

THE IMPACT OF U.S. WATER PROGRAMS ON GLOBAL HEALTH

HEARING

BEFORE THE

SUBCOMMITTEE ON AFRICA, GLOBAL HEALTH,
GLOBAL HUMAN RIGHTS, AND
INTERNATIONAL ORGANIZATIONS

OF THE

COMMITTEE ON FOREIGN AFFAIRS
HOUSE OF REPRESENTATIVES

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THURSDAY, AUGUST 1, 2013

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON AFRICA, GLOBAL HEALTH,
GLOBAL HUMAN RIGHTS, AND INTERNATIONAL ORGANIZATIONS,
COMMITTEE ON FOREIGN AFFAIRS,
Washington, DC.

The subcommittee met, pursuant to notice, at 2 o'clock p.m., in room 2255 Rayburn House Office Building, Hon. Christopher H. Smith (chairman of the subcommittee) presiding.

Mr. SMITH. The subcommittee will come to order. And I want to wish everybody a good afternoon, and thank you for being here, especially to our very distinguished witnesses.

Two years ago, our subcommittee held a hearing on U.S. assistance programs to Africa and found that the unitary water budgets line item had been zeroed out. Needless to say, some of the members of our subcommittee, including myself, were at first astonished that such an important segment of our foreign policy was seemingly being abandoned, and we know that's not the case. We were assured that the money for international water programs did not disappear, but were merely redistributed among several programs.

Today's hearing is intended to look at how effective that strategy has been, how our Government's international water programs can be implemented in the future, and how we can be of additional assistance in the Congress in ensuring that that is done.

Water is undeniably important to health, and the very survival of human beings. Water comprises more than two-thirds of the human body weight, and without water we would die in a matter of days.

The human brain is 95 percent water, blood is 82 percent water, and our lungs are 90 percent water; a mere 2 percent drop in our body's water level can trigger signs of dehydration, including fuzzy short-term memory, trouble with basic math, and difficulty focusing on smaller print, such as on a computer screen. Water is important to the mechanics of the human body. The body cannot work without it, just as a car can't work without gas and oil.

It is, therefore, troubling that so many people in the world do not have ready access to clean water. According to the 2012 report released by the World Health Organization and the United Nations Children's Fund, roughly 780 million people around the world lack access to clean drinking water, and an estimated 2.5 billion, roughly 40 percent of the population, are without access to safe sanita-

tion facilities. Tainted water and sanitary practices are at the root of many health problems in the developing world, and are hindering U.S. and international global health efforts.

I know for a fact, and it's still one of the correctable problems in the world, that one of the leading killers of children remains to be diarrheal disease traced back to water-borne disease. In my second term, back in the early 1980s, I actually authored the reauthorization and expansion from \$25 million to \$50 million of what was known as the Child Survival Fund, and one of the four pillars of that fund at the time was oral rehydration salts to help those children who were dying a needless death attributable the diarrheal disease.

In a June 27th hearing on neglected diseases, our subcommittee heard testimony on the WHO list of 17 neglected tropical diseases, three of which are primarily water-borne. However, there are dozens of other diseases transmitted through contaminated water, including botulism, cholera, dysentery, hepatitis A, polio, and SARS.

WHO estimates that more than 14,000 people die daily from water-borne illnesses which cause more than 1 billion cases of intestinal worms, 1.4 million child diarrheal deaths, and 500,000 deaths from malaria. Moreover, water is at the root of international conflict.

A growing number of conflicts are exacerbated by limited access to water. Increasing demand and greater variability in rainfall can inflame tension, such as the concern Egypt has expressed, about the impact of the Nile's flow to Ethiopia's proposed Grand Renaissance Dam.

Although water circulates, returning to availability through various natural processes such as evaporation, clouds, and rain, only about 2.5 percent of the planet's water is fresh rather than salty, and less than half the amount is available in rivers, lakes, or underground aquifers.

Pollution consumes some of the available water from industrial or agricultural runoff. An estimated 40 percent of U.S. rivers, and 40 percent of U.S. lakes are considered unfit for fishing, swimming, or drinking. We are in a developed country with significant resources.

Developing countries too often don't keep adequate track of the extent of pollution, nor do they have the ability to adequately do something about it. Other constraints on the global supply of water include efforts to privatize water systems in the developing world, and the encroachment of salt water into fresh water systems.

The challenges to insuring that clean water is available to people in developing countries are serious. That is why new legislation is being developed: The Senator Paul Simon Water for the World Act of 2013. Mr. Blumenauer has already joined us from out there on the panel, and his bill will strengthen the 2000 act.

The new bill calls on USAID to continue to observe the Water for the Poor Act of '05 in implementation of its water and development strategy. The bill would elevate the positions of our first two witnesses today, the U.S. Global Water Coordinator and State Department Specialist Coordinator for Water Resources to report directly to the Administrator of USAID and Secretary of State respectively. Among other provisions, the bill requires local consultation on

water management and usage, and encourages local contracting and water sanitation and hygiene projects.

I am glad to be a co-sponsor of this legislation because water is life and we must be as efficient as possible in our efforts to provide clean water to those in need worldwide.

In addition to the leading administration officials on International Water Programs we have three private panel witnesses who I will introduce at the appropriate time. I'd like to yield to Mr. Blumenauer if he has any comments.

Mr. BLUMENAUER. Thank you very much, Mr. Chairman. I deeply appreciate your having this hearing today to build a record, as I appreciate your longstanding interest and leadership in this area. You were original co-sponsor of the Water for the Poor Act and original co-sponsor in the new act, and I really deeply appreciate your continued advocacy and understanding. And you laid out the case I think in a compelling way.

The vast majority of the world's water is salt water. Most of the 2½ percent that's left is locked at least for the time being until global warming does otherwise in Iceland, the Arctic, and the Antarctic. And when you factor out the water that's used for industry, for agriculture, basically it's 1/10th of a percent of all of this water that's available for people to drink.

I cannot say enough about your choice of witnesses. It's been my privilege to work with them in the formulation of this legislation. With Mr. Holmes, Dr. Salzberg, you've got people who are on point, who've helped us get to this point. I love the release of the USAID Water and Development Strategy in May, and the broad bipartisan support. The people that were there, and the NGO community, the second panel with Malcolm Morris, John Oldfield. The NGO community has been particularly focused helping us understand and carrying this message out around the world.

The last time I was sitting behind the dais with Malcolm on the other side of the witness table before this very committee was just a few months before Congress passed and President Bush signed into law the Water for the Poor Act.

I hope today with your help and leadership, Mr. Chairman, and the advocacy and insight of the people that are here we're going to be able to repeat that success with the Water for the World Act. And I must say how much I appreciate working with my friend and colleague, Ted Poe, who has a real passion for this.

It is an opportunity for us to prove that politics stops with water. We used to say it stopped at the water's edge, but here we ought to be able to show that politics does stop with water. Our colleagues, Nita Lowey and Kay Granger, in one of the most difficult budget environments imaginable with strained resources have been able to produce legislation that actually keeps intact the gains that we have made.

I am very pleased with the progress we've made, deeply appreciate your attention and focus on it, and with our friends I think we can assume a role that's going to make a big difference for women and children around the world.

I close by noting your advocacy for the protection of women and children, your concern about human trafficking. And today there will be 200 million hours that will be spent by women and girls col-

lecting water. And it's not just time that they won't spend in school or working to support the family; they are at risk of attack, physical, sexual assault. Our being able to strengthen the opportunity to have that gift that most of us take for granted is going to help protect the integrity of the family, strengthen them, and allow us to live up to our ideals. Thank you so very much.

Mr. SMITH. Thank you to my distinguished colleague and lead author of this legislation. I do want to thank him for his passion to try to insure that everyone on this planet has access to safe water, and I appreciate it, we all appreciate it.

I'd like to yield to my good friend and colleague, Mr. Marino.

Mr. MARINO. I have no opening.

Mr. SMITH. Thank you. I'd like to now introduce our distinguished witnesses. Beginning first with Dr. Aaron Salzberg, who serves as Special Coordinator for Water Resources at the Department of State in the Bureau of Oceans, Environment, and Science Affairs. He is responsible for managing the development and implementation of U.S. policies on drinking water and sanitation water resources management and transboundary water issues.

Dr. Salzberg has been the lead representative or the lead water advisor for the U.S. at several major international events. He also leads the Department of State engagement on transboundary water issues in many regions throughout the world where water is or may become a source of tension or conflict.

We'll then hear from Mr. Christian Holmes who was designated USAID's Global Water Coordinator in February 2011. He is the senior representative within USAID responsible for advising the Administrator on water matters and for coordinating the implementation of key water program and policy initiatives including USAID's Water Strategy.

Mr. Holmes has extensive public and private sector experience in international economic development, humanitarian assistance, and environmental protection sectors. He has also worked in the field supporting USAID missions in Pakistan, Yemen, Bangladesh, and Ghana on water and food security issues.

So, Dr. Salzberg, if you would begin.

STATEMENT OF AARON A. SALZBERG, PH.D., SPECIAL COORDINATOR FOR WATER RESOURCES, U.S. DEPARTMENT OF STATE

Mr. SALZBERG. Thank you, Chairman Smith and other members of the committee for the opportunity to appear before you today and discuss our work on water. Especially grateful for the opportunity to testify alongside my close friend and colleague from USAID, Chris Holmes. And, of course, thank you, Congressman Blumenauer for your kind words and your longstanding support and dedication to these issues.

If you will allow me, Mr. Chairman, I would also like to submit my full remarks for the record.

Mr. SMITH. Without objection, so ordered.

Mr. SALZBERG. Thank you.

Mr. Chairman, you and Congressman Blumenauer, I think you've already made the case. Both at home and abroad water security is becoming one of the great challenges of our time. The lack

of access to safe drinking water and basic sanitation, poor water resources, increase in hydrologic variability from climate change is a threat to people's health, to the environment, to economic growth, to energy and food security, and to the peace and security of people throughout the world.

To address these challenges, the United States is working to increase access to safe drinking water and sanitation, improve water resources management, and increase the productivity of water resources. We're also working to mitigate tensions associated with shared waters in many places throughout the world.

We do this in five ways. First, we build capacity. Countries and communities must take the lead in securing their own water futures, and we must give them the tools to succeed. This means building the knowledge and skills at all levels to understand and respond to water and sanitation challenges.

Second, we engage diplomatically. The United States is working to raise international awareness and encourage countries to prioritize water and sanitation needs in national development strategies, plans, and budgets. We're also working in key regions and throughout the world diplomatically to strengthen cooperation.

Third, invest in infrastructure. As one of the world's largest bilateral donors in water and sanitation, the United States invests in infrastructure in developing countries to meet basic needs and to manage water resources.

Fourth, science and technology. While there is no silver bullet, science and technology can make a huge impact. We're working to incentivize innovation and the development of new technologies that can achieve results at scale.

Fifth, partnerships. We can't solve this problem alone. We work closely with a range of international partners and more than 20 U.S. Government agencies and departments. Partnerships like the recently launched U.S. Water Partnership can tap into the much needed knowledge and experience, and resources from the public, private, not-for-profit partners from across the United States and bring these resources to bear on these international challenges.

As the result of U.S. engagement on water and sanitation we've seen real changes. Since 2006, more than 34 million people worldwide have gained access to improved drinking water supplies and more than 16 million people to improved sanitation facilities.

In Fiscal Year 2012 nearly $\frac{3}{4}$ ths of all U.S. support for water went toward drinking water sanitation and improving hygiene, and nearly 30 percent of that support went to countries in sub-Saharan Africa. This trend has been further reinforced by the recent launch of USAID's first ever water and development strategy which makes reducing water-related disease a strategic priority for the agency.

The United States has also played a key role in shaping the way in which the international community approaches water and sanitation challenges. We've been the driving force behind expanding approaches to treating and safely storing water at the household level, developing water quality guidelines, and strengthening institutions like the African Ministers Council on Water.

In recent years, the Department of State has become increasingly engaged in promoting cooperation over shared water resources. These are not easy problems to solve. Transboundary water issues

are often viewed through a national security lens. They're embedded within a much broader set of economic, social, and geopolitical issues. In some cases water, rivers, lakes, ecosystems are closely tied to a sense of national identity, and development of these resources is seen as a sovereign right. Responding to these challenges requires patience, flexibility, and closely coordinated diplomatic and development efforts.

With this in mind, we launched the shared waters partnership in 2010. This partnership serves as a multi-donor platform to support political dialogue in regions where water is or may become a source of tension or conflict. And we've used this mechanism to support regional discussions on the Nile, Niger, Okavango, many other regions throughout the world. These are just a few examples of what the United States is doing and how we believe that U.S. leadership on water is making a measurable difference in lives throughout the world.

Mr. Chairman, thank you again for this opportunity to testify. We look forward to continuing our work with the members of the subcommittee, USAID, other U.S. Government agencies and other stakeholders here in the room to improve water resources management, and to provide safe water and basic sanitation to those currently without. Thank you, Mr. Chairman.

[The prepared statement of Mr. Salzberg follows:]

TESTIMONY OF**DR. AARON SALZBERG, SPECIAL COORDINATOR FOR WATER RESOURCES,
BUREAU OF OCEANS AND INTERNATIONAL ENVIRONMENTAL AND
SCIENTIFIC AFFAIRS****BEFORE THE FOREIGN AFFAIRS SUBCOMMITTEE ON AFRICA, GLOBAL
HEALTH, GLOBAL HUMAN RIGHTS, AND INTERNATIONAL ORGANIZATIONS
HOUSE OF REPRESENTATIVES****ON AUGUST 1, 2013 CONCERNING****“THE IMPACT OF GLOBAL WATER PROGRAMS ON HEALTH”**

Chairman Smith, Representative Bass and other Members of the House Foreign Affairs Subcommittee on Africa, Global Health, Global Human Rights, and International Organizations, I appreciate the opportunity to appear before you today to discuss the growing water and sanitation challenges in Africa and globally.

The Global Water Challenge

Perhaps no two issues are more important to economic development, environmental well-being, and human security than water and sanitation. Yet today, nearly 800 million people lack access to an improved drinking water source (it is likely that 2-3 times this number lack access to water considered safe to drink) and more than 1.5 billion people still lack access to improved sanitation facilities. Each year, more than four billion cases of diarrhea cause 2.2 million deaths—most are in children under the age of five. While globally, we have met the Millennium Development Goal (MDG) on drinking water (to reduce by half the proportion of people unable to reach or afford safe drinking water by 2015) many individual countries remain off track and it is likely that we will fail to reach the goal on sanitation (to reduce by half the proportion of people without access to an improved source of sanitation). In addition to the lives lost, the total economic losses associated with inadequate water supply and sanitation is estimated at more than \$250 billion annually.

Women and children are disproportionately impacted by these issues. Women and girls often bear the primary responsibility for meeting the water needs of the family. In some areas, collecting water consumes up to five hours per day and involves walking more than two miles carrying over 40 pounds of water. It is estimated that across Sub-Saharan Africa women spend some 40 billion hours a year collecting water – an exercise that is not without its risks. Collecting water can often involve walking through isolated, unsafe areas that expose women and girls to health and safety risks. The burden of tending to family members sickened by water-borne diseases falls primarily on women and girls, who are also more likely to stop attending school when appropriate sanitation facilities are not available.

The challenges of water extend beyond health. More than 70 percent of the water used globally goes towards agriculture; in some developing countries, it's over 90 percent. As demand increases and as consumers increasingly buy foodstuffs that require more water – such as beef – and the impacts of climate change become more severe, already scarce water resources will be under greater pressure. Many agrarian-based economies in the developing world are rain-fed: when it rains, lands produce and economies can grow; when it does not, countries that lack the capacity to store and save water face economic decline and food insecurity, even famine. To expand food production we will need to improve the productivity of water (our ability to get more “crop per drop”), shift away from water intensive crops, understand projected climate change impacts, and better manage surface and groundwater supplies to ensure sustainable and reliable access. This means expanded irrigated agriculture, using new technologies to get the right amount of water to the right place at the right time (such as drip irrigation), and an increase in the use of natural and man-made systems to store and manage supplies. We will also need to protect our freshwater and coastal ecosystems. Fish is a significant source of protein for more than two and a half billion people in the developing countries. Overfishing, pollution (including agricultural run-off) and poor management have led to a decline in many freshwater fish populations and a reduction in freshwater fish species.

Water will also play a key role in achieving energy security. Water is heavy and often needs to be moved from where it is found to where it is used – this takes energy. In some countries, it is the limited access to energy that drives poor water practices. When energy supplies are sporadic and unpredictable, farmers are likely to pump as much water as they can when they can, often flooding their fields – wasting water and increasing salinization of arable lands. We have seen some striking examples of this water-energy connection in India. Poor monsoon rains in 2012, forced farmers to pump more groundwater – increasing energy consumption. The same lack of rainfall reduced river flows decreasing hydropower production. Combined, these threatened the energy security of more than 600 million people.

At the same time, water can be a source of clean, renewable, energy. In many regions of the world there is significant untapped hydropower potential. Dams can play a key role in meeting future energy needs and along with natural infrastructure can be critical to managing and mitigating the impacts of floods and droughts. These, however, are not decisions to be taken lightly. While hydropower is a mature technology, dams can have profound and often irreversible impacts on people and the environment. Sound science and deliberative decision-making that includes all stakeholders are essential to ensuring the long-term interests of people and the environment are protected. We also need to be sensitive to the effects of new energy development on existing water resources.

Many natural disasters have a water connection. Floods, droughts, famine, and water-related epidemics account for over 90 percent of water-related natural disasters world-wide – often with profound humanitarian and economic consequences. Sound water resources planning and management, multi-purpose infrastructure (e.g., dams that both produce power and offer flood protection), better management of natural systems (e.g., flood plains), improved hydrometeorological monitoring and prediction and early warning systems, and understanding the projected impacts of climate change can help people prepare and mitigate the impacts of many water-related disasters, now and in the future.

Water issues may also become an increasing threat to peace and security. In late 2011, in response to a request from the Secretary of State, the National Intelligence Council completed a National Intelligence Estimate followed by an unclassified Intelligence Community Assessment on Global Water Security and its implications for U.S. national security. The report concluded that, "...during the next ten years, many countries important to the United States will experience water problems – shortages, poor water quality, or floods – that will risk instability and state failure, increase tensions, and distract them from working with the United States on important policy objectives."

Climate change will exacerbate many of these challenges. Some regions will get wetter; others drier; glaciers will recede; snow-packs may decline (reducing natural water storage for many regions of the world) and sea levels will rise. Greater variability in rainfall will increase the likelihood of floods and droughts. Rising sea levels, storm surges, flood damage, and saltwater intrusion will threaten freshwater supplies. Extreme weather (floods and droughts) is likely to increase - threatening both people and economies. Greater water run-off from more frequent and more intense precipitation events is likely to carry more pollutants into water systems. All these will put increased pressure on managing water holistically across a broad range of competing needs.

The Water Challenge in Africa

The situation in Africa is particularly challenging. Most of Africa is not on track to reach drinking water and sanitation MDG. In 20 African countries, more than 30 percent of the population does not have access to safe water. In seven of those countries, more than 50 percent of the people lack access to safe water. Not only is progress slow, in some African countries the proportion of people with access to safe water and sanitation is actually decreasing. There are 33 African countries where more than 50percent of the population lacks access to sanitation. More than half of all child deaths from diarrhea are in Africa. Water and sanitation in schools is also critical problem – in some areas more than 150 children must share one latrine. To meet the MDGs in Sub-Saharan Africa, more than 21 million people a year will need to gain access to an improved water source; over 26 million per year will need to gain access to basic sanitation.

There are a number of challenges to overcome in addressing the water and sanitation issues in Africa. While the proportion of people who lack access is significantly higher in rural populations, urbanization is increasing rapidly (nearly 4 percent per year) and there is greater pressure on larger-scale municipal services. In Sub-Saharan Africa, as a result of population growth and increasing urbanization, the percentage of urban population receiving water piped onto their premises actually declined between 1990 and 2012. Progress is hampered by weak governance and areas of instability. The region also suffers from extreme climate variability – improved planning, basin-wide management, and large-scale infrastructure and water storage will be critical to meeting long-term needs. Recent predictions suggest that long-term climate trends will exacerbate the situation.

Finally, political commitment is low. Many governments in Africa do not prioritize water and sanitation in national development plans and strategies. Fewer still provide budgetary

support for water and sanitation services, and often that support does not find its way to the local service providers. Without national budgeting sustainable progress is difficult.

Making Progress

While the numbers above may be bleak, there have been some gains. By the end of 2011, 89 percent of the world's population received its drinking water from an improved source and 64 percent had access to an improved sanitation facility. In Africa, we are seeing some champions emerge. Countries such as Gambia, Malawi, Namibia, Rwanda, Uganda and others have made access to water and sanitation political priorities and are achieving significant gains in service provision. Uganda has reformed its sector policy to reflect a whole country approach to improving water quality, availability and service delivery.

The Future

By 2025, experts predict that nearly two-thirds of the world's population will be living under water-stressed conditions, including roughly a billion people that will face absolute water scarcity (a level that threatens economic development as well as human health). For those countries that are water scarce, greater attention will have to be paid to reducing demand and better managing supplies through proper pricing, improved water storage, and water reuse. New technologies can help – particularly in the area of agriculture – but there is no single solution and countries will have to make dedicated efforts. In most places, however, there will be enough water to meet demands. What is lacking is a commitment to sound water resources management and to meeting the basic water and sanitation needs of the people.

The U.S. Water Strategy

The overall goal of U.S. efforts on international water issues is to help countries achieve water security. Simply put, this means that people have reliable and sustainable access to the water they need, where they need it, when they need it to meet human, livelihood, ecosystem and production needs while reducing the risks from extreme hydrological events. To achieve this, the United States is working to: increase access to safe drinking water and sanitation; improve water resources management; increase the productivity of water resources; and mitigate tensions associated with shared waters. Water is not viewed as a standalone Administration issue, but rather a key factor that should be integrated throughout U.S. diplomatic and development efforts. These efforts will aid our efforts in achieving the United States' broader goals on health, economic growth, food security, climate change, and peace and security.

To achieve these goals, the United States is working to:

- **Build and strengthen institutional and human capacity at the local, national and regional levels.** Providing adequate and sustainable water supply is a technical challenge, a financial challenge, and often a political challenge. It requires expertise and coordination across sectors (e.g., health, energy, agriculture, industry, environment, transportation, and disaster prevention) and across media (e.g., rainfall, glaciers, snowpack, rivers, lakes, and groundwater). While these are global challenges, the solutions are often local. Countries and communities must take the lead in securing their

own water futures. We need to build capacity at all levels that will better enable communities and countries to understand and respond to water and sanitation challenges. This includes strengthening local and regional cooperative mechanisms for managing shared water resources, such as user groups and river basin organizations.

- **Increase and better coordinate our diplomatic efforts.** Perhaps the greatest impediment we face is the lack of political commitment to action on the ground. We need to continue working with donor countries and multilateral organizations to address critical needs; to encourage developing countries to prioritize water and sanitation in national plans and budgets; and to integrate water into global food security, health, and climate change initiatives. We can also work to encourage cooperation over shared waters, to make the case for cooperation rather than conflict, and to support efforts of riparian countries to work together to address water challenges.
- **Invest in infrastructure and mobilize financial support.** Managing water requires hardware, be it a community tap, a drip irrigation system, a pit latrine, or a wastewater treatment plant. As we build capacity, we need to invest in basic infrastructure to meet needs and better manage water resources. This won't be cheap. That said, with some support, countries can help themselves. In many cases, there is significant capital within developing countries to fund water projects. We need to focus our support on mobilizing those resources by strengthening local capital markets, providing credit enhancements, creating pooled or revolving funds.
- **Promote science and technology.** While there is no one, single technological fix, science and technology can make a huge impact. We need to work harder to incentivize innovation on technologies that can make an impact in the water sector and to share U.S. expertise and knowledge with the rest of the world.
- **Build and sustain partnerships.** We cannot solve this problem on our own. There is a great deal of knowledge and experience that lies within the U.S. technical agencies, the private sector, and the U.S.-based non-profit community. More than whole-of-government, we need a whole-of-America approach and stronger partnerships with the non-governmental community.

A key principle underlying this work is empowering women and girls. In many ways, women, as half the world's population and leaders in water resource management hold the key to developing localized and global solutions to ensure clean water access for all. If you want to reduce demand for water, you teach women, who produce 60-80 percent of food in developing countries, how to store and use water more effectively. If you want to implement a hygiene-education program, teach the women and girls about hand-washing, and the message will permeate the community. If you want to reduce waterborne disease, you give women access to credit and other resources to access safe drinking water and sanitation for themselves and their families. We can see how taking action to further unlock the potential of women now will ensure that water resources are managed effectively into the future.

This year, we took a major step forward in implementing this approach with the launch of USAID's first Water and Development Strategy. The Strategy establishes a roadmap for USAID's foreign assistance programs across the water sector with a specific focus on reducing water and sanitation-related disease and on sustainably increasing food production.

Delivering Results

We are making progress. The United States remains one of the largest international donors on water. Together, the United States Agency for International Development (USAID) and the Millennium Challenge Corporation (MCC) invested over \$945 million in fiscal year 2012 for all water sector and sanitation-related activities in developing countries: \$722.5 million of this financial assistance went towards improved access to drinking water, sanitation and hygiene activities. We also contributed to UN organizations and multilateral development banks through our annual dues and through special multi-donor trust funds related to water projects. More than twenty U.S. government agencies are also engaged on international water challenges and share their knowledge and expertise. Since 2006, more than 34 million people worldwide have gained improved access to drinking water supplies and more than 16 million have gained access to improved sanitation facilities. (You can find additional details in our June 2013 Report to Congress on the implementation of the Senator Paul Simon Water for the Poor Act (<http://www.state.gov/e/oes/water/index.htm>).

We are also seeing an increased focus on countries with significant needs. Of the \$722.5 million obligated by the United States in FY12 for drinking water, sanitation and hygiene, \$198.9 million (~27 percent) went to activities in sub-Saharan Africa. USAID's obligations in Africa for all water-related activities have more than doubled since 2005, and have included projects in 37 African countries. Out of a total of 16 MCC compact countries, 13 have water programs. African countries account for more than 50 percent of MCC's total water-related compacts. In Zambia, for example, the MCC is investing more than \$350 million to improve the water, sanitation and drainage sector in the rapidly urbanizing capital city of Lusaka.

U.S. engagement has elevated the priority of water and sanitation issues internationally. The United States was a founding partner of the Sanitation and Water for All (SWA) Alliance – an international effort to build global awareness and commitment to drinking water and sanitation issues and to strengthen the capacity of countries most in need to develop and implement national drinking water and sanitation plans. As a result of SWA's work, many developing and donor countries have made new commitments to address water and sanitation challenges. We are now supporting a similar exercise on water and food, the Agriculture Water Program in Africa, which is working with the Comprehensive African Agriculture Development Program (CAADP) to strengthen the way in which water is addressed in national food security strategies. The United States has been a driving force behind the focus on water by the G8 and in the founding and development of UN Water.

U.S. support has played a key role in shaping the way in which the international community approaches water and sanitation challenges. The United States was a strong advocate behind the acceptance and expansion of point-of-use approaches to ensuring the safety

of water at the household level; in developing guidelines for Water Safety Plans (risk-based vulnerability assessments of water supply systems, from the catchment to the consumer, to guide water and sanitation related investments to maximize health benefits); understanding, at a country level, the economic costs of water and sanitation challenges; in developing the Strategic Plan for the African Ministers' Council on Water; and, more recently, to develop global indicators for measuring progress on hygiene.

Last year, we launched the Nexus Dialogue on Water Infrastructure with the International Union for the Conservation of Nature and the International Water Association. The goal is to change the way in which the global community manages physical and natural infrastructure for greater economic, social and environmental benefits and to improve food and energy security. Regional dialogues are happening in Nairobi, Bogota and Bangkok and a rich collection of best-practices and lessons learned being developed that can help guide future water-related infrastructure development.

We have been particularly concerned in recent years that water may become a source of tension in regions important to the United States. These are not easy problems to solve. Often there are legitimate competing interests – both within and across borders. Data are poor and “myths” are more common than facts. Many countries view water as a sovereign issue and discourage outside intervention. Transborder water issues are often viewed through a national security lens and embedded within a much broader set of economic, social and geopolitical issues. In some cases water, rivers, lakes and ecosystems are closely tied into a sense of national identity and development of these resources is seen as a sovereign right.

Responding to these challenges requires patience, flexibility, and closely-coordinated development and diplomatic support. Institutionalizing mechanisms for cooperation over shared water (e.g., establishing a river basin commission) can take years if not decades. Initial steps are often focused on building an atmosphere of trust and cooperation while developing a common understanding of the challenges and opportunities for coordinated/cooperative management- in other words, building the political will and incentivizing cooperation. Opportunities are often tied to personalities – the right minister or head-of-state, elections, regional affairs – might open or close doors for progress. Donors must work together and maintain the flexibility to respond when opportunities arise. Public diplomacy can play an important role by raising public awareness and “making-the-case” for cooperation.

With this in mind, we launched the Shared Waters Partnership in 2010. The partnership serves as a multi-donor platform for supporting political dialogue in countries or regions where water is, or may become, a source of tension. We have used this mechanism to support regional discussions on the Nile and Mekong and are currently developing programs in several other regions. We have used similar programs to advance cooperation in several other basins throughout the world including the Niger, Okavango, Sava, Araks/Kura, Amu Darya/Syr Darya, Jordan, and the Tigris/Euphrates. These are modest investments focused on creating the enabling environment (i.e., building the political will) for cooperation. Once the countries come together, then we can often bring support through more traditional mechanisms like the World Bank or Global Environment Facility.

We do none of this alone. We work closely with an interagency water team that includes representatives from almost every U.S. government agency and department that works on water including USAID, MCC, Department of Energy, Environmental Protection Agency, National Aeronautics and Space Agency, U.S. Bureau of Reclamation, U.S. Geological Survey, The U.S. Army Corps of Engineers, and National Science Foundation. These agencies provide the technical knowledge that drives our approach to water and support our efforts throughout the world. What we hear most often from countries is not “give us your money,” but “show us how you solved your problems, send us to a training course offered by the Bureau of Reclamation or introduce us to the USDA”. Ten years ago, we hosted one or two water-related International Visitor Leadership Programs each year. Now, not a month goes by where we don’t have at least one, two and sometimes three groups from around the world coming to the United States to learn from our examples – both good and bad. For our guests, these trips can be transformational. The relationships they make with experts here in the United States, the relationships they make with each other, serve them a lifetime.

We are also seeking ways to leverage the experience and know-how of the U.S. technical agencies along with non-governmental community. In 2012, the Department of State, along with ten other U.S. government agencies and several non-government partners like Coca Cola, The Nature Conservancy, and the University of North Carolina joined together to launch the U.S. Water Partnership. The partnership’s goal is to mobilize U.S. knowledge, expertise and resources to improve water security throughout the world – particularly in developing countries. The USWP was one of six signature initiatives highlighted by the United States at the Rio+20 Summit on Sustainable Development. (At the Summit, USWP partners pledged over \$600 million for water and sanitation-related activities.) In addition, we have promoted specific events to encourage the engagement of the U.S. private sector, such as the second annual U.S.-Africa Business Conference in Cincinnati, Ohio in June 2012, which held a specific meeting track on water and sanitation issues. More than 500 representatives from the U.S. and African public and private sector attended to discuss topics ranging from leveraging public-private partnerships to supporting innovations in water technologies. They also conducted site visits to the Cincinnati Metropolitan Sewer District wastewater treatment plant.

Closing

These are just some examples of how the United States is delivering on water. And while we are making progress, water remains one of our great challenges. Increased access to safe drinking water and sanitation would improve education, empower women, aid the development of youth, promote human dignity, decrease malnutrition and stunting, and reduce the pain and suffering associated with high child mortality rates. Beyond health, water will impact food security, energy security, and our capacity to manage the impacts of climate change. As Secretary Kerry has noted – building capacity on water is one of the most important things we can do to save lives.

Thank you again for this opportunity to testify before this subcommittee on behalf of the Department of State. We look forward to continuing our work with Members of the Committee, USAID, other U.S. government agencies, and other interested stakeholders to improve water

resources management and get safe water and basic sanitation to the billions who are currently without.

Mr. SMITH. Mr. Holmes, please proceed.

STATEMENT OF THE HONORABLE CHRISTIAN HOLMES, GLOBAL WATER COORDINATOR, U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT

Mr. HOLMES. Thank you, Mr. Chairman.

Chairman Smith and members of the subcommittee, thank you for the opportunity to testify today, and I ask that my full written statement be submitted.

Mr. SMITH. Without objection, so ordered.

Mr. HOLMES. Thank you. And I will have a few core points from my testimony and look forward to your questions.

I should say at the outset both you and Congressman Blumenauer went right to the core of not only the magnitude of the problem that we deal with, but some of the aspects of it that have to be addressed. You referenced the importance of dealing with diarrheal disease and it is, indeed, huge with children, that we feel that we can do a lot to address and mitigate through our water programs. And Congressman Blumenauer, you addressed the importance of dealing with water, and that in many ways is a critical element on the new USAID Water Strategy. And your reference to how little water there is on this planet goes to the core of our approaches targeted around water efficiency to make sure that water is used effectively for health and for food security.

I've had the privilege of working for a long time in the government, started my career on this committee a long, long time ago, and this problem of water tops anything I've ever dealt with in my career. The magnitude is so enormous and the cost to human life is so dear.

You cited, Mr. Chairman, some of the key statistics that really surround the problem, and rather than repeat them which you've already addressed, I think I'll move more directly to save some time also for you into some other aspects of my testimony.

I would like to note that in addition to my friend, Dr. Salzberg, we have a lot of friends in this room. This is a great water family that we're dealing with from the U.S. Government agencies, the private sector, the NGO community, and they've all helped get us to this point. And the point in many ways is the successful implementation of the Water for the Poor Act. I think you've made great progress.

To that end, from Fiscal Year 2006 to 2012 we've reached close to 50 million people through our WASH programs. And I think encouragingly, we're seeing increased funding moving to our water programs to Africa. From 2006 to 2012 we committed about \$2.4 billion in our water programs, and about \$848 million of that amount went to Africa in that top geographic area. And when you consider all the other competing demands geographically for water, this is a good sign in terms of the direction that we're moving in.

Mr. Chairman, Congressman Blumenauer noted the new USAID water development strategy and we really appreciate your kind comments, Congressman Blumenauer. Thank you about that.

And to meet the challenges, the strategy and our principal goal is to save lives and advance development, but first and foremost, is to save lives. And our water programs are really targeted on

that. And we do it for our water sanitation and hygiene programs, and we do it through the guidance to us by the Congress through the Water for the Poor Act, also.

The Water for the Poor Act calls for specific metrics that should be set, and so for the first time we set the metrics and the strategy to reach over 5 years 10 million people with improved access to water and 6 million people with improved access to sanitation. The Water for the Poor Act said come up with criteria for the countries that you select to prioritize through your programming for your water supply, sanitation, and hygiene efforts.

The world is a big place. We have water programs, WASH programs in 62 countries, and we have developed that criteria consulting carefully with Hill staff on both sides of the aisle and the House and the Senate, and now we'll be applying that criteria probably in Fiscal Year 2014.

And I note that in the Water for the World Act which, obviously, is just coming out, but as it's been developed it calls for many of the things that we've already started to move out on listening carefully to our colleagues. For example, the Water for the World Act calls for organizational shifts in aid to elevate the water team into an office, and we've done that. It calls for an elevated leadership position for water, which is the Global Water Coordinator position, and we've done that. It calls for metrics, and we've done that. It calls for really advanced monitoring and evaluation, and we made a commitment in the strategy for the first time to really start concentrating far more heavily on what happens after the cycle, the 5-year cycle of the program of funding closes, and we're going to do that.

So, geographically I've given you kind of a thumbnail mention about where we are moving forward in terms of Africa. As we move ahead financially we concentrate, and you're interested in the accounts, I'm prepared to discuss that when you wish, really in four areas through our WASH funding and funds which are provided to us through the directed appropriations pursuant to the Water for the Poor Act, and that's 100 percent devoted to WASH. And, at the same time, we also fund our water programs through our Water Resources Management Programs, our Water Productivity Programs like support food production, and our International Disaster Assistance Programs. And I think the good news is that while the directed appropriation has been at the level of about \$315 million, which we have met, we've also exceeded that for the WASH funding by linking, you know, our WASH programs and other ongoing programs in the agency. So, to that end, when we have HIV/AIDS programs, well, it doesn't make a lot of sense to be giving people medicine if they lose the medicines through diarrhea. And that's where WASH makes such an important contribution. If we have nutrition programs, it doesn't make a lot of sense to have nutrition programs if you lose your nutrients because of diarrhea, so we make that coupling.

So, this is a quick kind of tour de force overview, and I look forward to your questions. Thank you.

[The prepared statement of Mr. Holmes follows:]

Testimony of
Christian Holmes, Global Water Coordinator
United States Agency for International Development
Before the
House Committee on Foreign Affairs
Subcommittee on Africa, Global Health, Global Human Rights and
International Organizations
“The Impact of U.S. Water Programs on Global Health”
August 1, 2013

Chairman Smith, Ranking Member Bass, and members of the Subcommittee, thank you for the opportunity to testify before you today.

It is a privilege to represent the United States Agency for International Development (USAID) as its Global Water Coordinator. In this capacity, I serve as the senior advisor to USAID’s Administrator, Dr. Rajiv Shah, on water matters. My responsibilities extend to the coordination of the development and implementation of USAID’s Water and Development Strategy, as well as coordinating USAID’s overall global water programs.

In my testimony, I will address USAID’s approach to water management, the funding of the Agency’s water programs, and the impact of the water programs. In so doing, I will discuss USAID water programs in Africa, as well as the Agency’s newly released Water and Development Strategy, which will guide future development and implementation of USAID water programs.

A key aspect of the Agency’s past and future strategic approach to meeting health needs through our water programs is increased coordination with ongoing Agency efforts, particularly our food security and health programs. We believe the impact of USAID funded water programs on human health has been positive. In this regard, from FY 2006 to FY 2012, the Agency has supported water programs which have provided water supply, sanitation and hygiene (WASH) to approximately 50 million people. Going forward, we expect to build upon that impact as we begin to implement the first ever USAID Water and Development Strategy.

The Global Water and Sanitation Challenge

In 2012, the National Intelligence Council released an assessment of “Global Water Security.” The report projected that, absent more effective management of water resources, fresh water availability will not keep up with demand between now and 2040. Projections are that by 2025, two-thirds of the world’s population could be living in severe water stress conditions. This stress adversely affects individuals, communities, economies, and ecosystems around the world, especially in developing countries. Ensuring the availability of safe water to sustain natural systems and human life is integral to the success of the development objectives, foreign policy goals, and national security interests of the United States.

Although substantial progress has already been made in addressing these challenges, nearly 800 million people still do not have access to safe drinking water, and major issues related to equity

of access, water quality, and sustainability of water supplies remain. In addition, approximately 2.5 billion people still lack access to improved sanitation; sub-Saharan Africa has the highest proportion of people without access to adequate sanitation facilities. Climate change impacts, such as more intense severe weather events and less predictable rainfall and water flows, will further increase these challenges. Finally, inadequate access to water and sanitation has a particularly heavy impact on women and girls. Reducing the many hours women and girls spend seeking water for their families – often putting their safety at risk – and addressing the sanitation needs of adolescent girls to facilitate continuing their education are particularly important.

Lack of access to safe water and sanitation services has direct health implications. Nearly one million children under five years of age die from diarrhea each year, and nearly 90 percent of diarrhea is attributed to unsafe drinking water, inadequate sanitation, and poor hygiene. In addition, chronic undernutrition, to which diarrhea contributes, is associated with approximately three million child deaths annually. More than one billion people worldwide suffer from chronic infection from neglected tropical diseases associated with poor conditions of sanitation and hygiene, compromising mental and physical development and hindering economic productivity.

Meeting the Challenge

In May 2013, USAID launched the Water and Development Strategy, the first in the Agency's history. The goal of the Strategy is to save lives and advance development through improvements in WASH programs, and through sound management and use of water to enhance food security. Specifically, the Strategy seeks to:

Improve health outcomes through the provision of sustainable WASH. This will be achieved through a continued focus on providing safe water, an increased emphasis on sanitation, promotion of improved hygiene practices, and support for programs that can be brought to scale and be sustained.

Manage water for agriculture sustainably and more productively to enhance food security. This will be achieved through increased emphasis on more efficient use of rainfall and soil moisture and improved efficiency and management of existing soil irrigation systems, including private and farmer-owned micro-irrigation systems.

Under the Strategy, USAID's engagement in the water sector will continue to reflect guidance from Congress including the Senator Paul Simon Water for the Poor Act of 2005, as well as the Presidential Policy Directive on Global Development (PPD-6), and global targets such as the Millennium Development Goals (MDGs). Further, the Strategy raises the importance of water programming across the Presidential initiatives of Global Health, Feed the Future (FTF), and Global Climate Change.

In particular, the Strategy advances many activities consistent with the goals of the Water for Poor Act, including:

- Developing quantitative metrics and indicators to measure results;

- Mobilizing and leveraging the financial and technical capacity of public and private entities through partnerships;
- Encouraging capacity building to strengthen the ability of host countries to develop, manage and implement water programs and watershed management;
- Supporting governance structures, regulations and policies to expand access to safe water and sanitation services;
- Protecting the supply and availability of safe drinking water;
- Establishing criteria to designate high priority countries for increased investments to support access to safe water and sanitation; and
- Supporting sound environmental management including the protection of watersheds.

USAID Water Programs

Historically, USAID budget allocations for water programs have been made in four thematic areas: (1) WASH; (2) Water Resources Management; (3) Water Productivity; and (4) Disaster Risk Reduction. Between Fiscal Years 2003-2012, USAID annually allocated, on average, approximately \$472 million to water activities (\$332 million to WASH, \$64 million to Water Resources Management, \$58 million to Water Productivity, and \$18 million to Disaster Risk Reduction).

Geographically, the Agency's budget allocations for water programs are highly concentrated in Sub-Saharan Africa. From 2008 – 2012, 41 percent of the Agency investments in WASH were directed to Sub-Saharan Africa. USAID's obligations in Africa for all water related activities has more than doubled since 2005, and USAID is now working on water in over 26 African countries.

The Water and Development Strategy also emphasizes the sustainable management of water in agriculture to enhance food security. Programs under the President's Feed the Future (FTF) initiative, and other water and food related initiatives, will be leveraged in support of more efficient use of water for agriculture. Where linkages are relevant, the Agency will seek to integrate WASH and food security programs, insofar as programs funded through annual water directive support health outcomes.

To bring to life our budget, the following are examples of USAID programs that represent the kind of activities to be supported through the new Water and Development Strategy in the context of reducing the impact of natural disasters, development of partnerships, the application of science and technology, and meeting water needs that are uniquely faced by women and girls.

Water for Health

The Agency's programming impacting water for health includes the development and protection of water sources, rehabilitation of water delivery systems, sustainable management and financing of water and sanitation systems, protection of source water quality, and removal of contaminants through water treatment at all scales, from households to utilities. USAID's sanitation and hygiene interventions focus on changing behaviors and creating and meeting demand for improved sanitation and hygiene facilities. Sanitation activities are aimed at scaling up coverage

using some combination of community-led total sanitation and sanitation marketing to ensure that supply is available to meet demand. USAID also works to improve the capacity of governments and providers to deliver water and sanitation services in a sustainable, cost-effective, and efficient manner through sector, regulatory, legal, and corporate reform. As an Agency, we are implementing a diverse array of WASH projects across the globe. Examples of such projects include:

- **Indonesia Urban Water, Sanitation and Hygiene Project (IUWASH).** In Indonesia, where more than 100 million people lack access to safe water, and 61 percent of the urban population are not served by piped water, a strong relationship between USAID and the Government of Indonesia has been the key to the sweeping improvements in service delivery at all levels under the Environmental Services Program (ESP) and the IUWASH project. IUWASH is targeting sustainable, improved access for two million people and improved sanitation for 200,000.
- **Hygiene Improvement Project (HIP).** In Ethiopia, USAID programming is aiming to bring at-scale approaches to the Ministry of Health's implementation of the newly endorsed National Hygiene and Sanitation Strategy. More than 5.8 million people in the Amhara region have been reached by hygiene and sanitation promotion activities, and an estimated 3.8 million people have stopped the practice of open defecation and now use a basic pit latrine.
- **Afghanistan Sustainable Water Supply and Sanitation (SWSS).** To address the crippling effect of current WASH practices in Afghanistan, USAID's SWSS project aims to improve the health and quality of life of Afghans through the reduction of diarrheal disease. This goal seeks to mobilize communities to change hygiene behaviors; facilitating construction of wells and pipe schemes through a flexible approach; and the sustainable local management of these water systems. As of September 2012, 42,129 new or improved latrines have been constructed benefitting more than 294,903 people and 3,011 wells and 37 pipe schemes have increased access to safe drinking water for 615,725 Afghans.

Water for Food

Water for food activities primarily addresses the effective management of water resources for agriculture. Since more than 70 percent of all freshwater use is devoted to agriculture, and challenges with water supply will be affected by climate change, USAID is committed to help increase water productivity and efficiency to meet food security objectives. Funding for these activities comes from the Development Assistance account. Examples include:

- **Feed the Future West.** About 60 percent of Haiti's ten million people are farmers. Through integrated water and FTF activities, USAID is training Haitians in modern farming techniques and encouraging producer groups and other beneficiaries to work together to improve the management and protection of key watersheds to strengthen agricultural markets.

The result is that while the watersheds improve, production and incomes increase simultaneously. In 2012, increases in productivity yielded \$9 million in gross margin for farmers.

- **Nepal Economic Agriculture and Trade Program (NEAT).** In Nepal, 66 percent of households experience food shortages each year, and more than two-thirds of the population work in the agricultural sector. Farmers there struggle to maintain a living, often with no access to irrigation facilities and limited finances to invest in them. The NEAT program helps cut input costs and boost crop productivity by installing new and rehabilitating existing irrigation systems and training local technicians to maintain them, which enables year-round farming.

Water and Disaster Assistance

Ninety percent of natural disasters globally are water-related, and their size and number are increasing. These events have resulted in the destruction of shelters and damage to ecosystems, water supplies, and sanitation infrastructures, as well as energy, power, and transportation systems. USAID works closely with governments and communities that are facing challenges resulting from natural disasters. USAID is helping to develop and expand advances in technology, which have allowed adaptation measures to help communities be more resilient, including through disaster risk reduction activities in the water sector, such as:

Ethiopia Productive Safety Net Program (PSNP). In the fall of 2010 and the spring of 2011, the Horn of Africa suffered what is considered the worst drought in 60 years, with more than 13 million people in the region left in need of humanitarian aid. Beginning in October 2010, USAID pre-positioned food in the region and ramped up food assistance programs. In Ethiopia, USAID and other donors supported the government's PSNP, which has been working to reduce food insecurity for households and communities since it was launched in 2005. Among its objectives, PSNP applied different types of soil and water conservation technologies that resulted in improved soil moisture, controlled runoff and therefore reduced risk of downstream damage, increased downstream spring and water well discharge, and improved capacity to manage watersheds benefitting approximately two million people.

Gender and Water

Women in much of the developing world are responsible for finding and providing water for domestic use, including water for cooking and drinking, as well as for crops and animals. Particularly in rural areas, improving access to safe water – and thereby reducing the time women and girls spend on water collection and transport – can lead to more time for productive uses, such as increased girls' attendance at school and women's involvement in income generating and community activities. Adequate sanitation is paramount, such as private, clean and sex-segregated facilities, especially for ensuring that girls remain in school. An example of USAID's efforts to meet the water needs of women in the developing world is:

- **School Environment and Education Development for Somalia (SEEDS).** In Somalia, only 37 percent of the student population is female, and cultural norms require absolute

privacy for girls when using the latrines. USAID worked to maintain a healthy environment within schools by improving WASH facilities, especially ensuring the separation of latrines for boys and girls. Rehabilitation and construction of latrines and handwashing stations under SEEDS has led to an increase of 32,337 new students, of whom 12,666 are girls, and access for 3,686 female students to improved WASH facilities and practices in FY 2011 alone.

Support of Partnerships to Advance Cooperation

We are fortunate to have a strong legacy of partnership in the water sector upon which we can grow to engage more actors. Illustrative examples of our partnerships include:

- **International H2O Alliance with Rotary International.** Over the past five years, USAID and Rotary have worked with local organizations to complete more than 15,000 interventions in nearly 500 urban and rural communities in the Dominican Republic, Ghana, and the Philippines, ranging from hygiene training and rural water systems to urban wastewater treatment. The partnership also supports innovation in the sector including the development of a sustainability assessment tool.
- **USAID and The Coca-Cola Company's Water and Development Alliance (WADA).** Under WADA, USAID has partnered with The Coca-Cola Company to address community water needs in developing countries around the world, with a combined commitment of over \$31.5 million, reaching over 520,000 people with access to improved water supply, over 55,000 people with access to improved sanitation services, and 380,000 people with improved local water resources management.

Science and Technology

In addition to partnerships, innovation is a key driver of identifying scalable solutions. Recognizing that there is no 'silver bullet' or 'one-size-fits-all' solution, the Water and Development Strategy calls for demand driven, locally grown approaches and technologies in order to accelerate achievement of our objectives in the water sector. This work is already well underway, including:

- **WASH for Life.** USAID, with co-funding from the Bill & Melinda Gates Foundation, is also supporting promising new approaches in the WASH sector, through the WASH for Life initiative. Begun in 2011, this four-year, \$17 million partnership will use USAID's Development Innovation Ventures (DIV) program to identify, test, and help transition to scale evidence-based approaches for cost-effective and sustained WASH services in developing countries. The DIV WASH for Life program will contribute to the growing evidence base for cost-effective approaches in this sector and aims to attract further investment to those solutions that prove successful.

One example of the innovative ideas supported by DIV is a 12-month pilot by a Massachusetts Institute of Technology team who formed the company Sanergy, Inc. to build and franchise a dense network of 60 low-cost latrines to residents in Lunga Lungu, a slum of Nairobi, Kenya. The program collects waste daily and processes it as fertilizer

and biogas. This year, Sanergy aims to expand to 3,390 centers reaching 600,000 slum dwellers – creating jobs and profit, while aiming to reduce the incidence of diarrhea by 40 percent in target areas.

Through DIV, USAID is also supporting Innovations in Poverty Action (IPA) to scale safe drinking water to more than five million people in Kenya, Ethiopia, and Bangladesh, including 1.6 million children through rigorously tested point-source chlorine dispensers, which have taken proper household use of chlorine from less than five percent to 60 percent, at a low cost.

- **University of Colorado Boulder and USAID Research Partnership.** USAID and the University of Colorado Boulder are partnering to assess snow and glacier contributions to water resources originating in the high mountains of Asia that straddle 10 countries using remote-sensing satellite data from NASA, the European Space Agency and the Japanese Space Agency to develop time-series maps of seasonal snowfall amounts and recent changes in glaciers.

Looking ahead

The implementation of the Water and Development Strategy has already begun. Consistent with the Senator Paul Simon Water for Poor Act of 2005, the Strategy develops criteria for the selection of priority countries based on a combination of factors that relate to country needs and country opportunities for WASH programming. In FY 2012, USAID WASH activities were spread across 62 bilateral programs, regional platforms, and centrally funded programs. With a more strategic approach, USAID seeks to bring greater impact through new WASH criteria concentrating resources in fewer countries and fewer program areas.

Assuming funding levels equivalent to the current request, in the coming five years USAID projects providing an additional 10 million persons with sustainable access to improved water supply and 6 million persons with sustainable access to improved sanitation. It is expected that a vast majority of the results from USAID water programming will represent longer-term development and transformative impact through leveraged impact in priority countries.

I will be chairing a Water Sector Council within the Agency comprised of senior staff across all regional and functional bureaus. Modeled after the Agency's Health Sector Council, the Water Sector Council will meet on a bi-annual basis to provide high-level oversight and guidance on implementation of the Strategy. We also anticipate supporting the efforts of other executive branch departments and agencies, particularly the Department of State, in its efforts to address critical diplomatic challenges such as transboundary water management. In addition, we look forward to continued collaboration with our colleagues in Congress on implementing USAID's water programs.

Thank you for the opportunity to discuss USAID's water programs with you. I look forward to answering your questions.

Mr. SMITH. Thank you very much, Mr. Holmes.

Let me begin the questioning, and we'll have a second round if others would like it.

But let me just begin first of all with, you know, the Safe Drinking Water Act of 1974, as you know, the landmark law that insures that Americans and anybody living in the U.S. has access to safer water. It affects 160,000 public water systems in the U.S. It sets national health standards for drinking water. And I was in Congress in 1996 when we increased that capability; that law was expanded to include Source Water Protection, Operator Training, and today EPA has about 90 contaminants listed with maximum containment levels or MCLs, including microorganisms, disinfectants, inorganic chemicals including copper, cadmium, arsenic, lead, mercury, organic chemicals including benzene, carbon tetrachloride, dioxin, and radionuclides.

My question would be the United States more than Europe, I believe more than any other nation on earth, has written the book on how to—and we're still not there. It's always a work in progress. More things ought to be on that list of 90 plus, but we've written the book on how to make our water safer. And I'm wondering how you interface with EPA, and how you take the lessons learned and, hopefully, pass like a baton and mentor, frankly, some of those who have emerging systems.

Mr. HOLMES. So, I worked at EPA as the Deputy for Enforcement there, and I dealt a lot with the Safe Drinking Water Act, and the Clean Water Act which, of course, one can talk about for a long, long time.

So, an important element of our work, particularly as it relates to this category of Water Resources Management is to really help build up the appropriate governance, and policy, and regulatory structure in countries. But, at the same, you know, we really recognize that utilities, just as they play here in the United States, really play a really critical role in economic development, and particularly in Africa. And we have a major program underway throughout Africa to concentrate on the strengthening of utilities, not just from the perspective of strengthening, you know, the manpower and staffing, but also improving the capacity to be able to pay for themselves to the extent a utility can. And, also, strengthen up their technical capacity to recover losses from water, and those losses tend to come from two places. They tend to come from either, you know, improper engineering, bad piping, some sort of technical flaw, or they come from water being stolen and then being sold off on the side.

So, it's a really important question you ask, and I think as we go farther and farther ahead with our programs this kind of work is going to become very important.

Mr. SMITH. Especially as Africa industrializes and more of these chemicals leach into aquifers.

Mr. HOLMES. And it becomes more urban.

Mr. SMITH. Right. Yes, Dr. Salzberg.

Mr. SALZBERG. I'll be honest, I think the question we get most often, I, the Secretary, whenever they're talking and talking about water isn't about give us your money, it's tell us how you solve this problem. More than anything else, I think developing countries are

craving the knowledge and expertise of the United States from the governmental agencies, the non-governmental sector, the private sector. I think they understand that we have a very decentralized network of water supply systems here in the United States, of waste water treatment here in the United States. They want to know how we make that work from a regulatory perspective, from a policy perspective, from a technical perspective, from a financial perspective, they want to see all that.

We have an interagency team which we chair. We meet once a month. It includes representatives from all the U.S. agencies that work on water, and departments that you probably didn't think did much work on water. NASA, for example, is a very active member of our group because some of the remote sensing tools that they bring to bear on some of these challenges. And that's really our brains. They're the folks who tell us what makes sense for us to do as we approach some of these policy issues internationally; very, very important.

We just launched the U.S. Water Partnership, which I mentioned. You know, the idea behind that partnership is to address the exact challenge you mentioned, which is can we create a portal where we can bring the best and the brightest of the United States, not just from the governmental sector, but from the private sector and everywhere else to bear on this challenge in a meaningful way for people from developing countries. That's the idea behind that partnership. We hope it succeeds and we can really take advantage of both the expertise that you have in your districts, but the expertise that we have here in the room.

Mr. SMITH. If I could ask you, we will have the testimony from the Millennium Water Alliance, faith-based, obviously. In all things that USAID does, I think it plays a critical role. Do you try to be inclusive of those faith-based initiatives? And, also, if I could ask on unmet need, if you had more money, what could you do? The amount of money that you do have, how adequate is it? And then I'll go to Dr. Bera.

Mr. HOLMES. So, we are—we work very closely with the faith-based organizations. I began working in the Office of Foreign Disaster Assistance with these organizations a long time ago and we continue it. In fact, they were very active in the launch of our water strategy this year, and they're really just a strong ally. And one thing I've noticed what we have in common with really all faith-based organizations is that from my experience, their first goal is to save human life. And that's the first—that's the lead-off in this water strategy, so we're very much linked on that.

In terms of more money well, obviously, you know, anybody from the administration is going to be very careful about indirectly asking for more money at a cycle.

Mr. SMITH. What's not being done? Should additional resources have been available, or what are we not achieving?

Mr. HOLMES. Well, I think that the magnitude of the problem is so huge when you're dealing with the numbers that you were talking about; 2 billion people without adequate sanitation on the planet, and 800 million of them still in need of adequate water.

I don't want to dodge your question in the sense of saying we don't need more money. I mean, everyone, obviously, needs addi-

tional resources, but I think the real question here is how do you more effectively leverage what you've got. That's going to be the art form, I think, going ahead. And that is why we're placing a huge amount of emphasis on the kinds of partnerships we develop so as to be able to draw more capital into these aid projects because what's going on in foreign investment, or what's going on in our aid programs, so how do we basically link together?

We have several projects that we're encouraged, the Congress has given us a guarantee authority for loans and we leverage that up to help build water treatment facilities, for example, in the Manila area, and we do it in such a fashion that we bring in Japanese financing to complement it. At the same time, we turn to big multinationals. Coca Cola, for example, is the largest employer in Africa, so we have a partnership with Coca Cola. It's a \$30 million partnership. It's in about 10 countries, and we seek to develop projects in those countries which are sustainable so that one way or another over a long period of time they'll stand on their own.

Mr. SMITH. Thank you.

Mr. SALZBERG. I think this conversation shouldn't be limited to our money. I mean, the fact is we need to see greater investment by the countries themselves, by communities themselves. And we need to see full cost recovery of this service provision in the country, along with the mobilization of local capital. There is liquidity in some of these countries; we need to get that money out and working for the communities. So, looking at some of the tools and mechanisms we can use to leverage some of that local capital, I think, is going to be critically important.

Mr. SMITH. Thank you. Dr. Bera.

Mr. BERA. Thank you, Chairman Smith.

And, again, let me compliment you on the series of hearings that we've had in this committee that really just focus on the basic necessities of human life, food security, water security. You know, there's no greater need. And I look at this as a physician who's worked in public health. I mean, again, if you can't address clean water, if you can't address basic nutrition, there's not much more you can address after that, so it is just—you talked about an effective way of saving human life. It is also the most important thing that we can do to relieve human suffering.

You know, my home institution where I'm on faculty at the University of California-Davis have the privilege—they have a long history of taking our medical students through various programs and going into Africa, going into Latin America. I've had the privilege of going with some of my medical students into Nicaragua and when we go into the neighborhoods with the public health nurses there, you know, it starts with just basic education, as well, because you could see the food preparation facilities right here, and five feet away you see the sanitation facilities. So, when we talk about food-borne illnesses, when we talk about—it starts with that basic level of education. And there's a lot that we can do there. You know, certainly we have robust programs in the Peace Corps, we have volunteer programs, we have the faith-based initiatives that are out there, so pulling all this together so we're all working and moving in the same direction.

Mr. Holmes, we have had the privilege of chatting with Dr. Shah from USAID, and also the Millennium Corporation, and we've emphasized the shift from just direct donation to capacity building in these communities to helping these countries build their own capacity. And that, obviously, starts with education, but then it also starts with looking for local solutions where you're empowering communities in countries with solutions that are going to work there in those localities. We're just conserving electricity.

But then you can come up with small-scale solutions that work for a particular house or a particular town, but we also then want to help develop scalable solutions. So, you know, my first question to either one of you would be where you would go in terms of funding some of this research and development, but doing it in a mechanism that actually works in these developing nations.

Mr. HOLMES. So, I think that you go right to the core of where we're trying to go. I can tell you've been talking to Dr. Shah, so let me answer it in two ways. One, very specifically, we develop the kinds of partnerships that are going to support really new novel thinking, so we have a partnership with Gates called WASH for Life. We seek solicitations for ideas that are at a very early stage. We provide individuals with a small amount of money so an organization called Sanergy received \$100,000 grant to develop in urban slums in Kenya ways in which to take human feces and convert it into a marketable commodity, sanitation marketing. And then we have a commitment that as this matures over time we'll try to stay with them.

And more recently, we've also made probably the largest commitment from this fund to support the chlorination of water at the point of use, but in such a way that the chlorination holds in effect for a while after it's gone into the Gerry Can and come home.

On scale, working with communities is what it's about, particularly when you're trying to end open defecation because of the relationship of open defecation to many chronic neglected tropical diseases which are so troubling now that they're exceeding the capacity of antibiotics to treat them completely, and hence the importance of these preventative actions. So, in Ethiopia we've had a program heavily based upon community participation that successfully eliminated open defecation by 2.8 million people in the Ampara region. That's the kind of scale we have to get.

Mr. BERA. Thanks. Dr. Salzberg.

Mr. SALZBERG. Yes, I think we have to do a better job talking to a lot of these companies about how we look at local solutions, and getting those into practice, and working at scale. And there's some great innovators along those lines that exist.

I think one of the important things that we can do from a U.S. Government side could be along technology verification. We've seen this where CDC, the Centers for Disease Control, has done a lot of work to look at, as Chris is mentioning, some of these household approaches to disinfecting and safely storing water, and proving the efficacy of these approaches in a developing country context and whether or not these things can work through a market-based approach to achieve results at scale. I think those are important roles that the expertise of the U.S. Government might be able to help with.

Mr. BERA. Great. Well, again, I applaud you, and I should note it's great to see my friend, Congressman Blumenauer, sitting in this committee. Thank you.

Mr. SMITH. Mr. Meadows.

Mr. MEADOWS. Yes, thank you, both of you. What I would love to hear from you is as you are—you mentioned the matrix that you're looking at from a standpoint of project-specific, where they are, what we do. How do you think we can improve on that particular model, or is there anything from a legislative standpoint that we can help, from a reporting standpoint, or anything else that would give you additional tools to make those assessments on where to place the assets. We have a limited—as you mentioned, it's just a huge task, and so is there anything legislatively that we can do? And then from a matrix standpoint, how do you decide where we invest next?

Mr. HOLMES. Well, you know, you kind of did it because when you passed the Water for the Poor Act, you told us that you really had to develop criteria, and you had to make them public, and you had to engage the stakeholders in the process, so that was extremely helpful. And, you know, you can't get anywhere without a clear statement of objectives and plan. And, quite candidly, until we developed the water development strategy we didn't have that, and that impetus came from the Water for the Poor Act.

I think where you can always be helpful is really in the understanding of the complexity of this problem. It just does not lend itself to easy fixes. And as we learn more about the sustainability side of this issue; namely, it's one thing to say you've provided water, and sanitation, and hygiene, the acronym WASH, to people, and to say we've given these services to 10,000 people, but it's another thing to try to figure out what happened to those 10,000 people over a 15-year period. And that seems to be the question that people really want answered more and more. That takes time, and it takes resources to do that internally.

Mr. SALZBERG. You know, I think we've got the push down. I think we need to see more pulling. And I think you can be very helpful in that regard. Your colleagues internationally—as parliamentarians you have a very unique perspective within your own districts about how you deal with some of these challenges. Sharing some of those experiences with your colleagues internationally can do a lot in both raising awareness and the importance of these issues for them, and creating the kind of demand signals, and co-investments that we need to see to insure the sustainability of the work that we do on the ground. So, I think there's a large role that you can also play not just on the side that you mentioned, but also on the side of really helping create demand internationally.

Mr. MEADOWS. So, more on the international side of it where we go out and stress not only the importance, but the dire consequences if we don't do this. Is that what you're saying?

Mr. SALZBERG. Well, I think so. And I think you all come from districts that have personal experiences with this, so you have very appropriate personal stories on how this—and I don't just mean from a drinking water and sanitation perspective. You know, it's the relationship between energy and water.

Mr. MEADOWS. Right.

Mr. SALZBERG. Food and water, all the other complications that you guys are dealing with.

Mr. MEADOWS. Thank you, Mr. Chairman. I yield back.

Mr. SMITH. Thank you very much.

[Off microphone comments.]

Mr. BLUMENAUER. I deeply appreciate your doing this. I just wanted to follow-up on Congressman Meadows' point about the resource. I mean, these folks are being very diplomatic, but what we just heard here is despite the effort of the focus, \$2.5 billion that's been cobbled together from a variety of different areas, we've just moved the needle a little bit. And in some cases, like in the area of sanitation we're at risk of falling behind because of rapid urbanization. But the key here, and part of what we're trying to do with the new legislation is there are lots of ways to leverage money that's already being spent.

Poor people around the world are paying a huge cost for poor water supply now that they buy privately, or they pay with their time. If we can help with credit enhancement, a tiny shift of some of our aid dollars, we have an opportunity to help them get more out of their resources, save lives, and build friends for us. And we look forward to working with your committee, if possible, to just zero in on this with the legislation that's going forward because it's coming to you.

Mr. STOCKMAN. I can also say on a firsthand basis, I was in Brazzaville drinking, what I thought, was bottled water, but I found out the locals recap it and seal it. I found that out in a very personal way.

Mr. SMITH. The subcommittee will stand in recess, and again I thank you for your patience.

[Recess.]

Mr. SMITH. The subcommittee will resume this hearing, and I can't apologize enough for that length of voting, so please accept my apology.

Let me just ask a question with regards to the ratio of wells to people. Obviously, it's a big issue here, how deep do they go, how clean, as opposed to a public water system? And if I'm not mistaken, the definition for a water system here is 15 or more people that are served. But what is the situation in sub-Saharan Africa with regards to water wells versus—you know, where are we putting our big emphasis to build out what kind of capability, or both?

Mr. HOLMES. In some ways some of those problems are analogous—pardon me, Mr. Chairman. In some ways some of the problems are analogous to what we're facing in different parts of the United States; namely, rapid depletion of groundwater, and the salinization of groundwater. So, those become two extremely important considerations. And related to where you locate the wells and related to the sustainability of the wells are the programs we put in place on water catchment, so we find that our water catchment efforts and our wells efforts are closely interrelated. And I think in some ways one of the iconic projects related to water catchments which relates to water supply and wells is the Productive Safety Net Program in Ethiopia. And this is a project that I think you're going to hear more of in the future that dealt with anticipating major climatic change in Ethiopia, identifying a population of 7

million people that would be adversely affected by significant climate change, making a bet that it's going to occur, and then working with the population to put in adequate water catchment and adequate water supply, sanitation, and hygiene. So, the issue of the location of the wells relates to the issue of basically insuring that there's adequate water in the area in which you're going to be drilling.

I guess the second part about the challenge of wells is to be artful in where you're putting the wells in the communities you're working with so you're not inadvertently causing any conflict between agrarian and pastoralist related to the well sites. And, again, in Africa we're building up an increasing amount of expertise working with the NGO community on how to appropriate site the wells.

I think the third thing related to wells relates very closely to the issue of water and women, and we're finding that supporting community organizations that take ownership and responsibility for the drilling and the operating of the wells becomes absolutely essential, and it becomes essential so as to minimize the amount of time that women take, and the risks that they incur in search of water from wells that may not be in that good shape but are very distant and prevent tremendous danger to them.

You know, in terms of a ratio of water wells to people, that's a tough one. I'm not quite sure I have a good answer for you on that, but I can look into it in more detail.

Mr. SMITH. Okay, but what about in the public setting, I mean, the public water works. Usually we define it 15 or more people are served by it. Isn't that correct?

Mr. HOLMES. Well, there are going to be more people than 15 that are going to be having access to wells whether it's urban or rural. I can assure you on that.

Mr. SMITH. Can I just ask you, John Oldfield, the CEO of WASH Advocates who will be testifying, in his fourth recommendation I just would love your feedback on it, and I'm sure he'll elaborate on it. But it says, "[p]rovide more effective oversight as to where and how these funds are being invested. We are concerned," he goes on, "that many of these funds are not going to countries and communities where the need is the greatest for safe drinking water and sanitation." How do you respond to that?

Mr. HOLMES. So, when we developed the water strategy one of the big efforts was to develop the criteria that would relate to the countries that we would select for our water programs and do it on a priority basis. And the criteria which we laid out in the water strategy lays out two components. One component is need, and that would be things like childhood deaths due to diarrhea which, of course, relates to inadequately treated water. And the second criteria was opportunity; namely, the ability of a country to actually manage public water systems effectively. And we weighted the criteria so it was strongly weighted toward need. And we plan to basically prioritize our countries around that criteria which is heavily need-based, and then govern the allocation of our funds starting in Fiscal Year 2014 as it relates to water supply, sanitation, and hygiene to meet those criteria. And that's a huge departure for us, Mr. Chairman.

Mr. SALZBERG. And I think if you look at the overall trend since the passage of the Water for the Poor Act in 2005, I mean, you're seeing significant changes in our investments, you look at the DA accounts; and, Chris, you can answer this a little bit better than I can, where I think when I joined in 2005, the first accounting 2005–2006 it was \$16 million of DA in Africa for drinking water supply and sanitation. And that number is now well over—it's peaked at over 100 at some times, so you are seeing trends I think in the right direction. I think you're seeing the right prioritization of the Water for the Poor strategy. And a major step forward with USAID's water and development strategy.

And I think you're also seeing, when you look at the Millennium Challenge Corporation and the significant investments that they're now starting to make in many countries in Africa, as well. This is a major contribution to some of those challenges.

Mr. SMITH. Thank you. I hope the other members get back, but just—I guess I'm pretty much done. I want to thank you so much for your patience. I thought the other members would return.

Mr. HOLMES. Thank you.

Mr. SMITH. And, again, I apologize for that delay. I look forward to working with you going forward.

Mr. HOLMES. We do, too. Thank you, Mr. Chairman.

Mr. SMITH. Thank you both gentlemen. Thank you.

We welcome our second panel to the witness table. Beginning first with Mr. John Oldfield who leads the efforts of WASH Advocates to increase awareness to the global WASH challenges and solutions, and to increase the amount and effectiveness of resources devoted to those solutions throughout the developing world.

His previous experience with safe drinking water, and sanitation, and hygiene comes from founding two implementing non-profits in the sector, as well as his tenure as executive vice president with Water Advocates, a group dedicated to increasing financial and political support for worldwide access to safe, affordable, and sustainable supplies of drinking water and adequate sanitation.

We will then hear from Mr. Malcolm Morris, who serves as chairman of the Millennium Water Alliance, a group of American non-profit organizations that he founded in response to a call from U.S. administration officials under his leadership.

The Millennium Water Alliance is leading an effort to bring potable water and sanitation to 500 million people by 2015. He is chairman emeritus of Living Water International, which in 1990 began drilling water wells in Kenya for hospitals, schools, orphanages, churches, and communities, and is now operating in more than 20 countries having completed projects providing water to more than 10 million people on a daily basis.

And then we'll hear from Mr. Buey Ray Tut who is executive director of Aqua Africa. He was born in a small village in South Sudan, and when he was 8-years old his family fled to Ethiopia to escape the civil war in Sudan. His father was jailed in Ethiopia for political involvement, and after his father's release from prison his family was granted political asylum in the U.S., and his family is settled in Nebraska.

He co-founded Aqua Africa at the age of 21, and has served as a trustee for the South Sudan Community Association.

Mr. Oldfield, if you could begin.

**STATEMENT OF MR. JOHN OLDFIELD, CHIEF EXECUTIVE
OFFICER, WASH ADVOCATES**

Mr. OLDFIELD. Thank you, Chairman Smith and distinguished members of the subcommittee for the opportunity to provide these remarks which are a summary of my written statement submitted earlier.

Let me express, first of all, my gratitude to the subcommittee for your support for safe drinking water, for sanitation, for health, and related development challenges over the years. I'd also like to quickly applaud the efforts and commitment of my co-panelists here and, frankly, everybody in the room on behalf of this issue, and also acknowledge and thank the dozens of individuals who helped me crowd source this testimony, Mr. Chairman.

Imagine this, and you don't need to work hard to imagine this based on how this hearing has gone so far today. A woman spends the first 3 hours of her day wandering through treacherous terrain to find a 20-liter bucket of dirty, filthy water to spend the next 3 hours of that day hauling that dirty water back on her head, not knowing if that water is going to make her children sick when she gets it back home. She may not have even named her youngest children because so many people in that community die before the age of five because of unsafe water and inadequate sanitation.

Neither she, nor her children, have a bathroom, so they suffer the indignity, the vulnerability, the physical vulnerability that the subcommittee members have discussed today through open defecation. Here in the U.S. we haven't lived under these conditions for a long time, but this is a challenge faced by hundreds of millions of people around the world every day.

This is a grave challenge, but it is a solvable challenge. And, most importantly, if I could leave you with one message, it's a challenge that's being solved in Africa, in Asia, in Latin America as we sit here at this hearing every day.

The solutions, to get to some of your earlier questions, are often quite simple. These are wells, these are latrines, these are hand washing stations equipped with bars of soap, these are rainwater harvesting schemes. The most transformative of these solutions are those which focus on strengthening and building capacity of local communities to solve their own challenges.

I'd like to just quickly highlight a couple of very recent successes in the global water sector and blend in my humble requests for the committee to consider. First of all, as you know, USAID has recently launched their first ever 5-year water and development strategy. We ask that your subcommittee continue to provide effective oversight as to where, and as to how these funds are being invested. A couple of specific suggestions that you really preempted with your earlier questioning: I urge USAID to continue to focus on the world's poorest communities and countries. And, secondly, to leave behind not simply wells, and latrines, and hardware, but real capacity within the local communities to solve their own problems with our front end catalytic support.

Secondly, we ask that you support the Water for the World Act of 2013, H.R. 2901. As you know, this was introduced just this

morning with very strong bipartisan support. Thank you for your sponsorship of that bill, Mr. Chairman.

The point I want to make here is that communities don't get water, or they don't get sanitation, much less these health benefits, and the education benefits, and the poverty alleviation benefits unless these projects function properly over the long run.

Congressman Marino said to me this morning that we are taking care of our own when we do foreign assistance well. And I asked him if it would be appropriate to relay that message here, and he most certainly said yes. This bill, the Water for the World Act, is a pivotal next step in the direction of doing foreign assistance for water and health well.

Thirdly, your colleague, Congressman Stockman, recently saw firsthand in his visit to the Democratic Republic of the Congo how health challenges are restraining economic productivity in that country. I would ask you, and I think everybody in this room would echo this, to personally visit, in your case visit again the developing countries and U.S.-funded water and sanitation projects. Nothing trumps that first person experience there, and then you can tell a better story than anybody in this room can.

Finally, we urge you to work with your appropriations colleagues to support increased funding and, again, oversight for development assistance specifically by supporting the \$405 million Fiscal Year 2014 Senate appropriations request for the Water for the Poor Act of 2005.

Now, above and beyond what Capitol Hill is doing, my organization, WASH Advocates, is carefully tracking what Americans are doing in all 50 states for this issue, and probably all 435 congressional districts, as well. Rotary Clubs, churches, corporate and private foundations, ingenious social entrepreneurs, school kids, primary school kids, universities, and myriad non-profits are all active oftentimes in partnership with the U.S. Government. And I'd like to quickly note Congressman Meadows' interest in public-private partnerships, a number of which have been brought up so far today and I am happy to provide more details on those.

If successful, I believe that your and the subcommittee's actions will save and improve millions of additional lives by increasing the effectiveness of U.S. foreign assistance for water, health, and related development sectors, and at the end of the day help these countries move toward aid independence. I believe that your efforts will catalyze more support from American citizens across this country for their complementary efforts.

In conclusion, I would just reinforce things you already recognize; this global water crisis isn't just a crisis. This isn't just wonky development talk here, this is a real genuine leadership opportunity for this country that can help save and improve millions of lives around the world, and at the same time unite Americans as we're seeing here today with this aggressively bipartisan hearing for which I commend you.

These are uncertain times on Capitol Hill and far beyond, but the fact of the matter is none of us spent the first 6 hours of our day hauling dirty water around on our heads. And none of us in this room are worried that our kids are going to die from easily preventable water-borne diarrheal disease today as we sit here.

I'd suggest that water-related death and disease have historically been unavoidable, and with my colleagues at WASH Advocates and throughout this room, I very much hope to continue to work with you to make them unacceptable. Thank you, Mr. Chairman.

[The prepared statement of Mr. Oldfield follows:]



House Committee on Foreign Affairs

Subcommittee on Africa, Global Health, Global Human Rights, and
International Organizations

The Impact of U.S. Water Programs on Global Health
August 1, 2013

Testimony by:

John Oldfield, CEO

WASH Advocates

Safe Drinking Water, Sanitation, and Hygiene for All

Thank you Chairman Smith, Ranking Member Bass, and distinguished members of the Subcommittee on Africa, Global Health, Global Human Rights and International Organizations for the opportunity to provide these brief remarks.

First, let me express my gratitude for Congress' support for safe drinking water, sanitation, and hygiene (WASH) programs throughout the developing world over the years. I also want to recognize what many American citizens are doing to help solve this crisis through their own civic organizations, faith communities, corporations, universities, and nonprofits, often in partnership with the U.S. Government.

Thank you to this subcommittee in particular for its support over the years for water, health, and many other important development challenges. Your commitment is admirable and your efforts are saving and improving millions of lives across the globe. I would also like to recognize and applaud the commitment and efforts of the other panelists and their respective organizations to work toward solutions to the global water crisis, as well as the dozens of individuals who helped draft this testimony through crowdsourcing.

Safe drinking water, sanitation, and health are about the dignity of human life. Imagine a situation that's all too common in developing countries: A woman spends the first three hours of her day trekking miles through dangerous terrain to the nearest ditch, where she slowly retrieves a bucket of filthy water. She then spends the next three hours hauling this same load (20 liters of water weighs 44 pounds) on her head back to her house for her family, not knowing whether this water will make her children ill. She may not have even named her younger children, because so many in her community die before the age of 5 due to illnesses that come from dirty water. Further, neither she nor her children have a bathroom at home, meaning that they have to suffer the indignity and insecurity of



defecating in the open. We have not lived under these conditions for centuries, but hundreds of millions of people around the globe face this reality every single day.

The good news: we have the tools to make sure that families like hers are able to take a drink of safe water from a well-functioning tap and not have to worry about illness, to go to the bathroom in private for the first time in their lives, and to carry schoolbooks on their heads instead of heavy buckets of water. In fact, Americans are already providing these basic services to millions across the globe.

We have an opportunity to fundamentally transform millions of lives in the poorest countries and communities across the globe by providing the dignity that comes with access to water, sanitation, and basic hygiene. My goal here today is to be a resource for you as you try to get the biggest bang for your development dollar by reaching the largest number of people in the most effective fashion.

Background

WASH Advocates is a nonprofit advocacy initiative entirely dedicated to solving the global safe drinking water, sanitation, and hygiene (WASH) challenge. We have been fully funded for our work since 2005 by a small group of private philanthropists including the Conrad N. Hilton Foundation, the Wallace Genetic Foundation, the Howard G. Buffett Foundation, and the Osprey Foundation. We receive no federal funding. Our mission is simply to increase both the amount and effectiveness of U.S. funding and programming in the global water and sanitation sector.

You've tasked your witnesses today with a particularly important question about the linkages between safe drinking water and health. Safe drinking water, sanitation, and hygiene help children, families, and communities survive and thrive throughout the developed and developing world. There are important linkages not only between water and public health, but between water and primary education, opportunities for girls, food security and under-nutrition, environmental conservation, security challenges, and others. Long-term success with these related development priorities will be more secure if those initiatives are built on a foundation of safe drinking water and sanitation.

The global water, sanitation, and hygiene challenge is certainly grave. Almost 800 million people currently live without safe drinking water, and 2.5 billion live without sanitation – without a safe place to go to the bathroom. This lack of safe drinking water and sanitation kills approximately two million children each year and sickens billions of other children and adults unnecessarily. You also will recall that our intelligence community in 2012 identified water as a potential source of significant security challenges to this country over the next decade.



This is a grave problem, but for the most part, we know today how to solve it. The key is getting the solutions to where they are most needed. And it is important that it be solved: above and beyond the lives that safe drinking water saves and improves, every dollar invested in water and sanitation in developing countries returns at least \$4 for that \$1 investment. This return comes primarily in the form of decreased healthcare costs and increased economic productivity. Imagine what each of us could do with an extra four to six hours each day not spent hauling water around on our heads.

Most importantly, this challenge is being solved across the globe. The international donor community plays a key role, and the U.S. government and private citizens are playing a smarter role for water as key stakeholders within that donor community.

Momentum

I am optimistic about the current momentum for water and health, and I'll quickly highlight a number of recent successes:

- 1) USAID has recently launched – with strong bipartisan support – its first five year Water and Development Strategy.¹ Under Administrator Shah's leadership, USAID is making tremendous strides toward increasing the effectiveness of its programming on global water, and positioning water as pivotal to meeting important development challenges in health, education, poverty alleviation, opportunities for girls, under-nutrition, and others. My colleagues and I from across the WASH sector applaud the strategy and look forward to working with USAID and the Department of State to further prioritize water as an important sector in its own right, and to demonstrate water's contributions to successful programs throughout our development assistance portfolio.
- 2) We are seeing stronger, more transformative, more leveraged programming by USAID and its partners. Our job in the international donor community is to get out of the aid business by helping to move every country around the world to aid-independence and count them not as beneficiaries but as strong trading partners and allies. Recent USAID water programs in Ethiopia, Afghanistan, Kenya, and the Philippines are examples of strong, leveraged programs which lead in that direction.
- 3) The Water for the World Act of 2013 is soon to be introduced. This legislation would significantly strengthen the Water for the Poor Act of 2005 in part by increasing the monitoring and evaluation of projects, particularly after the technical phase of the implementation, and ensuring that our WASH programming is targeted to help the world's poorest.
- 4) We are seeing increased support for the global water and sanitation crisis from Americans across the country – from Rotary clubs, churches, large corporate philanthropies, ingenious social entrepreneurs, universities, primary

¹ <http://www.usaid.gov/documents/1865/usaid-water-and-development-strategy-2013-2018>



schoolchildren, private foundations, and nonprofits. Congressman Meadows asked about public-private partnerships in this Subcommittee's recent hearing on malaria. Many such partnerships are currently on WASH Advocates' website² as part of our effort to track just a small part of what Americans in all 50 states are doing for global water.

- 5) We are also pleased that, even in a difficult budget climate, Congress continues to appropriate the funds necessary to maintain its commitment to the Water for Poor Act of 2005. This year the House Appropriations Committee has maintained level funding, and urged that \$117 million of the total be directed to sub-Saharan Africa. Its Senate counterpart has increased funding by \$90 million – further underscoring the importance that Congress places on safe drinking water and sanitation as a priority of U.S. foreign policy.

Most importantly, we see leadership on water and sanitation from developing countries themselves, leading toward self-sufficiency and an eventual end to U.S. aid. We see increasingly strong commitments from countries throughout Africa, Asia, and Latin America to: meet and exceed the Millennium Development Goals; design even more ambitious post 2015 Sustainable Development Goals on water and sanitation; support the Sanitation and Water for All Partnership³ (a global partnership to ensure that all people have access to basic sanitation and safe drinking water); and increase budgets and strengthen national policies in such a fashion that the outcomes meet the needs of everyone in their countries – rural, urban, and peri-urban - not just relatively wealthy people on the grid.

For purposes of this hearing, it is important to note that this water and sanitation programming is not taking place in a vacuum. Many of these programs in water and sanitation align with and support complementary efforts in global health, food security, basic education, opportunities for girls, and other important development priorities.

Water, Health, and Other Important Development Challenges

Programs in support of safe drinking water, sanitation, and hygiene occur throughout USAID, including in global health, Feed the Future, education, and other sectors. WASH Advocates and many of our partners support this broad effort because of the need for stronger linkages between development challenges and solutions. On the other hand, we believe strongly that water merits being further elevated and institutionalized within USAID as an intrinsically important development priority.

² <http://www.washadvocates.org/learn/americanswash/>

³ <http://www.sanitationandwaterforall.org/>



- *Water and Health:* We encourage the water team at USAID to continue their efforts to work with their agency counterparts in global health to position water and sanitation as a means toward meeting public health objectives.
- *Water and Food/Nutrition:* We also encourage the water team to continue to strengthen their relationship with the President's Feed the Future effort to address needs not only for water in agriculture, but to be sure that people in developing countries have the safe drinking water they need to consume and digest their food and put those calories to work without wasting them through waterborne diarrheal disease. Approximately 50% of under-nutrition is due to unsafe water and sanitation, as waterborne diarrheal diseases cause the loss of a great deal of nutrients. Just as the energy community says that the greatest new source of energy may be efficiency, perhaps the greatest new source of calories for our food security efforts may be preventing calories from being wasted due to preventable waterborne diarrhea. Safe water and better nutrition will help prevent physical stunting and poor cognitive development, which leads to better educational outcomes as well.
- *Water and Neglected Tropical Diseases (NTDs):* Mr. Chairman, you said at your recent hearing: "Generally NTDs affect the health of the poor in developing countries where access to clean water, sanitation and healthcare is limited." Cognizant of that hearing, we encourage USAID's water team to position safe drinking water, sanitation, and hygiene as an important contributor to limiting the spread of these neglected diseases. Along with USAID, many other stakeholders are active on the water / NTDs challenge, including The Carter Center, the Conrad H. Hilton Foundation, Helen Keller International, and the International Trachoma Initiative.
- *Water and HIV/AIDS:* We ask that the water and HIV teams within the U.S. government work together to make sure that HIV+ persons have the safe drinking water they need to consume and absorb their antiretroviral drugs, and that those HIV+ persons have adequate sanitation facilities as they are several times more likely to suffer from opportunistic diarrheal disease.
- *Water and Education:* Beyond the water/health and water/food linkages, we are aware of and supportive of efforts at USAID to bring together the water and education teams so that young children have the opportunity to attend school instead of hauling water around on their heads, and that older children have the opportunity to stay in school. As I believe you know, many girls drop out of school when they start menstruating because their schools don't have single-gender sanitation facilities and thus no privacy.



There is an enormous amount of high-quality research⁴ that has been done on these linkages:

Water and Health:

- Diarrhea is the **second leading cause of child death in the world today, and the top cause of child mortality in sub-Saharan Africa**. Diarrhea is caused by poor sanitation, hygiene, or dirty drinking water.
- Malnutrition and diarrheal disease are closely linked. When it doesn't kill, repeated bouts of early childhood diarrhea can negatively impact **physical and cognitive development**.⁵ Reductions in diarrheal disease, which could be achieved by providing improved sanitation and water supply, can **prevent long term morbidity and at least 860,000 child deaths a year caused by malnutrition**.⁶
- Linking water and sanitation programming with child survival interventions **reduces the number of child deaths caused by diarrheal disease by an average of 65 percent**.⁷
- Achieving sustainable increases in food production to alleviate poverty and **eradicate hunger** requires sound management of critical inputs like water and land, making linkages between agriculture, food security, water management, and safe drinking water programs essential.
- Simple handwashing, an element of hygiene programming, can **reduce the incidence of childhood respiratory infections**, such as pneumonia, **by at least 23%**,⁸ **and diarrheal disease by approximately 45%**.⁹ Awareness of the health benefits of handwashing is still low in many poor communities.
- Hygiene and sanitation are among the most cost-effective child survival interventions.

Water and HIV/AIDS:

- People living with HIV/AIDS and others with compromised immune systems, are more **prone to common illnesses and diseases such as diarrhea**. As such, access

⁴ <http://www.washadvocates.org/learn/wash-integration/>

⁵ Guerrant, RL, et al. Early Childhood Diarrhea Predicts Impaired School Performance. *The Pediatric Infectious Disease Journal*. 2006; 25(6): 513-20.

⁶ WHO. *Safer Water, Better Health: Costs, Benefits and Sustainability to Interventions to Protect and Promote Health*. 2008.

⁷ WHO as stated at: http://www.waterraed.org/international/what_we_do/statistics/default.asp.

⁸ Rabic T and Curtis V (2006) "Handwashing and risk of respiratory infections: a quantitative systematic review" in *Tropical Medicine and International Health*, 11(3), 258-267.

⁹ Curtis V and Cairncross S. Effect of washing hands with soap on diarrhoea risk in the community: a systematic review.

The Lancet Infectious Diseases 2003; 3:275-281.



to improved sanitation and water supply is essential to the overall health of people living with HIV/AIDS.¹⁰

- Adequate **nutrition**—compromised by diarrhea, which reduces the body’s retention of nutrients—is fundamental for people taking antiretroviral drugs. Water and sanitation can improve the efficacy of the significant US investment in **HIV/AIDS treatment**.
- One study of people living with HIV/AIDS in Uganda found that the **presence of a latrine reduced the risk of diarrheal disease by 31%**.¹¹
- Evidence suggests that **improved access to a sustainable water supply lessens the risk of sexual violence, a risk factor for HIV**, experienced during water collection.¹²

To accomplish complementary water, health, nutrition, and education goals requires a strong water team at USAID, and we applaud Administrator Shah’s leadership on this issue. To support and strengthen this momentum, and knowing of the Chairman’s and the Subcommittee’s desire for tangible recommendations, we respectfully request that the U.S. Congress:

1. Support and pass the Senator Paul Simon Water for the World Act of 2013. This legislation would strengthen the Water for the Poor Act of 2005 by a) increasing the effectiveness of programming in the water and sanitation sector, b) increasing the monitoring and evaluation of projects, particularly after the technical phase of the implementation, c) ensuring that our WASH programming is targeted to help the world’s poorest; and d) codifying the progress currently being made by USAID and the U.S. Department of State on water and sanitation. Allow me to reinforce one of these points: these communities don’t get water or sanitation, much less the health, education, and poverty alleviation benefits, unless the projects function properly over the long run. So I encourage Congress to provide the oversight necessary so that these projects continue to function long after the technical phase of the effort. I also encourage this Subcommittee to work with Chairman Royce and to hold more such hearings on this issue.
2. Visit U.S.-funded safe drinking water and sanitation projects in Africa, Asia, and Latin America. This is particularly true for you, as members of this Subcommittee. Little is more important than seeing firsthand the results achieved by U.S. public and private support for water and health. Congressman Stockman, during his trip to the Democratic Republic of Congo, saw firsthand how health challenges are restraining economic productivity in that country.

¹⁰ Obi. CL, B. Onabolu, M.N.B. Momba, J.O. Igumbor, J. Ramalivalma, P.O. Bessong, E.J. van Rensburg, M. Lukoto, E. Groen, and T.B. Mulaudzi. The interesting cross-paths of HIV/AIDS and water in Southern Africa with special reference to South Africa. South African Water Research Commission, Vol. 32 No. 3, July 2006.

¹¹ Weinger, Mem. Dignity for All: Sanitation, Hygiene and HIV/AIDS. USAID, 2008

¹² Based on a formative study carried out for the CARE Water, Health and Livelihood (WHEEL) project in South Africa.



3. Work with your appropriations colleagues to support increased funding for foreign assistance, while providing the oversight necessary to ensure these funds are well-spent. This includes full funding and oversight for the Water for the Poor Act of 2005. We are grateful for your colleagues' work on FY14 appropriations both in the House and the Senate, and encourage the House to support the recommended Senate level of funding: \$405m for FY14, with the strong statutory and report language necessary to ensure these funds are invested in transformative water and sanitation programs in the poorest countries and communities.
4. Provide more effective oversight as to where and how these funds are being invested. We are concerned that many of these funds are not going to countries and communities where the need is greatest for safe drinking water and sanitation. Further, the USG and our partners should not only be drilling wells and building latrines. We should be focused on getting the job done – that is our exit strategy. Congress should urge USAID to be a more catalytic stakeholder in water, focused as much on outcomes as on inputs. USAID and its partners have an opportunity to focus less on direct service provision, and more on capacity-strengthening. The goal is to leave behind not simple wells and latrines, but capacity so that the local communities can solve their own problems long after we leave. A key part of this is to support monitoring and evaluation particularly “post project,” so that any problems after the technical end of the project are resolved in a sustainable fashion. Effective, appropriate programming like that envisioned in the new USAID water strategy leads not only to water and sanitation successes, but to aid independence and stronger trading partners.
5. Push the Administration harder on linking water and sanitation with other important development objectives whose success depends on safe water.

If successful, your actions to support global water and sanitation will save and improve millions of lives by increasing the effectiveness of U.S. foreign assistance in the water and sanitation sector; make programs in related development sectors - health, girls' education, poverty alleviation, hunger/under-nutrition - more successful initially and more transformative over the long run; catalyze more support from U.S. foundations, corporations, and civic organizations like Rotary International; inspire more support from faith-based groups around the United States; and encourage powerful grassroots organizations like CARE, MercyCorps, NRDC, ONE and many others to do even more for safe water.

My goal today is to applaud the progress being made, and hopefully inspire the U.S. government and American citizens to do more. The global water crisis provides a genuine leadership opportunity for the U.S. to seize. This is a grave but solvable challenge which can help millions of people around the world survive and thrive, unite Americans, and improve the image of the U.S. abroad in these difficult times.



These are indeed uncertain times on Capitol Hill and beyond. But none of us spent six hours hauling dirty water on our heads this morning, and none of us are worried about our children dying from easily preventable waterborne disease today. Water-related death and disease have traditionally been unavoidable; I hope to continue to be a resource for you, and work with you to make them unacceptable.

Mr. SMITH. Mr. Oldfield, thank you very much for your testimony and your concrete recommendations. This does help the subcommittee, and members will return and will read your recommendations as well as of our other two distinguished witnesses, so it really goes a long way. Thank you, and for obviously what you're doing out in the field.

Mr. Morris.

**STATEMENT OF MR. MALCOLM MORRIS, CHAIRMAN,
MILLENNIUM WATER ALLIANCE**

Mr. MORRIS. Mr. Chairman, Malcolm Morris, and I chair the Millennium Water Alliance.

I want to thank you and your colleagues, your staff colleagues for organizing this hearing today.

From the testimony I've heard from the members of this committee, I think everybody is already in agreement in recognizing the greatness of this need, and yet the constraints that need to be overcome.

The Millennium Water Alliance represents 13 leading U.S.-based charities working to achieve safe water, sanitation, health and hygiene called WASH for people in developing countries. Safe drinking water and sanitation are both life and death issues. They are also fundamental issues for women, public health, education, and economic and social development.

Addressing WASH is the most effective step the U.S. can take to enhance its reputation among people in the developing world, and to work in partnership with our allies to accelerate the economic, as well as political development that is foundational to true security in our world. Is it working? Yes.

First, I want to point out our goal is not to complete the job of full water and sanitation coverage in any one country, but to build the local capacity within that country so that these nations finish the task for themselves. And more and more of those nations are moving in that direction.

Among the many activities we conduct in partnership with the USAID, our Millennium Water programs where we train local organizations you will hear from next which are through WASH programming. Through our framework, local and national participants meet regularly to share best practices, lessons learned, and are held accountable by their peers to country standards, transparency, as well as technical effectiveness.

How do we do all that? First, we meet with governments to determine standards for water quality, standards for water quantity, country-specific technologies are established so that supply parts can be created. You have to have a supply chain. And then when you establish the types of implementations that are done, indigenous people can be trained in maintenance of water points. The last thing that we want to do is to create infrastructure dependent upon calling 1-800-USAID for repairs.

Millennium Water programs use independent monitoring and evaluation by specialists to make sure that our progress is successful, up to standard, and is achieving desired goals. To do that, baseline studies regarding health and education are conducted and measurable milestones established to be able to determine improve-

ments to life in a community. These findings are shared among the participating organizations, as well as government officials which are invited to all of those meetings.

USAID has an important role in priming the pump. Perhaps USAID's best practice has been in funding an RFA which is called a Request for Assistance in countries where the U.S. desires to put its best foot forward. Through successful deployment of initiatives funded with \$11 million by USAID since 2009, MWA has been able to attract an additional \$16 million on top of that \$11 million of funding to facilitate even additional programming. Matching contributions have been generated from other donor countries, foundations, corporations, and even the countries in which the work is being undertaken. That's important.

Science and technology are included in our training. Many lives are saved through oral rehydration techniques. I believe the chairman even mentioned that as we began this hearing. Through MWA and others, USAID has helped build momentum with pilot programs that can be replicated within the country. We enable community-funded maintenance programs which must be designed as permanent interventions. Community leaders must be included in planning and training to meet the water, sanitation, health, and hygiene needs for the future population growth of their communities wherever we have done water. Those communities have attracted a growth in population, people moving there who haven't water where they're from.

USAID should continue the use of RFAs to get underway quickly. It allows the implementer such as the MWA to utilize their expertise responding to local factors in the areas that are being served. Water committees are formed which leads to more local empowerment. It's not really the provision of water and the community is not called Washington, not called the Federal Government, so to speak. Same way at your own home.

These local committees are formed which leads to more local empowerment, and especially among the women. And these committees create a learning experience where people elect their leaders and learn grassroots democracy. This is also fabulous in what USAID has led.

USAID support of the Millennium Water concept and implementing WASH programs within developing countries has achieved something, though, beyond the original plan. In partnership with American NGOs, USAID has become recognized for its leadership in WASH. I remember the day when I walked into USAID and they could not find water in their programming in their computer systems, anywhere. I'm sure there was some, they just couldn't find it.

Today, totally changed. We have a great team there. The policy has been put out, and now here's what we're seeing. Other countries, corporations, multilateral organizations are calling on the MWA because they've seen what the MWA USAID-funded projects have done elsewhere, and they say hey, would you come and apply your expertise in our country to assist us in water programming.

These are places where USAID is not even being called on for a dollar's worth of assistance right now in this area. So, because of what USAID has done to prime that pump, we're seeing this rep-

utation build and we hope to see that USAID may even consider the possibility of capacity building grants to even further these opportunities, and low-cost opportunities.

Included in my report, Mr. Chairman, is a study of an example of a great new water program in Kenya. It demonstrates the power of partnership between America's charities and USAID that leads to even larger partnerships with others around the globe. With funding from USAID, funding from a major Dutch organization, the Dutch Government, as well as matching funds from Millennium Water Alliance members, a perfect example of a forward-looking collaboration has been built to build against community resilience to drought.

So, the Millennium Water Alliance and its members, want to point out, fully support the Paul Simon Water for the World Act, House Bill 2901 introduced today by Congressman Earl Blumenauer, Ted Poe, and Chairman Chris Smith, and I believe already 10 cosigners, if that's correct.

This bill does not require additional budget but improves the way USAID partners for achieving maximum efficiency. It puts into the statute. We don't want to go back to the time when we couldn't find water. We want it in the statute where everybody stays focused on it, and we appreciate the committee recognizing the importance of that.

We are eager to assist the committee, the subcommittee in any way we can to advance the great work on behalf of the American people, and I'll be happy to take your questions. I have a writeup for you in my submission about the KALDDR Project in Kenya which really discusses how all the things that I just told you about are actually being deployed just within one program now.

[The prepared statement of Mr. Morris follows:]

Mr. Malcolm S. Morris
Chairman
Millennium Water Alliance
House Committee on Foreign Affairs
August 1, 2013

The Impact of U.S. Water Programs on Global Health

My name is Malcolm Morris, a co-founder and Chairman of the Millennium Water Alliance.

The Millennium Water Alliance represents 13 leading US-based charities that help to achieve safe water, sanitation and health and hygiene, called WASH, for people in developing countries.

Safe drinking water and sanitation are life and death issues. They are also fundamentally issues for women's, for public health, for education, and for economic and social development.

Addressing WASH is the most effective step the U.S. can take to enhance its reputation among people in the developing world, and to work in partnership with our allies to accelerate the economic and political development that is the foundation of true security.

Is it working? Yes. First our goal is not to complete the job of full water and sanitation coverage in any one country, but to build local capacity within that country so that these nations finish the task for themselves – and more and more of them are moving in that direction.

To help us in this important work, I want to urge members of the Subcommittee and their colleagues in the House to support the Sen. Paul Simon Water for the World Act introduced this week in the House by Representatives Earl Blumenauer and Ted Poe. This is not funding legislation, it is efficiency legislation, aimed at improving the way USAID works with its partners and providing a streamlined structure for better information that all stakeholders – including the Congress itself – need to better understand how USAID programs in WASH are working in the field, and how we can be partners with maximum efficiency. I will not detail here the elements of the legislation, other than to say it is strongly supported by the NGO community, and in particular MWA and its member organizations. We are the ones who work in the field with USAID and other funders and implementers, and we believe this legislation will advance that work on behalf of the American taxpayer.

Among the many activities we conduct in partnership with USAID, for example, MWA members train local organizations in WASH programming while applying country-specific standards. Through our framework, local and national participants meet regularly to share best practices and lessons learned, and are held accountable to our standards of transparency and technical effectiveness. .

How do we do all that? We first meet with governments to determine standards for water quality and quantity within the country. Country-specific technology standards are established so that supply chains for parts and expertise can be created, and people are trained in the maintenance of water points.

MWA uses independent monitoring and evaluation by specialists to make sure our progress is successful, up to standard, and achieving desired goals. Baseline studies regarding health and education are prepared so we can measure milestones and determine improvements to the life, livelihood, education and health in a community. These results are shared with participating organizations and governments.

USAID has an important role in priming the pump. Perhaps USAID's best practice is funding an RFA (Request for Assistance) in countries where the U.S. desires to put its best foot forward. Through successful programming initiatives funded by USAID, MWA has attracted over \$16 million dollars in additional funding since April 2009 to facilitate further programming. Matching contributions are generated from other donor countries, foundations, corporations, and from the countries themselves in which work is undertaken.

Science and technology are used in training. For example, we know that many lives are saved through oral rehydration techniques. Through MWA and others, USAID has helped to build momentum with pilot programs being replicated within the country. Most importantly, we are not just building infrastructure which relies on calling 1-800 America for repairs.

We enable community-funded maintenance programs which must be designed as permanent interventions. Community leaders must be included in planning and training to meet future growth needs, the same as any city in America.

I wish to suggest at least two practices for USAID now:

- a. USAID should continue the use of RFAs to get underway quickly, allowing implementers such as MWA to utilize their expertise responding to local factors in the areas being served.
- b. Conserve on the costs of meetings just to talk about the water problems. Those participating often do not have the expertise to eliminate the problems. People locally get excited by seeing and being a part of work being done, and seeing the improvements and gaining an understanding about the interventions. Then they want to get involved. Water committees are formed, a process that leads to more local empowerment and especially empowering women to be full partners. This creates a learning experience that applies democratic principals at the grass roots level.

Water availability brings economic development. The impact of a \$1 spent on water resource development has at least \$4 of economic impact on the local community. It is one of the most cost-effective expenditures we can make to get a country's economic engine

running. People who are not healthy are not able to work at peak performance. Building full WASH access is a community-by-community experience.

USAID support of the MWA concept in implementing WASH programs within developing countries has achieved something beyond plan. In partnership with American NGOs, USAID is recognized for its leadership in WASH, and other countries, corporations, and multilateral organizations are now calling on the MWA to apply its expertise to assist in water programming, even in places where USAID has not been called on for funding.

Finally, I want to mention that for one example, we have a great new program in Kenya where MWA is partially funded by USAID and a Dutch NGO with major funding from the Dutch government. I will be happy to take your questions.

USAID awarded MWA the Kenya Arid Lands Disaster Risk Reduction WASH (KALDRR-WASH) program in December 2012. KALDRR-WASH is a two-year program aimed at increasing resilience to drought and flash floods while simultaneously increasing access to improved water supply and sanitation services and improving hygiene behaviors for poor and vulnerable populations in the arid counties of Turkana, Marsabit, Garissa, Isiolo, and Wajir.

What sets KALDRR-WASH apart from other programs is:

- The robust monitoring and evaluation activities and framework we are using. By conducting an extensive baseline household survey, we have established the conditions of the area we are aiming to assist, thereby setting tangible targets so as to monitor our impact.
- Its focus on managing risk and reducing the negative economic and social impacts of droughts and floods; for instance, by significantly increasing water storage capacity in target areas, the program will increase year-round availability of water.

Within two years, more than 85 health clinics and nutrition centers throughout Garissa, Wajir, Turkana, Marsabit, and Isiolo counties will have access to safe water, improved sanitation, and hand washing facilities. Such an activity exemplifies the USAID priority of improving health and health standards.

However, the program (like USAID programs in general), addresses more than physical infrastructure. Learning and knowledge sharing are an integral part of KALDRR-WASH. As it

stands in the five targeted counties in Kenya, there are different understandings of what makes water “safe.” Thus, a behavior change is necessary, which is the impetus behind the program’s numerous training sessions geared toward local Water User Associations (WUAs), Water Management Committees (WMCs), and students. The training sessions cover many topics regarding healthy WASH behaviors, including water treatment and safe storage, and multiple uses of water (MUS).

The KALDRR-WASH program aligns four implementing MWA members – CARE, Catholic Relief Services, Food for the Hungry, and World Vision – in their vision for safe WASH in Kenya. By specializing in different areas, and collaborating in new ideas, such a consortium proves to be an effective mode of carrying out development practices.

I wish to thank Chairman Smith, Ranking Minority Member Bass, and the Majority and Minority Staff for extending to me the invitation to testify, and again express our eagerness to assist the Subcommittee in any way we can to advance this great work on behalf of the American people.

Mr. SMITH. Mr. Morris, I look forward to reading that, and you will convey it to us. And without objection, all of your testimonies and any attachments will be made a part of the record. And when you said you don't want USAID to be the repairman, I thought what we want these programs to be is like the Maytag repairman.

Mr. MORRIS. Yes.

Mr. SMITH. Never gets called.

Mr. MORRIS. Yes, sir.

Mr. SMITH. Mr. Tut.

**STATEMENT OF MR. BUEY RAY TUT, EXECUTIVE DIRECTOR,
AQUA AFRICA**

Mr. TUT. Well, I would like to thank you, Chairman Smith, for this opportunity. Also, Congresswoman Bass who is unfortunately not here, and also the member of the panel here. I feel fortunate enough to come share a little bit of my story. I think to explain what I do and how I do it, it's important to know where I'm from, and why I came about this line of work.

I am, like you mentioned in my autobiography, I am from South Sudan. I was born there, and I was—my family was granted asylum in the United States. Actually, my father had a choice to pick between Canada and the United States. He said that Canada sounds freezing cold, and moved us to Minnesota. But we've lived in Nebraska for right now what amounts to about 15 years. And when I was in college, a friend of mine, also a native South Sudanese, we wanted to go back to South Sudan and we wanted to support our new country coming about. And when we talked about going back to South Sudan and really trying to help, we said what do we want to do there? We really have to have a philosophy, why are we going back?

And we said what we come down to is, we wanted development over aid. We're looking to move back to South Sudan in 10–15 years. We love the United States, but we're moving to go back, so how do we create a nation that's not sustaining? We no longer go by we're a developing nation. What we are, South Sudan, is an aspiring nation, and we think East Africa countries are aspiring nations.

So, what we've designed is a three-step process. First, we drill water wells for about 500 people, and with Aqua Africa what we do is we drill one water well for about 500 people. And just like Mr. Morris explained, our second portion is called Micro Democracy. And for Micro Democracy, what we do is of the 500 people we drill for, we have the 500 people, we set out boxes, help them elect six members of committee to run the water well. And our objective in that is the people understand on a micro level rather than on a macro level why democracy is important, where it's going. And our objective is in 2015 or whenever we have following elections is they understand and go vote. They understand the applications of voting and why democracy is important.

And our last portion, what we teach again using water as an example, water is the starting point, we teach resource management. Resource management we teach the people that when we drill a water well that pipe doesn't go to the Indian Ocean. That water

will run out at some point, so you have to create policies in place in order to manage it effectively.

Now, what inspired us to do this and why I'm telling you all this is because we are from South Sudan. I was born in East Africa. Jacob Khol was born in East Africa, Buey Ray was in East Africa. What's unique about this point in history, we feel in East Africa is no longer are we just willing to help East Africa, willing to help where we were born, is we're able to.

I've been here in the United States for 15 years. I've gotten a tremendous education in the United States, and the people have been—there's been a tremendous amount of capacity building. Now I'm ready to go back to South Sudan. And I think what we're missing right now in a lot of this discussion is why don't we have an East African or anywhere we're helping aspiring nations from the beginning process to the end process, from the design phase, implementation phase, and execution phase? And when we're looking at it, what we wanted to accomplish at this point with foreign aid, and everything else going on is we want Africans that are from there that have experienced it.

I was fortunate enough—I was unfortunate not to have a sister, so I have to drag water back and forth with my mom. But we what we are trying to accomplish is we're trying to get Africans, I mean, wanting to go back and help—are able to go back and help our—and have the capacity to help. And the things that's changing is that's us. I mean, when we look right now, I have curly hair, dark skin, as my mom would attest attractive feature but, I mean, what we're saying at this point is we're ready to go help. And passing—I mean, concentrating on water policies looking forward, I think it's not just important, it's critical to have us on the table, to have us see where we're going to—what we're going to be doing, because that inspires ownership. And that inspires us to take it on fully.

And, again, I'd like to thank the subcommittee for inviting me to be able to share my story, and I'll open it up to any questions.

[The prepared statement of Mr. Tut follows:]

Statement of Mr. Buey Tut

My organization's mission, Aqua-Africa, is a reflection of who I am and where I come from. I am a native East African who immigrated, along with my family, to the United States at a young age. I have been in the United States 16 years. I graduated from Heartland Christen School with my high, attended University of Nebraska where I served student body senator, Vice President and captain of Speech and Debate team. My professional career includes interning for congressman Lee Terry, serving as the District Executive for Boy Scouts of America, appointed board of Trustee, by Mayor Jim Suttle to the Omaha Public Library Board, board of Trustee for South Sudanese Community Association and currently serving as the founder and Executive Director of Aqua-Africa.

When considering the impact of water programs on global health, the results or continuing need is not at question, but rather its application. To United Nations declares that to date 2 billion people have gained access to clean water. 1.8 billion people have gained access to improved sanitation. The United States alone has invested \$953 million to improve access to clean water and sanitation. Despite this remarkable progress however, there are still 780 million people without access to clean water and countless others without adequate sanitation. This means 780 million people suitable to water borne diseases like Cholera, typhoid fever and hepatitis A, dysentery and the list goes on and on. This results in 4,000 children a day to can easily be prevented. The question I get asked all the time is, what was my motivation in starting Aqua-Africa. The simple answer is, that I could have been one of the 4,000 kids. Although we have made remarkable strides to improve access to clean water and sanitation, it's imperative utilize multiple methods of application. These include, public-private partnerships, the inculcation of native African's in the design stage of any future policy, program and leveraging Africa's economic growth. Implemented effectively, I believe these methods will usher programs away from aid and foster development for a lasting solution.

As East Africa natives, Jacob and both remember the countless hours spent on finding, transporting and purifying water. Admittedly, as kids, this was more of an in-convince detracting from valuable time honing soccer skills. For our parents however, the absence of water, let alone clean water was a burden that weighed heavily on their thoughts. It affected our health, education, economic viability and overall quality of life. We both remember helping strap 20 lbs clay pots on to our mothers back twice a day as she transported water back and forth from the river. I remember being in a perpetual game of hide and seek to avoid my mother "requesting" my help in this dreadful task. This memory served to inspire us, but drove us to act was the conviction that as African's we have to design our own solutions to our own problems. No longer would we settle for aid to get us by or sustain us, but espier for development that will help us grow.

Our commitment to development stems from various indications of Africa's current standing. In the past decade, Africa has made remarkable economic progress. Over the past ten years, real income per person has increased by more than 30%, whereas in the previous 20 years it shrank by nearly 10%. Over the next decade its GDP is expected to rise by an average of 6% a year. This leap forward is largely due to a working relationship between private sector and governmental and nongovernmental organizations.

Aqua-Africa's belief is "Without water, nothing can grow." Aqua-Africa focuses in three areas of development, Clean Water and Sanitation, Micro-Democracy and Resource Management. Initially, Aqua-Africa drills water wells for communities with populations ranging from 200 - 2,000 people as part of its clean water initiative. The availability of clean water impacts a communities health, economy and environment. Using access to clean water as foundation, our organization administers micro democracy and resource management training. Using access to clean water as foundation, Aqua-Africa administers democratic training and applications. Per 500 individuals served, Aqua-Africa oversees an election process to elect six members of committee to administrators of the water well. After training, the committee members are charged with the task of constructing policy for the use of the water source. This is intended to introduce people to the principles of democracy and its applications on a grassroots level. Lastly, Aqua-Africa provides resource management training. By using the water as example, Aqua-Africa trainings villagers the limitations on natural resources and the importance of vigilance and involvement in policy constrictions.

In 2011 I left my Job with the Boy Scouts of America, as district Executive to run Aqua-Africa full time. I used my savings I had accumulated for the first year as the organization was unable provide a wage. In addition to the challenges of raising money, I have been jailed in South Sudan for refusing to bribe a soldier in Central Equatoria, have been forced to dismiss several workers because they did not meet the organization's standard and have spent countless hours crafting our programs. To date, the organization has served 4,500 South Sudanese. In 2013 the organization hopes to serve more people than the past two years combined. Our convocation is a product of who we are.

As part of our five strategic plan we conducted a Strength, Weakness and Opportunity (SWOT) analyses. We concluded that our major challenge moving forward will include Africa's political climate, culture and infrastructure. It is precisely our strength as native East Africans that helps overcome these weakness. we are in the unique position to design, implement and execute developmental inactive that we feel is necessary. This aspires ownership, accountability and most of all legitimacy.

No longer are developmental plans designed by outsiders and imported into developing nations for natives to execute. Africa's current circumstance has encouraged natives to partner with other natives and supporters from the international community to design appropriate development tactic. Organizations with similar mission or vision are starting to exchange experiences and information to efficiently utilize limited resources. Aqua-Africa is currently working with Water for South Sudan to expand operations throughout South Sudan. This partnership fosters accountability and encourages coordination.

Sustainability has been a buzz word in the philanthropic world for years. As native East Africa with plans to move back to East Africa to live, sustainability is not enough. We aspire to become a productive member of the global economy. To realize this dream however, we need to have the basic building blocks like water and sanitation in place. Unlike previous decades Native African's are not only willing but continuously able to take on the challenges the content faces. With partnerships amongst established and upcoming organizations, privet and public sector, this dream is well within reach. Without water, nothing can grow and this basic necessity has to be a right for any nation to thrive.

Mr. SMITH. Thank you, Mr. Tut. I appreciate that very much.

I wonder if you or any of our panelists are aware of the capacity that might exist in this country that is being shared with regards to universities, training people in water management, or at least courses that can be learned online. Is that readily available to someone in Kenya or South Sudan who might have access to a computer, or could get to a college here or somewhere else; is that something—are we trying to build up that intellectual capability that then can be applied to implement these strategies?

Mr. MORRIS. I might address that. The Living Water International which we founded has put chapters basically on college campuses, and the students—through student demands, Student Engineers Without Borders, et cetera, have worked their way into engineering programs. And the students are actually being trained to go out, go to other countries.

I had the opportunity to work with Oklahoma in establishing the OU Water Center, which now awards the first ever United States World Water prize. And it's headed by Dr. David Sabatini. Every 2 years there is a meeting there. People are brought in from different countries, we raise funds, if you will, for those to come to the conferences and learn from what the universities are doing. They're doing major work in some of the issues that we face with contaminated water that we find, so it's fabulous.

Gary behind me here with water.org is with University of North Carolina. They have a fabulous program in water, so a number of universities. Southern Methodist University has picked up on it, Emory University has picked up on it.

Mr. SMITH. How long of a study does it really entail in order for someone to become at least proficient in putting together a clean water—

Mr. MORRIS. Well, when you say—these are people getting—if you look at some of the young USAID is hiring, they're getting engineering degrees in hydrology, et cetera, so these are full 4-year degrees.

Mr. TUT. Well, in our—my degree is in actually in political science, graduating from the University of Nebraska. When we began Aqua Africa, in Aqua Africa in our 3 years of operation now, we've served 4,500 people. We've drilled nine wells in South Sudan, and the—I mean, I didn't get that through getting my engineering degree. A lot of, I think, the information we need is readily accessible. I think the most important thing is identifying in which area that we're going to be working in, first of all, and then identifying those needs. And then once the need is there, the resources to facilitate that, I think, are readily available as long as we're able to access it. And I think it's there.

Mr. OLDFIELD. Mr. Chairman, if I might add my two cents to that. You've asked a question that our intelligence community is concerned about, as well. Last year, 2012, there was a national intelligence estimate on global water security which, as you know, suggested that global water challenges are likely to pose security threats to this country over the next decade.

The one key finding that's interesting and aligned with your question is that the intelligence community found that Americans are expected to lead on this issue. We know how to solve these

problems, and Americans in both their public and private capacity are expected to lead.

I'm going to do a little more homework on your question and figure out exactly what this country is doing in its private capacity. I am more familiar with what a couple of multilateral organizations are doing on that.

What I'd like to highlight is what USAID, in particular, is already doing to share not just best practices that they're finding in their programming with many of the organizations in this room, but come together and share emerging practices, or dare I say worst practices not just in water, and sanitation, and health programming, but in programming across the development portfolio. Our Government is making strides in that direction, and eventually I would hope, and it may already be happening, that information is going to get out into developing countries, in Africa, Asia, and Latin America fully cognizant that online education is tricky, and that no one solution is the same for one community to the next, as you've heard here today.

Mr. SMITH. How realistic is it that there will be a real growth in the area of large water treatment systems, as well as those dealing with sanitation? The cities, are they more likely to be the places where that's going to emerge sooner rather than later? And I asked this earlier of our earlier panel, and I would ask it of you, as well. You know of the lessons learned from the Clean Water Act, the Safe Drinking Water Act, and all of the contaminants that we now look for. In my opinion, there's still a whole lot more we need to be looking at, but there at least 90 contaminants. How specific do they get in looking for those kinds of toxins and other contaminants that are contained? Do they have that capability in some places, but not in others? Does South Africa have it? It's not as likely to be, obviously, in South Sudan as it emerges from all the problems of war?

Mr. MORRIS. Most everywhere I have been, the government does have government testing labs, and they—part of the oversight of the government is doing water quality testing. Some communities who get well to do enough buy their own equipment for testing. Clearly, we probably have more contaminants in this country than people experience in the developing world because we've put in manufacturing runoff, et cetera. And all of the pills that get flushed down toilets in America, et cetera, so it's a bigger problem here but it's something that from here we need to recognize what—that it will happen there.

There are some remote sensing and testing technologies now that can actually be inserted in pipelines to test the water. Kind of like the pigs that they run through the pipelines to make sure there's no—the oil pipelines with no leaks, so there are remote sensing that can be done, and cities are using that because it's a terrorism issue, as well.

Mr. SMITH. You know, I find when I travel throughout Africa and I find this in many parts of Europe; I was just in Istanbul. I was admonished not to drink the water, to drink bottled water. I remember being in Leningrad in the early '80s and it hasn't changed now that it's St. Petersburg; you're admonished again, or asked not to drink the water, to be very careful.

I'm wondering, are they looking for enough of the contaminants? I mean, is there a register that when you're talking to them you can refer to and say you need to be looking for this, or looking for that? And in answering that, a few weeks ago we had a hearing on the ever present and seemingly worsening problem of tropical diseases, particularly those that are neglected. And there was particular emphasis played on deworming, and the fact that we're doing some very good things on deworming, but it is such a huge universe of hurt and that we're not doing enough. About 1 billion people, the estimates are, have worms, and one of the takeaways from the hearing was that it makes women more susceptible to HIV/AIDS. It leads to anemic children and low birth weight children. That trip to Istanbul was with a doctor who served in Ghana and he said that he had an experience where a woman brought her son in because his urine was clear, and she thought he was sick because all the other kids' urine was red or pinkish from the worms. And I'm just wondering, you know, if we really fully understand that clean water that doesn't have worms and other kind of parasites inhabiting, it will lead to a lot of benefits on those issues, as well. I mean, water-borne worms are a problem.

Mr. MORRIS. I've walked into a community using hand dug wells, and dropped a bucket down, lifted the bucket up, put my hand in the bucket and counted the worms in my hand. And this was the water that the people were using. And water that is hand dug, basically you're only digging down to the very first underground river, and that is often what we call latrine water, or refer to as latrine water. That's where the contaminants will go and disperse, so generally we will drill through and case through that type of thing. When we're putting in water, we're putting in sealed wells, sealed systems.

Mr. SMITH. How deep do you have to go?

Mr. MORRIS. More than 20 feet, just more than 20 feet because the earth acts as a natural filter. In the drilling process you contaminate the aquifer. Then you've got to cleanse the aquifer, and when you're cleansing it you often import a sulfur that sometimes the odor becomes offensive until that clean process takes place.

But I think you're talking about maybe more in the urban areas, and where cities are growing, as we were just talking about earlier. And in the cities the main problem that we're seeing is that there is overuse of the water. If you're the mayor of Addis Ababa you've got 10,000 people moving into your city a day. There is no place for them to live, there's open defecation, they're going in the rivers, they're polluting everything around. And you don't have enough water to deliver. So, what happens is the old city water pipes that were built for a city of a certain size, there's not enough water to push through them, so if the pipes are not pressurized, then you get contaminants seeping back in the pipes, and then you get some bad water in the cities which is probably the kind that Congressman Stockman partook of.

Mr. STOCKMAN. Will the gentleman yield briefly? He's not telling you also that during that hearing we had specialists actually come up from Houston, and a lot of the tropical diseases—and you'd be interested in this, Malcolm—were seen in Houston. And I was shocked to hear there's a reintroduction of tropical diseases in

Houston. During the hearing he was covering a broad spectrum of different things occurring in our own city.

In fairness, Mr. Chairman, I've known the gentleman now for over, I guess, 30 years, 25 years. I knew his father, who was very active, and testimony to Malcolm, he could be doing anything he wants in the world. And I am thankful that you chose to save lives, and to work in this area. You're doing a good job. Thank you. You could be doing—you could be on a yacht; instead, you're giving your time to this cause, and I really appreciate it. As I said, we were delivering medicines to Africa, and the need is so great, and the people are so grateful when you do that, so I really—I just want to acknowledge his efforts and what you've done, and really appreciate it. I'm excited that we're going to do this. As always, your work is phenomenal, I appreciate it.

Mr. SMITH. Thank you. Any questions?

Mr. STOCKMAN. Well, one of the questions I had is more of an interest in Africa. And you were saying 20 feet, but is that true? What part have you been in Africa, where do you drill most of your wells? And I understand some people use the merry go round method to get water, you know, where they use that. What methods do you use?

Mr. MORRIS. Well, the merry go round is really just a pump. That's once you've drilled your well. But wells in Kenya, you're a mile high city sitting on top of granite. We're putting in 1,100 foot wells. You know, in other places, India, you'd be putting in 120 foot wells. In Nicaragua, you'll go through a 20 foot, 50 foot, 80 foot, 120 foot aquifer. You'll find rivers at all those different levels.

Mr. STOCKMAN. But are you using the same technology they would if you were drilling for oil? Is that why—I mean, Houston has such a natural abundance of—

Mr. MORRIS. Yes, it's the same process, different size rigs depending on how deep you're going.

Mr. STOCKMAN. Do you have companies that step up and say, "Hey, we know you're involved in this. We want to help you," and offer their assistance at all?

Mr. MORRIS. Yes. Well, I know now that we have oil industry that want to do something in return to the countries, to benefit the countries where they're doing oil drilling. And one of the greatest benefits they find being requested in those countries now is water.

I will tell you that under the Foreign Corrupt Practices Act, you're not supposed to pay somebody off, so to speak, to get a drill contract, and it seems like if they are asking you for something, somebody wants to give money to their brother-in-law, so they've come to Living Water and said can we give you the funds and you go do the projects?

We've been called on by the United States Government to go in and do projects where they needed to—had committed to do certain water programming, just said please program it for us.

Mr. STOCKMAN. In what country have you drilled the most wells for water, would you guess?

Mr. MORRIS. Well, that would be—at Living Water we've drilled about 14,000 now. And at the Millennium Water Alliance, the 13 member organizations are now serving over 100 million people a day.

Mr. STOCKMAN. Wow, that's phenomenal. And I'm not being disrespectful, so—and are you deeply involved, no pun intended, with the people?

MR. OLDFIELD. Thank you, Mr. Stockman. First of all, I'd like to second what you just said about Mr. Morris here, a big fan, and he could be doing anything he wants to, so well done, Mr. Morris.

We are a non-profit advocacy initiative, and we are, to answer you technology questions, we are for whatever the most appropriate solution is in any given part of the world, whether it's Africa, Asia, or Latin America. We look for technical appropriateness, technical sustainability, we look for environmental sustainability, we look for financial sustainability, we look for socio-cultural sustainability to make sure that a project in South Sudan is appropriate for the South Sudanese, and that it will be maintained technically in local hands with decentralized ownership, that the individuals who benefit from that will be able to support in financial terms its operations and maintenance, and to make sure that, quite simply, if you're using chlorine to disinfect water, to make sure that people still use the water even though it tastes like chlorine, or to make sure that when you're purifying river water that the local individuals in Guatemala or Vietnam aren't concerned about socio-cultural things like angering the river god. All of these are true stories.

We are for pit latrines that are used for their intended purposes, to properly dispose of human waste rather than to be used to store cow dung, or bicycles, or in some cases to live in during the rainy season because that might be the only physical structure in a village that holds up. So, we're in an interesting spot as a neutral advocacy organization to be for only those solutions which are technically, financially, and socially appropriate in that environment.

Mr. STOCKMAN. You mentioned South Sudan. I was there in Juba, and I actually went on foot, which they told me was highly unusual. And one of the things they were showing me when I was there is that North Sudan, or whatever, had taken and poisoned their wells, and also poured concrete down them. And not just one well, a lot of wells. Are you from Juba?

Mr. TUT. I'm not from Juba, but I am from South Sudan.

Mr. STOCKMAN. Okay.

Mr. TUT. State North Sudan, or—

Mr. STOCKMAN. You have a beautiful country, beautiful people. I appreciate the hospitality you showed us.

Mr. TUT. Well, great. When were you there?

Mr. STOCKMAN. A year ago January.

Mr. TUT. Okay.

Mr. STOCKMAN. And another thing I saw which is tangential, if the chairman will grant me a little bit of leeway here, is that at some time I think they need to see how you play volleyball, because it's a combination of soccer and volleyball. The most amazing thing, but getting back to the wells, it was very upsetting to see the number of wells that could be used. I don't know, is there a way to rehabilitate a well that's been sabotaged like that?

Mr. TUT. Well, if I could take this one. Honestly, when you're looking at a well that's been sabotaged in that manner, it's very difficult to—because, I mean, it's much more cost-effective to build another one. Right now, when you're looking at South Sudan and

the needs, and not just South Sudan but East Africa, in these drillings projects so you have, I mean, advocacy groups, and then you have groups that are getting others together.

What we need to do is build a capacity of organizations that are from there, working there, and honestly understand it. We drill about 50 meters into the ground. That's where we think is the safest. I mean, you have salt content that goes high whenever you're drilling, and the water is—I mean, has really high salt content. People don't want it. And that goes into the testing thing that—the testing methods Chairman Smith brought up earlier. What kind of testing do we employ?

We employ—we work with the local government to see what the standards are. And what the unique thing is, we remember what it was like when we were kids. I remember when I was eight drinking the water, what I liked and didn't like. And I know what would prevent me from drinking it versus not. So, when we work in these areas, we understand the people. I mean, they know us, they see us, and that's what makes us effective in the manner. And that's why it's very important for Mr. Oldfield and Mr. Morris, I mean, in the areas they work in, building our capacity to be able to do what we are doing in those areas.

Mr. STOCKMAN. I was shocked at how many wells. I mean, they were showing me all the wells that were, you know—

Mr. TUT. That's astonishing.

Mr. STOCKMAN. Yes. It was really amazing.

Mr. TUT. Very astonishing.

Mr. STOCKMAN. We also gave out 200 pounds of candy. We created a new industry, dentistry.

Mr. MORRIS. Well, this—on one of the questions I was thinking about, as John was speaking, about the social issues and different things you face. Fluoride is fixed by using some ground up bones, but if you go to one country you don't want to use ground up pig bones, and you go to another country you don't want to use ground up cow bones. So, I mean, it's just—it gets very, very detailed to be a part, as Mr. Tut was just saying, of what is the local posture. You know, we don't put the same technology in every country. One country likes French equipment, one country likes another. It's okay, as long as the whole country is getting toward a standard and then people can learn to maintain and do for themselves.

Mr. STOCKMAN. With that, Chairman, I yield back.

Mr. SMITH. Just a couple of final questions, and then anything you want to add as we close.

First of all, I do want to note that Christian Holmes, the Global Water Coordinator, has stayed. I've chaired maybe 450 hearings as a Member of Congress, including as Veterans Affairs chairman. Usually, the administration people leave and never listen to the panels that follow, so thank you for doing that, for caring so much to hear what people, the NGOs and others have to say. That speaks so well of you. Thank you.

We just had a roll out of an idea with a number of NGOs last week on the whole issue of electrification, and the need for electrification in Africa. And I'm wondering how you mentioned in your statement, Mr. Oldfield, to push the administration, one of your five points, harder on linking water and sanitation with other im-

portant development objectives whose success depends on safe water. Well, if you just drop who depends on, there are other developments. I mean, things work synergistically when you've got a larger strategy. How will electrification help? It seems to me, and you also made a point in your statement, I thought it was great, about visiting, and encouraging Members of Congress and all of us to go see a water project. I've done that many times, but one time I was actually at a refugee camp in Darfur when the water just came on line while we were there. I don't know if they timed it. I don't think they did. And it was amazing how people were euphoric. A lot of water was wasted in the process because it was being thrown around and dumped, because people were just so happy to be able to turn that spigot. I was giddy, too, so your point is very well taken there.

But about this working side by side with other development goals, if you might want to expand upon that.

Mr. OLDFIELD. Sure. And our co-panelists will have lots to say on this, as well. Let me just suggest one thing. It's an interesting question you asked about electrification. The sound bite is this. Development is about a whole lot more than water, but it's never about less than water. I'm not here to say that anything is more important than anything else, but turn out the lights in here and see how it goes, or let's try to live for the next few days without safe drinking water. It really gets back to the primacy of water and basic public health to human existence.

Specifically to answer your question about electrification, that's part of the solution. Innovation, science and technology, research and development, you bet that's part of the solution. You know, I've seen some UV systems that use less and less electricity, they narrowed the spectrum down to more cost-effectively purify safe drinking water by irradiating it. There are a lot of great solutions.

My concern about technical solutions in the water sector is simply that we don't want to go overboard on that. Desalination, of course, is part of the answer. But you know what, instead of focusing on really high tech desalination equipment and multi-billion dollar installments, I'd suggest that most parts of the world need to take more advantage of the biggest desalinator out there, which is the sun. Let's desalinate water by evaporating it and let's capture that water via rainwater harvesting. We've all agreed here today that there's no silver bullet for this. I would suggest to you that simple rainwater harvesting techniques and a simple improved pit latrine may come as close to a silver bullet as anything we'd have.

If I could answer your NTDs question, as well: Solving health challenges is about much more than water, but never about less, once again. NTDs are complicated. They're neglected for a reason. Water clearly came out from Dr. Hotez and the others' earlier testimony. Every single one of those people, including the doctor and the nurse on your subcommittee here understand that water is medicine, that toilets are medicine, that hand washing with soap is medicine.

We're not here to say, and I'm particularly not here to say that NTDs are not important, and should continue to be neglected. Absolutely the opposite, do everything you're doing to support that.

Also include diarrheal disease as a neglected tropical disease, which it certainly is, and it's easier to pronounce than many of the others. And all of these are solvable by safe drinking water and sanitation.

Mr. SMITH. Thank you.

Mr. TUT. Well, my grandmother from—she lives in the northern part of Ethiopia in the mountains, my mother is Ethiopian, she called for the first time last year to see if I've been eating enough. The remarkable thing about it is we never had phone towers. She didn't have a way to access electricity until an NGO came and gave them a charging system through solar charging.

But to get back to your question, if this is something we could compile, so for Aqua Africa this year we're building a water tank. And this water tank is going to have the capacity of 50,000 liters, six distribution points with two going one clinic, one school, four areas of distribution. And in that we're including a solar system to where people could charge, and actually charge people money to be able to charge others.

Compiling these developmental efforts advances it from just aid to development. I mean, that's very important. To stay 3 more hours and to be able to study changes the people's lives. I wasn't able to read when I was a little kid. Now, if I had the opportunity, would I? I mean, I would have given it a shot, you know, so it's—to say that we could compile these things all together, I think is an amazing way of delivering aid and making it development.

Mr. MORRIS. Let me just say a couple of quick things. In Guatemala we put in a—we try to meet the community's needs. You don't want to go in and do something to a community, you do it with a community. And in interviewing the community they may want the least costing intervention. They don't have electricity, et cetera, so that might be something like a hand pump. But when we're in Guatemala, we always want to deal with the local government and make them a part of it because they're going to inherit this, ultimately. So, the mayor came and so we had the mayor speak each day. The second day he came, speak again, I said hey, we drove under an electric line. I said how far is that from here? And he said well, it's only about a quarter of a mile as the crow flies, and I said well, what would it take to get electricity to this community? I said these people are already asking, the bore hole is here, going to put a hand pump on it, but we could pull this hand pump right off the top and you can drop an electric pump down there, people can have distribution right to their homes.

Well, other people kind of overheard that so the mayor said well, we could do that pretty quickly. He said matter of fact, within 6 months we'll have electricity, and these people went home and got shovels, they're digging to the well, going to put their pipes in already. And by the next day he came and he was bringing people to put in a health clinic in this community because he said this community's got water now, and he says we're in the process of bringing electricity. We were only 3 days there, you know. So, it was amazing to see.

And in Malawi, Living Water trained water for Malawi. We went to an area west of the Longway about 60 minutes out, and began doing water programs there. I think we're serving a couple of mil-

lion people there now. And the persons that we began that with were specialty and women, and child infant mortality, and we built a hospital there now. And we just signed a partnership with Baylor Med in Mr. Stockman's hometown here, so it's now the Baylor Med Child Legacy Intervention. They have built in Malawi out in the boondocks a total hospital infrastructure, operating rooms, all this. It is the only medical facility in the country that we know of that has non-fail electricity. It's got solar, it's got wind, it's got battery storage, and it's got generator backup, and no hospital—it's now becoming the center for the new residency program for all of Malawi right out in the middle of nowhere. So, electricity is extremely important, very important when you're in the middle of surgery to have electricity. And I don't know that there's a lot of synergy with water, and with what we do, but we clearly make use of it when it becomes available.

Mr. SMITH. I just have one final question; Mr. Stockman may have some additional. How well do you think, and please be absolutely candid, do you think we, the U.S. Congress, prioritizes clean water and proper sanitation? What about other European countries, the European Union, for example, and other donor nations, the philanthropic community? I mean, there are other things that are seemingly less mundane, but perhaps not as important, where the philanthropic efforts of the Gates Foundation and others would rather put their dollars. I mean, are we all doing enough? It would seem like we're not, but I asked this question earlier about the unmet need, you know, how big is that gap?

And, finally, a lot of the leaders start at the local level like mayors, and it happens here, too, many of us go from being mayor, councilman, assemblyman, to actually being in Congress, and then indictment, no. But a lot of people at the lower level—

Mr. MORRIS. Not this group.

Mr. SMITH [continuing]. End up being Presidents, end up being international parliamentarians, and I'm wondering if the lessons learned about the importance of clean water carry over so that they bring that vision to the nation?

Mr. MORRIS. I have to say that if you look at anybody in the world, we've got an immigration debate going on now, everybody in the world wants to come to America. I mean, I don't know anybody who is offered an opportunity to come to America says no, no, we don't want to go there. People want to come here, and when I began working, as I said, a more national level, and going to—I spoke at the World Water Forum in Mexico, I've been around in global meetings, but I was surprised at the lack of leadership by America. That's why I went to USAID and said, "What are we doing?" The change that I have seen, I mean, we might all sit here and say oh, we're not doing enough. But today when you ask the world who's leading, it's not Japan anymore, it's the United States. USAID, the stature of the water team, the great reputation, like I said, it's enhanced. They helped the MWA get started, and now even in places where they're not having to fund it, the MWA is being funded by other organizations. And Mr. Gates is very actively involved, and he's really focused on sanitation. Mr. Hilton, very actively involved. He's really focusing more on the water, so they kind of work hand and glove.

One thing we forgot to mention today, and that is soap. Mr. Gates funded a major study in Kenya, a 5-year study. I think it was \$9 million, and at the end of that \$9 million—we talk about people coming to the cities, the cities building and so forth, and water does attract people. Well, when you bring more and more people together, you increase the changes of water-borne contaminants and people gathering together in that place. And that's what happened, they provided soap for like the first 3 years of the study, and then didn't provide money for soap. People quit using soap. Well, they'd come together, they learned to not open defecate. Everybody is coming to the same place, and actually disease went up, so you have to have soap. So, that \$9 million study; soap, very important. And you've got to keep it on your hands for 20 seconds.

MR. SMITH. You mentioned Mr. Hilton. He was asked on a TV show once what his best advice would be. He said put the shower curtain inside the tub. That's Barrett Hilton. Conrad Hilton said it.

MR. OLDFIELD. Thank you, Mr. Chairman. Just a quick story. A couple of years ago I was in Rwanda up country visiting a site, a project of a group called Water For People based here in the United States in Denver. It's called Le Pays des Mille Collines, the Land of a Thousand Hills, and I was on top of one of these hills with 12 engineers looking down into the ravine figuring out where to site a pumping station. And I'm not an engineer, but you've got 12 engineers up there, you might imagine there were 12 different ideas about where to site this pumping station. That's not the point. The point is that each of these 12 engineers was Rwandan, and each of these 12 engineers was having this vigorous technical debate way over my head in Kinyarwanda, the local language. The front end catalytic support provided by the United States, a private nonprofit in this instance, was the secret to that success. We're not out there just drilling wells and poking holes in the ground, and digging latrines. We're out there strengthening these organizations' capacity.

To answer your question, are we doing enough? Well, the Water for the World Act that you've sponsored and introduced this morning with Mr. Blumenauer, and USAID's new water strategy get it. You get it by asking your question about quality versus quantity. Quality always lags quantity. It's pretty easy, 20 liters per person per day of water, but you get into the quality concerns, particularly in urban environments, particularly when you're dealing with cholera, that's the right question to ask. And the Water for the World Act, and the Water for the Poor Act, and the water strategy are steps in that direction.

The second quick point I'd mention is you asked something about rule of law, about democracy and governance, and water as a means to that end. I want to highlight the work of a group called the AVINA Foundation which is a private philanthropic initiative active throughout the Western Hemisphere in this instance, by strengthening community water boards, community water user associations, building their capacity to manage and solve their own water and waste water challenges.

The work of the AVINA Foundation and its many partners is interesting, not simply because they're helping solve water and sanitation challenges in a decentralized fashion, it's interesting because

that work is strengthening the social contract in those countries. That work is strengthening the role of women in these water community associations to take charge of their own destiny.

I look at every village water committee as a primary school for democracy, and that's something that is also envisioned by the water strategy and Water for the World Act. This isn't just water and sanitation, but it's water and sanitation as an entry point into the health objectives you're looking forward, into the primary education objectives, into the NTDs solution, and so on.

Mr. SMITH. Yes, just I do have one final suggestion/question. And it would be a takeaway for Mr. Holmes, as well. I've been here long enough to know that many a good idea doesn't get passed. I had 30 plus significant bills, including five Veterans bills, die in the Senate. They have very arcane rules, people put holds on things. The International Megan's Law died 3 years ago, which would have been a noticing provision for convicted pedophiles before they travel abroad. And one of those that I got passed was to establish an obstetric fistula repair program and prevention program, passed in the House, failed in the Senate. I put it into a larger bill. Well, I went to USAID and asked Dr. Kent Hill if he could just take the blueprint and do it administratively. He did. We have now effectuated well over 20,000 obstetric fistula repairs which—and the money has grown very significantly. And I'm just wondering, you know, if for some reason—and we'll push hard to get this bill passed—if it doesn't pass, it could still serve, I would think, as a blueprint. There may be a few authorities that need to be conveyed to USAID, but I think we ought to be thinking, take it, obviously work it, you know, and improve upon it any way you think fit, but it could become the blueprint right now. It doesn't have to wait for enactment, because I've seen it happen many times. The obstetric fistula is just one example of many, others have had their bills that went nowhere, but they were a good idea, and all of a sudden the administration said hey, "We can do that." We can do it. And I'm just wondering if that's something that you guys have looked at, because I think we should be working to try to get it done even if the bill runs into a snag somewhere over in the Senate. Notice I said not in the House.

Mr. MORRIS. It seems like USAID is already working in that direction. And you made a beautiful comment about Chris Holmes, and he's still here. I haven't looked yet back, is he still here? And he's not here because you're here. Chris Holmes will answer his phone and he wants to know how we can get to where we want to go. And if it's 6 o'clock at night, or 8 o'clock at night, I mean, he will answer his phone. He calls you back. This is very, very important to him. We have never had such a great working relationship with USAID. And I would say that the greatest thing that the House might do now is just agree to consent with the Senate bill of \$405 million instead of \$315 million.

Mr. OLDFIELD. Yes. Thank you, Mr. Chairman. Let me just quickly respond to that. Yes, the Water for the World Act is no marker legislation. We expect this bill to sail through your subcommittee, and the Foreign Affairs Committee, naturally, and send it over to the Senate and see what happens. But a lot of what's in that bill—not a lot, I shouldn't say, but some of what's in that bill

codifies the progress that the administration is already making on this.

Chris Holmes is a great example. The Global Water Coordinator is not in the statute, but it's a good idea, and the administration made it happen, the same with your work with obstetric fistula there.

The Water for the World Act, with that said, is very additive, and my personal hope on behalf of the many people who've helped me with this testimony, is that it will increase the pro poor focus of the administration's efforts to fully implement the Water for the Poor Act. And I would personally ask, as an advocate for pro poor water and sanitation needs, why not 100 percent of the funds appropriated under the Water for the Poor Act to the bottom 40 most water and sanitation poor countries in the world? I'm sort of picking numbers out of the air, but is that unreasonable? I don't think it is, or frankly I wouldn't be good at my job.

But secondly, perhaps more transformatively, the effectiveness of this work, the capacity building that we've all talked about here today, the increased monitoring, and evaluation, and resolution, and learning, particularly after the technical end of the project is over, that's what's envisioned in the Water for the World Act. That ribbon cutting ceremony that we all love so much is not the last stage of the project. That ribbon cutting ceremony is the first important event in that project. The next most important event is what happens when something breaks 2 years down the line? Echoing what Mr. Morris said here, the answer is not to call USAID, much less the subcommittee chairman. The answer will be found locally, technically, and financially. So, I do think it's additive, and I certainly push hard for your support on that.

Mr. TUT. Well, looking at the Water for the World Act, and I'm looking at my panelists here sitting next to me here, for Aqua Africa, we're a small organization right now. We have three staff members, two in the United States, one in South Sudan trying to advance. So, what we need going forward is capacity building, but who do we go to in order to get the support capacity building? And we're looking at now USAID in terms of experience, in terms of how much they've accomplished, and looking at my fellow panelists here. That's where we seek the support. And going off of what you said, I mean, and what Mr. Morris was saying earlier, we don't want 1-800-HOTLINE calling to USAID trying to solve their problems. We're going to be solving the problems.

In order to do that, we need to be—we need to have the expertise. We need to have the capacity building, and this is what is going to allow us to do.

Mr. STOCKMAN. We've got like 5 minutes to go, but I'll just say this real quick. I appreciate all your work, appreciate your work; and Malcolm, we'll make sure the bill passes in the Senate.

Mr. SMITH. The hearing is adjourned.

[Whereupon, at 5:32 p.m., the subcommittee was adjourned.]

A P P E N D I X



MATERIAL SUBMITTED FOR THE HEARING RECORD

SUBCOMMITTEE HEARING NOTICE
COMMITTEE ON FOREIGN AFFAIRS
U.S. HOUSE OF REPRESENTATIVES
WASHINGTON, DC 20515-6128

Subcommittee on Africa, Global Health, Global Human Rights, and International Organizations
Christopher H. Smith (R-NJ), Chairman

July 31, 2013

TO: MEMBERS OF THE COMMITTEE ON FOREIGN AFFAIRS

You are respectfully requested to attend an OPEN hearing of the Committee on Foreign Affairs, to be held by the Subcommittee on Africa, Global Health, Global Human Rights, and International Organizations in Room 2255 of the Rayburn House Office Building (and available live on the Committee website at www.foreignaffairs.house.gov):

DATE: Thursday, August 1, 2013
TIME: 2:00 p.m.
SUBJECT: The Impact of U.S. Water Programs on Global Health

WITNESSES: Panel I
The Honorable Christian Holmes
Global Water Coordinator
U.S. Agency for International Development

Aaron A. Salzberg, Ph.D.
Special Coordinator for Water Resources
U.S. Department of State

Panel II
Mr. John Oldfield
Chief Executive Officer
WASH Advocates

Mr. Malcolm Morris
Chairman
Millennium Water Alliance

Mr. Buey Ray Tut
Executive Director
Aqua Africa

By Direction of the Chairman

The Committee on Foreign Affairs seeks to make its facilities accessible to persons with disabilities. If you are in need of special accommodations, please call 202/225-5021 at least four business days in advance of the event, whenever practicable. Questions with regard to special accommodations in general (including availability of Committee materials in alternative formats and assistive listening devices) may be directed to the Committee.



COMMITTEE ON FOREIGN AFFAIRS

MINUTES OF SUBCOMMITTEE ON Africa, Global Health, Global Human Rights, and International Organizations HEARING

Day Thursday Date August 1, 2013 Room 2255 Rayburn

Starting Time 2:00 p.m. Ending Time 5:32 p.m.

Recesses 1 (2:45 to 4:17) (____ to ____) (____ to ____) (____ to ____) (____ to ____)

Presiding Member(s)

Rep. Chris Smith

Check all of the following that apply:

Open Session

Electronically Recorded (taped)

Executive (closed) Session

Stenographic Record

Televised

TITLE OF HEARING:

The Impact of U.S. Water Programs on Global Health

SUBCOMMITTEE MEMBERS PRESENT:

Rep. Marino, Rep. Meadows, Rep. Bera, Rep. Stockman

NON-SUBCOMMITTEE MEMBERS PRESENT: (Mark with an * if they are not members of full committee.)

Rep. Blumenauer*

HEARING WITNESSES: Same as meeting notice attached? Yes No
(If "no", please list below and include title, agency, department, or organization.)

STATEMENTS FOR THE RECORD: (List any statements submitted for the record.)

TIME SCHEDULED TO RECONVENE _____

or

TIME ADJOURNED 5:32 p.m.

Coryn B. Simpkins
Subcommittee Staff Director