



Objective case studies of successful urban water management

A major problem facing the water profession is the absence of comprehensive, independent, reliable and objective analyses of properly functioning urban water management systems in cities of the developing world. Such comprehensive studies are needed because there is an urgent need for water and development professionals and practitioners all around the world to thoroughly understand the contextual and replicable aspects that help explain why specific utilities have been successful, or why others have not. The limitations, challenges and problems are often well documented, but the actions taken to address them, and how they fared, are not.

For underperforming water utilities in developing countries, this information is especially important. They need to know how utilities in cities with similar social, economic, political and institutional conditions have responded to the challenges they faced and why and to what extent they succeeded. Most urban centres have long been beleaguered by poor performance of water utilities, unwillingness to set tariffs at fiscally responsible levels, political interference in their management, and poor governance practices. Many, for all practical purposes, are bankrupt.

The existing analyses consist of reports and papers mostly written by the staff or advisors of the utilities concerned, or by international development actors providing financial or technical assistance. These analyses are suspect; their authors struggle to offer unbiased, objective and critical analyses of the utilities' performance. Successes tend to be exaggerated, and shortcomings downplayed. Moreover, they seldom discuss in any depth how and to what extent the political, institutional, economic, legal and social constraints were actually overcome within a reasonable timeframe. In the absence of such reliable and comprehensive analyses, it has been impossible for water professionals, policy makers and development experts to identify which cities in the developing world can serve as models for good urban water management that have been working well for significant periods of time, or what lessons other urban centres can learn from those experiences.

If such analyses were available, then urban water utilities could consider these models for their potential replicability, taking into account the model city's boundary conditions and specificities, with appropriate modifications to suit their own contextual conditions. No single model of urban water management will suit all cases, since all cities have different physical, economic, social, legal and institutional conditions. Individual cities are at different stages of development, and have different management constraints. They thus face context-dependent limitations. In addition, in terms of urban water management, climatic, economic and institutional conditions may vary significantly from one city to another, even within a single medium-size country. So, successful urban water management practices and processes will differ from one city to another. One size does not fit all, and the

solution-in-search-of-a-problem approach has mostly failed throughout history. Developing countries are not homogeneous. Thus, even within the same country, each utility needs to identify which model will work best, at its specific stage of development.

Water utilities in developing nations are unlikely to be successful by following externally formulated prescriptions. Success is most likely when local institutions address their own highly specific conditions and constraints.

Consider Phnom Penh, Cambodia's capital city. It is now a vibrant city at an early stage of socio-economic development. Its reconstruction started hesitantly after decades of civil conflict and strife. By focusing on its strengths, weaknesses and constraints, the Phnom Penh Water Supply Authority (PPWSA) has managed a very successful transformation.

PPWSA faced many problems that are all too familiar to water utilities around the developing world, and especially in Asia. In addition having to recover from political unrest, which inflicted massive loss of life and capacity in all sectors and across the country, PPWSA was crippled by a myriad of challenges, including infrastructural, institutional, budgetary and human-capital challenges, in all areas of utility management. Corruption was endemic. In 1991 a peace agreement was signed, and in 1993 the United Nations sponsored nationwide elections, after which debilitating trade sanctions were gradually lifted. These developments profoundly transformed Cambodia and facilitated the institutional leapfrogging of PPWSA by permitting the entrance of a focused, determined, committed, and institutionally and politically savvy leadership.

In 1993, a new director-general, Ek Sonn Chan, joined the organization, around the same time that the country experienced a series of important changes that propelled Cambodia into a promising development track. In 15 years, PPWSA managed to increase water production by around 440%, expand the distribution network by 557%, increase pressure in the system by 1260%, and reduce unaccounted-for water from 72% to 6.2%. Also, by 2008, PPWSA's customer base had grown by more than 660%. These improvements have continued in the last decade, a commendable feat amidst rapid urbanization, socio-economic growth, political changes and rising customer expectations. This remarkable turnaround was achieved by transforming the processes by which decisions were made and implemented. Much of the success in delivering good-quality water service to Cambodia's capital was possible because of dramatic improvements in governance practices and processes.

In our experience, studies of water utilities and public-sector management seldom elaborate on the mechanisms, processes and relationships through which transparency, accountability and decision making have consistently been changed for the better. Little is known about how capacities are developed or what sort of performance incentives best respond to specific situations. Ultimately, most traditional analyses do not present a compelling picture of what good urban water governance actually looks like, that is, what was improved, and how, and what were the enabling conditions that made such improvements possible. This is probably because even when governance is a policy and development priority, it remains a somewhat elusive and amorphous concept. Its subset, good governance, is even more vague, as it lacks parsimony, differentiation, coherence and a good theoretical framework. Often the factors triggering, facilitating and

supporting reform remain even less clear in the reports and analyses made by utility staff members and donors.

Thus, there are few specific, relevant examples of good governance, given the lack of objective, accurate and critical analyses of institutions in developing countries that have been operating reasonably well for a significant period, say two decades or more. We are convinced that if more effort were put into identifying such cases and meticulously analyzing how specific challengers were overcome, we would have a better understanding and appreciation of the reasons for their successes.

Let us take the case of Singapore. In 1965, when Singapore became independent, its urban water supply and wastewater management practices were similar to those of Delhi, Manila, Dhaka or Jakarta. But within two decades, through good governance and strong sustained political support from the highest level of the government, PUB, Singapore's National Water Agency, became one of the best in the world. How they did it is documented in a series of independent and objective papers (Joshi, Tortajada, & Biswas, 2012; Tortajada, 2006) and a comprehensive book (Tortajada, Joshi, & Biswas, 2013), which is now available in English, Chinese, Japanese and Hindi.

The success of PPWSA under the most challenging conditions is even more remarkable (Biswas & Tortajada, 2010). A forthcoming book will further document this remarkable transformation and the conditions that made it possible (Biswas, Sachdeva, & Tortajada, *in press*). We need more independent, comprehensive and objective case studies so that cities in developing countries have different models to consider and choose from. However, each city must develop a model that suits its specific physical, economic, social, political and institutional conditions, as well as people's expectations.

In this July issue, the articles included are complementary to the above topic. They include a comprehensive state-of-the-art review of the public acceptance of recycled water (Fielding, Dolnicar, & Schultz, 2018), a topic of increasing interest, and articles on energy use for water supply in China (He et al., 2018) and for irrigation and related greenhouse gas emissions in Mexico (Juárez-Hernández & Sheinbaum Pardo, 2018), the value of social capital in flood disaster recovery in Malaysia (Chan, Roy, Lai, & Tan, 2018), storm-flood events in cities in China (Jia et al., 2018), governance of aquaculture water use (Lebel, Lebel, & Chuah, 2018), water markets in China and Australia (Lewis & Zheng, 2018), and involuntary resettlement in Ghana (Wilmsen, Adjartey, & van Hulten, 2018).

Every year, our journal recognizes the most highly cited article in the previous year's Impact Factor window. We are pleased to announce that this year, the award goes to 'Temperature and Precipitation Changes in the Midwestern United States: Implications for Water Management', by Pratik Pathak, Ajay Kalra and Sajjad Ahmad (issue 33.6). This award is based on citations in Web of Science in 2018 of articles published in 2016–2017. The article has now been made free to access, and added to the Most Cited Article Collection on the journal's website.

We thank our authors for submitting their manuscript to the *International Journal of Water Resources Development*; we deeply appreciate the support of our reviewers and the members of the editorial board, and we look forward to continuing to work with all of you.

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