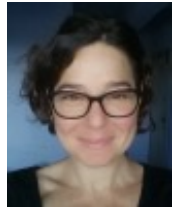


“It’s local staff who keep Mumbai’s water flowing in the face of systematic planning violations done in the name of world-class city making” – Lisa Björkman

LSE blogs.lse.ac.uk/southasia/2016/01/27/its-local-staff-who-keep-mumbais-water-network-going-in-the-face-of-systematic-planning-violations-done-in-the-name-of-world-class-city-making-lisa-bjorkman/

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On 28-30 January 2016 the LSE India Summit, sponsored by Difficult Dialogues, will be taking place in Goa. Ahead of the conference, **Sonali Campion** spoke to **Lisa Björkman**, who will be appearing on the infrastructure panel, about her research on Mumbai’s water infrastructure.



Issues around access to water in India are often attributed to water mafia acting as gatekeepers etc. but your research suggests the challenges are very different. Could you tell me more about what you found in Mumbai?

There are a couple of different tropes that are often used to make sense the unpredictability of water infrastructure. One is mafia, and the idea of systemic corruption towards which the word mafia gestures. The other has to do with the idea that categories of caste or class or community must somehow determine where water does or doesn’t go. So when I began researching for this book, instead of taking at face value the idea, for instance, that so-called “world class” bits of the city actually *get* all the water that their advertising materials boast, or that water in so-called “slum” areas must somehow be informal, illegal or otherwise unavailable, I began instead by asking, instead what *does* make the water flow – without assuming the explanatory power of categories like class or community or rights or rules. Which is to say, rather than choosing field sites according to certain presumptions about what might explain variation, I did a much broader analysis of a municipal ward, and I looked at the infrastructure itself. Because what does or doesn’t come out of your pipe will often have to do with what’s going on upstream, whether it’s the materiality of the pipes or the interconnections between neighbourhoods.

The other thing was that I was interested in the use of words like “corruption”, “the poor”, “the slum”, in policy discourses about water. These words become central to the popular explanatory narrative. So for instance, the water mafia narrative is everywhere, in newspapers, TV exposés and so on. But in some ways it’s a fantasy – this notion that someone somewhere must be in control. What I actually found is there are many different forces at play that are not reducible to an easy story about “corruption” or “mafia”. The actual story is a lot more interesting, complex, multifaceted. Any solutions or interventions that might move the city toward a more functional system won’t be as simple as a “corruption” story suggests.



Mumbai. Credit: [Ankur Dave](#) CC BY-NC-ND 2.0

Can you point to a few of those other things that were more unexpected?

While some of the challenges that Mumbai faces are long-standing, others are very new. There's this way in which descriptions of Indian cities in general can ascribe a sort of timelessness to certain kinds of dysfunction. But urban infrastructures have histories. Scholars, policymakers, or global development consultants might ask "how come Mumbai or Delhi isn't like New York or London?" There is often this idea of a colonial legacy of differentiated rights. Of course these legacies are powerful, but these things need to be understood as well in relation to the material and historical specificities of each city. For instance, Mumbai's water distribution network never aimed for universal supply, even to colonial elites. There was always an archipelago of access and a supplementary infrastructure of borewells and surface wells, especially in the suburbs. The other thing is Mumbai has an intermittent system, not a 24-hour supply. That is by design. Mumbai has an aggregate water availability on par with London's – there's no overall water shortage and there's no shortage of financial resources either. The challenges are in the distribution system, which is why the corruption narratives are so often used to explain the problems.

The inconveniences of Mumbai's intermittent system are the stuff of urban mythology – pre-dawn supply timings and regular squabbles over shared taps are fabled. But what we're seeing in recent decades is something new as well – the increasing volatility and opacity in the distribution network. The informational infrastructures have changed. Why is that? What I found was that the water supply planning department used to base its 20-year planning horizon on the Municipal Corporation's Development Plans, taking into account factors like population projections from the census, and development controls on density and zoning etc. However, in the 1990s the planners sought to redress some of the problems that they had encountered in implementing city development plans. One of the biggest challenges was land acquisition, for public amenities, roads, hospitals, social housing. So the planners decided to put the market to work in trying resolve those conflicts and created an institutionalised a set of mechanisms that created a market in urban development rights. The water supply planning based its plans on the 1991 Mumbai Development Plan, but the development control rules were littered with policy tools that in practice enabled the built space of the city to change in violation of those plans.

What we ended up with were geographies of population density, and thus of water demand, that were completely unpredictable. For example, there was a terrible exchange between the regional development authority and the water department in 2004 where the development authority said to the water department, "we have 50,000 so-called "project affected people" moving to this area." The area had been zoned in the development plan for industrial use and so wasn't expected to pose any additional water demand, but it had just been re-zoned in order rehouse families that had been displaced by an infrastructure upgrading project. The regional development authority said to

the water engineers “you need to give them water”. The water department said “that’s fine, we can do it by 2007”. And the authority said, “we’ve already started moving them in and you better give them water because you’re the water department. You’re the ones responsible”. Similarly, not far away, the regional development authority rehoused nearly a lakh people in a rehabilitation housing complex that was actually higher in elevation than the service reservoir – you can’t do that when you’ve got a gravity-fed system. People really suffered from water shortage in that area until the water department figured out a way to pump the water up to the buildings.

These sorts of challenges have seen the rise of everyday infrastructural practice of tweaking valves and managing the pipes. This has resulted a decentralisation of knowledge about the network because there are no systematic records of these piecemeal hydraulic interventions – new cross-connections to plumb a new neighbourhood and so on. Pre-1990s the water department surveyed and mapped and audited. They had all kinds of long institutionalised practices to maintain knowledge over the distribution network and monitor pressures and flows. That system has been entirely abandoned in the past 20 years due to staffing shortages. There have been experiments with high tech reporting devices that can produce very particular kinds of data about flows through particular pipes, but it doesn’t amount to a systemic knowledge – often the data produced are very exact but entirely meaningless. The numbers might be very precise, but they don’t add up to anything.

How are the challenges of Mumbai replicated in other major cities?

The way that Mumbai has disembedded the planning trajectories of its built space from its infrastructural space may well be unprecedented. For instance, New York system also uses the mechanism of transferable development rights in order to enable land acquisition. They use these mechanisms to enable different planning goals to be met. However, they do it in other cities in a more limited way. So in New York City if you’re the owner of a plot of land and you have to forfeit some development rights because of a heritage building, you can sell those development rights on the free market. But then they can only be used in the locality, or in some way that’s tied to infrastructural planning and regulation.

I would say that my research really shifts the burden of proof. The kind of problems I discovered in Mumbai are also ones that are not available in popular discourse. So I want to see more empirical work in other cities to show what I’ve found is not happening in other cities. How is it that these different temporal horizons and planning trajectories of infrastructural space and built space are being kept linked?

One of the questions which will be discussed at the LSE India Summit is that of smart cities. What are your thoughts on the government’s plans in light of your research?

The way smart cities idea has captured the imagination of the Indian public is bound up intimately with the narrative of corruption in public administration as being the root of all the city’s problems. There’s a notion that if we can just remove those people and institutionalise incorruptible, technological apparatus, then somehow this market-activated urban India that is ready to fly won’t be dragged down by the “heavy state” that is unwilling or unable to keep up with it. Now in fact this is not what I’ve found in Mumbai at all. It’s the engineers and the staff that keep the system functional at all, notwithstanding the systematic violation of planning that is done in the name of world-class city making.

There is definitely a need to introduce new technologies into Mumbai’s infrastructural ambit, particularly its informational infrastructures. That’s something that the water department in Mumbai is on top of already. Right now we’re in the middle of a 5-year water distribution improvement project which involves systematic GIS mapping. The consultants are working very closely with the ward level engineers and other staff. The valve operators in particular are highly skilled and often spend their entire careers in one ward, so they know the distribution network. It might not be mapped on paper but they know it inside out. One thing that struck me very powerfully was the fact that Suez, the consultants, were full of admiration and praise for the water department engineers and staff. They recognised that the water department does a tremendous job notwithstanding the unbelievable constraints and pressure that they face.

It sounds like there's quite a powerful message there – yes smart cities, but smart cities that draw on the expertise and the skills of the engineers and others?

Yes, there are different aspects of the smart cities idea, there are things like bullet trains and enabling wi-fi all over the city, which are of course great ideas. But things like sewerage, water infrastructure, mass transit, social housing are extremely complex and not as glamorous. Policymakers need to work very closely with those who actually know the city best, and ask them, “what kind of technologies might be helpful, and how can experts in information technology work with you to enable you to do your job?”

What are the key infrastructure questions Mumbai is grappling with now?

It is important not to presume what we think the trade off between human and machine should be, or that there is a trade off, but to think very carefully about what the role of technology can be. So that is why I emphasised that the first conversation *has* to be with the people who work with the city everyday, and to ask how they can use information technology, or not as the case may be.

The other issue that needs to be on the table is development planning. There needs to be a rethink of the way in which these market mechanisms enable the redevelopment of built space, and planning trajectories need to be brought back into line. This is something that Mumbai is actively engaged as they are drafting the development plan for the next 20 years. A few months ago the planning department of the municipal corporation released its draft into the public domain for comments. Unsurprisingly, from every camp – architects, environmentalists, working class housing activists, planners, public administrators – there were concerns raised about the current regime of development planning and control rules, and about how incentive and transferrable development rights have been used, and about the havoc that these policy tools have wrecked on the material life of the city, the unplanned and unpredictable geographies of built space and population density.

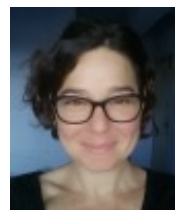
There is so much energy and potential right now for addressing these fundamental problems. Another major change that is on the horizon too is that the water department is revising the rules pertaining to areas treated – for water distribution purposes – as “slums”. They're creating a policy framework that will empower local engineers and bureaucrats to do systematic planning for water distribution in low-income neighbourhoods, without having to police things like property rights. This is something that – to the enormous credit of the municipal corporation – everyone now appreciates the need for. The new rules are in the process of being revised and hopefully implemented soon.

There's no getting out of the connectivity that being in a city like Mumbai entails, and we all want to be in a city like Mumbai because it is a wonderful city! There's a reason why everybody wants to be there, it's an incredibly vibrant place, so much is happening and there is so much opportunity.

Note: This article gives the views of the author, and not the position of the South Asia @ LSE blog, nor of the London School of Economics. Please read our [comments policy](#) before posting.

About the Authors

Lisa Björkman is Assistant Professor of Urban Affairs at University of Louisville and research scholar at the University of Göttingen's Transregional Research Network (CETREN) in Germany. Her research in Mumbai focuses on the material and infrastructural politics shaping the city's rapidly-changing built environment, and on the emergent forms of political subjectivity, possibility and practice that they animate. Her recent book, *Pipe Politics, Contested Waters: Embedded Infrastructures of Millennial Mumbai* (Duke University Press 2015; Orient BlackSwan 2015), was awarded the American Institute of Indian Studies' 2014 Book Prize in the Social Sciences.



Sonali Champion is Editor of the South Asia @ LSE blog. She recently completed an MSc in Comparative Politics at LSE and also works at [Democratic Audit UK](#). She tweets [@sonalijcampion](#).

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