



Solving US and Global Water Inequities
Sharing Solutions from Around the World
Conference Proceedings

Global Water Alliance 12th Annual Conference

March 21, 2019

Huntsman Hall, Wharton School of Business, University of Pennsylvania

Conference Proceedings	2
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Contents

Conference Overview	3
Scope of the Issue	3
Proceedings	4
Opening Remarks	4
WASH Challenges in the USA: Water System Vulnerabilities in the US and their Similarities/Differences to the Global WASH Crisis	4
Overview and Case Studies of WASH Inequities in the Developing World	6
Best Practice Solutions to WASH Inequities from the USA and Developing Countries and their Possible Applications	7
Lunchtime Keynote Speaker	9
Audience Brainstorming – Best Solutions to Abolish Inequities	9
Angelita Fasnacht-Cuellar, GWA board member, Environmental scientist, American Water	9
Erica DePalma, Research Program Coordinator, The Water Center at Penn	9
Closing Remarks	10
Global Water Alliance	11

Conference Overview

On March 21, 2019, national and international experts offered solutions to one of the world's most pressing global health threats: supplying clean drinking water and safe sanitation to residents of developing countries and across the USA. Over 140 professionals, students, and other stakeholders gathered for the 12th annual conference of the Global Water Alliance (GWA) around the theme of finding solutions to inequities in the water sector.

Scope of the Issue

Lack of clean water, sanitation, and hygiene (WASH) is a global crisis associated with excess deaths among children, high morbidity, and crippling development. The United Nations (UN) Sustainable Development Goal (SDG) #6 is to provide access to clean water, adequate sanitation and hygiene for everyone by the year 2030.

Access to WASH is a stated public policy goal of all nations, yet every single country still experiences WASH inequities, including the United States. Furthermore, inequitable access to high quality drinking water is a problem that reaches every sector: economic/financial, housing, health, infrastructure, and education which aids in perpetuating the cyclical nature of poverty. In other words, not having access to clean, affordable water in schools or in homes automatically puts individuals at a disadvantage. Thus, the UN SDG #6 intends to implement programs and provide guidelines to restore the human right to water.

Reports from the United Nations and other organizations show that, although significant progress has been made over the past three decades in providing water and sanitation services, the “poorest of the poor” have made little progress on a global average. For the full conference agenda including speakers and session titles, please see www.globalwateralliance.net/wp-content/uploads/2019/03/2019.03.19_Water-Conference-External-Agenda_Draft.pdf. The following proceedings capture many of the key points made during the full-day event. Please also see the powerpoint presentations for more information.

The Global Water Alliance announces its 12th annual conference, in association with the Water Center at Penn (WCP) and Wharton's Initiative for Global Environmental Leadership (IGEL), with the theme of "finding solutions to water inequities".

Proceedings

Opening Remarks

Call to Order – Symposium Facilitator, Maria Antonia Andrews, Associate Director of Undergraduate Programs, Department of Earth and Environmental Science, University of Pennsylvania

Welcoming Remarks – Dr. Eric Orts, Director, Initiative for Global Environmental Leadership, The Wharton School, University of Pennsylvania

Keynote Speaker – Eleanor Allen, CEO, Water for People

- Social progress is the foundation of sustainable development. If people do not have basic services like water and sanitation, they are not able to improve health, economic growth, and education
- The four forces that influence the ability to provide lasting quality water and sanitation services are community, government, market and technical. In order to have a successful project, the community must first demand services from the government. Then the government must demonstrate its commitment towards improvement by providing resources. The technology selected must be locally available, affordable and reliable and lastly, there must be a market to create new employment opportunities after the execution of the project
- To reach SDG's we need innovative leadership. There are three components to innovative leadership. To start, there must be a vision; all 193 nations that signed on the SDG must be committed to it. This vision must then be backed by political will and funding, and then changemakers must execute on the vision
- Innovative leadership can take many forms, from community-based, district-based and at a national level but they all must be funded by the government to be successful
- The path to the progress requires changing water rates to reflect the true cost of water and ensuring equity and inclusion

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WASH Challenges in the USA: Water System Vulnerabilities in the US and their Similarities/Differences to the Global WASH Crisis

Moderator – Howard Neukrug, Executive Director, The Water Center at Penn

- The US urban water system is failing
- Most US water utilities/systems are rated a “C” at best and many are failing or in danger of failing

Panelists –

Zoe Roller, Senior Program Manager for An Equitable Water Future, US Water Alliance

- Water access and affordability is a reflection of inequities in America
- There is a need to build a rational understanding of the water access problem and awareness of communities that lack adequate running water
- At least 1.6 million people in the US lack access to water facilities and the most vulnerable people in the US are often tribal communities and minority populations
- There is a lack of data on the topic of access. The US census previously asked if residents had access to plumbing, however now the question has changed
- There is a need to understand how lack of water affects health, how people get to work, earning potential, economics, and education potential
- The US Water Alliance conducted the “National Hotspot Study” to understand what policies are needed to close the gap using granular analysis and racial equity analysis. Hotspots for inequity are: 1. California (85,000 homes without plumbing access); 2. Four Corners, tribal area (40% of households have no access to plumbing); 3. Colonias on US/Mexico border (lack of access to wastewater treatment); 4. Appalachia (water quality issues from acid mine drainage); 5. Deep South – Alabama & Mississippi (failing septic systems); 6. Puerto Rico (5% of the population lacks complete plumbing)
- There is a need for qualitative on-the-ground research to see how these issues affect populations differently

Emily Kutil, Adjunct Visiting Professor, University of Detroit Mercy; Member of We the People of Detroit and Founding member of Detroit Community Research Collective

- Resources are needed to unite community members to overcome challenges in Detroit
- Affordability and water quality are inextricably linked
- In the fall, water was shut off in all schools because of lead content
- People whose water was shut off were at a 150% increased risk of contracting skin and soft tissue diseases
- There is a need for a holistic understanding of the effects on water shutoffs
- We the People of Detroit takes a grassroots effort to inform decisions where the community does the research taking back control from traditional academic models
- Detroit has shut off over 140,000 households to date and are expecting to shut off another 20,000 this year because people cannot afford their water bills
- Infrastructure is political as well as physical
- Detroit subsidized the growth of suburbs, which created a power struggle
- There were a series of political decisions in favor of suburban over city residents, which led to removal of Flint from Detroit’s water infrastructure system which caused the contamination. Now Flint is under emergency management
- The loss of Flint from the Detroit water system led to financial instability and the creation of the Great Lakes Water Authority
- Water shutoffs are not isolated incidents
- Water bill debt contributed to the foreclosure of many homes

Mustafa Santiago Ali, Vice President of Environmental Justice, Climate & Community Revitalization, National Wildlife Federation; Founding Member, EPA's Office of Environmental Justice

- We must move vulnerable communities from surviving to thriving – water is life
- Water is a human right – people take water for granted
- Over 3,000 locations in the US have higher lead levels than Flint – why aren't we talking about it?
- In Appalachia, over 3,000 mines are leaking toxic chemicals into US waterways
- Many people in poor areas like Appalachia are on fixed incomes so people drink the water regardless of contamination because bottled water is not affordable and there are no recycling facilities for bottles, so they end up in landfills
- People on military bases have also been exposed to a number of toxins from drinking water (PSAS)
- Who makes decisions about what type of infrastructure will exist in our communities?
- It's a power dynamic – Those who own copper mines or fracking operations have influence with politicians and regulators. Citizens, especially the underprivileged do not have influence
- MLK said, "We come to these shores in different ships, but we are all in the same boat now."

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Overview and Case Studies of WASH Inequities in the Developing World

Moderator – Vince Uhl, President, Uhl and Associates, Inc.; Board Member, Global Water Alliance

Panelists –

Steve Werner, Former Executive Director, Water for People; WASH Program & Resource Development Consultant, Werner Consulting

- Inequalities in WASH lead to chronic illnesses that impair economic development, a drain on family finances, health risks such as HIV/AIDS, reduced crop production and pollution of waste into the rivers and streams
- A collaborative approach is best used to tackle in the inequalities of WASH
- A case study of Kibera in Central Nairobi, Kenya showed even if the community is involved and organized, there is a health and hygiene education program, there is a financial structure that encourages youth entrepreneurship, a project can fall apart without government buy-in

Seung Lee, Senior Director, School of Health and Nutrition, Save the Children USA

- Water for schools and WASH is critical for health and nutrition
- To teach kids how to be healthy, there must be equitable school health policies, a safe learning environment, school-based health and nutrition services, and skills-based health education

- The number of girls in schools has increased and now addressing the needs of girls must be a priority. The most critical need is single-sex latrines so girls may be able to manage their menstruation in private
- The mere creation of latrines is not enough to serve the needs of girls. Ministries also need to provide education, supplies, and tools for cleaning and maintenance
- To maintain these facilities, municipalities must be careful not to propagate the stereotype that women are responsible for cleaning. There should be an effort to teach and incorporate boys in maintenance

Ashish Daw, Senior Hydrogeologist Uhl & Associates, Inc.; Firm Lead, SSA Water

- The goal of the study was to identify the causes and patterns of pollution by evaluating the water quality conditions at certain water points
- There were five types of water points sampled ranging from least expensive to most expensive. Unprotected hand-dug wells, protected-dug wells, city water taps (standpipes) and vaults, kiosks (supplied by water tankers) and drilled wells fitted with hand pumps
- The results showed that both the unprotected and protected hand dug wells had E. coli, 4-6 city water taps sampled found the presence of e-coli and 75% of the kiosks sampled had E. coli

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Best Practice Solutions to WASH Inequities from the USA and Developing Countries and their Possible Applications

Moderator – Christiaan Morssink, President, Global Water Alliance

- Inequities are always about disparities. We need to develop an equity lens to develop best approach to addressing them
- It should be recognized that inequity plays out in many ways and is understood differently by different fields

Panelists –

Nishta Mehta, World Bank, Water and Sanitation Specialist

- There exists a huge financing gap if we want to achieve Sustainable Development Goals for WASH. Need triple what is currently being spent. 27% of that is needed to address the needs of the world's poorest 20%
- Currently, how those funds are being used is not equal. Majority is spent on water rather than sanitation services and large majority is spent in urban environments rather than in rural localities
- A range of cross cutting challenges in WASH including inequities in access, responding to growing urbanization, strengthening institutions, and climate change
- Need to answer the question of why we need to target the poor. This is because overall investments won't bring the poorest up. They will remain left behind because of structural

inequities. Eg, currently in Bangladesh, only 2% of all wastewaters are treated. The rest empties into waterways. This most adversely affects the poorest

- Presented examples of a drinking water project and a sanitation microfinance project in Bangladesh. While both made some inroads into increasing access of poor populations to elements of water and sanitation services, challenges included: The relationship between slum dwelling individuals and the utility remaining indirect because of the role of intermediary organizations; Projects only dealing with one aspect of WASH, neglecting other key water and sanitation needs; An inability of most projects to reach the poorest of poor and difficulty in scaling

Dr. David Fuente, University of South Carolina

- To date, he has not been able to identify any best practices. The WASH space has been neglected, although that means there is lots that can be done
- Sustainable Development Goal seeks safe and affordable water and sanitation for all by 2030. Requires over \$100b/year. Taxes, tariffs and transfers are our options
- Funds are available - IMF indicates that there is around \$500b/year in implicit subsidies via underpriced water sanitation services to higher income people
- Examples on improving equity and affordability:
 - US - Numerous Customer Assistance programs (228) and individual programs (225) - Generally focused on low income groups, but also seniors, disabled and other vulnerable populations - Most looks at bill payment assistance
 - UN Water Global Analysis and Assessment of Sanitation and Drinking Water Survey (GLAAS) - Increasing block tariffs is the main way that governments are trying to address poverty – over 90% of countries report using this approach. Fewer countries are reporting what they are doing for the poor.
- What is an increasing block tariff? – The customer is charged a very low level so poor people can access a basic level of water at a very low price. Water costs in excess of that level become increasingly expensive
- Do they work? - Many reputable agencies claim that they are helpful, effective and fair, but there is 30 year of evidence that shows the approach to be relatively ineffective, especially for the poor: Poorest households don't have a connection to the main system, All customers are subsidized, Low correlation between income and metered water use
- Alternatives include free or subsidized connections, fixed rebates, fractional prices or fixed bills
- No one size fits all. Context really matters

Lunchtime Keynote Speaker

Seema Johnson, Women in Water Leader, From the USAID Water Team

- US global water strategy 2017 has 4 key objectives. 1. Increase sustainable access to safe drinking water, sanitation and hygiene. 2. Improve with resource management. 3. Promote cooperation on shared water. 4. Strengthen sector governance, finance and institutions
- Priority countries and regions have done work in over 40 countries and designate high priority countries every year. They look to see where there are opportunities (strong government or financial support). Between 2008 and 2016 37.3 million people have been reached with water services
- We need the infrastructure and we need to make sure we are reaching the right people
- It is important to consider women in the planning, implementation and evaluation of a program. Regulations cannot change the on-the-ground ecosystem of gender roles. Women's roles need to be expanded to decision making and we need to include male champions in a community for support
- It is critical to involve women in decisions about how latrines are designed, where they are located, etc. Women are missing the opportunity to go to school and become leaders
- Women need empowerment and economic opportunities to become engineers and get paid for cleaning latrines

Audience Brainstorming – Best Solutions to Abolish Inequities

Facilitator – Kelly Bridges, Global Water 2020

Judges –

Stan Laskowski, GWA board member and retired Environmental Protection Agency's Region 3 Deputy Regional Administrator for the Middle-Atlantic States and lecturer/advisor at the University of Pennsylvania (Penn) in the Master of Environmental Studies program

Angelita Fasnacht-Cuellar, GWA board member, Environmental scientist, American Water

Erica DePalma, Research Program Coordinator, The Water Center at Penn

Challenge Question –

“Where do you start in providing women the opportunity to take up leadership roles in the water sector at the community, district and national levels, so that interventions meet the needs of all users?”

- Nine different teams brainstormed on and then presented back to plenary their proposed approaches to addressing the challenge question
- There was significant overlap in approaches, with key elements including:

- Investment in primary, secondary and tertiary education, with special emphasis on increasing access to education for girls
- Invest in more STEM education opportunities for girls
- Ensuring leadership representation by women in WASH issues at local, district and national levels
- Establishment of formal and informal female mentorship programs
- Establishment of quotas or less formal mechanisms for ensuring more balanced gender representation at all government levels
- Ensuring that participatory processes provide space for women's voices to be heard
- Improving WASH related data collection, ensuring disaggregation of information by gender
- Supporting the establishment of female role models within WASH sector and more generally
- Developing programs that feed females into WASH sector and then support them in remaining and advancing in sector
- Focusing on communication and ensuring communities are part of the process of designing WASH interventions
- Building up women's abilities to influence – develop programs that use women's contribution and leadership at community and district level to establish legitimacy at national level
- Ensuring that early on in education system and at home that girls are encouraged to explore
- Reviewing curriculum in schools to eliminate gender norms
- Encouraging females to travel to gain experience. Includes support for early stage career women to present at conferences
- More explicitly acknowledge more women as being experts in the WASH field
- Encouraging female entrepreneurs within WASH space. Allow women to earn the money

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Closing Remarks

Dr. Christiaan Morssink, President, Global Water Alliance

Global Water Alliance

In 2006, inspired by the UN Millennium Development Goals, water professionals from the Philadelphia, PA area and University of Pennsylvania students founded the Philadelphia Global Water Initiative (PGWI) as an organization dedicated to helping those in developing countries find access to water, sanitation, and hygiene (WASH) services. These professionals came from government, business, academia, and NGOs. In 2013, PGWI changed its name to the Global Water Initiative (GWA), and, today, its focus is helping the poor meet the challenges of the UN Sustainable Development Goals (SDG) for WASH.

GWA is a network of organizations and people from the Philadelphia area and beyond who have the common interest of addressing WASH issues in developing countries. Each of these organizations have its own interests, goals, and approaches to these problems. Some are NGOs who focus on on-the-ground projects in a particular part of the world. Others have business-related objectives in the WASH field. And others focus on education, both for students and the general public. These organizations share a common goal of helping the less fortunate in the world.

GWA serves many functions including helping organizations find the needed expertise for their projects in developing countries, providing education on WASH issues through its Annual Conference and through its members teaching undergraduate and graduate courses (eg, at the University of Pennsylvania, Drexel University, and Temple University), making presentations to schools and civic groups, conducting WASH research, assisting and mentoring students, and promoting the exchange of the latest innovative ideas related to WASH. One of the strengths of GWA is that it provides a multisector and multi-disciplinary perspective. It provides expertise from the government, business, academic, and NGO sectors and from numerous disciplines including science, engineering, public health, project management, government policy, law, and business. Members of GWA have conducted WASH projects in India, Kenya, The Philippines, Haiti, Mexico, Cameroon, Afghanistan, and other countries.

The GWA Board consists of the following members Angelita Fasnacht-Cuellar, KosovoAddis; Dr. Christiaan Morssink (President, GWA) University of Pennsylvania; Greg Kelder (Secretary, GWA), Brandywine Group of Insurance and Reinsurance Companies, a Chubb Company; Walt Walker, Engineers Without Borders; Dick Riegler, Aqua America, retired; Tony Sauder, Pennoni Associates; Dr. Shannon Marquez, Drexel University; Mark Freed, The Freed Law Firm; Ed Grusheski, (Treasurer, GWA) Philadelphia Water Department, retired; Dr. Heather Murphy, Temple University; Dr. Arun Deb, Weston Solutions, retired; Vince Uhl, Uhl Associates; and Stan Laskowski, University of Pennsylvania. Thanks to lead conference organizer, Dr. Vivian Fuhrman.

GWA is a 501[c]3 organization consisting almost entirely of volunteers. More information can be found at the website, which is currently under construction: www.globalwateralliance.net. If you are interested in volunteering at GWA, please contact one of the following Board members: Angelita Fasnacht-Cuellar angelita@kosovo-addis.com, Christiaan Morssink-christiaanmo@yahoo.com, or Stan Laskowski- stanlaskowski7@gmail.com.

