

A REPORT OF THE CSIS
PROJECT ON GLOBAL
WATER POLICY

Making Progress on Global Water, Sanitation, and Hygiene (WASH) Challenges

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ISBN 978-0-89206-663-6

Center for Strategic and International Studies
1800 K Street, N.W., Washington, D.C. 20006
Tel: (202) 887-0200
Fax: (202) 775-3199
Web: www.csis.org



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MAKING PROGRESS ON GLOBAL WATER, SANITATION, AND HYGIENE (WASH) CHALLENGES

Katherine E. Bliss and Katryn F. Bowe

On March 21, 2011, the CSIS Project on Global Water Policy, in cooperation with the WASH Advocacy Initiative, Global Water Challenge, and Tetra Tech ARD, hosted an all-day learning forum focused on progress and challenges related to program sustainability within the global WASH sector. The goals of the forum, held in conjunction with activities planned around World Water Day on March 22, were to convene experts from the global water, sanitation, and hygiene sectors to share research and experience from the field and to develop recommendations for advancing the sustainability of WASH projects in diverse contexts.

Several organizations, including the World Bank Group's International Finance Corporation (IFC) and Water and Sanitation Program (WSP); Safe Water Network; Duke University's Nicholas Institute for Environmental Policy Solutions; the Water Institute at the University of North Carolina at Chapel Hill; and Water For People, helped plan the sessions. Over the course of the day, about 130 participants discussed such topics as the role of the private sector in advancing implementation of water supply projects; how to ensure operational sustainability in diverse settings; the implications of climate change for the WASH sector; and the importance of incentivizing transparency and accountability practices in promoting sustainable WASH activities.

The 2011 Learning Forum built on momentum generated over the past year through several Washington, D.C.-based meetings, including the March 2010 World Water Day roundtables, "Paths Forward for the Global WASH Sector," held at CSIS; the October 2010 event, "Sustainable Water and Services at Scale: Changing the Business as Usual Approach," hosted by the International Rescue Committee (IRC) Water and Sanitation Center, Aguaconsult, and Water For People; and the January 2011 WASH Sustainability Forum held at the World Bank and organized by the Water and Sanitation Program (WSP), Global Water Challenge, IRC, Water For People, and Aguaconsult. The forum also built on the energy generated by Secretary of State Hillary Clinton's 2010 World Water Day speech, in which she articulated a vision of a strengthened and expanded role for the United States in addressing global water challenges at an event organized by Water Advocates and a coalition of organizations and held at the National Geographic Society.

In this report we summarize some of the key themes and debates that characterized the presentations and discussion at the "Making Progress" Learning Forum. In general, there was consensus that community engagement, private sector involvement, and a commitment to long-term monitoring and evaluation are important factors in promoting WASH program sustainability. More detailed information about the sessions, including video clips, audio recordings, and podcast interviews with some of the speakers may be found at <http://water.csis.org>. The opinions and recommendations articulated here are meant to capture the essence of the discussion on March 21, 2011, and do not necessarily reflect the perspectives of the authors or organizers themselves.

Session I: The Business behind the Tap: Private Sector Participation in Water Supply

The World Bank's Water and Sanitation Program (WSP) and International Financial Corporation (IFC) convened the session on the engagement of the private sector in water supply projects. Experts from both institutions shared research from the IFC's "Smart Lessons" series, which seeks to document and share lessons in development practice with experts in the field. As the IFC is a relatively decentralized institution, the Smart Lessons approach allows experts within the IFC, specifically, and within the World Bank Group, more generally, to share development lessons across fields and offices. Considering the extent of global water supply and sanitation needs, along with the dearth of public dollars available for development initiatives as well as limited public sector implementation capacities, in some cases, session panelists focused on the role of the private sector in funding and extending water supply activities.

Elizabeth Kleemeier, senior water and sanitation adviser at the World Bank, offered an overview of her recent assessment of 25 country experiences with private sector involvement in rural water supply. Typically, she noted, water supply systems serving dispersed rural populations are managed by public community-level organizations, as it can be difficult to attract private sector investors when profits are likely to be small. However, recent experience shows that under the right conditions the private sector can be a valuable partner. Kleemeier offered three overarching messages based on her project analyses:

- it is important to consider the quality of management carefully when designing a project with private sector involvement;
- "sometimes" the private sector is a better option for managing rural water supplies than community-based, public sector management; and
- it is important to acknowledge that there is considerable diversity when it comes to private operators, which can include national construction firms, regional companies, or local entrepreneurs.

Kleemeier noted that private sector operators offer not just financing potential but also managerial expertise and technical capacities. She stressed that it is likely we will see more private sector investment in rural water supply in the future.

Kenya-based IFC program specialist Will Davies shared his insights regarding IFC's efforts to set up water and sanitation markets in developing countries. Noting that IFC has traditionally focused on funding large-scale infrastructure projects, Davies reported that the institution is now prepared to downscale its operations and facilitate private sector investment in small-scale water and sanitation systems, particularly in rural areas. Davies offered two relevant lessons from the Kenya experience: first, it can be helpful to aggregate projects to reduce start-up costs and improve product affordability. Offering insights from the experience of the Water Health International franchise in India, Davies noted that when there is a natural aggregation of projects, the costs of installation and upkeep go down, and the product becomes more affordable for more communities.¹

Davies' second observation was that it can be helpful to blend private and public finance in supporting WASH projects. Successful hybrid models, he noted, have mobilized donor funding,

1. For more information on the Water Health International model, see <http://www.waterhealth.com/>.

NGO funding, and funding from the philanthropic sector. In Kenya, IFC is working with the government at various levels to secure private funding as a complement to public and nonprofit investments in the water and sanitation sectors. Davies stressed that it is important to strengthen partnerships that “crowd in” the private sector, as the private sector has a strong role to play in bringing financial management capabilities, innovation, and technological know-how to the table when it comes to providing WASH services.

IFC investment officer Nicola Saporiti shared lessons from his work on water sector reform on the Caribbean island of St. Lucia. In the St. Lucia case, he noted, privatization of the semi-public water utility and the promotion of private investment in water supply services did not prove useful in extending services to needy, rural communities. A lack of sustainable funding undermined the transformation of the island’s water service provider from a semi-public agency to a private one. On the recommendation of, and with a loan from, the World Bank Group, the government of St. Lucia then drafted a new water sector law to reform regulations and guidelines related to tariffs and business plans and to generate increased revenues for the water utility. However, while fresh funds helped strengthen services in urban areas, the problem of gaps in rural coverage remained, and the government ultimately decided that it was not, in fact, advantageous to have private sector involvement in the project.

Conclusions and Recommendations

- The private sector can be a helpful partner in financing and managing rural water supply programs.
- To promote positive engagement with the private sector requires that community members and local government be consulted and involved in the process of incorporating private sector expertise and financing into WASH initiatives.
- Efforts to engage the private sector through project financing and management must be tailored to the local context—there is no one-size-fits-all approach, and a hybrid public-private approach may be the best solution in some cases.
- Output-based aid, in which funds are awarded retrospectively for completed work, can be a way of driving progress in the sector, but it is important to determine in advance how implementing organizations will come up with the funds before commencing work.
- There may be occasions when private sector engagement in providing water, sanitation and hygiene services is not advantageous. Communities and governments should keep this in mind as they invite private sector participation in rural water schemes.

Session II: Achieving Operational Sustainability

Panelists for the session “Achieving Operational Sustainability” represented USAID and the Peace Corps as well as nongovernmental organizations, including Ashoka Leadership Group and Safe Water Network. Speakers shared their experience regarding how to generate sufficient revenue to cover maintenance and operation costs; ways to achieve project scale; the importance of engaging the community in which a project is being implemented; and the necessity of generating and satisfying consumer demand. Safe Water Network convened the panel.

Charles Nimako, director of Safe Water Network’s Africa Initiatives, emphasized the importance of understanding consumer desires and practices in efforts to ensure project sustainability. To understand why some villagers in Ghana purchased water from local kiosks rather than procure water from their community water systems, Safe Water Network carried out extensive research. After discovering the value that people in the communities placed on accessible water and their willingness to pay more for convenient water, regardless of their income or social status, Safe Water Network changed its service model to begin delivering water to rural areas by truck and to extend piped services to consumers from the main treatment center. The organization coupled these expanded services with a door-to-door education campaign to persuade additional villagers to make use of the services. To ensure customer satisfaction with the water service, the organization also began to improve water quality at the household level by constructing wash basins to sanitize the containers that are used to carry and store water from remote locations.

Anthony Kolb, adviser for urban health at the United States Agency for International Development (USAID), described the agency’s work on improving urban water supplies in partner countries. Sustainable urban water systems are characterized by three factors—affordability, accountability, and customization. Because the urban poor frequently lack access to piped water connections, they are forced to pay more for water than their wealthier counterparts who enjoy piped access. The poor also spend a significant amount of time procuring water from non-piped sources. Kolb emphasized the importance of community involvement in project design, noting that too often political elites or outsiders make decisions on behalf of local communities, particularly when it comes to the adoption of technology. While it may be more expensive and time consuming to research consumer preferences prior to project implementation, USAID finds it crucial to conduct this research at the outset in order to deliver a product that satisfies consumer demand.

Allen Hammond of the Ashoka Leadership Group described the organization’s effort to meet urban customers’ demand for high-quality and accessible water services. Ashoka integrates its water and health services by co-siting water treatment kiosks with privately owned health care distribution centers that feature licensed pharmacies and full diagnostic laboratories. Customers prepay a nickel a day or up to \$1.50 a month per family for water access. To promote consumer confidence, the facilities test the water and post results every two weeks to ensure that consumers are satisfied with the quality of water they are purchasing.

Doreen Salazar of the Peace Corps Office of Programming and Training Support noted that Peace Corps members are active in more than 75 countries and are engaged in more than 50 projects worldwide related to water and sanitation. Reflecting on the organization’s recent experience in the Americas, Salazar described the challenge of sustaining water quality testing in remote areas and ensuring that the water systems operate with no or minimal leakage. The circuit rider model, which the Peace Corps piloted in Honduras, can help alleviate these challenges, according to Salazar. Circuit riders are professional water managers who support multiple communities by

training members of local water councils, offering technical training to plumbers, creating operation and maintenance manuals, and delivering sanitation and hygiene education to water users. By spanning multiple systems, the Peace Corps-trained circuit riders expand communities' access to technical expertise and support local entrepreneurs, such as subregional chlorine suppliers, by aggregating demand.

Conclusions and Recommendations

- To promote operational sustainability of WASH programs, implementing organizations should assess community support of proposed water projects by soliciting information regarding community needs, concerns, and preferences in advance and should consider ensuring community buy-in by requiring members to contribute financially at the start of water and sanitation projects.
- The impact of water quality on sustainability and consumer demand cannot be underestimated, and the quality of water at service points should be tested and reported on a frequent basis to promote customer confidence in and satisfaction with water services.
- The circuit rider model, by which water supply technicians regularly visit remote project sites to undertake system maintenance and share expertise, could be expanded in rural areas in developing countries to facilitate project sustainability.
- Organizations should consider devoting resources to generate consumer demand for access to safe water, sanitation, and hygiene services through marketing and education campaigns.

Session III: Climate Change Adaptation and WASH

The relevance of climate change adaptation programs and policies for the WASH sector was another key theme of the March 21 Learning Forum. Panelists emphasized the importance of community engagement, “no-regret” adaptation planning, and the importance of assessing demand for water services in the context of climate change impacts on WASH. The Water Institute at the University of North Carolina–Chapel Hill organized the panel.

Mark Elliott, a postdoctoral researcher at the University of North Carolina, provided an overview of the ways in which climate change is likely to affect the water, sanitation, and hygiene sectors. Elliott noted that climate change is likely to affect water resources in multiple ways, including through changes in precipitation patterns and shifting seasonal water flows. At the same time, population growth is likely to lead to ever greater numbers of people demanding ever greater amounts of water, even as unsustainable groundwater extraction practices and land use changes will lead to lower rates of aquifer infiltration and less water available per capita.

Elliott defined adaptation with respect to climate change and WASH as a set of practices that reduce community vulnerability to the effects of climate change on water quantity and quality. He advanced the idea of “no-regret” adaptations, which are understood to generate net social benefits, whether or not there is climate change. One example of a no-regret adaptation would be a commitment to installing more resilient water systems capable of providing service to consumers in the event of flooding, whether or not it is a function of climate change.

In her discussion of UNICEF’s efforts to promote adaptation to climate change within its WASH work, Sarah Bish, senior adviser for water and environment, observed that UNICEF operates under the conviction that all adaptation work should be “no-regret” in the sense that it should be both environmentally sustainable and strategic. The concept of water security is an essential component of UNICEF’s effort to improve communities’ adaptive capacity, especially in rural settings. Communities that face situations of water scarcity may be inclined to save scarce water resources for drinking and forgo the use of water for hygiene or sanitation purposes, leading to greater rates of diarrheal disease in the long term. UNICEF works with a select number of priority countries to strengthen WASH interventions in the face of climate change. Efforts include assessing the risk of country-level impacts from climate change in the WASH context; determining each country’s adaptive needs and capacities; and articulating a strategy for improving local capacities to sustain WASH interventions over the long term. Bish emphasized that solutions to WASH challenges in the climate change context must be community-driven and adapted to local needs and abilities.

Alexander Danilenko of the World Bank’s Water and Sanitation Program offered remarks regarding WSP’s effort to address WASH and climate change challenges in urban settings. He observed that many utilities are not aware of the ways in which climate change is affecting their work, largely because water suppliers are locally managed and operators are frequently detached from the political decisionmaking related to climate change that takes place at provincial and national levels. Water suppliers are reporting reduced demand for water in areas where water quality has deteriorated due to climate change, and utilities are also tracking increased consumption of bottled water for drinking, cooking, and hygiene. Danilenko suggested that it is important to manage consumer demand to deal with water shortages and underscored the importance of reducing the extent of nonrevenue water, such as that lost to leakage or poor maintenance, to help urban utilities function in an optimal manner.

Conclusions and Recommendations

- Climate change is likely to affect water quantity and quality by increasing precipitation in some areas while creating drier conditions in others.
- Water scarcity may exacerbate hygiene and sanitation challenges, as communities may be reluctant to use precious water resources for hand-washing or sanitation needs.
- “No-regret” adaptation projects can be an important way to ensure community support for, and the sustainability of, climate-related adaptation measures in the long run.
- Projects focused on reducing the WASH sector’s vulnerability to climate change in diverse contexts must be tailored to community needs and capacities.

Session IV: Transparency and Accountability

Whether enhancing transparency and accountability practices can improve the long-term sustainability of WASH projects was the topic of the fourth panel. Speakers described the WASH sector's past failure to monitor project success over the long term, noting that 30 percent of the more than 600,000 hand pumps installed in sub-Saharan Africa over the past 20 years have failed prematurely and that less than 5 percent of WASH projects are revisited once the project has concluded. They described the ways in which their own organizations have sought to become more accountable and transparent to funders, colleagues, and the communities with which they work. Water For People organized the session.

Marla Smith-Nilson, executive director of Seattle-based Water 1st International, shared case studies from the organization's work with DSK, a Bangladesh-based NGO that implements water and sanitation projects in slums and peri-urban areas in the capital city of Dhaka. Developing long-standing relationships with DSK has been Water 1st's "most important tool" in promoting sustainable practices in the Dhaka context, allowing the organization to avoid spreading itself too thin and to foster robust relationships with in-country staff. This approach has allowed partner organizations to more readily identify problems and share lessons and suggestions with each other. Water 1st has prioritized accountability through a commitment to long-term monitoring and evaluation practices. According to Smith-Nilson, the fact that Water 1st receives funding from numerous small donors offers the organization the flexibility to commit resources to project monitoring and evaluation activities. In 2010, she said, Water 1st devoted 5 percent of its budget to this activity.

Water For People's manager of regional operations in South America, Kate Fogelberg, described the organization's efforts to prioritize accountability and transparency. Water For People, she noted, has committed to monitoring each of its projects for 10 years. In addition, it has developed a specialized data collection platform that allows staff to upload information on the functional status of a water or sanitation project using Android phone technology. The software allows users to then upload the collected information to Google Earth so that the public, donors, the organization, and beneficiaries can visualize and analyze current levels of service.

Water For People's improved monitoring and evaluation practices have enhanced the organization's ability to assess project success and failure in offering sustainable water services, according to Fogelberg. In assessing sanitation interventions in Peru, for example, Water For People learned that local residents were more motivated to purchase latrines or toilets when they were sold with showers than when they were touted for their health or fertilizer-generating properties. Water For People has also revised the way it measures a project's success; rather than count the number of beneficiaries in a specific area, it assesses the extent to which every member of the community where it has been working has access to water and sanitation over the course of the 10-year monitoring period.

Marc Manara, water portfolio manager at the Acumen Fund, described the organization's approach to researching and investing in water service providers. The Acumen Fund is a social venture fund that invests in companies that generate social impact by serving low-income consumers. Manara noted that the Acumen Fund approaches monitoring and evaluation by focusing on project financial performance rather than equipment functionality or community engagement in assessing project success and sustainability.

Before providing financing for a water project, the Acumen Fund gathers data on a company's operational capacity (such as liters of water sold and average sales per unit), financial status (revenues, costs, loan repayment), and social performance (consumers reached by the services) to assess its potential for sustainable operations. This information allows Acumen Fund to propose reforms to enhance a project's long-term success. In India, for example, Acumen discovered that a water kiosk company did not sell water at two critical junctures—at the death and the birth of a family member in the company. This was because local social norms forbade other community members from interacting with a family for a certain period following these kinds of events. With the Acumen Fund's guidance, the kiosk company introduced alternative staff to manage and run the water plant in the event of major family crises, thus contributing to the project's overall sustainability.

Conclusions and Recommendations

- Organizations that support or sponsor WASH projects should consider integrating monitoring and evaluation practices into project planning to enhance projects' operational sustainability and accountability.
- Monitoring and evaluation efforts should be planned from the project's inception and associated costs incorporated into project budgeting and planning.
- Developing long-term relationships with local partners facilitates information-sharing, transparency, and awareness that can support project sustainability.
- Implementers could consider adopting a system that certifies water and sanitation organizations in accountability practices to enhance the WASH sector's credibility.

Appendix: Learning Forum Agenda

Washington, D.C., March 22, 2011

- 8:00–8:30 a.m.** **Breakfast and Registration**
- 8:30–9:00 a.m. Welcome Remarks
- Katherine E. Bliss, *Director, Project on Global Water Policy, CSIS*
- Chris McGahey, *Senior Associate in Water Resources and Environmental Health, TetraTech ARD*
- 9:00–10:30 a.m.** **The Business Behind the Tap: Private Sector Participation in Water Supply**
- Will Davies, *Program Manager, Sanitation and Safe Water for All Program, IFC*
- Elizabeth Kleemeier, *Senior Water and Sanitation Advisor, World Bank*
- Nicola Saporiti, *Investment Officer, Public-Private Partnerships Department, IFC*
- Moderator: Daniel Runde, *Director, Project on Prosperity and Development, CSIS*
- 10:30–10:45 a.m.** **Break**
- 10:45–12:15 p.m.** **Achieving Operational Sustainability**
- Allen Hammond, *Member, Ashoka Leadership Group*
- Charles Nimako, *Director–Africa Initiatives, Safe Water Network*
- Anthony Kolb, *Urban Health Advisor, USAID*
- Doreen Salazar, *Specialist, Office of Programming and Training Support, Peace Corps*
- Moderator: Chris McGahey, *Senior Associate in Water Resources and Environmental Health, TetraTech ARD*
- 12:30–1:30 p.m.** **Lunch**
- 1:30–3:00 p.m.** **Climate Change Adaptation and WASH**
- Mark Elliott, *Post-Doctoral Researcher, UNC-Chapel Hill, Water Institute*
- Sarah Bish, *Senior Advisor for Water and Environment, UNICEF*
- Alexander Danilenko, *Senior Water and Sanitation Specialist, Water and Sanitation Program (WSP)*
- Moderator: Chris McGahey, *Senior Associate in Water Resources and Environmental Health, TetraTech ARD*

3:15–4:45 p.m.

Transparency and Accountability

Kate Fogelberg, *Manager for South American Operations, Water For People*

Marc Manara, *Water Portfolio Manager, Acumen Fund*

Marla Smith-Nilson, *Director, Water 1st International*

Moderator: Jon Sawyer, *Director, Pulitzer Center for Crisis Reporting*

4:45–5:00 p.m.

Closing Remarks

Chris McGahey, *Senior Associate in Water Resources and Environmental Health, TetraTech ARD*

About the Authors

Katherine E. Bliss is director of the CSIS Project on Global Water Policy and deputy director and senior fellow with the CSIS Global Health Policy Center. She is also a senior fellow with the CSIS Americas Program. Before joining CSIS, she was a foreign affairs officer at the U.S. Department of State, where she led work on environmental health for the Bureau of Oceans, Environment, and Science, focusing on water, sanitation, and hygiene; indoor air pollution; and climate change adaptation challenges in developing countries. In 2006 she received the Bureau's Superior Honor Award for her work on environmental health as well as avian and pandemic influenza preparedness. As a 2003–2004 Council on Foreign Relations international affairs fellow, Bliss served as a member of the State Department's Policy Planning Staff, covering issues related to global health, international women's issues, Mexico, and the Summit of the Americas. Previously, she served on the faculty at the University of Massachusetts at Amherst, where she held tenure and was associate professor. She is currently an adjunct associate professor at Georgetown University and teaches courses in the Edmund A. Walsh School of Foreign Service.

Bliss received a PhD from the University of Chicago and was a David E. Bell fellow at the Harvard School of Public Health's Center for Population and Development Studies. She received an AB magna cum laude and an AM from Harvard University and studied at the Colegio de México in Mexico City.

Katryn F. Bowe was a research assistant for the Project on Global Water Policy (formerly the Global Water Futures project), an initiative that seeks to identify policy solutions for the world's fresh water and sanitation challenges. Prior to joining CSIS in September 2009, Bowe served as a research assistant at Water Advocates, the first U.S.-based organization dedicated to increasing American support for worldwide access to safe drinking water and adequate sanitation.

Bowe will matriculate to the Johns Hopkins School of Advanced and International Studies, where she will be an MA candidate in September 2011. She graduated from the University of Pennsylvania in 2008. She studied health policy and economic philosophy, concentrating on international development. While a student, Bowe conducted field research on water and sanitation projects in rural Cameroon with the Philadelphia Global Water Initiative and interned in the health department of the microfinance organization Pro Mujer in Puno, Peru, in 2006. More recently she cofounded the Young Professionals in Water Network, a group of Washington-D.C.-based young professionals interested in freshwater and sanitation issues.

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