

Navigating the Politics of Water and Sanitation Planning

11.475 – Spring 2016

Meeting times: Mondays and Wednesdays 9:30am – 11am in Room 9-450A

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Office hours: 3-5pm Mondays, or by appointment, in my office (9-539).

Course Description

Water and sanitation services are increasingly inundated fields of both study and practice. From multi-level policy-makers, transnational corporations, international financial institutions, and specialized technical experts to advocacy groups, small-scale service providers, civil society organizations, and end-users, the portfolio of stakeholder interests in these basic services is a veritable mosaic – and some would say puzzle. This course aims to inform and prepare students to navigate the explicit and implicit power dynamics at play among (though also at times excluding) such stakeholders in decision-making processes that govern the planning and delivery of water and sanitation systems. Several polemical questions tend to mark the political and economic governance of water and sanitation systems, however cases often reveal hybrid forms of organization, regulation, financing, and physical delivery which complicate and challenge simplified answers. The course thus emphasizes the importance for planners to move beyond the limited dimensions of supply and demand studies and to gain fluency in the multiplicative political-economic and social factors driving choices in wat-san systems planning. By tracing the physical planning of wat-san systems in mostly urban and peri-urban areas, students will follow the trajectory of decisions that shape the accessibility, affordability, and adequacy of water and sanitation services, particularly in vulnerable neighborhoods. In-depth, globally comparative readings will be used to fully investigate the intricate choices that expose “basic” services in water and sanitation as a misnomer.

Objectives

The overall course objectives are twofold:

1. To provide students with a depth of reference and breadth of knowledge that shadows the major component parts of a systems-wide political-economic analysis of water and sanitation planning, with particular emphasis on such systems within resource-poor contexts.
2. To engage students within an iterative process of argumentation and logic-construction through in-class dialogues, engagement with peers, and individual research papers.

Evaluation

60 % Term paper:

The major course assignment is a term paper on one of the six modules we cover. This is your chance to take the foundation of course materials and build upon it (with additional references) to reflect **your** specific interests, passions, and professional path. You may choose the specific module/issue, but will

need to secure my approval for the approach you will take on your paper, and the specific location you will focus on.

For example:

- A. You choose to write a paper concentrating on financing water delivery;
- B. You propose to me what issues or question within the financing of water delivery you will write on for your paper, and propose a geography or location of focus;
- C. We agree that you will concentrate on:
 - i. The potential challenges and opportunities of using micro-credit organizations to finance small-scale water operators in peri-urban parts of Kampala, Uganda;OR
 - ii. How to effectively mobilize fixed income (bond) financing to expand water infrastructure to address the growth of satellite cities outside Brasilia, Brazil.

For either example, you would of course have secondary and tertiary questions and issues to address in order to fully explore your topic. The challenges you face therein will be discussed in class during a “Paper Workshop” in Week 8’s (March 28th and 30th) meetings. For this workshop, you will prepare a draft paper to present in class. Please note that this is only a draft - I expect you to present a summary to your colleagues of what your research topic is, what is the major issue or question you are exploring in your paper, what are the difficulties you might be finding in conducting your research, what are some enlightening revelations you have found in your research, what you feel you need help with moving forward. In short, this is a stop-check to ensure things are moving in the right direction for your paper’s successful completion, and of course an opportunity to correct your course if things are not going well. Everyone will be assigned a “draft feedback partner” for their paper, based on my assessment of synergies between your paper topics or approach. Your assigned draft feedback partner will provide you (and me) with written comments on your work, due Week 10 (April 13th). You will present your “final” paper during the last class meetings on either May 9th or May 11th and get a last round of feedback in class before turning your paper in on Friday May 13th by 12pm.

Technical points:

- I expect your papers to range between 20-30 pages. Quality matters more than quantity; however, to adequately address a topic, the paper should be at least 20 pages. I ask that you NOT EXCEED 35 pages. All papers should be double-spaced, and in 12pt font, Times New Roman, with 1-inch margins.
- Draft paper partners will be assigned after Week 4 when you make your paper proposals. You are encouraged to exchange thoughts, difficulties, and successes of researching and writing your paper with your paper partner throughout the term, though there is also at least once during the semester where this exchange will be formally recorded (as noted above – in Week 10) and your experiences more widely discussed in the classroom.
- Written feedback to your draft paper partner should be sent electronically to me and your paper partner. You may use the “Commentary” or “Tracked changes” feature in Word, along with general written comments for this assignment.

Key dates for paper assignment:

1. By Week 4 (February 24th), you propose your paper topic to me. Prepare a brief ONE PAGE statement and outline– a paragraph or two indicating your major topic/question (and the secondary/tertiary questions it evokes). Please also indicate geography/location of interest, followed by a few relevant references you have found.
2. By Week 8 (March 28th/30th), you prepare a draft paper and present it in class.
3. By Week 10 (April 13th), you provide written feedback on your draft partner's paper (providing him/her AND me with the written feedback – in electronic form).
4. Week 14 (May 9th/11th) – Present your final paper in class – for final round of feedback and discussion.
5. FINAL PAPERS due FRIDAY May 13th – by 12pm in electronic form.

25% Discussion Lead:

This is a group/partner assignment. Leading discussion means that you and your colleague(s) (you may present more than twice, depending on the number of students registering for this class) will come to class and provide a synopsis of the week's readings: what in the readings did you find most striking or unnerving, how well were arguments presented, what is the greater relevance (if any) of arguments presented, etc. You should write up a one to three page (maximum) synopsis/outline of the week's readings, suggesting specific questions for discussion in class. The synopsis will be due on **Sunday nights by 6pm** – uploaded to Stellar for the class' review. Note that a sign-up sheet will be circulated in class during our first meeting so that you may choose which weeks to lead class discussion. You may partner with different colleagues for different weeks, if the number of students allows.

15% Class participation:

Your class participation grade will be assessed by your weekly contributions to classroom discussions, as well as your written feedback to your draft paper partner. *Please note that I place a great deal of emphasis on classroom discussion and debate. Your participation is ESSENTIAL to this class and FUNDAMENTAL to your education. If I suspect that you are not completing your readings for class or am, for any reason, unsatisfied with classroom discussion, I will request that you start bringing into class a one-page, single-spaced reaction memo on the readings.*

Semester Outline and Readings

Module 1: How Framing Challenges in Water and Sanitation Matters

Week 1 (Feb.3) –Introduction to the Course and Framing the Issues Internationally

In what ways is a political economic perspective on the planning and delivery of water and sanitation systems useful and why? Which parts of planning such systems are largely technical and which are more political and/or economic? How do different answers to these basic questions frame contentions and opportunities of planning water and sanitation systems? Should or could “priorities” within wat-san systems be universal as well as universally defined? Finally – and centrally – how does the “governance” of such systems – and priorities therein – shape how we plan and deliver water and sanitation services (and vice versa)?

Pritchett, L. and Woolcock, M. (2002) *Solutions when the Solution is the Problem: Arraying the Disarray in Development*, Center for Global Development Working Paper, No. 10.

Bakker, K. (2007) “The ‘Commons’ Versus the ‘Commodity’: Alter-globalization, Anti-privatization and the Human Right to Water in the Global South”, in *Antipode*, Volume 39, Issue 3, pages 430–455, June.

Gleick, P. (1998) The Human Right to Water, in *Water Policy*, Vol. 1, pp. 487-503

Kullman, C. (2012) *Does Sanitation as a Human Right = Free Toilets?* Published on The Water Blog (<http://blogs.worldbank.org/water>)

SUPPLEMENTAL BACKGROUND REFERENCE:

WHO (2012) *UN-Water Global Analysis and Assessment of Sanitation and Drinking-Water (GLAAS): The challenge of extending and sustaining services*. Geneva: WHO Press.

Week 2 (Feb. 8 and 10) Framing the Issues Domestically and Comparatively

Elmer, V. and Leigland, A. (eds) (2013) Chapters 16-18 on Water Supply, Wastewater, and Stormwater, in *Infrastructure Planning and Finance*, Routledge.

Samuels, A.(2015) Aging Pipes are Poisoning America’s Tap Water, *The Atlantic*, Jul 29, 2015

Graham, D. (2016) The Private Sector is Now Providing Basic Services to Flint, in *The Atlantic*, Jan 26, 2016.

Rodrigues, D., Gupta, H., Serrat-Capdevila, A., Oliveira, P., Mario Mendiondo, E., Maddock, T., III, and Mahmoud, M. (2014). "Contrasting American and Brazilian Systems for Water Allocation and Transfers." *J. Water Resour. Plann. Management*, 10.1061

Winchester, P. et al (2009) Agrichemicals in surface water and birth defects in the United States, in *Acta Pædiatrica* Vol. 98, pp. 664–669

Griggs, G. (2015) Lost Neighborhoods of the California Coast, in *Journal of Coastal Research*. Jan2015, Vol. 31 Issue 1, p129-147.

Kaushal, S. S.; Groffman, P. M.; Likens, G. E.; Belt, K. T.; Stack, W. P. et al. (2005) Increased salinization of fresh water in the northeastern United States, in *Proceedings of the National Academy of Sciences* vol. 102 (38) p. 13517-13520.

Module 2: Organizations and Institutions

We are often inclined toward the ‘typification’ of players and their interests within the water and sanitation sectors to make sense of current realities – and perhaps for good reason. However, as the actors claiming stakes in the planning and delivery of wat-san systems diversify and intensify within various resource-poor locations, how are interests, specialists, and organizations articulating needs and objectives differently than expected (or not)? What factors influence whether actors’ spoken/written goals are actually realized or implemented as envisioned – and interpreted as desired? What and whose interests are obscured and clarified in the process of implementation?

Week 3 (Feb.16* (Tuesday) and Feb 17) Coordination and Dissonance: What interests are whose and when?

Ostrom, E. (2005) *Understanding Institutional Diversity*, Chapters One and Two, Princeton University Press, Princeton.

Ranganathan, M. (2014) Paying for Pipes, Claiming Citizenship: Political Agency and Water Reforms at the Urban Periphery, in *International Journal of Urban and Regional Research*, Vol. 38, Issue 2, pp.590-608.

Zapata Campos, M. et al (2014) The travel of global ideas of waste management. The case of Managua and its informal settlements, in *Habitat International*, Vol. 41, pp.41-49.

Page, B. (2002) Communities as the agents of commodification: The Kumbo Water Authority in Northwest Cameroon, in *Geoforum*, Vol. 34, No.2, pp. 483-498.

Week 4 (February 22 and 24) Power, Networks, and Governance among stakeholders

Bevir, M. (2010) “Interpreting Governance” and “The Modern State”, Chapters One and Two in *Democratic Governance*, Princeton University Press: Princeton, NJ.

Sneddon, C. and Fox, C. (2007) “Power, Development, and Institutional Change: Participatory Governance in the Lower Mekong Basin”, *World Development*, Vol. 35, No. 12, pp.2161-2181.

Conca, K. (2005) “Institution building as the Social Embedding of Political Struggle”, in *Governing Water: Contentious Transnational Politics and Global Institution Building*, The MIT Press: Cambridge.

Katsongo, K. (2012) “Partnership modalities for the management of drinking water in poor urban neighbourhoods: The example of Kinshasa, Democratic Republic of Congo”, in *Sustainable Cities Local*

solutions in the Global South, ed. Mélanie Robertson, Practical Action Publishing and International Development Research Centre: Ottawa, Canada.

Module 3: Regulation

What are the different parts of planned water and sanitation delivery systems that are or should be regulated by formal or informal rules or laws? How are regulatory norms determined, interpreted, and promoted? Who sets the rules of the game? Who or what enforces (if at all) the rules? For which purposes, and to serve which ends are regulations established and/or enacted (or not)? What impacts do they have on the quality, accessibility, and affordability of comprehensive wat-san systems?

Week 5 (February 29 and March 2)

Trémolet, S. and Browning, S. (2002) *The Interface between Regulatory Frameworks and Tri-Sector Partnerships*, London: BPD Water and Sanitation Cluster.

Post, A. and Murillo, V. (2016) How Investor Portfolios Shape Regulatory Outcomes: Privatized Infrastructure After Crises, in *World Development*, Vol. 77, pp.328-345.

Ginsburg, T. (2005) "International Substitutes for Domestic Institutions: Bilateral Investment Treaties and Governance", in *International Review of Law and Economics* 25, pp: 107–123.

Rudra, N. (2011) "Openness and the Politics of Potable Water", in *Comparative Political Studies* Vol. 44, June, pp. 689-718

Week 6 (March 7 and 9)

Morgan, B. (2011) "Regulatory Arbitrage and Popcorn Politics: contrasting disputing pathways in Argentina and Chile" and "Moonlight plumbers in comparative perspective: electoral v constitutional politics of access to water in South Africa and New Zealand", Chapters Four and Five in *Water on Tap: Rights and Regulation in the Transnational Governance of Urban Water Services*, Cambridge University Press, Cambridge.

La Branche, S. (2009) The Local Application of Global Sustainable and Participatory Development Norms in Turkish Dams, Chapter 14 in *Social Participation in Water Governance and Management: Critical and Global Perspectives*, eds. K. Berry and E. Mollard, Routledge: London.

Forline, L. and Assis, E. (2009) For Whom the Turbines Turn: Indigenous Citizens as Legitimate Stakeholders in the Brazilian Amazon, Chapter 2 in *Social Participation in Water Governance and Management: Critical and Global Perspectives*, eds. K. Berry and E. Mollard, Routledge: London.

Boelens, R. (2009) Politics of Disciplining Water Rights, in *Development and Change*, Vol. 40, No. 2, pp.307-331.

Module 4: Financing

Mobilizing the financing for water and sanitation systems involves strategizing “fundamentals” (or underlying institutional issues) and “technicals” (or challenges/opportunities within different financing modes and instruments). Here the fundamentals and technicals of financing wat-san systems are explored through histories of experiences within the privatization and subsidies/targeting debates, with an eye on service responsibilities and toward future financing innovations/hybrids. Emphasis is placed on understanding financing typologies (domestic/international; public-private; city-wide, community-level) often obscured in debates.

Week 7 (March 14 and 16) What lessons learned/unlearned from the privatization debates?

Bakker, K. et al (2008) “Governance Failure: Rethinking the Institutional Dimensions of Urban Water Supply to Poor Households” in *World Development*, Vol. 36, Issue 10, pp. 1891–1915

Roaf, V. (2006) *After Privatisation: What Next? An assessment of recent World Bank strategies for urban water and sanitation services*, Global Issues Paper, No. 28, Heinrich Böll Foundation.

Budds, J. and McGranahan, G. (2003) "Are the Debates on Water Privatization Missing the Point? Experiences from Africa, Asia and Latin America." *Environment and Urbanization* 15, no. 2: 87-113.

NO CLASS MEETING ON MARCH 21 or 23 (SPRING RECESS)

Week 8 (March 28 and 30): PAPER WORKSHOP – in class presentations and discussions on paper drafts**

Week 9 (April 4 and 6) Targeting Troubles...Can what is affordable also be sustainable and adequate?

Maass, A. (1966) Benefit-Cost Analysis: Its Relevance to Public Investment Decisions, *The Quarterly Journal of Economics*, Vol. 80, No. 2, pp. 208-226.

Whittington, D. (1992) Possible Adverse Effects of Increasing Block Water Tariffs in Developing Countries, in *Economic Development and Cultural Change*, Vol. 41, No. 1, pp. 75-87

Banerjee, S. et al (2010) *Cost Recovery, Equity, and Efficiency in Water Tariffs: Evidence from African Utilities*, Policy Research Working Paper 5384, The World Bank, Africa Region, Sustainable Development Division.

Week 10 (April 11 and 13) Financing improvements in Wat-San Systems

Heymans, C. et al (2014) *The Limits and Possibilities of Prepaid Water in Urban Africa: Lessons from the Field*, WSP: World Bank, Washington, D.C.

Pieter van Dijk, M. et al (2014) Financing sanitation and cost recovery in the slums of Dar es Salaam and Kampala, in *Habitat International*, Vol. 43, pp.206-213.

Riuji Lohri, C. et al (2014) Financial Sustainability in municipal solid waste management – costs and revenues in Bahir Dar, Ethiopia, in *Waste Management*, Vol. 34, pp542-552.

WSP (2011) *The Political Economy of Sanitation: How can we increase investment and improve service for the poor? Operational case studies in Brazil, India, Indonesia, and Senegal*. Water and Sanitation Programme.

Kellett, M. and Casseres, L. (2009) *Financing water infrastructure – A water infrastructure bank and other innovations*.

Module 5: Physical Delivery

Addressing sustainability and inequality challenges in the delivery of adequate water and sanitation systems requires planning for qualities, technologies, quantities, and prices that appropriately reflect contexts. Who and what factors determine appropriateness and standards therein require depths of consideration as well as plenty of local and technical knowledge. When knowledge “hybrids” are not encompassed, what are the risks to the physical delivery of adequate wat-san systems? Do ‘ideal’ (i.e., sustainable, equitable, etc.) wat-san physical delivery systems exist – and what do they look like?

Week 11 (April 20) What are physical challenges and opportunities?

Cotton, A. et al (1995) *On-Plot Sanitation in Low-Income Urban Communities: A review of literature*, WEDC – IDE, Loughborough University of Technology, UK.

Melosi, M. (2008) Chapters 18-19: From Earth Day to Infrastructure Crisis, and Beyond Broken Pipes and Tired Treatment Plans” in *The Sanitary City: Environmental Services in Urban America from Colonial Times to the Present*, Abridged Edition, University of Pittsburgh Press, Pittsburgh, PA.

Lienert, J. and Larsen, T. (2010) “High Acceptance of Urine Source Separation in Seven European Countries: A Review” in *Environmental Science & Technology*, Vol. 44, No. 2, pp. 556-566.

Week 12 (April 25 and 27) Who gets what and where in physical delivery?

Letema, S. et al (2014) *Sanitation policy and spatial planning in urban East Africa: Diverging sanitation spaces and actor arrangements in Kampala and Kisumu*, in *Cities*, Vol.36.pp1-9.

Winters, M. (2014) Public Service Provision under Conditions of Insufficient Citizen Demand: Insights from the Urban Sanitation Sector in Indonesia, in *World Development*, Vol.60, pp:31-42.

Wegelin-Schuringa, M. and Kodo, T. (1997) “Tenancy and Sanitation Provision in Informal Settlements in Nairobi: Revisiting the Public Latrine Option”, in *Environment and Urbanization*, Vol. 9, No. 2, October.

WSP (2004) *From Hazard to Convenience: Towards Better Management of Public Toilets in the City of Nairobi*, Water and Sanitation Programme Field Note, April.

Heller, L. (1999) "Who Really Benefits from Environmental Sanitation Services in the Cities? An Intra-Urban Analysis in Betim, Brazil." *Environment and Urbanization* 11, no. 1, pp: 133-144.

Bullard, R. (2007) "Dumping on Houston's Black Neighborhoods" Chapter 9 in *Energy Metropolis: An Environmental History of Houston and the Gulf Coast*, eds. Melosi, M. and Pratt, J., University of Pittsburgh Press, Pittsburgh, PA.

Module 6: Research design and Policy-making in Wat-San Planning

Policy and planning are increasingly data driven – or data-justified. This module explores the different modes and methods of primary research and estimation techniques for assessing water and sanitation needs at different levels of agglomeration domestically within the US and globally. Special emphasis is placed on discussion of how different designs and research questions drive policy rationalization.

Week 13 (May 2 and 4) Framing issues in research....

Carolini, G. (2012) "Framing Water, Sanitation, and Hygiene Needs Among Female-Headed Households in Periurban Maputo, Mozambique". *American Journal of Public Health*, Vol. 102, No. 2, pp. 256-261.

Campos, L. et al (2015) Development and application of a methodology to assess sanitary risks in Maputo, Mozambique, in *Environment and Urbanization*, Vol. 27, No. 2, pp. 1-19.

Dettinger, M., Udall, B. and Georgakakos, A. (2015), Western water and climate change, in *Ecological Applications*, 25: 2069–2093

Basem Shomar and Anne Dare (2015) Ten key research issues for integrated and sustainable wastewater reuse in the Middle East, in *Environmental Science and Pollution Research*, Volume 22, Issue 8, pp 5699-5710.

Skim through:

WHO/UNICEF (2006) *Core questions on drinking-water and sanitation for household surveys*, Geneva: WHO Press.

UN-Water (2006) *Gender, Water, and Sanitation: A Policy Brief*, Inter-agency Task Force on Gender and Water (GWTF), a sub-programme of both UN-Water and the Interagency Network on Women and Gender Equality (IANWGE) in support of the International Decade for Action, 'Water for Life,' 2005–2015.

Week 14 (May 9 and 11) FINAL PRESENTATIONS IN CLASS