Summary of Water and Poverty in Urban Slums Panel
Harvard South Asia Institute Annual Symposium
April 17, 2015

I. Overview

The Water and Poverty in Urban Slums panel at the Harvard South Asia Institute's 2015 Annual Symposium provided an important, inter-disciplinary opportunity to examine the challenges of improving access to water and sanitation. The panelists were: Heather Arney, Shafiqul Islam, Sharmila Murthy, Ramnath Subbaraman and Liza Weinstein.

The first half of the panel analyzed the intersection between water, poverty and land tenure through a case study of Mumbai, India. Drawing on comparative examples from other parts of the world, the second half of the panel situated the Mumbai experience in a global context. Through an engaging and dynamic format, the panelists discussed and debated these important issues with each other and the audience.

II. Opening Remarks

Professor Shafiqul Islam of Tufts University kicked off the panel by reflecting on a paper written by Professor Asit Biswas in 1981 in Foreign Affairs: Water for the Third World where he argued

> Goals and targets are easy to design, and resolutions are easy to pass. International agreements on targets will in no way guarantee that the necessary plans will be developed and implemented, or that necessary funds and trained manpower will be available for their execution.

Biswas then concluded:

> …like many other development problems, the problem of providing adequate water supplies to the Third World will not yield simply to the application of money and other resources-although these are of course vital for success. Its solution calls for a major reshaping of existing institutions all the way from the local to the international level, and for a massive effort to train both operators and recipients to make proper use of new facilities and water supplies. Only if these steps are undertaken together will the goal of clean water and sanitation for all-if not by 1990, at least reasonably soon thereafter-cease to be an "impossible dream" and become the reality it could indeed be.

Thirty-four years later today, we ask: *Will the goal of ensuring clean water and sanitation continue to remain an "impossible dream"? What reframing is needed to make this goal a "possible dream"?*

The root cause of many complex water problems lies at the intersection of multiple causal forces buried in observational signatures with often conflicting views and values related to: *Who decides, who gets water and how?* In such situations, neither numbers nor narratives will resolve the dilemma. Today, we ask the panel, for the water problem you are describing:

- What is the current framing? Is this framing working? If not, what reframing is needed?
- What metrics (numbers, narratives, or both) are you using to measure success?

III. Part I: Mumbai case study on links between water, poverty &land tenure

Professor Liza Weinstein of Northeastern University opened the case study on Mumbai with a brief history of slum settlements in Mumbai. In order to understand the water challenges facing Mumbai's slum residents, it is important to situate slums and residential informality in the city's social and political landscape, as well as its historical development. Slums house 40-60 percent of the city's population. With a population of more than 18 million, that means that Mumbai's slum residents number somewhere between 7 and 10 million. Given this remarkably large population, it follows that Mumbai's slums are extremely diverse. The dramatic numbers mask economic diversity -- not all slum residents are poor -- as well as religious, ethno-linguistic, and occupational diversity. And, as elaborated below, there is significant diversity with respect to the age, size, legal status, degree and character of authorization, nature of land ownership, and environmental characteristics of Mumbai's thousands of slum settlements. Recognition of this diversity is essential if appropriate policy interventions are to be developed to address the myriad challenges facing this large and diverse population.

Professor Weinstein also commented that despite the fairly widespread perception that slum growth coincided with the beginning of the Bombay's industrial decline in the 1970s and 1980s, the city's slums have a much longer history and are intricately linked to its broader industrial development and economic prosperity since the mid-19th century. As Bombay grew through a variety of push and pull factors including agricultural crises, caste persecution, political conflict, and industrial growth, slums provided a low cost solution to the housing challenges facing the rapidly growing city -- and with minimal public or private sector investment. Meanwhile, formal and informal political networks developed to integrate slum residents into the city's broader systems power and politics. Despite the characterization of Bombay's slums as marginal, their residents' labor, commercial activity, and political engagements have long made them quite central to the workings of India's wealthiest and most global city.

Professor Weinstein concluded her initial remarks by discussing India's recent economic growth and heightened development pressures. As a result, Mumbai's slum residents are now facing a

more severe set of challenges. Decades of commercial development in the city center have continued to push slum residents to the northern and eastern outreaches of the metropolitan area. Informal residents remaining in the island city and western suburbs are experiencing greater housing insecurity as property prices continue to rise and government policies aim to make Mumbai slum-free.

Professor Sharmila Murthy of Suffolk University Law School, who also moderated the panel, then discussed why some slums in Mumbai are "legal" and others are "illegal." Over half of Mumbai's population are slum-dwellers, yet they live on less than nine percent of the city's land area. The relevant state law, the Maharashtra Slum Areas Act, defines a slum as an area lacking basic services that is "unfit for human habitation." The state government has the power to "notify" a slum, which gives it a form of legal status and makes it eligible for rehabilitation through a Slum Rehabilitation Scheme. Moreover, slum-dwellers who have been living in a slum prior to 2000 are now considered to be "protected occupiers," which gives them extra protection from eviction. (The cut-off date had previously been 1995, but it was recently extended to 2000). Slum-dwellers who began living in a slum after 2000 do not have the same protections and are considered "illegal" or "non-notified." Similarly, slums located on central government land are also non-notified, even though the central government of India has several schemes designed to rehabilitate slums and expand access to basic services in *all* slums regardless of legality, slums located on central government land. Of the approximately 6 million slum-dwellers in Mumbai, around 40% are non-notified.

Dr. Ramnath Subbaraman of Brigham and Women's Hospital and Harvard Medical School then presented field research from Kaula Bandar, a non-notified slum in Mumbai. He collected these data in conjunction with Partners for Urban Knowledge, Action, and Research (PUKAR), a Mumbai-based research collective. In a 2011 study, PUKAR found that up to 76% of household water in Kaula Bandar is contaminated with coliform bacteria and up to 43% is contaminated with *E. coli.* Notably, almost all contamination happens *within* the household from people's hands and houseflies, because water is stored in unsafe, open-mouthed containers. Kaula Bandar residents pay as much as 200 times the price paid for water by wealthier city residents. About 16% of household income is spent on buying water in the summer season. Despite spending so much on water, nearly half of households use less than 20 liters per person per day, which is below the minimum water usage recommended even in disaster situations. As a result, Kaula Bandar has health outcomes that are substantially worse than those in notified (legal) slums in Mumbai.

Dr. Subbaraman encouraged NGOs and policymakers working on this issue to look beyond simply providing "clean" drinking water, while ignoring other critical problems in water service delivery, such as ensuring that water is affordable and that everyone gets a humane quantity of water. Building on Amartya Sen's definition of poverty as capability deprivation, Dr. Subbaraman proposed the following *multi-dimensional* definition of "water poverty":

> "Water poverty consists of deficiencies in any of a wide array of service delivery indicators (e.g., quantity, quality, accessibility, reliability, affordability, and equity) that place substantial undue burden on the urban poor from a health, economic, educational, or social perspective."

He also encouraged NGOs and policymakers not to limit their objectives to "providing clean drinking water" but rather that the larger goal should be "to ensure everyone has a water supply, that is sufficient, accessible, reliable, affordable, clean, and equitable."

Professor Weinstein then discussed how the diverse character of Mumbai's slum settlements shapes the opportunities for water access, producing complex hierarchies of deprivation. While non-notified slum settlements like Kaula Bandar are legally barred from accessing the municipal water supply, notified settlements, particularly older and larger settlements like Dharavi, enjoy legal access via municipal taps. However, for those with formally provided water, the supply is insufficient and the timings of dispersal are often inconvenient. Even among the most privileged segments of Mumbai's slum population, inadequate and inconsistent supply of water results in missed work and school due to health problems and the need to organize schedules around dispersal. To address the gaps in access, residents in notified settlements are also forced to rely on informal water vendors and pay their excessive prices.

In Professor Weinstein's experience, despite these acute challenges, slum residents often place concerns about inadequate water at the bottom of a rank ordered set of demands. Most frequently, demands for adequate water and sanitation often come after demands for housing security. As an example not from Mumbai but from Delhi, the community of Kalyanpuri in East Delhi has been located on central government land since the mid-1980s, but has experienced six evictions over the past 10 years. With the support of the Human Rights Law Forum and other housing advocacy organization, the community was able to secure a stay order on evictions from the Delhi High Court last summer. Once they began to experience a modicum of housing security, community leaders began to mobilize for better access to water and toilets, making demands on elected officials and city administrators. The community's extremely limited access to water and sanitation was not a new concern, but community leaders felt they could only begin devoting attention to these issues once their concerns about evictions had been addressed. This recognition of a rank ordering of demands is not intended to diminish the importance of water and sanitation in the lives of informal residents, but simply to help us think about how residents think about their needs for employment, shelter, and basic services and mobilize to get these needs addressed.

Professor Murthy then situated the struggles to improve access to water within a human rights context. India is a party to the International Covenant on Economic, Social and Cultural Rights, which is now interpreted to include a right to safe drinking water and sanitation. Since the *Subhash Kumar v. State of Bihar* case in 1991, India's Supreme Court has recognized a right to water as part of the right to life set forth in Article 21 of the Constitution. Recently, in December

2014, the Bombay High Court also recognized a "right to water" in the *Pani Haq Samiti v. Brihan Mumbai Municipal Corporation* case. The court ordered the government to extend access to Mumbai's water supply to millions of residents living in non-notified, or illegal, slums. The court found that while a citizen may not have a right to retain the illegally constructed hut, that person cannot be deprived of his fundamental right to food and water, which is an integral part of the right to life guaranteed under the Constitution of India. At the same time, the Court emphasized that the government remains obligated to demolish non-notified slums in Mumbai that were erected after the year 2000, in accordance with existing law.

Dr. Subbaraman then used a social-ecological framework to argue that the causes of water poverty cut across a variety of scales. *Global and national ideological discourses*—including colonialism, neoliberalism, and Hindu nationalism—shape and justify the discriminatory policies and local actions that place entire settlements in situations of water poverty. *National and state laws*—such as the "1995 rule" in Mumbai and the lack of a slum policy on Central Government land—exclude large segments of Mumbai's slum population from accessing water. *City and ward-level discrimination* on a religious or caste basis results in substantially worse water service delivery for many notified slum settlements, even though they have a legal entitlement to water. *Intra-community discrimination* against vulnerable households by informal water vendors results in dramatic disparities in water pricing within non-notified slums. *Within households*, women, children, the elderly, and people with disabilities disproportionately suffer from the consequences of water poverty.

Dr. Subbaraman argued that social accountability for government services is crucial for addressing water poverty in urban slums. He presented an initiative called "Transforming Health Inequity using a Rapid Survey Toolkit" or THIRST, which PUKAR hopes to start in the next few years. The THIRST initiative hopes to empower communities to hold local governments accountable for water service delivery, using a "Rapid Water Scorecard". The Rapid Water Scorecard helps communities to collect both "actionable indicators" and "outcome indicators". Actionable indicators consist of information that directly helps policymakers to visualize *how, where, and when* water infrastructure is failing, so that they can create plans to address these problems in large slums settlements. Examples of actionable indicators include GPS-mapped locations of contaminated taps and maps highlighting "black holes" of water tap access within slums. In contrast, outcome indicators—for quality, quantity, accessibility, reliability, and equity—help policymakers to see whether they are achieving basic human rights standards for water delivery.

At the conclusion of the Mumbai case study, the panelists invited the audience to ask questions and briefly share their views. The questions included topics such as: the extent to which ordinary people use "rights" language; other useful comparative examples; the role of governance structures and the need for collective impact; whether slum-dwellers might consider returning to their villages if economic opportunities improved; and the disparate pricing of water.

IV. Part II: Global and Comparative Context

Professor Islam started the second half of the panel with a summary of the 2014 SAI Water Symposium. *For a rapidly urbanizing South Asia with competing – and often conflicting – demands for water, which problems, when addressed, have the greatest potential to make an impact? Can we bridge the divide between theory and practice when natural, societal, and political forces influence water problems?*

Conversations and findings from the 2014 water symposium - From SAARC to Slums: Urban Water Challenges in South Asia – recognized and highlighted that while providing adequate safe drinking water for urban populations is required for basic health and well-being, the water issues for cities extend far beyond the core residents. Agricultural fields beyond the metropolitan limits feed these expanding cities and have water needs and challenges, as well. Also, while water is needed to survive and flourish, it is part of a complex web of social, economic, ecological and development challenges for populations, particularly for vulnerable populations such as slum residents in South Asian cities. Improving outcomes for individuals in cities requires more than delivering safe, affordable water. Suggested pathways to approach urban water challenges with a focus on slums included: (a) Identify one or two cities from South Asia where we have "deep" local knowledge as well as "access" to high-level decision makers and opinion makers/shapers; (b) Develop a framework to identify 2-3 binding constraints and/or enabling conditions for the chosen city; and (c) Put together a "coalition of the willing" and start a "Pilot Project". Summary of the 2014 symposium is available here.

This 2015 Symposium discussion focuses on Mumbai to develop a deeper understanding of key issues and challenges in providing clean water and sanitation to urban slums. The discussion and recognition from 2014 that these challenges are complex and contextual are not new. What is novel in this 2015 approach is to explicitly acknowledge that the root cause of many complex water problems lies at the intersection of multiple causal forces buried in observational signatures with often conflicting views and values related to: *Who decides, who gets water and how?* In such situations, neither numbers nor narratives will resolve the dilemma.

Understanding and managing water challenges in urban slums is a complex systems problem. Water problems occur within a water network. Characterizing that network and identifying key links and nodes is a necessary first step to identify possible strategies for pragmatic and actionable interventions. For example, water availability may not be the limiting factor to ensure access to clean water for most cities around the world. Mismatches between values (who decides, who gets water? Is water a right or property?), choice of tools (is desalination technology to increase supply better than fixing leaky pipes to conserve water?), and disparity in scales (spatial, temporal, jurisdiction, management, knowledge) usually make providing access to clean water and sanitation a complex system problem. These complex water challenges from the Kaula Bandar slum in Mumbai are likely to be different than those in Korail Slum in Dhaka or Kibera in Nairobi.

To address these challenges we need a reframing – to better understand and manage complex water problems - that acknowledges and synthesizes a set of enabling conditions with a set of situational conditions. Identification of these conditions and seeking appropriate interventions may be guided by two emerging global principles: equity and sustainability. Decisions related to complex water challenges are seldom binary and often will require weighing how to appropriately share both benefits and burdens. Not only do problems need to be reframed to address apparent conflicts (e.g.: "theory vs. practice" "fish vs. farms", "upstream vs. downstream", "today's immediate needs vs. sustainability for future generations"), we need to utilize a gradualization approach – using degrees rather than boundaries to define the space for developing policies and procedures to manage a complex water problem. For example, to provide access to clean water to slums in Mumbai, we might first need to address issues of "notification" before initiating a project to provide microcredit to make water more affordable.

Heather Arney of Water.org then shared her organization's experiences using microcredit to expand access to water and sanitation infrastructure. Rising urban populations demand improved access to water and sanitation services. Lack of household water and basic sanitation facilities create significant costs in terms of illness and lost time. Large segments of the urban poor are willing to pay for the costs of improvements if they can repay the costs over time. Programs such as WaterCredit that correct market failures can help mobilize financial resources for increased water and sanitation investment.
Water.org puts microfinance tools to work in the water, sanitation and hygiene sector. By connecting financial institutions to communities in need of clean water and toilets, small loans are then made to individuals and households. As loans are repaid, they can be redeployed to additional people in need of safe water, reducing the need for subsidies, which can then be freed up to help those who need it most.

WaterCredit to date:

- More than 500,000 loans (90,000+ in urban areas) disbursed for household water & sanitation improvements, reaching more than 2 million people globally.
- 99% repayment rate.
- >90% borrowers are women

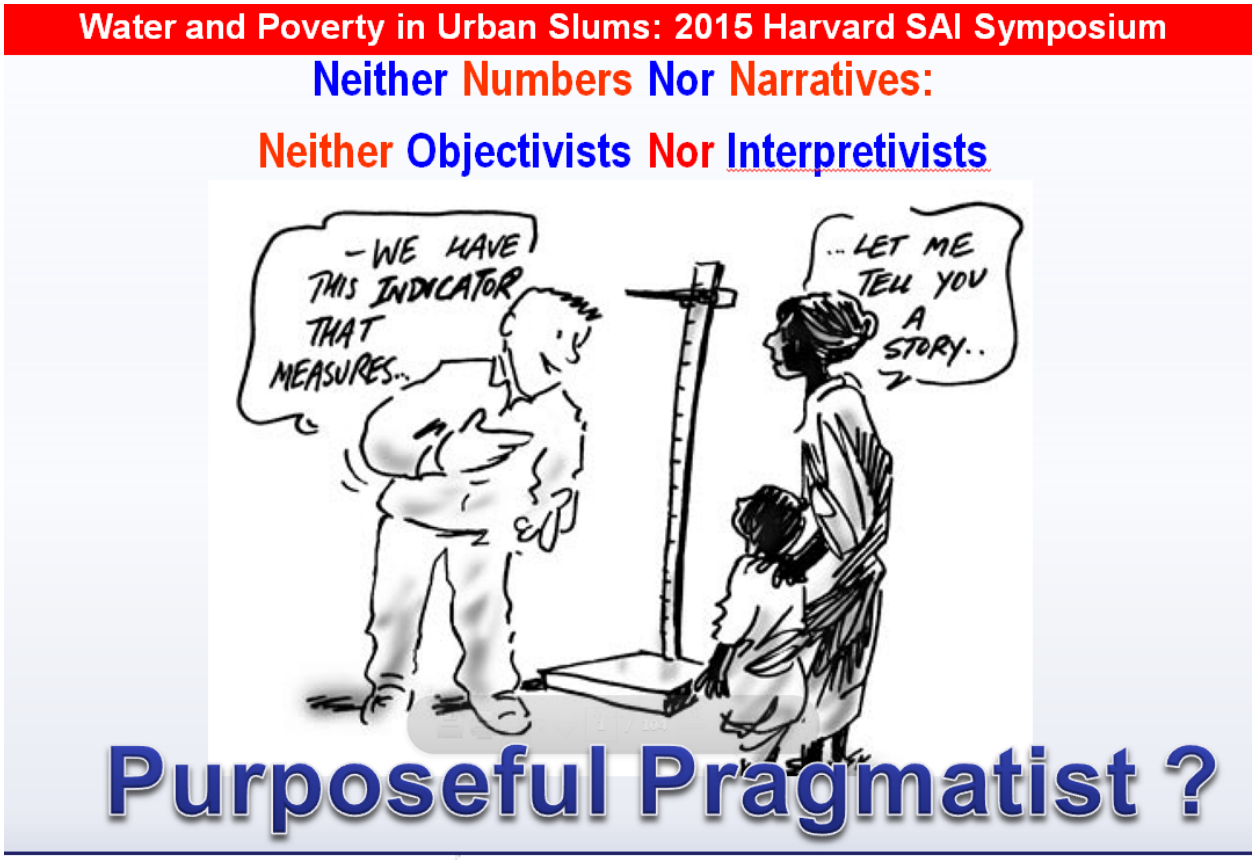
In order to understand, track, refine, and to pressure test innovations like WaterCredit, Water.org incorporates a rigorous monitoring and evaluation (M&E) strategy into its programming. M&E activities begin prior to program implementation and continue into end-line and post-line evaluations; feedback loops are incorporated throughout. M&E platforms and tools that Water.org use include the WaterPortal - an internal MIS for program administration and progress tracking – and the mWater platform - for survey data collection and analysis. The mWater platform is free for all to use.

Water.org works with local WASH and Finance Partners. DSK (Dhaka), SIDUR (Hyderabad) and EQUITY Bank (Nairobi) are examples of partners implementing WaterCredit in urban poor areas.

There have been common challenges and resolutions among these programs. Challenges include cost of infrastructure, insufficient public programs/policies, utility mismanagement, and working in not legally recognized areas. WaterCredit programs are addressing these challenges by offering a market-based approach that addresses local demands. Program activities include initial baseline/market research, product development and refinement, and communication mobilization, education and advocacy.

Key findings from SIDUR's 2014 independent impact assessment have shown overall improvements in increase of household water/toilet connections, WaterCredit loans utilized for correct purpose, increase in people paying water tariffs, increase of safety among women, improved health and overall high level of satisfaction with the WaterCredit program. A key learning, within the Hyderabad context, is that while the household water connections provided sufficient water for drinking purposes, the water supply was not sufficient to meet other domestic purposes.

Professor Islam concluded the second half with the following adapted cartoon where he suggested that numbers and narratives paired with a sensitivity to identify emergent patterns can help us escape the "over-contextualization or over-generalization" trap and move to a gradualization approach. With a gradualization - rooted in purposeful pragmatism – approach, we no longer think of "either-or" but of "less or more". Water professionals need to combine multiple methodologies and concepts and apply more advanced systems thinking and analysis to act and address complex issue of providing clean water and sanitation to urban slums.



The panel concluded with another round of Q&A with the audience. The questions and comments related to the need to identify an actor(s) who can bring all the relevant parties together; the challenges of relying exclusively on market-based mechanisms for slum rehabilitation; and the need to better manage water resources.

For more information, please visit:
http://southasiainstitute.harvard.edu/sai-symposium-2015-local-solutions-with-global-impact/