

Testimony of
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“The Impact of U.S. Water Programs on Global Health”
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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.