is deliberate. It is necessary to recall from the theorisation of water regimes that the categories of resource significance and political significance are not static variables but dynamic historical entities that shape each other. The line encircling the three cities therefore indicates a space of regime significance that arises from this historical shaping. This is not to suggest that other cities cannot have higher regime significance than Chennai or a lower significance than Bengaluru but that the general orientation of their regime significance will correspond to the orientation of the space outlined in the scatter plot.<sup>18</sup>

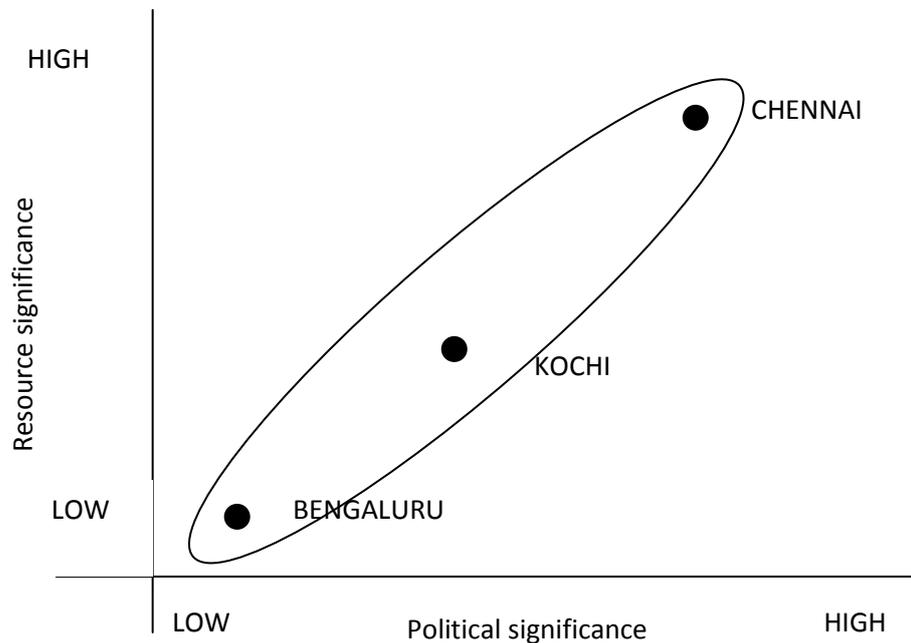
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<sup>16</sup> In 1991, when the management of Kochi's water supply system was transferred from the city government to the Kerala Water Authority (KWA), an autonomous parastatal body, there were no current maps of the extent of the distribution system. As a result, system engineers have few records of how extension of the distribution system was made and what cross-ties are present between distribution zones prior to transfer. KWA engineers attribute this condition to poor managerial capacity and sustained political interference of municipal management. Interview with Chief Engineer KWA, 5 January 2007.

<sup>17</sup> Interview with Mr. Vijayachandran, Executive Engineer (retd.), KWA, 3 January 2007.

<sup>18</sup> It is for this reason also that we do not speak of regimes with cities that have high political significance and low resource significance or high resource significance and low political significance. This would suggest an ahistorical, static understanding where the variables can change independent of each other rather than be mutually shaped.

Figure 1. Dynamics of water supply regimes.



#### DYNAMICS OF PUBLIC-PRIVATE PARTNERSHIPS

Cities in India continue to struggle to provide all its residents with water supply, despite most cities possessing an entrenched regime for purveying potable water. Public managers reason that access to universal, standardised water supply and sanitation is crucial for not only improving local environmental conditions in Indian cities but also creating settings conducive to healthier lives for their inhabitants. In India, with infrastructure policy reform, public-private partnerships (PPP) have become a pervasive policy instrument to achieve these ends of urban environmental improvement. Five cases of public-private partnership were studied – the BATF and BWSSB cases in Bengaluru, the Alandur and the TWAD Board cases in Chennai and the Vypeen case in Kochi. From our previous discussion of the independent significance of water supply regimes we have seen that the three cities have differing significance in their regional politics. This varying significance gives partnership ventures differing political valences, opportunities and constraints to operate within the regime and change the regime. This article suggests that reform efforts can proceed along three change pathways – aligned, modified or interrupted. In an aligned change pathway the reform effort does not significantly alter the constitution of the water supply regime, and infrastructural relations in the regime are largely reproduced. In a modified change pathway, the reform effort succeeds in bringing about a modification in the constitution of the regime. Finally, reform efforts can be disrupted and change pathways in the regime interrupted.

#### Bengaluru

Given the low autonomous significance of Bengaluru's water supply regime in state politics, it is not surprising that reform transitions initiated through cases of PPP have very low political valence and so disrupting or modifying reform transitions is quite easily accomplished by actors. A close study of the BATF and the BWSSB cases reveals how this was accomplished.

*BATF:* BATF, or the Bangalore Agenda Task Force, was instituted as a public-private partnership in 1999. The objective of the effort was not only to channel the technical expertise located within Bengaluru's high technology enterprise into the development of public infrastructure but also to

provide a venue for Bengaluru's burgeoning "new middle classes" to showcase their intentions to transform the city. The BATF launched several projects that were to be models of technical excellence in infrastructural development. One such project was the *Nirmala Bangalore Pay and Use Toilets*. BATF constructed modern toilet blocks that provided a vastly improved quality of service compared to the standard public toilet blocks constructed by the city government (Gopakumar, 2009a). In addition, the BATF used venues such as the BATF Summit as exercises to build allies. It was to be an arena to publicise its role in guiding infrastructural development in Bengaluru in front of media, voluntary organisations and the citizenry.<sup>19</sup> Despite BATF's technical and managerial excellence, the reform transition was interrupted in 2004 by the changed political circumstances after an election. The new government, drawing support from a pro-farmers' party, did not renew BATF's mandate.<sup>20</sup> Due to a lack of appreciation for the fluid political context within which Bengaluru is located, BATF's technological entrepreneurs had few influential allies or strategies to rescue their enterprise.<sup>21</sup> Their technical and managerial brilliance alone was insufficient to heighten the significance of their enterprise and prevent the dissolution of the partnership.

*BWSSB*: BWSSB, Bengaluru's water supply utility, launched a public-private partnership to improve access to water supply and sanitation in slums in the city.<sup>22</sup> The partnership between the utility, non-profit organisations and slum residents was expected to provide slum households with individual water and sewerage connections. By providing individual connections water utility engineers perceived the partnership to be a positive exercise because it enhanced the revenue of the utility. However, the perception of non-profit organisations and slum residents involved in the partnership was very different. They understood the partnership as a necessary evil that would enhance access to water supply but would impose the burden of paying user fees on residents. "So meterisation of these people [slum dwellers] is also a step towards privatisation... Once they are all metered there is no left and right to the people – they have to follow them [BWSSB]".<sup>23</sup> The response of non-profit organisations and slum residents was to utilise the partnership as a means to deploy strategies that would allow them to intervene at the regime level. First, all slum partners were drafted into a state-level slum dweller's federation (KKNSS). By connecting different slums in the city to the state slum dwellers' federation, they not only enhanced their associational presence but also sought to increase the organisational capacity of slum residents to mobilise for common causes

[t]hrough KKNSS we organised slum residents and formed committees. In Bangalore city there are 14 MLA [Member of Legislative Assembly] constituencies. In all constituencies we formed slum committees (...) So if democracy believes in numbers then... we will struggle in large numbers by bringing people... and hold urban poor rally to pressurise government. And by asking and putting our slum dweller's demands in front of all the political parties in the state we make them commit their support.<sup>24</sup>

This strategy has given slum residents and non-profit organisations enormous protest capacity and the necessary leverage to exert pressure upon the state government. Given the low autonomous

<sup>19</sup> As some scholars have noted, these efforts were at best partial in scope. BATF's tactics for gathering support were at the most partial in their scope. It was noted that the mayor and elected councillors were conspicuous in their absence from the summit and from round table meetings (Vijaylakshmi, 2004; Ghosh, 2005). Vijaylakshmi has noted that none of the established political parties in Bengaluru – Congress, BJP or the JD(S) or JD(U) – considered BATF's contribution significant to the city's infrastructure to warrant a mention in the 2002 city elections (Vijaylakshmi, 2004).

<sup>20</sup> *The Hindu*. Government silent on BATF. 29 September 2005.

<sup>21</sup> See Gopakumar, 2009a for a description of how the BATF effort failed to become durable.

<sup>22</sup> Connors has suggested that the incentive to forge a partnership happened for two reasons in addition to the loss of revenue. In the first instance, a pilot project launched under the AUSAid scheme and secondly due to a financial package provided by the BMP for provision of water to slum dwellers (Connors, 2005). However, senior engineers at BWSSB were unconvinced about the reasoning and suggested that the effort was an internal decision of the BWSSB (Interview with ENG1, retired Chief Engineer, BWSSB, 12 July 2006).

<sup>23</sup> Interview with Y., NGO partner, 12 August 2006.

<sup>24</sup> Interview with Y., NGO partner, 12 August 2006.

significance of Bengaluru's water regime, it is notable that the organisational capacity of the urban poor is directed at the state government. This capacity was on display in 2004, when S. M. Krishna, Chief Minister of Karnataka announced the Greater Bangalore Water Supply and Sanitation Project (GBWASP) – a comprehensive project to enhance water supply and sanitation access to the residents of Greater Bengaluru through private participation.<sup>25</sup> At this stage, KKNSS through the Campaign against Water Privatisation Karnataka (CAWPKA) launched an agitation against the "profit-making model" in the project with a series of protests and marches in Greater Bengaluru that eventually culminated in a massive protest rally by the urban poor in the city.<sup>26</sup> In the face of the spirited opposition to the project, the Government of Karnataka backed down from proceeding with the IFC-initiated project. Currently, BWSSB has accepted the decision to implement the project and operate the system (Ranganathan et al., 2009). This effort reveals the capacity that urban poor have acquired in the city partly through the BWSSB partnership.

The above discussion on the BATF and BWSSB partnerships suggests that given the low autonomous significance of Bengaluru's regime, any reform initiative is very susceptible to interruption or at least weakening from political and societal forces whose interests are threatened by reforms. We see in the BATF case a conclusive interruption of reform efforts while in the BWSSB case reform efforts to privatise water supply in the peripheral areas were weakened by civil society actors.

### Kochi

As we have seen, Kochi's water supply regime has recently acquired a greater autonomous significance that arises from the rising political significance of the city in regional politics, and the nascent predatory nature of its water supply. The rising significance of the city has made the existing water supply regime well entrenched, which has made efforts to contend with this regime all the more difficult.

*Vypeen*: In the Vypeen case in Kochi, activist civil society actors have succeeded in weakening the reform transition initiated by public-private partnerships in Vypeen only through developing an extensive mobilisational capacity and through years of sustained protests marked by some dramatic episodes of confrontation. Vypeen is a large, densely populated island offshore of Kochi city. Despite large amounts of rainfall, Vypeen faces a shortage of drinking water because all local sources of water on the island are saline from ingress of seawater. As a result, water has to be piped onto the island from the mainland. Before it gets to Vypeen however, much of the water is diverted to the city of Kochi. Residents of Vypeen have dealt with chronic shortages of water that periodically intensify during summer. This has been the cause for sporadic instances of protest. Forging public-private partnerships for the creation of small-scale desalination, and rainwater harvesting units are some of the reform initiatives launched by government agencies to enhance water availability on the island. Since 2000, Kerala has witnessed an explosion of alternative decentralised water production and collection partnership schemes such as the *Swajaladhara* project, *Varsha* and the *Jalanidhi*.<sup>27</sup> These partnerships were instituted between women's self-help groups, island residents and some large non-profit organisations. While these efforts theoretically do increase the availability of water, they impose social and economic costs on island residents rather than on the citizens of Kochi. This disparity was the motivation for Vypeen Drinking Water Protest (VKSS) movement organisers to employ the women's self-help groups in these partnerships as a means to increase the awareness among island residents about water utilisation and the policies of the government.<sup>28</sup> Given the rising significance of the city,

<sup>25</sup> *The New Indian Express*. Rupees 343 crore plan to supply water to CMCs by 2005. 8 January 2004; *The New Indian Express*. CM gifts Greater Bangalore project to city. 6 February 2004.

<sup>26</sup> *The New Indian Express*. Drive against water privatisation soon. 20 November 2005.

<sup>27</sup> "In the three panchayats of Elankunnapuzha, Njarakkal and Nayarambalam [in Vypeen] alone, there are 650 ... *Varsha* [rain water harvesting units], that too in the financial year 2004-05", in *The Hindu*. Poor response to *Swajaladhara* scheme. 1 December 2005.

<sup>28</sup> Interview with movement organiser and panchayath member, 29 May 2007.

protest movements on the island that arose against the disparity of water availability between Kochi city and Vypeen island, have found it exceptionally difficult to upset the existing regime. Organisers have found it necessary to mobilise for sustained confrontation with the infrastructure regime in the city. In addition to numerous minor episodes of protest, organisers demonstrated the popular support for their cause by mobilising large numbers of Vypeen island residents to participate in some dramatic instances of protest when island residents laid siege to Kochi city, bringing the arterial thoroughfares of the city to a halt.<sup>29</sup> As a result of this event, protest organisers were successful in operationalising a dedicated water pipeline to Vypeen that diverted water supply meant for Kochi to the island. The arrival of piped water supply on Vypeen island has been interpreted by VKSS as a successful achievement of the island-based mobilisation. The strategy of the VKSS by successfully challenging Kochi's primary claim to water piped to the greater metropolitan region has not only initiated a transformation in Kochi's water supply regime from one marked by resource appropriation to one of resource-sharing but also weakened the reform transition in the regime whereby piped public water was made available only to urban elites in Kochi.

## Chennai

In contrast with the Bengaluru and Kochi cases, Chennai's high autonomous political significance and the extremely entrenched and predatory nature of water supply have created conditions that have muted the potential of partner actors to question the structural solidity of reform. Partnership actors, under such a condition, find it virtually impossible to disrupt the water supply regime. At most, they can make minor modifications to reform efforts as seen in the Alandur case.

*TWAD Board:* The inability of partners to question or resist the unequal, predatory nature of water supply is best evidenced in the structurally aligned reform transition in the TWAD Board partnership. TWAD Board is the utility that provides water supply and sanitation services to settlements in Chennai's peripheral areas. In 2004, some engineers within TWAD Board sought to change the predominantly top-down approach to providing water supply services to residents by focusing on the relation between users and the utility.<sup>30</sup> This organisational initiative referred to as the Change Management Group sought to forge partnerships between women's self-help groups (WSHG), the local government and utility personnel. This partnership was instituted in Pagalmedu village in the periphery of Chennai's metropolitan area. This village lies close to the well fields that pump groundwater to meet the needs of the city. Between 2003 and 2004, Chennai suffered a severe episode of water scarcity when all its reservoirs dried up and the city was solely dependent on groundwater from its periphery. The intensive exploitation of groundwater to meet Chennai's needs deprived the small agriculturists in Pagalmedu of water, leading to the collapse of their agrarian-based economy. Given plentiful groundwater in the region, farmers in Pagalmedu had typically cultivated water-intensive crops such as rice. By the middle of 2004 however, with the severe unavailability of water, agricultural efforts had ceased to be productive. "That was a difficult time for all of us. We had no water to drink. There was no water for agriculture. In the crisis period, we had to walk long distances for even drinking water".<sup>31</sup>

It was at this juncture that the TWAD Board partnership was instituted to improve drinking water supply to the village. In the absence of any external support for infrastructural improvement, enhancing the availability of water supply was contingent upon the revival of the agrarian economy in the village. "Given the trouble we were going through we wanted better supply. But the engineer said that each of us would have to contribute towards the improvement, [TWAD] Board will not be able to construct it for us. We told him, when we can't feed our children how can you ask us to contribute".<sup>32</sup> Two options were available to the partnership to improve the agrarian economy in the village – struggling against

<sup>29</sup> *Malayala Manorama* (in Malayalam). Drinking water project: Vypeen residents blockade the city. 3 May 2005.

<sup>30</sup> "Genesis of CMG". Available at <http://cmgtn.com/history.asp>, accessed 5 December 2007.

<sup>31</sup> Focus group discussion with members of Women's SHG, Pagalmedu, 23 May 2007.

<sup>32</sup> "Focus group discussion with members of Women's SHG, Pagalmedu, 23 May 2007.

the engine of groundwater exploitation that the village was trapped within or adapting to the change and re-making the local economy. Through the partnership, the predominantly rice farmers in the village have adapted to their situation and became drought-resistant flower cultivators. The yields from floriculture have contributed to a marked improvement in the local economy and made water supply improvements financially viable. Two aspects about the partnership are notable – the critical role of the engineer from TWAD Board and the marginal role of elected representatives of the village in leading the village. It was the initiative of the engineer from TWAD Board in consultation with the block development office that facilitated WSHG in the village to make the switch to floriculture. It is also through the engineer's intervention that the elected representatives of the village have been assigned as members of the village water supply committee who monitor the operation of water supply in the village. A second crucial point in the partnership is the subsidiary role of the elected representatives (*panchayath* president and members) in water supply decisions for the village.<sup>33</sup> Under such conditions of centralisation of power and of Chennai's great regime significance, it is no surprise that the partnership offers little scope for transforming Chennai's water supply regime. This mode of water extraction was justified by an old woman in the village who said – "They are using the water for drinking. How can we deny them the right to drinking water?"<sup>34</sup> Given the large significance of the Chennai's water regime in Tamil Nadu politics, aligning with the existing situation of water appropriation is the only path open. Resisting is not an option that is available.

*Alandur:* Alandur, a suburban neighbourhood in metropolitan Chennai, is notable for the project to create a sewerage system through a public-private partnership. The elected Municipal Chairman of Alandur, Mr. Bharathi of the DMK party, initiated this partnership in 1996. The partnership comprised Mr. Bharathi, the private-sector company that constructed the sewerage project and, importantly, the resident welfare association (RWA) in the town of Alandur that contributed financially to the project. The partnership was initiated during a period (1996-2001) when the DMK government in power in Tamil Nadu created an environment that was very conducive to rapid infrastructural development. However, this was the time when Mr. Bharathi as the legal secretary of the DMK Party was personally involved in getting Ms. Jayalalithaa, leader of the rival ADMK Party convicted of abuse of power and corruption during her tenure in government between 1991 and 1996.<sup>35</sup> This legal wrangle, that Mr. Bharathi initiated, was instrumental in unseating Jayalalithaa from the office of Chief Minister of Tamil Nadu state after her party won the 2001 state elections. Unfortunately for Mr. Bharathi, an appeal to the High Court and Supreme Court overruled the conviction and cleared the way for Jayalalithaa's reappointment as Chief Minister in 2002. Due to Mr. Bharathi's personal involvement in the conviction case, the period (2001-2006) created a very hostile environment his infrastructural efforts in Alandur. Major roadblocks by way of procedural delays, and unreasonably high tariffs crept into the construction and, later on, to the operation of the sewerage project (Gopakumar, 2009a). During this phase, due to the prevailing political climate, Mr. Bharathi assumed a secondary role even as the RWAs moved strategically to use influence and apply pressure on the government to ensure that residents' objectives for an affordable sewerage system were not compromised.<sup>36</sup> Given the pattern of political contestation in Chennai, we have seen, there are few opportunities for civil society mobilisation to influence the existing water supply regime. Through their role in the partnership, and with Mr. Bharathi's support,

<sup>33</sup> Tamil Nadu is among the few states in India to have actively resisted decentralisation due to a perception among its political elites that making local governments strong would result in the eventual weakening of the state government. The centralisation of power in the hands of the state government has been achieved by efforts that have systematically weakened the standing of the local government. In fact, elected village panchayath presidents (VPPs) although elected by villagers can be removed from office by the district administration if they are perceived to be in contravention of state laws (Natraj et al., 2006). To add to the reduced standing of VPP, elections to panchayaths in Tamil Nadu are fought on a non-party basis. Being formally non-political positions VPPs can rarely tap into bases of support extended by political party organisations. This often leaves the VPP a solitary figure negotiating a sea of powerful officials with little social or political support.

<sup>34</sup> Focus group discussion with members of Women's SHG, Pagalmedu, 23 May 2007.

<sup>35</sup> *The Frontline*. The law and its potency. 17(22): 28 October-10 November, 2000.

<sup>36</sup> *The Hindu*. Reduce maintenance fee, demand residents. 15 January 2004.

RWAs in Alandur were able to mobilise support to modify the role of users in the regime. Thus, despite the high regime significance, using its influence the RWAs have been successful in effecting a moderate change in their favour. As a result of specific political circumstances, the RWAs have been able to modify the existing regime by bringing some citizen considerations in an otherwise structurally strong regime.

After comparing the outcomes of these cases on their respective regimes we see that the cases initiate different change pathways in the regime. In Bengaluru, a low regime significance has created the condition whereby infrastructural partnerships can be easily derailed while reform transitions that seek to transform the water supply regime have been interrupted or modified. In Kochi, a medium significance for the water supply regime provides a context whereby partnerships require extensive mobilisation and strategy to modify the existing infrastructure regime. In contrast, in the Chennai case, the legacy of Chennai’s high political significance and high resource significance gives the regime a juggernaut-like quality. It requires considerable political strategy and a unique alignment of circumstances to even effect a slight modification that can transform the regime as we saw in the Alandur case. Given the solidity of the regime, aligning or adapting to the regime is the easiest way as in the TWAD Board example. Table 1 displays the political dynamics of infrastructural partnerships in Bengaluru, Chennai and Kochi. At the two extremes both the TWAD Board case in Chennai and the BATF case in Bengaluru suggest that PPPs are unsuccessful in making a change in the regime. In the TWAD Board case, the regime is too significant to make a change. In the BATF case, the regime has too low significance again for the PPP to make a change in the regime. However, in the three cases, Alandur, Vypeen and BWSSB, the partnership was successful in bringing about a modification in the regime. In the high significance regime of Chennai, this modification was brought about by a unique political circumstance. In Kochi’s medium significance regime, the Vypeen case brought about a modification with sustained mobilisation. In Bengaluru’s low significance regime, some mobilisation was able to bring about a modification in the regime.

Table 1. Dynamics of infrastructural partnerships.

Regime significance	High (Chennai)	Medium (Kochi)	Low (Bengaluru)
<i>Reform transition</i>			
Aligned	TWAD		
Modified	Alandur	Vypeen	BWSSB
Interrupted			BATF

**CONCLUSION**

Systems of water supply provision constitute one of the most politicised infrastructures. Numerous urban, regional and international struggles in the recent past have coalesced around access and process issues associated with water-supply and sanitation infrastructures. These struggles have been particularly concerted in cities of the developing world where the disparities over access have been especially egregious. International development agencies expect Public-Private Partnerships to improve access to water supply infrastructure. Developing the concept of water supply regime, this article empirically investigates whether PPP can indeed transform existing systems of water supply provision using the example of five PPP efforts in three cities in India.

From the investigation, we can draw out two important points. First, water supply regimes vary considerably in characteristics across cities. Given the local nature of water supply infrastructure, there

is a degree of local specificity to the supply of the resource that does not exist in other infrastructures. This accounts for the variation across regimes. As a result, some cities possess regimes with a greater significance while others possess a regime of much lower significance within their respective regional/political contexts. The significance of the regime in this article is related to the significance of the water resource to the city and to the autonomous significance of the city in politics. In cities like Bengaluru that possess a regime of low political significance and low resource significance, the regime of water supply has low independent significance. On the other hand, a city like Chennai possesses a regime of high significance. The significance of the water supply regime has a direct bearing on reform processes. Any change process initiated in a regime of high significance is extraordinarily difficult to interrupt or derail by civil society efforts opposed to it. As a result, in a regime with a high autonomous significance like Chennai's, reform efforts such as PPP usually align with or reinforce the dynamics of the existing water supply regime. When civil society efforts seek to change the regime, they require extraordinary circumstances or skill (such as we saw in Alandur) to make even a minor modification. On the other hand, in regimes with low independent significance, like Bengaluru's, reform efforts can be upset with minimal effort (as we saw in the BWSSB case) with civil society actors who mobilise to upset these efforts being usually quite successful in their strategy. In other words, arrangements that underpin how water supply is provided in the city can be understood only in their historical contexts.<sup>37</sup>

A second point concerns the role of PPP in transforming existing water supply regimes in developing cities. By bringing private actors and civil society groups into infrastructural delivery the expectation is that partnership efforts can make water supply systems more participative and democratic, which in turn can enhance access of different groups in society to essential services. It is true that such a characterisation disregards the role of social and political context that guides infrastructure regimes. PPP efforts are always inserted within existing contexts. It is these contexts that, to an extent, guide the role of PPP efforts in transforming water supply regimes. Regimes that have a lower autonomous existence are often usually more accessible and participative of multiple interests. PPP efforts within such contexts that seek to transform regimes by granting them greater autonomous significance are quite often successfully resisted and the regime change interrupted. The BATF case demonstrates the success that partners had in resisting transformations that would have enhanced regime significance and made them less participative. On the other hand, regimes that have a high autonomous significance as in Chennai are hostile environments for genuine participative and democratic urges since these regimes are insulated from the desires or interests of different social groups. Under such a situation, PPP efforts (like the TWAD Board case) usually reproduce existing regime settings. In this case, a regime transformation toward a more participative regime is unlikely. However, the outcomes of PPP efforts are not always guided by the regimes they are located within. Under conditions, PPP efforts and the actions of partners can become critical for initiating regime change. We see that in all three water supply regimes we considered. However, the degree of modification is related to the nature of the regime. In a high significance regime like Chennai, it is only a unique set of political circumstances that can ensure regime change in a participative direction. Under other circumstances, regime alignment is the likely outcome. In Kochi's intermediate significance regime, partners require sustained mobilisation which can initiate regime modification. Given Bengaluru's lower regime significance, reform modification is achieved easier than in Kochi or Chennai.

The picture that emerges from this article is that PPP efforts do certainly play a role in initiating regime changes that make them more participative or democratic. The significance of the regime in

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<sup>37</sup> It needs to be pointed out here that understanding regime significance in terms of political significance and resource significance is crucial, because this allows evaluating regime significance across different types of infrastructure such as water, electricity or transportation. Thus within any given city, while regimes share similar political significances, the significance of the resource varies considerably. While a resource like water has incredible political traction, this is often missing in the case of electricity or transportation. This could possibly account for why privatisation of water supply is such a thorny process although electricity or transportation services have been privatised with little opposition in several cities. A good example of this is Delhi where water privatisation efforts have stalled while electricity services have been privatised.

which the PPP is launched does guide to an extent the role PPPs play. But beyond that, strategic action by partners plays an important role in initiating pathways of regime change. It is of course much easier for partners to initiate these pathways of change in regimes with lower significance as Bengaluru as opposed to high significance regimes such as Chennai. But this does not discount the vital role of strategic action in launching directions of change in water supply regimes.

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