THE GLOBAL WATER CRISIS: EVALUATING U.S. STRATEGIES TO ENHANCE ACCESS TO SAFE WATER AND SANITATION

BRIEFING AND HEARING

BEFORE THE

COMMITTEE ON INTERNATIONAL RELATIONS HOUSE OF REPRESENTATIVES

ONE HUNDRED NINTH CONGRESS

FIRST SESSION

JUNE 29, 2005

Serial No. 109–127

Printed for the use of the Committee on International Relations

Available via the World Wide Web: http://www.house.gov/international_relations

U.S. GOVERNMENT PRINTING OFFICE

22–262PDF WASHINGTON : 2006

For sale by the Superintendent of Documents, U.S. Government Printing Office
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THE GLOBAL WATER CRISIS: EVALUATING U.S. STRATEGIES TO ENHANCE ACCESS TO SAFE WATER AND SANITATION

WEDNESDAY, JUNE 29, 2005

HOUSE OF REPRESENTATIVES,
COMMITTEE ON INTERNATIONAL RELATIONS,
Washington, DC.

The Committee met, pursuant to notice, at 10:35 a.m. in room 2172, Rayburn House Office Building, Hon. Henry J. Hyde (Chairman of the Committee) presiding.

Chairman HYDE. The Committee will come to order. This portion of the testimony is characterized as a briefing. So the Committee briefing will come to order.

Water-related illnesses claim the life of one child approximately every 8 to 15 seconds, killing an average of 3,000–5,000 children a day and up to 5 million people annually. To put it into perspective for those of us sitting here today, that is the equivalent of full seating capacity at Yankee Stadium, multiplied by 87.

The statistics associated with global water issues are shocking. According to the World Health Organization (WHO), 1.2 billion people don't have access to safe water, and 2.4 billion people lack access to basic sanitation. According to the UN Task Force on Water and Sanitation, more than "half the people in the developing world are suffering from one or more of the main diseases associated with inadequate provision of water supply and sanitation."

Time is of the essence. Members of this Committee should bring the same courage and constructive contributions to this debate as they have to the HIV/AIDS pandemic discussions in their efforts to bring an end to the water crisis. Evidence shows strong linkages exist between access to safe water and sanitation and other development sectors, including the areas of public health, economic development, education, gender equality, and agriculture. If we are to combat some of the greatest humanitarian catastrophes of our time, we as policymakers need to find innovative mechanisms and solutions that combine technology and diplomacy and ensure access to safe water and sanitation to those in need.

We should not let a paralysis of political will among ourselves or those in the Administration prevent the United States Government from pursuing policies that seek to enhance the coordination of water-related programs in our foreign policy. Safe water is a vital strategic resource, and there can be no sustainable development or long-term security without it.

I want to thank Congressman Blumenauer for his leadership in confronting this issue and introducing H.R. 1973, the "Water for the Poor Act of 2005," the general focus of today's briefing and hearing. This legislation would amend the Foreign Assistance Act by broadening specified areas of development assistance objectives. It is a tangible effort toward creating a coordinated plan of action by the Administrator of the United States Agency for International Development regarding our involvement in helping to ameliorate the global water crisis by making affordable and equitable access to safe water and sanitation in developing countries, a strategic part of our foreign assistance programs.

Mr. Blumenauer, I look forward to working on this legislation with you and our colleagues in the Senate who have drafted a similar bill. I also want to say that the late Senator Paul Simon had a significant role in drawing my attention to this issue. I hope that the Senator's memory will be respectfully and appropriately served through final legislation that continues his visionary legacy.

The Administration has taken some noteworthy actions in response to these challenges. The Water for the Poor and Clean Water for People initiatives, equaling almost $1.5 billion combined, are positive contributions that will advance the UN Millennium Development Goals and implement the Johannesburg Plan by 2015 to reduce the number of people by one-half who have no access to safe drinking water and sanitation. Accordingly, the international community has designated the 10-year period between 2005 and 2015 as "The International Decade for Action—Water for Life." Meeting the benchmarks set by the Millennium Development Goals would require the international community to double its current level of funding for water programs. However, I believe that meeting these benchmarks requires more than increasing assistance. Attention needs to be paid to the way funds are distributed. For example, data suggest that the countries most in need of access to safe water and sanitation have received the least amount of donor assistance.

As with the HIV/AIDS crisis, the lack of safe water and sanitation is more than a threat to humanity. It is also an enormous threat to global development and our national security. I quote Assistant Secretary John F. Turner when he testified before Members of this Committee last year:

> "The CIA reports that, by 2015, nearly half of the world's population will live in countries that are water stressed."

In addition, there are over 260 river basins shared by two or more nations. For example, 10 riparian nations all vie for the water resources of the Nile River. The relationship between water and politics is rapidly emerging as countries compete for and attempt to lay claim of critical water sources.

Today's briefing and hearing will examine the role of water projects in our foreign assistance programs and provide further insight on how we can improve the United States' strategy to ensure access to safe water and sanitation to those in need of this fundamental source of life.

We have three distinguished panels before us today representing the Bush Administration, the United Nations and water experts

from the nongovernmental community. I look forward to hearing from our distinguished briefers and witnesses.

I now yield to my colleague and friend, Ranking Democratic Member Tom Lantos, for any opening remarks he may wish to make.

Mr. LANTOS. Thank you very much, Mr. Chairman.

I want to commend you for calling this important hearing on the global water crisis. I particularly want to commend you, at a time when it is so fashionable to be preoccupied with the crisis of the moment, for focusing attention on a long-term crisis of global ramifications. It is typical of your statesmanlike approach to the field of international relations. In the interest of stability world wide, and in keeping with your co-humanitarian values, the United States must do all within our power to ensure that people everywhere have safe water and access to sanitation.

I also want to welcome, at the outset, this opportunity for a timely discussion of the Water for the Poor Act, authored by my good friend and distinguished colleague, Earl Blumenauer of Oregon, of which I am proud to be an original co-sponsor. This critical legislation urges the Administration to address global water issues, particularly clean water and sanitation, as a major priority in U.S. foreign policy and authorizes new programs to make this policy a reality. In introducing this bill Mr. Blumenauer demonstrates, yet again, his extraordinary commitment to sustainable development. I look forward to working with him on this issue in the future.

Mr. Chairman, we have all heard the apocalyptic warnings that the wars of the next century will be about water. However, the reality is far more complex than that. There is no doubt that more and more regions will be threatened by lack of water as populations continue to grow, as current fresh water sources are degraded, and as environmental and climatologic conditions change.

The potential for conflicts is considerable in more than 200 places where river and lake basins are bordered by two or more countries. We cannot allow this potential to be realized. It would threaten not only our national security, but the security of millions of people worldwide. While the prospect of future water conflicts is real, it certainly is not inevitable. Water has proven to be a productive pathway to cooperation and confidence building, even among warring nations and even as conflicts erupt over other issues, as long as the political will exists to work cooperatively.

No place is this cooperation more apparent than in the Middle East. The Governments of Israel and Jordan, and the Palestinians, have recognized the importance of finding common ground on water concerns. They have all continued to honor the commitments undertaken in their bilateral agreements on water. In particular, I note the Israeli-Jordanian peace agreement of 1994, and the Israeli-Palestinian interim agreement of the following year. As a result of these, millions have access to clean water and sanitation, stopping the needless spread of disease and hunger.

But for every such success story there are many more where the narrative is not optimistic. In fact, the situation in much of the world is extremely bleak. An estimated 1.1 billion people lack access to safe drinking water, and almost 2.5 billion have no basic sanitation. Each year more than 3 billion people suffer from water-

related diseases, from which 3 to 4 million die, and most victims are children under 5. We can only expect conditions to worsen as populations grow and water resources are depleted.

This dire situation is not lost on the international community. Under the United Nations Millennium Development Goals, the world community has pledged to cut in half the proportion of the world's population lacking access to safe water and sanitation by the year 2015.

But progress in meeting this goal is abysmally slow. Next month the G–8 leaders will meet to discuss ways to achieve these goals. I urge the leaders of the world's industrialized countries to commit more resources so that millions more people can experience the benefits of clean water and sanitation.

I urge our own country's representatives to this meeting to take up the moral challenge, and to lead the discussion and policy-making on this crucial topic. Thank you, Mr. Chairman.

Chairman HYDE. Thank you, Mr. Lantos. Normally the custom of this Committee is to recognize Members for 1-minute statements at the outset should they desire to make them so that we can get to the witnesses.

However, Mr. Blumenauer is here, and as he is the chief sponsor of the bill which we are focusing on today, I am happy to yield to him such time as he may wish. Mr. Blumenauer.

Mr. BLUMENAUER. Mr. Chairman, thank you for your extraordinary courtesy, and I won't take but a minute. I have an extensive statement which I would ask unanimous consent to enter into the record.

Chairman HYDE. Without objection, so ordered.

Mr. BLUMENAUER. Candidly, your eloquent statement from the outset, Mr. Chairman, and your continued interest, and Mr. Lantos' opening, I think, said it all, and far better than I would.

Let me just say that I deeply appreciate your leadership and continued interest in this. I appreciate the reference to the late Senator Paul Simon. I, too, have read his book. I had a chance to visit with him a little bit, and I think he has helped shape and inform all our efforts.

I think, Mr. Chairman, that your reference to AIDS is appropriate. You have characterized how more loss of life and suffering actually occurs day in and day out around the world, and is easier for us to remedy.

My personal commitment is to work with you and the distinguished Ranking Member, Mr. Lantos, who have served as mentors for me and with me on this legislation to be able to move it forward.

I hope that we will be able to add this as another chapter in the distinguished partnership that the two of you have forged with this Committee. I think it would be worthy of the work that you have done in other areas.

I would, however, make one further comment to express my appreciation for the way that the staff of both the Majority and the Minority have been working in crafting this legislation; Lara Alameh, Robin Roizman, others here, working here with Judah Ariel on my staff, to be able to advance this. It is deeply appreciated.

The work product will tell the tale, but I will conclude, and just have my statement entered, and look forward to hearing from our distinguished witnesses.

Chairman HYDE. Thank you, Mr. Blumenauer. One minute statements, if any. Mr. Leach.

Mr. LEACH. I will try to take less than that, Mr. Chairman. I also want to express my appreciation for your leadership, and Mr. Blumenauer's, and Mr. Lantos'. Those were marvelous statements.

There was a Dutch historian at the beginning of the last century named Heusen, who once argued that the beginning of civilization was centered around water management and water. And it is amazing how as time has elapsed we have given such little attention to the basics.

As has been noted, this is a matter of will and not of sophisticated science. It is common sense engineering, and common sense politics. So if there is a will, this can be mastered.

In terms of the depth of the problem, Mr. Chairman, you indicated it very profoundly, and I strongly support your efforts.

Chairman HYDE. Thank you. Ms. Ileana Ros-Lehtinen.

Ms. ROS-LEHTINEN. No, thank you, Mr. Chairman. I appreciate it.

Chairman HYDE. Thank you. Mr. Dana Rohrabacher of California.

Mr. ROHRABACHER. Thank you very much, Mr. Chairman, and I would like to join those who are praising your wisdom and leadership in having this particular hearing today, and bringing this legislation forward. I would like to congratulate my colleague, Mr. Blumenauer, on his foresight as well.

We have to understand that water shortages are not a result of Mother Nature. Yes, there are places that have a lack of water because of Mother Nature. Civilization must try to deal with Mother Nature in a way to overcome the challenges that she gives us.

The lack of water that I see in the world today is due to war, political corruption, and the other pestilence that plague mankind and not just a lack of this resource. I would hope, Mr. Chairman, that we take this issue seriously enough to be able to demand more than just the spending of money, which I would support. We must also demand a quality of activity and an honesty of the activity that flows from that expenditure of money, and with that, the peace and prosperity, and well-being of humankind depends on water, and I thank you for your leadership.

Chairman HYDE. The gentleman's time has expired. Ms. Watson.

Ms. WATSON. Yes, I, too, want to join with the others to thank you, Mr. Chairman, for bringing this most critical issue to the attention of our Committee, and to begin to look at the global water crisis.

I come from a State whose major battles are over water. The northern part of California has the water, and in the southern part, we have the desert. I predict at the turn of this century the biggest battles in our legislature will be over water, and how to get it down to the desert.

I come from Micronesia, a country that has the largest rainfall, 400 inches a year, but doesn't know how to use or treat its water. While I was there in service to our country, there was a cholera

epidemic. We had to immediately educate the people on how to sanitize and puritize the water. This issue has to be an ongoing focus of our Committee, and I thank you, Mr. Chairman, for at least these minutes that we will have to focus on it, and the experts that you have gathered today. Thank you, and I yield back my time.

Chairman HYDE. Thank you, Ms. Watson. Mr. Barrett.

Mr. BARRETT. No, thank you.

Chairman HYDE. Ms. Lee of California.

Ms. LEE. Thank you, Mr. Chairman. Let me just say thank you very much to you and Mr. Lantos for holding this hearing and welcoming the witnesses. I recognize and understand the extreme importance of safe water and holding this hearing.

I just wanted to comment with regard to some of my visits to HIV and AIDS clinics and hospitals in Africa. Oftentimes when women can't or don't want to breast feed those who are infected with HIV and AIDS, and don't have the proper medication, there is a huge problem with regard to formula, because the water they need to use to make the formula for the babies is unsafe.

Therefore, this hearing is very important, because the health ramifications for children and women are enormous. Thank you very much.

Chairman HYDE. Thank you. Ms. McCollum.

Ms. MCCOLLUM. No, thank you.

Chairman HYDE. Our first witness is Ms. Vanessa Tobin, Chief of the Water, Environment, and Sanitation Section of UNICEF. Prior to holding her current position, Ms. Tobin worked as a civil engineer for the British Government.

A national of the United Kingdom, Ms. Tobin obtained her Masters of Science in Public Health from the London School of Hygiene and Tropical Medicine. Ms. Tobin also holds a Master's Degree in Public Administration from Harvard University.

Mr. Olav Kjorven is Director of the Energy and Environment Group at the United Nations Development Program. Prior to his current position, he was Norway's Secretary of State for International Development.

Prior to working for the Norwegian Government, he was Director of International Development at the Center for Economic Analysis. He holds a Master of Arts in International Affairs from George Washington University. We will now proceed with the briefing portion, and Ms. Tobin, you may go first.

STATEMENT OF MS. VANESSA TOBIN, CHIEF, WATER ENVIRONMENT SANITATION SECTION, UNITED NATIONS CHILDREN'S FUND

Ms. TOBIN. Chairman Hyde, Distinguished Members of the House Committee on International Relations, thank you for inviting me to address you today on the status of the global water crisis and its impact on children.

Mr. Chairman, the latest statistics show that there are still 2.6 billion people without improved sanitation facilities, over half of the developing world's population, and 1.1 billion still using water from unimproved sources.

Let us not forget that in most developing countries the definition of access to water is an improved water source at a distance of less than one kilometer from the house that provides one bucket of water for each family member each day.

In sub-Saharan Africa, more than 40 percent of the population do not have easy access to a safe water supply, and about 64 percent do not have access to basic sanitary facilities. There are graveyards of broken and abandoned water supply systems, obsolete drilling rigs, and inappropriate systems.

The toll on children is particularly high. Every day unsafe water and a lack of basic sanitation together kill almost 5,000 children under the age of 5. Millions more are pushed to the brink of survival by repeated bouts of diarrhea, leading to chronic malnutrition, and stunted growth.

A lack of water and sanitation is also linked to many other serious diseases that kill and stunt the development of children, including worms, HIV and AIDS, trachoma, fluorosis and arsenicosis.

Poor access to water particularly affects women and children who are typically responsible for the provision of water in the household. In areas where safe water sources are located at a distance, girls and sometimes boys, are often obliged to miss school to help fetch water.

Target 10 of the Millennium Development goal is to help reduce by one-half the proportion of people without sustainable access to safe drinking water and basic sanitation by 2015. This is only a milestone on the road to achieving the goal of universal access, which will require at least one full decade after the Millennium Development goal target.

Our estimates of the additional costs of meeting the Millennium Development Goals for water and sanitation vary widely, around 11 billion per year. Current allocations are less than half this minimum figure needed, but increasing resources is only half of the solution. We must also work to ensure that governments are prioritizing services for the poorest with the right and appropriate approaches.

The recent publication released by WHO, the World Health Organization, and by UNICEF, *Water for Life, Making it Happen*, makes clear that achieving the target of the MDGs for access to safe drinking water and basic sanitation will bring a payback worth many times the investment, up to $34.00 per dollar spent.

For almost 40 years, UNICEF has supported water, sanitation, and hygiene, in as many as 91 developing countries. Over 50 percent of the $160 million that we spent last year was dedicated to our emergency response.

While our major focus is the survival, growth, and development of young children, we also give high priority to boosting education through water sanitation and hygiene to schools.

Our experience shows that programs such as these are key to encouraging enrollment, particularly for girls. UNICEF has learned from its experience that the following aspects make a real difference in targeting the poorest: Involving communities, particularly women, in the planning and management of water supply services; using simple and low-cost technologies that can be maintained by the communities with technical support when needed;

paying equal attention to water, sanitation, and hygiene to gain the health impact that is so sorely needed in many of these developing countries; and having supportive policies and budgetary allocation to support decentralized management of particularly rural water supply and sanitation services.

Mr. Chairman, the Water for the Poor Act of 2005 will make this crucial development priority a specific policy objective of the United States foreign assistance programs, and ensure that additional resources are allocated to meeting these basic needs, which are consistently cited as development priorities by communities themselves.

UNICEF is committed to working with the United Stats Government to support both governments and partners in extending water supply and sanitation services to those most in need to truly make a difference in the life of the poorest. Thank you.

[The prepared statement of Ms. Tobin follows:]

PREPARED STATEMENT OF MS. VANESSA TOBIN, CHIEF, WATER ENVIRONMENT SANITATION SECTION, UNITED NATIONS CHILDREN'S FUND

Chairman Hyde, distinguished members of the House Committee on International Relations, thank you for inviting me to address you today on the status of the global water crisis and its impact on children.

Mr. Chairman, much progress has been made in the provision of water and sanitation since 1990. Both water and sanitation coverage rates have increased, and more than a billion people have gained access to improved drinking water and sanitation facilities. However, there are still 2.6 billion people without improved sanitation facilities—over half of the developing world's population—and 1.1 billion still using water from unimproved sources.

Let us not forget that, although 83 percent of the population of developing countries has access to improved drinking water sources, only 42 percent of that population has access to water through a household connection or a yard tap. In most developing countries, the definition of "access to water" is an improved water source at a distance of less than one kilometer from the house that provides a minimum of 20 liters per person per day—that is one bucket of water for each family member each day.

We still have the challenge of ensuring that water provided is safe. In many developing countries, there is still insufficient attention given to regular water quality monitoring, particularly for rural areas. There may be another one billion people who lack access to safe water that is free from both microbial and chemical contamination.

Africa, home to about 13 percent of the world's population, remains the greatest challenge globally in accelerating access to both water and sanitation services. Large displaced and refugee populations, countries in conflict, and the HIV/AIDS pandemic exacerbate this situation. In 2002, in sub-Saharan Africa, approximately 42 percent of the population did not have easy access to a safe water supply, and about 64 percent did not have access to basic sanitary facilities.

In many countries in Africa, there are graveyards of broken and abandoned water supply systems, obsolete drilling rigs, and inappropriate systems. We cannot afford to repeat past mistakes in planning and constructing water supply systems that are not easily maintained. Existing financial resources for the water sector in Africa are still too heavily allocated to upgrading services for the already-served high and middle income population—rather than supporting sustainable services for the poorest and most vulnerable.

Inadequate and unsafe water, poor sanitation, and unsafe hygiene practices are the main causes of diarrhea, and diarrhea is the second largest killer of children under five years of age. Diarrhea is also linked to malnutrition; persistent diarrhea episodes can cause and exacerbate severe malnutrition and result in long-term growth stunting. Lack of adequate water, sanitation and hygiene are also linked to many other serious diseases that kill and stunt the development of children, including helminth infections,[1] Guinea Worm disease, trachoma, fluorosis and arsenicosis.

[1] Helminth is a worm classified as a parasite. Common helminthes include roundworm, tapeworm, pinworm, fluke, and trichina spiralis.

HIV/AIDS, for example, is intricately linked with water and sanitation, as unhygienic environments and poor hygiene practices result in chronic diarrhea, which is a leading cause of death in people living with HIV/AIDS and is associated with further depression of the immune system and an increase in opportunistic infections.

Poor access to water particularly affects women and girls, who are typically responsible for provision of water in the household and maintaining a hygienic environment. This means that where adequate services are not available, the burden of fetching water, often from long distances, falls disproportionately on women and children.

Water availability in households is an important factor in the enrolment, attendance and dropout rates of children. In areas where safe water sources are distant, girls—and sometimes boys[2]—are often obliged to miss school to help fetch water. This is most often seen in African countries with low water coverage rates,[3] but this situation has also been documented in various countries in Asia, the Middle East, and Latin America.[4]

Illness caused by poor sanitation and hygiene conditions in communities can also have a significant impact on education. Helminth infections—including roundworm, hookworm and schistosomiasis—affect about 400 million school-aged children a year.[5] These parasites aggravate malnutrition and retard children's physical and mental development. Helminth infections have been shown to have a significant negative impact on school attendance[6] and on the ability to learn.[7]

The 2000 Millennium Declaration commits governments around the world to a clear agenda for combating poverty, hunger, illiteracy, disease, discrimination against women and environmental degradation. Target 10 of Goal 7 (ensuring environmental sustainability) is to reduce by half the proportion of people without sustainable access to safe drinking water and basic sanitation. Like all targets, it is time-bound, to be met by 2015.

The "Decade of Water for Life" was launched by United Nations in New York in March this year. The Decade calls for a commitment to action in order to halve by 2015 the number of people with no access to safe water or basic sanitation, in line with the Millennium Development Goals.

A recent assessment shows that progress towards the MDG drinking water and sanitation targets is mixed. Even if the MDGs are met in full by 2015, it is sobering to realize that there will still approximately 850 million people without access to safe water, and 1.85 billion without access to improved sanitation facilities. It is, therefore, important to underline that while UNICEF is fully committed to achieving MDG target 10, this is only a milestone on the road to achieving the goal of *universal* access to water and sanitation. This will require at least one full decade after the MDG target date of 2015, and it will require a sharply increased effort from present levels.

Estimates of the additional (over and above current spending) costs of meeting the MDGs vary widely, from US$7 billion to US$30 billion per year. What is clear is that total Official Development Assistance (ODA) to the sector (at approximately US$3 billion per year) is currently less than half this minimum figure. Of this ODA, the bulk goes to middle income countries, while only 12 percent goes to those countries in which less than 60 percent of people have access to an improved water source. Increasing resources is only part of the solution—we must also work to ensure that Governments are prioritizing services for the poorest, rather than continuing to allocate resources on the basis of "all for some rather than some for all."

The recent publication released by UNICEF and WHO in May 2005, "Water for Life: Making it Happen,"[8] makes clear that achieving the target of the Millennium Development Goals (MDGs) for access to safe drinking water and basic sanitation will bring a payback worth many times the investment. Such access brings health and dignity, and will transform the lives of millions of the world's poorest people. The humanitarian case for action is blindingly apparent. The economic case is just as strong.

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[2] Boys are usually more involved in watering cattle, girls in hauling water for household use.

[3] For example, in Ethiopia (WaterAid, 2001) and Nigeria (UNICEF Country Office Annual Report, Nigeria)

[4] Guarcello *et al*, 2004, and others

[5] World Bank, 2001 and other sources (e.g. De Benoist and Ling. *Anaemia in school-aged children*, 1998)

[6] Nokes and Bundy, 1993.

[7] Partnership for Child Development, 2002; Sakti *et al*, 1999

[8] View this report on the UNICEF website at http://www.unicef.org/media/files/JMP_05_text.pdf.

The long-term cost to society of not meeting the MDG water and sanitation targets is several times greater than the cost of constructing the water and sanitation systems required. A recent comprehensive cost-benefit analysis study showed that the investment return—in measurable socioeconomic benefits—would be a minimum of three dollars on every dollar spent improving water and sanitation services. In some cases, the return would be as high as $34 for every dollar spent. WHO estimates that if everyone had access to basic water and sanitation services, the health sector would save more than US$11 billion in treatment costs, and people would gain 5.5 billion productive days each year due to reduced diarrheal disease.

UNICEF supports water, sanitation and hygiene activities in more than 90 countries. The largest water, sanitation and hygiene country programs are concentrated in Africa and Asia. The current staff level is 210 professionals, and expenditure was $160 million in total in 2004, which was 12 percent of total UNICEF program expenditure. Of this expenditure, 52 percent was for emergencies

Working directly with community-based organizations and communities and families themselves, UNICEF helps to ensure that households have access to a clean and secure supply of water and safe and convenient sanitary facilities, primarily focusing on support to poor rural communities. Through hygiene promotion and environmental sanitation programs, UNICEF works towards maximizing the health benefits, focusing in particular on the survival, growth and development of young children.

UNICEF also works to make schools healthier and more attractive to children, especially girls, through school-based water, sanitation and hygiene programs. Healthier children are more effective learners, and girls who spend less time fetching water have more time for school. In more than 70 countries, we are helping to build separate and decent sanitation facilities in schools that reduce dropout rates, especially among girls. And hygiene promotion in schools creates conditions where children themselves are agents of change in their families and communities.

In emergency situations, safe water and sanitation is critical. UNICEF frequently takes the lead in the provision of water and sanitation services in crises around the world, including in tsunami-affected countries.

Today, our current strategic focus is also on supporting the development of enabling policy environments, institutional capacity building, the development and demonstration of new programme approaches, and support and advice to governments and implementing agencies.

UNICEF learned from experience that the following aspects make a real difference when targeting the poorest:

- Involvement of the communities particularly women, in the planning and management of water supply services;
- Using simple and low-cost technologies that could be maintained by the communities with technical support when needed by a mandated and accountable agency;
- Paying equal attention to water supply, sanitation and hygiene; and
- Having supportive policies and budgetary allocations to support decentralized management of rural water supply and sanitation services are critical to success.

The experience, expertise and credibility built over 40 years of working with governments and communities gives UNICEF a unique position in the sector. In many countries, UNICEF is one of the few agencies that work both at the field level with communities, and also provide continuous support to governments at the national level. This gives UNICEF a "place at the table" to advocate for change when necessary, and the in-country evidence on which to base its recommendations. UNICEF has expertise and a track record in producing results that count.

To summarize, development and poverty reduction are not possible without safe and reliable water supplies for household use and for small-scale productive use including household vegetable production and livestock; access to, and regular use of, safe sanitation facilities; habitual hand-washing and other key hygiene practices; and a healthy, hygienic environment.

Mr. Chairman, the "Water for the Poor Act of 2005" will make this crucial development priority a specific policy objective of United States foreign assistance programs, and ensure that resources are allocated to meeting these basic needs, which are consistently cited as development priorities by communities themselves.

The findings and strategy contained within the Act are sound with regard to the analysis of the problem and to the methods outlined to reach the poorest in a sustainable and coordinated manner. UNICEF is committed in working with the United States Government to support Governments and partners in extending water

supply and sanitation services to those most in need to truly make a difference in the lives of the poorest.

Thank you.

Chairman HYDE. Mr. Kjorven.

STATEMENT OF MR. OLAV KJORVEN, DIRECTOR OF THE ENERGY AND ENVIRONMENT GROUP, BUREAU FOR DEVELOPMENT POLICY, UNITED NATIONS DEVELOPMENT PROGRAM

Mr. KJORVEN. Chairman Hyde, Ranking Member, Mr. Lantos, Distinguished Members of the House Committee on International Relations, I would like to thank you for your invitation to speak on the important issues that the Water for the Poor Act of 2005 addresses, and welcome this opportunity to brief you on the work of the United Nations Development Program (UNDP), to increase access to safe water and sanitation in developing countries.

For over 40 years, UNDP has been working to support the poor across the globe to gain access to safe drinking water and improved sanitation as part of the organization's broad development agenda.

First and foremost, our experience shows that improved access to water services and improved sanitation, coupled with sound management of water resources, contributes to improved livelihoods and productivity, improved human health, higher economic growth, and gender equality. Investments in water and sanitation are strong development drivers.

There is no development possible without water, and there is no healthy ecosystem that does not depend on water for its survival. We are convinced that water is not only vital for life and essential for development, but also a priority for contributing to the achievement of all of the Millennium Development Goals, or MDGs.

We ask ourselves can poverty and hunger be eradicated or maternal health improved, or child mortality reduced, or gender inequalities addressed without improved access to water and sanitation?

The answer is no. These goals cannot be met without water and sanitation, and this is one of the strongest and most important reasons why in my view the Water for the Poor Act of 2005 is so important.

The table at the end of my written brief provides an illustration of the critical links between water and all the other MDGs. It also includes an illustration of the link between access to water and sanitation, and gender equality, and empowerment of women.

In Yemen, for instance, with support from the UNDP, women's groups represented by the Supreme Council for Women worked with the Ministry of Planning, and in close coordination with other international agencies, to bring gender prospectus into their country's poverty reduction strategy.

However, Mr. Chairman, our experience also shows that local capacity constraints often pose a severe limitation to the achievement of the MDGs. This is where the focus of UNDP's water program lies, highly complimentary to that of UNICEF.

Through our effective water governance program, we aim to address some of the capacity constraints that exist in developing countries, to improve access to water and sanitation services.

Effective water governance provides an enabling environment through policy, legal, and institutional frameworks for sustainable, equitable, and economically efficient use and development of water resources.

This includes support to strengthen the protection and management of the water sources and catchment areas that all water supplies fundamentally depend on. We have to make sure that there is water running through the pipes that we build.

UNDP supports the development of good practice mechanisms to promote integrated management of water resources. Our experience also shows that political will and commitment, motivated with enough awareness and backed with sufficient capacity, are key elements that determine the capabilities of governments to formulate integrated water resource management plans, and not the least to implement them.

With support from UNDP, several Arab countries, including Egypt and Lebanon, have improved their national water policies and integrated water resource management plans.

With the support from the U.S. State Department, our water governance program also promotes increased cooperation between countries that share water resources, such as in the Nile, the Mekong, the Niger, and other strategic river basins.

The U.S. State Department's support to UNDP Transboundary Rivers Program is a critical element to promote peace and stability in many regions. Water is a source of tension between countries, but it can also be an entry point for collaboration.

This program is highly complimentary to the global environment facility if they are in international waters, where the entry point is to protect the ecological integrity of shared water resources.

Through our network in over 130 countries, UNDP works in partnership with national and local public sector institutions, civil society organizations, bilateral and multilateral agencies, and the private sector.

This presence on the ground throughout the developing world represents a potential opportunity for making accelerated progress on water and sanitation, and for preventing conflicts over water resources.

At the national level, UNDP carries significant responsibilities for coordinating all UN development efforts to maximize the impact and to ensure that advice and support to governments are consistent in the area of water.

UNDP and UNICEF take active roles in water specific coordination mechanisms, namely UN-Water. UN-Water will contribute to increased country level coherence and aid harmonization through improved communication, information exchange, and collaboration.

As world leaders prepare for the 2005 World Summit in September, it is clear that in terms of the progress needed to achieve the goals in the next 10 years, this is a defining moment for the world to make the course changes necessary to eradicate extreme poverty.

It is therefore not only a review, but also a unique opportunity to inject new vigor and a renewed commitment to meet the goals by the 2015 deadline. Mr. Chairman, the legislation you are considering draws much needed attention to safe water and sanitation,

and the suffering that is experienced around the world, particularly by the poor, who often have no access to these vital services.

We welcome this renewed interest and focus in Washington on what needs to be done not only to reduce by 50 percent the total number of families without access to water and sanitation, but also to ensure that such programs are developed in a sustainable manner and led by effective management.

We welcome the continued interest and leadership of the United States on this vital issue. Thank you again for permitting me to brief the Committee. I look forward to your questions.

[The prepared statement of Mr. Kjorven follows:]

PREPARED STATEMENT OF MR. OLAV KJORVEN, DIRECTOR OF THE ENERGY AND ENVIRONMENT GROUP, BUREAU FOR DEVELOPMENT POLICY, UNITED NATIONS DEVELOPMENT PROGRAM

Chairman Hyde, Ranking Member Mr. Lantos, distinguished members of the House Committee on International Relations, I would like to thank you for your invitation to speak on the important issues that the "Water for the Poor Act of 2005" addresses, and welcome this opportunity to brief you on the work of the United Nations Development Programme (UNDP) to increase access to safe water and sanitation in developing countries.

For over 40 years, UNDP has been working to support the poor, across the globe, to gain access to safe drinking water and improved sanitation, as part of the organisation's broad development agenda.

First and foremost, our experience shows that improved access to water services and improved sanitation, coupled with sound management of water resources, contributes to improved livelihoods and productivity, improved human health, higher economic growth and gender equality. Investments in water and sanitation are strong development drivers. There is no development possible without water, and there is no healthy ecosystem, that does not depend on water for its survival.

These investments generate broad economic benefits that considerably outweigh the costs; they are critical for growth in all sectors and help eradicate poverty. The implications of investments in water and sanitation on GDP growth are astounding. Analyses indicate that a 0.3% increase in investments in household access to safe water is associated with a 1% increase in GDP. Furthermore, poor countries such as Kenya, Cambodia or Uganda with improved access to clean water and sanitation services have shown an annual average growth of 3.7%, whereas countries with the same per capita income but without improved access had an average annual per capita GDP growth of only 0.1% [1].

We are convinced that water is not only vital for life, and essential for development, but also a priority for contributing to the achievement of all the Millennium Development Goals (MDGs)—eight goals that represent a commitment by Governments at the 2000 UN Millennium Summit to make rapid progress on development issues by 2015. Not only is there an MDG target of halving, by 2015, the proportion of people without safe drinking water and basic sanitation, but water and sanitation services are essential to all the MDGs. We ask ourselves, can poverty and hunger be eradicated (MDG1), or maternal health improved (MDG 5), or child mortality reduced (MDG 4), or gender inequalities addressed (MDG3) without improved access to water and sanitation? The answer is 'No'! These goals cannot be met without water and sanitation; and this is one of the strongest and most important reasons why—in my view—the "Water for the Poor Act of 2005" is so important.

The table at the end of this brief provides an illustration of the critical links between water and all the other MDGs. It also includes an illustration of the link between access to water and sanitation and gender equality and the empowerment of women. Our programmes in India, Sri Lanka, Lebanon and Yemen have illustrated that participatory approaches that provide equal opportunities for women and men to access water resources leads to greater equality, effectiveness, and sustainability. In Yemen, for instance, with support from UNDP, women's groups, represented by the Supreme Council for Women, worked with the Ministry of Planning and in close coordination with other international cooperation agencies to bring gender perspectives into the country's MDG-based Poverty Reduction Strategy.

[1] Driving Development by Investing in Water and Sanitation: Five Facts Support the Argument (SIWI, 2005)

However, Mr. Chairman, our experience also shows that local capacity constraints often pose a severe limitation to the achievement of the MDGs. This is where the focus of UNDP's Water Programme lies. Through our 'Effective Water Governance' programme we aim to address some of the capacity constraints that exist in developing countries to improve access to water and sanitation services. Effective water governance provides an enabling environment—through policy, legal and institutional frameworks—for sustainable, equitable and economically efficient use and development of water resources. We have to make sure there is water running through the pipes that we build.

Our Water Governance Programme, through Cap-Net (a network of capacity building institutions), builds local capacities and ownership through education and training and empowers stakeholders and communities with the knowledge and ability to make decisions that directly affect their lives. UNDP supports the development of "good practice" mechanisms to promote integrated management of water resources. Our experience also shows that political will and commitment—motivated with enough awareness and backed with sufficient capacity—are key elements that determine the capabilities of governments to formulate integrated water resources management plans (per Johannesburg Plan of Implementation Targets) and to further implement them. With support from UNDP, several Arab countries including Egypt and Lebanon have approved their national water policies and Integrated Water Resource Management plans.

With support from the U.S. State Department, our Water Governance Programme also promotes increased cooperation between countries that share water resources (in the Nile, Mekong, Niger, and other strategic river basins). The U.S. State Department support to UNDP's Transboundary Rivers Program is a critical element to promote peace and stability in many regions. Water is a source of tension between countries; but it can also be an entry point for collaboration.

Through our network of over 130 country offices, UNDP works in partnership with national and local public sector institutions, civil society organizations, bilateral and multi-lateral organizations, the private sector and other UN partner agencies. The potential for coordination and complementarities is enormous.

At the national level, as part of UN-Water (an interagency coordination mechanism), UNDP supports the United Nations Development Group, Resident Coordinators, and the UN country teams by encouraging and facilitating participatory system-wide exchanges of information and dialogue on policy and operational issues. UN-Water will contribute to increased country-level coherence and aid harmonization through improved communication, information exchange and collaboration.

At the local level, UNDP works in partnership with central and local government and civil society organizations to strengthen decentralized and community-based water resources management and water supply and sanitation. Through community-centered programmes, such as the Community Water Initiative, active in Tanzania, Kenya, Uganda, Mauritania, Sri Lanka and Guatemala, UNDP supports community mobilization and capacity building that empowers communities and local authorities to manage water resources and provide water supply and sanitation services that are affordable to the poor.

Finally, as world leaders prepare for 2005 World Summit in September, it is clear that in terms of the progress needed to achieve the Goals in the next ten years this is a defining moment for the world to make the course changes necessary to eradicate extreme poverty. It is, therefore, not only a review, but also a unique opportunity to inject new vigour and a renewed commitment to meet the goals by the 2015 deadline.

Mr. Chairman, the legislation you are considering draws much needed attention to safe water and sanitation and the suffering that is experienced around the world, particularly by the poor, who often have no access to these vital services. We at UNDP welcome this renewed interest and focus in Washington on what needs to be done, not only to reduce by 50% the total number of families without access to water and sanitation, but also to ensure that such programs are developed in a sustainable manner and led by effective management well attuned to the needs of local communities. UNDP welcomes the continued interest and leadership of the United States on this vital issue.

Thank you for permitting me to brief the Committee and I look forward to your questions.

LINKS BETWEEN MILLENNIUM DEVELOPMENT GOALS (MDGS) AND WATER [1]

MDG	Examples of links to water resources
1. Eradicate extreme poverty and hunger	• Livelihood strategies and food security of the poor depend directly on water quantity and quality (for agriculture, fisheries, drinking, etc.) and sanitation services. • The poor often have insecure rights to water resources and inadequate access to information, markets and decision-making – limiting their capability to protect or access water resources and improve their livelihoods and well-being.
2. Achieve universal primary education	• Time spent collecting water can reduce time available for schooling. • Lack of water and sanitation services in rural areas deters qualified teachers from teaching in poor villages.
3. Promote gender equality and empower women	• Women and girls are especially burdened by water collection, which reduces their time and opportunity for education, literacy, and income-generating activities. • Women often have unequal rights and insecure access to water and other natural resources, limiting their opportunities and ability to access other productive assets.
4. Reduce child mortality	• Water and sanitation-related diseases (such as diarrhea) is a leading causes of under-five child mortality. • Lack of clean water and adequate fuels for boiling water directly contribute to preventable waterborne diseases.
5. Improve maternal health	• Lack of basic sanitation and safe water supply limit the quality of health services delivered, especially in rural areas.
6. Combat major diseases	• Up to one-fifth of the total burden of disease in developing countries may be associated with water and other environmental risk factors (e.g. malaria, water-borne diseases, parasitic infections). Preventive measures to reduce environmental health hazards are as important and often more cost-effective than treatment.
8. Global partnership for development	• The burden of external debt, unfair terms of trade for primary products, and aggressive investment in natural resources sectors can greatly increase the pressure to overexploit water and other natural resources in developing countries.

[1] Based on DFID, EC, UNDP, World Bank (2002) Linking Poverty Reduction and Environmental Management. Policy Challenges and Opportunities. Department for International Development, UK (DFID); Directorate General for Development, European Commission (EC); United Nations Development Programme (UNDP); World Bank, Washington; and United Development Programme (2002) *Poverty Environment Initiative*, New York.

Chairman HYDE. Thank you very much. Mr. Leach.

Mr. LEACH. Mr. Kjorven, UNDP is the leading UN agency for development. What percentage of your budget goes to water projects?

Mr. KJORVEN. I cannot tell you precisely the percentage that goes to water projects, but we do have water projects in some 80 countries, and we are talking about a portfolio of well above $400 million.

Mr. LEACH. In terms of deliverability, there are many ways and many institutions that work in compatible purposes; individual governments, the UN, et cetera. Do you have any advice to the Congress on the methodologies of deliverance?

Where do you think the focal point should be and how the United States should proceed?

Mr. KJORVEN. I think the international system of the Development Corporation System has come a long way in recent years in getting itself better organized at the country level, and through the leadership of at not at least the World Bank and the International Monetary Fund, but also with contributions from agencies such as UNDP, we today have pretty much an agreed course of action at the country level, especially in the poorest countries where their needs are the biggest, precisely in the areas of water and sanitation.

That is through the poverty reduction strategies that the governments themselves are responsible for developing, and I think the key challenge for both multilateral agencies and for bilateral agencies is to effectively coordinate themselves around that framework of poverty reduction strategies so that we ensure that there is coordinated and consistent approaches that are synergistic, rather than chaotic, which has been the case in the past.

I think we have an excellent opportunity now to really move forward over the next 10 years thanks to this new framework.

Chairman HYDE. The gentleman's time has expired.

Mr. LEACH. Thank you.

Chairman HYDE. Mr. Blumenauer.

Mr. BLUMENAUER. Thank you, Mr. Chairman. I was curious if either of our witnesses had some specific comments about the legislation that has been drafted that we have titled the Water for the Poor Act that has been introduced. You both referenced it, but I wondered if you could elaborate a little bit for our benefit about how you see that dovetailing with the problem and the opportunities, and if you have a critique of what is there, or what is not?

Ms. TOBIN. Mr. Blumenauer, I think the bill has been very well crafted. I would comment on three aspects that may be worth strengthening. I think a stronger focus on the countries that are suffering the most, particularly in sub-Saharan Africa, where the coverage rates are the lowest, and the focus of the bill particularly on some of those countries.

The second focus is the role of non-government organizations (NGOs), and the important role that they can play in working with governments and with bilateral and multilateral agencies.

In particular, NGOs work very closely with us in terms of mobilizing and working closely with communities, and ensuring the sustainability aspects when we are supporting low cost appropriate technologies.

The third aspect is that I think it would be helpful to have an allocation specified within the bill that would be devoted particularly for rural remote poor communities for water and sanitation.

Chairman HYDE. Mr. Chabot.

Mr. CHABOT. No questions.

Chairman HYDE. Ms. Watson.

Ms. WATSON. I would like to know are you concentrating—and Africa comes to mind, but where are you concentrating your efforts in terms of the water quality and AIDS?

Ms. TOBIN. In terms of our programs from UNICEF which support health, education, water and sanitation, child protection, our programs are focused in more than 150 countries.

We have a particular focus on HIV and AIDS in sub-Saharan Africa. We are supporting water and sanitation programs in 90 countries, but our major focus are priority countries, and of the 60, about 40 of those countries are in Africa.

So our focus on water and sanitation is on those countries because sub-Saharan Africa is not on track at the moment to reach the Millennium Development Goals for either water or sanitation. The world is not on track for sanitation, but for water, Africa is particularly lagging on water supply.

Ms. WATSON. Do you have a privatized list that you can share with us? There are so many different charitable groups. One that I know of very well is Water for Africa, the Rotarians.

I was wondering if there is any coordination of effort focused on these areas where AIDS is pandemic? There are certain areas that I would like to see some coordinated efforts so that we can utilize the services and the contributions that are provided most effectively.

So if you can share that list with us, then I possibly can ask those that are working in these programs to work with UNICEF, and in terms of spreading what little services and help they can provide more effectively in these areas?

Ms. TOBIN. We would be happy to share that list with you. Also, to state that we obviously coordinate with the other UN agencies. Our focus has been very much on the more remote rural poor communities in terms of water supply and sanitation. Obviously our coordination with other areas, and our focus on child survival, and the focus on working with HIV and AIDS programs, has been a priority for my own agency.

Ms. WATSON. Sub-Saharan Africa, South Africa, I know, suffered under the apartheid regime and after President Mandela took over. I know that they were putting in one water station per village, and so it seems to me that these efforts that have already begun need to be joined, and we need to be more effective because water is the means for life.

It also carries within it the diseases that are killing off millions, and I am just wondering, does EPA work with you to test water in various areas?

Ms. TOBIN. We have worked with the EPA on two aspects. The first on water quality monitoring, primarily also with our major partner, the World Health Organization. We have also teamed and launched at the World Summit on sustainable development a project with the Environmental Protection Agency on children's environmental health, the monitoring of indicators. That is another area that we work with the EPA on.

Ms. WATSON. I am sitting here trying to think of a way that we could zero in and better coordinate our efforts. Maybe the Committee could come up with a resolution naming all these different projects and asking for some kind of coordination, and we will have to decide which department of government it should be housed in. But I think that is needed. Thank you very much, Mr. Chairman. I will yield back the balance of my time.

Chairman HYDE. Thank you, Ms. Watson. Mr. Rohrabacher.

Mr. ROHRABACHER. Thank you very much, Mr. Chairman. Ms. Tobin, you mentioned in your original testimony that there are graveyards of equipment that have been left over throughout these countries of inappropriate water projects. Maybe you could expand a little bit for us?

Ms. TOBIN. We estimate in Africa that 30 percent of water supply systems are not functioning. Some of those systems were inappropriately designed for ability to maintain those water supply systems. Some of them have a plethora of different types of systems installed, and they are very difficult to standardize in terms of providing supplies and equipment for those systems, in terms of ensuring that people were trained in maintenance. Also the life span of some of those systems was as such that after 10 years they were no longer functioning.

Mr. ROHRABACHER. Do you think that the failure that you are talking about at that level was due to, let's say, benign but benevolent ideas and plans, or was some of this caused by corruption? That people paid their friends in order for that system to be accepted, even though in the long run it wasn't going to work?

Ms. TOBIN. I think some of the aspects is the obvious inappropriateness of the design of the programs themselves, but also I think it is very much, too, to prioritize sufficient attention for operational maintenance costs, both on behalf of the donor community, but also on behalf of governance and local government, that this is given attention.

As I stated, right now a definition of water may be just one bucket of water per person per day. Therefore, there has to be plans in place that when people can afford to pay that they are able to upgrade their services. So plans, and maintenance, and support.

Mr. ROHRABACHER. Okay. I would tend to think that some of the systems and some of the money that has been spent already, and maybe a large chunk of money that has been spent already, perhaps went in the Third World, and perhaps decisions were made where in the long run they knew that things were not as good, but somebody's pal was making some money on it.

I take it from your testimony, from both of the witnesses, that you believe that overall economic development of a country, in terms of a goal for water, is not really what you are asking for.

What you are asking for is for us to target those on the poorest levels just to make this a humanitarian effort, and to go directly to those people as sort of a rescue mission, and help to make sure that they have the water that they need, rather than the more grandiose approach of, we know how to save this country by giving them an overall economic plan that includes water. Does that make sense to you, and which side are you coming down on?

Mr. KJORVEN. Well, there is clearly a need for more humanitarian approaches in countries, and in regions where there is a humanitarian crisis as such. But that can only be a short term kind of response.

In our view, in the UNDP, there is no other way around it than to patiently and painstakingly build the kind of governance capacity that one must have to make the interventions sustainable.

Mr. ROHRABACHER. Well, let me note that when we go in that direction, and in areas where governments are corrupt, it is almost impossible for us from the outside to come in and to accomplish what you are talking about.

But in terms of trying to save these people whose children are now dying of diarrhea, et cetera, that may be something that is doable. You mentioned in your testimony, Ms. Tobin, about simple and low cost technology that we could put to work to save those human beings from a horrible death.

I can't imagine children dying of these diseases like that when we can actually save some of them. What did you mean by simple and low cost technology?

Ms. TOBIN. Just to go back to your last point on allocation of resources before I will go specifically to the technology. The allocation of resources is still going to the high- and middle-income populations from governance.

So that allocation of existing resources to those that do not have services is an important criteria in terms of present policies. On technologies, there are a broad range of technologies we support in different situations.

My agency has been very involved in the development of simple low cost technologies, which are supported by many of the NGOs that are present here today.

Mr. ROHRABACHER. Could you give us some examples?

Ms. TOBIN. Hand pumps on bore holes, or on improved wells, is one example; small rain water harvesting systems, small pipe water supple schemes; household water treatment, which is a very low cost effective strategy, which can directly reduce diarrhoeal diseases by up to 40 percent.

We tend to look at the figures of child deaths, but the disease burden, in terms of modality, and impact on ability to learn, are also enormous figures still out there, too.

Mr. ROHRABACHER. Thank you.

Chairman HYDE. The gentleman's time has expired. Did you want to say something, Mr. Kjorven?

Mr. KJORVEN. If I may, Mr. Chairman.

Chairman HYDE. Sure.

Mr. KJORVEN. Yes. I think experience has taught us that we can achieve very good important things through humanitarian intervention as such, but again the sustainability of those interventions are very vulnerable if the government's assistance continues to be fragile, and if we don't see necessary progress.

We see a lot of good examples also of community-targeted interventions. For instance, where NGOs, religious communities that are present on the ground, the churches and so on, really are the actors that make the interventions sustainable locally.

But we also see increasingly in many countries that have been crisis-ridden in the past that governments are able to reform themselves and make progress, and where we see the indicators in terms of people's quality of life going up because we are able to make progress both on the delivery of the actual equipment, but also the governance system improves.

Mr. ROHRABACHER. I hope we have a second round, Mr. Chairman, for further discussion. Thank you.

Chairman HYDE. Thank you. Ms. Lee of California.

Ms. LEE. Thank you, Mr. Chairman. Let me just ask you, Ms. Tobin, a couple of questions. I mentioned earlier the issue with regard to unsafe water in the whole area of mixing formula for babies.

You have done work, and you are doing work in sub-Saharan Africa, and I have visited many hospitals as I said earlier, and the choices that women have often times are deadly. It is either breast feed their babies if they have the virus, or use unsafe water for mixing the formula. Terrible choices.

I am wondering, what are you seeing and how do you see this evolving? And secondly, in terms of prepackaged formula, do you see more of that now in sub-Saharan Africa being provided for women who need safe water and who have HIV and AIDS, and who can't breast feed their children? Can you just kind of talk to us a little bit about what is going on there?

Ms. TOBIN. Of course we have a very active program on the prevention of mother-to-child transmission of HIV. Obviously, UNICEF is a very, very strong promoter of breast feeding. In most cases, we will obviously encourage the mother to breast feed.

If the mother decides not to breast feed, then alternatives need to be provided, and safe water is important. We do support household water treatments, and simple chlorination of water.

We have also have a number of projects that we are working on with both universities and private sector companies on household water treatment technologies for more heavily contaminated water that can be used for mixing for breast milk substitutes.

Also in general for families that basically at this moment in time will not get access to an improved water supply in the near future.

Ms. LEE. I agree, and I think it is absolutely correct to encourage women to breast feed. In fact, many cultures encourage that, and that is probably the main—I mean, that is the way that you feed children for all of the obvious reasons.

When the pharmaceuticals and the medications are not available for women who choose to breast feed and who want to breast feed, but don't have access to the drugs, then what do you see as the option if there are no safe water facilities?

Ms. TOBIN. UNICEF follows the UN's guidelines on this, and that obviously counseling is needed, and you are absolutely right, access to counseling at the moment is constrained. It is something that we are working on.

Our new executive director is very committed to strengthening and increasing support to the prevention of mother-to-child transmission of HIV, and one of those components is voluntary counseling and testing.

But also information on infant feeding and providing that counseling to the mother so that she can make an informed choice and access to that information at the moment. We support programs to provide it, and we need to increase the number of women that we are reaching.

Ms. LEE. Sure, and making an informed choice is absolutely necessary, but what if the choices are both pretty deadly? If the mother has the virus, and if the medications aren't available, and if there are no avenues for safe water?

Ms. TOBIN. If that is the case, then the mother should continue to breast feed, because the risk factors in terms of contaminated water and the risk factor of the child dying from diarrhea are far greater.

In that case there is no question. The advice is that the mother continues to breast feed.

Ms. LEE. Thank you very much, Mr. Chairman.

Chairman HYDE. Ms. McCollum.

Ms. MCCOLLUM. Thank you, Mr. Chair. I was glad to see that in your testimony it was pointed out that this is one of the Millennium Development Goals that our President, and our Congress, and the American people, all have responsibility in making sure that we live up to making happen, and safe drinking water is key to so much of the other development goals being achieved.

I think that one of my colleagues asked a question about what is low-tech, and Mr. Chairman, I would like to enter for the record some information I have here from PSI about their disinfecting drinking water and saving lives.

[The information referred to follows:]

June 2004

Disinfecting Water, Saving Lives

PSI's Safe Water System Prevents Diarrhea

A safe water system (SWS) now being popularized by Population Services International (PSI) in eight developing countries is a powerful and life-saving tool that enables a person to disinfect dirty water at point of use. The SWS can be provided for a family of six for one U.S. cent or less.

A great advantage of the SWS is the immediacy of the health impact. Improvements in infrastructure, though important, are costly and take years to complete. The SWS can be provided inexpensively and quickly.

Diarrhea kills 3 million people annually, mostly the poor, and is largely attributable to contaminated water. Diarrhea is an underlying cause of childhood malnutrition and is the world's second leading killer of children under five — 5,000 children die every day from diarrheal diseases. Through the SWS and complementary hygiene campaigns, PSI educates and empowers low-income people to take control of their health and cuts the number of diarrhea episodes dramatically.

Children review uses of safe water presented in a flip chart developed by PSI in conjunction with its safe water and hygiene campaign in Afghanistan.

The SWS was developed by the Centers for Disease Control and Prevention (CDC), and is promoted and distributed by PSI in 10 developing countries — Zambia, Tanzania, Rwanda, Myanmar, Malawi, Madagascar, Kenya, India, Burkina Faso and Afghanistan — with support from the U.S. Agency for International Development (USAID), the Dutch government, UNICEF, CARE and the World Health Organization. The SWS consists of a bottle of dilute sodium hypochlorite solution (chlorine bleach) that disinfects water at point of use by inactivating microbial pathogens that cause diarrhea.

PSI PROFILE
SOCIAL MARKETING AND COMMUNICATIONS FOR HEALTH

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Through PSI's extensive distribution networks, branding and advertising, low-income families can easily access the simple and effective water quality treatment which can provide clean drinking water for a family of six for a penny or less a day.

CDC field trials from several countries show a 44-85% reduction in diarrhea episodes when the SWS is used correctly. Recognizing that poor hygiene is another major cause of diarrhea, PSI implements hygiene and hand-washing campaigns that complement the SWS. While the SWS is a method for preventing diarrhea, PSI also markets oral rehydration salts to treat diarrhea.

New research shows that the SWS can improve the health of HIV positive people. An abstract presented at the 13th International Conference on AIDS and Sexually Transmitted Infections in Africa (ICASA) in Nairobi in September 2003 suggested that use of the SWS resulted in a 37% reduction of risk of diarrhea in people with HIV/AIDS. Chronic diarrhea can prove life-threatening for those with weakened immune systems. Considering the lack of antiretroviral treatment for the vast majority of those suffering from HIV/AIDS, avoidance of opportunistic infections provides a chance for a longer and healthier life.

Afghanistan
PSI's introduction of the SWS *Clorin* to Afghanistan in 2003 marked the country's first water treatment system. Product, labels and bottles are all sourced locally, generating income for the local economy. The project focuses on generic health and hygiene promotion, addressing both diarrhea prevention and management through a variety of outlets, including interpersonal educators, radio programs and educational theater.

India
As part of the launch of *SafeWat* in 2002, PSI/India, WHO and Sulabh International (a local NGO) piloted a project in the slums of Dehli which conducted interpersonal education through home visits and group discussions led by volunteers to test the inclusion of a strong hand-washing and hygiene component. In addition, mass media and special events are also used to disseminate the information.

Kenya
In addition to traditional distribution methods, PSI/Kenya uses community-based sales agents who often carry *WaterGuard* on foot or bicycle to small local markets and act as messengers of behavior change as well as sales.

Madagascar
PSI's program in Madagascar recruited small restaurants in urban neighborhoods to use water treated with *Sûr Eau* for their clients' drinking water, to prepare food and to wash vegetables, dishes and hands. The eateries pay a small fee in return for a 120-liter barrel, free radio publicity and interior and exterior signs. Sûr Eau has also been used to respond to cyclone disasters and cholera epidemics.

Malawi
When the SWS was launched in 2002 at the beginning of one of Malawi's repeat cholera epidemics, President Bakili Muluzi carried a bottle of *WaterGuard* in his coat pocket at public appearances and urged all Malawians to use it. Close to ten thousand bottles were sold within the first month of its entry into the market.

Rwanda
PSI/Rwanda has added hygiene outreach to its SWS *Sûr Eau* and trained nurses and health animators, in three health districts to distribute the product.

Tanzania
PSI/Tanzania has partnered with Tarmal Industries, a 100-year-old commercial producer of soaps and detergents, to market its SWS *WaterGuard* and is recovering 100% of the production cost.

Zambia
Annual sales of *Clorin*, launched in 1998, have steadily exceeded one million bottles for the past few years and reached significant proportions of Zambia's estimated 2 million households. Alan Reed, former USAID/Zambia director, declared that "safe water systems could prove to be one of the most important health interventions of the decade." PSI/Zambia's program trains health center staff, neighborhood health volunteers and pharmacy owners in diarrhea prevention.

When compared to the $80 billion a year needed for water infrastructure projects in developing countries, the SWS is an inexpensive alternative that can immediately protect health. The UN World Water Development Report, issued in March 2003, states that, "disinfection of water at the point of use is consistently the most cost-effective intervention. In addition, improved hand-washing is also effective."

The result of home water treatment, hand-washing and proper hygiene is a substantial reduction in the number of diarrhea episodes which directly improves children's health, nutrition, growth and development, and has the potential to reduce dramatically the fatality rate. Lively, health children are more likely to grow into active, bright adults that can take action to bring themselves and their country out of poverty.

PSI expects to launch safe water programs in Haiti in the near future, and is also developing SWS products in Bolivia, Eritrea, Nigeria and Uzbekistan.

Ms. MCCOLLUM. They have a low-tech solution that they call an SWS, and it is being used very successfully, and it lists the countries in here; Malawi, Afghanistan, India. And what that is, is that it shows people how to use chlorine bleach. They have the full chemical name in here, but basically it is chlorine bleach, and how to use that at point of use so that water is drinkable. But of course that water has to go through some testing and to see if even that is a solution.

When I was with CARE, they used the low-intake plastic pipes that I saw in Peru, and they had the village involved in not only the treatment, but building the water supply so that they could work with the next village. Ownership into that has really made it successful. But I would like to ask you, sir, a question. Recently, I had the opportunity to visit the country of Chad, which is hosting many refugees from The Sudan.

The UN refugee camp that was there was trucking water in. They had people from all over doing geological surveys, and people from all over the world trying to help. But what was going on in the meantime was that the wells that the villages in Chad were being stressed from all the visitors and people coming through prior to the UN coming in and setting up the refugee camp.

What happens to your budget, to your plans, as you have to address needs in these refugee camps? Does that mean that you have more needs that go unmet, and more people who get put on the waiting list keeping you from helping us, and the United States, hopefully as President Bush goes to the Millennium event in Scotland, from us reaching those goals? What do we need to do to make that happen?

Mr. KJORVEN. Thank you. What is very clear is that over the past decade increasingly, but the trend is really longer than that, at least 20 years old, a growing share of international resources available to the developing world have been going to humanitarian crisis.

Since the overall envelope has not had a tendency of significantly growing, especially not or certainly not in the 1990s, and the early part of this decade, now we might see a reversal. That basically means that resources for long term development have become more limited relatively speaking to dealing with complex emergencies.

So this is something that we all as an international system are trying to come to terms with in these disasters and catastrophes. On the other hand, the United Nations Development Program works primarily in the field of development.

Our resources do not get taken away from us to put into crisis handling as such, and it is another part of the UN system that deals with crisis. However, overall resources for development, yes, comes under stress as we are struggling to deal with the complex emergencies.

Ms. MCCOLLUM. Thank you. Mr. Chair, I bring that up because there was some discussion when I was with a group of international parliamentarians that there were signals coming from the United States Government that we were going to count our humanitarian aid as part of the funds going toward the Millennium Development Goals.

If we do that, we are doing the right thing by reaching out and helping people in immediate crisis. But when we do that and we count that as our development aid, that just pushes the years back further and further in which we can see these countries begin to stand up on their own and move forward. Thank you, Mr. Chair.

Chairman HYDE. Mr. Smith of New Jersey.

Mr. SMITH OF NEW JERSEY. Thank you very much, Mr. Chairman. I want to thank you and Mr. Blumenauer for his initiative on the legislation, and to you for convening this extremely important hearing.

Let me just ask you about our briefers from the United Nations. The USAID has made the point, and Jacqueline Schafer, Deputy Assistant Administrator, will also testify that the USAID will greatly exceed its commitment to water investments.

The 3 year total for the Water for the Poor Initiative obligations almost doubled the original commitment announced by Secretary Powell in 2002. Then it was $970 million pledged, and now the total is $1.9 billion.

And my first question is whether or not you think that is adequate, or what is your sense about that commitment? But also are other countries also stepping up to the plate to provide those kinds of resources?

And, secondly, I knew Jim Grant very well, and now I see Marty Rendon, who is a great friend of all humanitarian causes, and who worked previously for the Hunger Committee with Tony Hall, now our current Ambassador for the World Food Program. And Jim Grant never missed an opportunity to reach into his pocket and bring out a packet of oral rehydration salts when you would talk to him. While we are looking to expand capacity and resources, better modalities for government, and good governance, as it was pointed out in much of this testimony.

Are we doing enough in the area of meeting the existing, compelling need for oral rehydration salts, so that those who have bouts of diarrhoeal disease, which to the best of my knowledge is still the leading killer of children in the world, do get that low-cost, low-tech, and life-saving intervention? Please, answer those two questions, if you could.

Ms. TOBIN. Thank you. On the issue of resources, many countries now—and I think the World Summit on Sustainable Development was a turning point, in terms of focusing energy and attention on the unfinished business of supporting water and sanitation—the British, the Minister of Overseas Development, has made a statement that they will increase their resources for water and sanitation. The Netherlands, I know, is considering a number of proposals at the present time.

There is the EU water facility, which is reviewing a series of proposals, particularly focused on the Caribbean, Africa, and the Pacific, for support to both urban and water supply programs.

I think that there are certainly countries that are stepping up, but it is very important to prioritize. Those countries obviously do need assistance the most. I am not aware of the breakdown of support from USAID, in terms of the present allocation.

As I stated, I think sub-Saharan Africa, and looking at the coverage rates in some of the countries, particularly countries like

Ethiopia, there certainly is a need for support, particularly to countries with low coverage for both water and sanitation.

On the issue of oral rehydration, it is still an integrated top priority for us. We send obviously in our emergency assistance, it is a major part of what happens, but also for our regular control of diarrhoeal disease programs, and we have supported that with the World Health Organization.

And certainly as part of our child survival efforts, it is still supported and a major part of what UNICEF does.

Mr. KJORVEN. Just a brief supplement from our side. Obviously there are two sides to the equation, and it is true that until at least a couple of years ago that the overall trend in terms of assistance to water sanitation was going down, unfortunately.

Other issues had more priority from the donor countries basically. But that seems now to have been reserved. The other side of the equation is the government in the countries concerned. Quite frankly water and sanitation have not always been high on their agenda in many developing countries, especially when it comes to meeting the needs of poor communities.

But that also in many countries is starting to change, and so we now have a window of opportunity where both donor agencies, and governments in the north, and the countries of the developing world are seeing the same problem more or less in the same way and are ready to move forward.

Mr. SMITH OF NEW JERSEY. Thank you very much.

Chairman HYDE. The gentleman from American Samoa, Mr. Faleomavaega.

Mr. FALEOMAVAEGA. Thank you, Mr. Chairman. I want to commend you for calling this hearing. I also want to commend my colleague and friend from Oregon, Mr. Blumenauer, for introducing this legislation.

We have 191 member countries that make up the United Nations, and I understand that the total UN budget was about $1.34 billion. We are expending $1 billion a week in fighting the war in Iraq and Afghanistan. It comes down to the point that I wanted to make here, is the fact that there is always the problem of limited resources. And I think the problem is plainer than just talking about this particular issue of water. When you say water, health and sanitation are just as important and critical.

But what can you possibly do with $1.34 billion trying to meet the needs of 191 countries? Of course, I am aware also that 25 percent of that $1.34 billion comes from this country. And I am also aware that our country has been heavily criticized for not giving enough. Is that a fair statement as representatives of the United Nations; that we are not giving enough?

Mr. KJORVEN. I think what is quite abundantly clear is that there is a shortage of resources to meet the needs out there. That is very clear. On the other hand, the picture isn't quite as bleak as the Honorable Representative has stated, because fortunately the $1.34 billion are basically the assessed contributions to the UN from the member countries.

In addition to that, many governments, including that of the United States, give significant additional resources for develop-

ment. That is channeled through UNDP, UNICEF, and many other channels.

So the overall international aid envelope is now approaching, if I remember correctly, for all international aid roughly $70 billion dollars.

Mr. FALEOMAVAEGA. $70 billion?

Mr. KJORVEN. $70 billion. And UNDP, to speak for ourselves, we manage about $4 billion of those billions. So obviously we have resources to put to good use. On the other hand, the needs out there are so much bigger.

Mr. FALEOMAVAEGA. I am just curious, and I am not a psychoanalyst, but why is it that we have a tsunami in Southeast Asia that the whole world's attention is given. In fact, there was a bidding war among the countries as to how much they were willing to offer to give assistance to the victims, over 140,000 people that lost their lives.

Japan started bidding with $500 million, and Germany with $400 million. Our country didn't do too well initially, but I think we are earmarked for about $900 million to give to this disaster in Southeast Asia.

But when it comes to the genocide in Darfur, where over 300,000 lives have been lost, I hardly hear a peep out of anybody, and to say that this was not a worse disaster, where the United Nations and other countries of the world should really focus on.

I realize that this may not be on the issue of water, but I think there is a greater problem that I am trying to focus on here. If we can't do it on these basic fundamental issues, then how can we possibly give assistance on the issue of water itself if we can't even address—why is it when something like this happens, and when it happens in Africa, nobody wants to talk about it?

And I suspect that there are probably not even enough resources. Over 300,000 lives have already been lost, and I humbly consider that to be a genocide, and I wondered, am I missing something here? Or is this some psychological makeup where if it happens anywhere else in the world, we are there giving help? But if it happens in Africa, we don't seem to be giving much attention to this, and I suspect that probably no other region of the world has more water-related issues, or problems, or needs than Africa. Am I wrong on this, Ms. Tobin?

Ms. TOBIN. On the issue of Darfur, the United States has given support to UNICEF for water supply and sanitation for the displaced population in Sudan and in Chad, along with other countries.

Certainly the extent of the situation there has really meant a lot of mobilization at the UN, agencies working together to respond in a coordinated way to address the problem. We are coordinating the UN and the NGO response for water supply and sanitation there.

And we have had our challenges in responding to the situation, but we are doing our best and utmost to provide safe water and sanitation to everyone as quickly as we possibly can. Certainly——

Mr. FALEOMAVAEGA. My time is up, but I just want to give my question again. If you were to put priorities on a regional basis, what region would you say is the number one critical need as far as water is concerned? I guess Africa.

Ms. TOBIN. Sub-Saharan Africa.

Mr. FALEOMAVAEGA. And perhaps it may be our legislation could more specifically target Africa as the basis of our direct assistance, rather than trying to paint the whole world and suggest that even though two-thirds of the world's population is in the Asia-Pacific region, but would you agree that my humble observation that Africa is the number one priority as far as water is concerned?

Ms. TOBIN. I think for water supply the priority is the sub-Saharan Africa. I agree. It does not mean that attention is not needed in other regions, such as South Asia. But certainly the top priority for water supply is sub-Saharan Africa.

Mr. FALEOMAVAEGA. Thank you, Mr. Chairman.

Chairman HYDE. The gentleman from New Jersey, Mr. Payne.

Mr. PAYNE. Thank you very much. I also commend the Chairman for having this very important hearing on the global water crisis. I wondered, does your organization work closely with the UN Convention to combat desertification, and how are you interrelated?

Mr. KJORVEN. Well, the UNDP is very much engaged in supporting the implementation of the convention to combat desertification, and again that is particularly of relevance to sub-Saharan Africa, where the problems of land degradation, particularly in the drylands areas, make up the lion's share of that continent, is a key development and poverty issue.

The reality is that just as often as we have been struggling to help countries reduce the problem of poverty, we also see, because of land degradation, that new population groups actually fall into poverty, because there is a lack of appropriate management of land resources, and plus other trends, such as climate change and climate variability, which are key issues as well.

But we are working very closely and through the global environment facility, we have an instrument that is targeting interventions and to support countries to improve management of land in order to reverse desertification and improve the productivity of rural drylands in Africa.

Mr. PAYNE. Let me ask this. Is there—there are areas where—I know a specific area where water management is not done as well as it could be. Very specifically, Egypt feels that it controls the Nile, and that the Nile River belongs to Egypt. That the history of Egypt has to do with the Nile, and anybody that has anything to do with the Nile must check with Egypt first. Of course, Egyptians probably don't know geography too well, because the Nile does not start in Egypt.

It happens to be privileged to flow through Egypt, and therefore the fertile crescent bed in the development of world culture was a benefactor. One of the problems in my opinion of the Sudan is that Egypt does not want two Sudans because they control Sudan and the water. And they have gone along with genocide and anything that the Government of Sudan does from Khartoum because of the flow of the Nile. It actually threatened Ethiopia with aggression if they tamper with the flow.

And the Nile begins in Ethiopia and in Uganda, and it does not begin in Egypt. And there were some plans some 8 or 9 years ago that Ethiopia was interested in trying to prevent much of the wasted water that evaporates by altering some of the flow, which would

have benefitted Ethiopia, and reduced the waste, and really had no impact on the flow of the Nile.

And as a matter of fact, it had been much more efficient. Egypt said that any alteration was to them almost like a declaration of war. Has the UN been able to talk—because we were really interested in taking this case to a world court to determine who has jurisdiction over water that emanates out of that land—has there been any discussion, or have you heard of any of this quiet discussion that has gone on, regarding the Nile and Ethiopia and the source of the Nile in that manner?

Mr. KJORVEN. Thank you very much. UNDP, together with several other agencies, and also supported significantly by the United States, has been working with all the riparians to the Nile for several years. Working very quietly to help the 10 countries that make up the whole river basin come together to try to change the paradigm that you refer to, with a kind of zero sum competition between the countries.

And where you are right is that Egypt has tended to be the strong player in that game. This has changed rather significantly in recent years. We now have come to a point where the 10 governments share a commission and try to move forward together on the agenda of managing the Nile for the common good, and for all countries to come out as winners, rather than one country against all the others.

Even Egypt and Ethiopia are now cooperating on the issues that were before totally off-subject. So we see a significant change, even though we still—the Nile is still in a sense formally governed by a treaty, and that goes back to, I think, the 1950s, and according to many observers gives Egypt more rights relatively speaking than other countries.

However, even within that framework the riparian members of the Nile Basin Initiative, all 10 of them, or at least 9 with the exception of Eritrea, they are moving forward. And it is a significant achievement that is being made, not least thanks to support by the United States.

Chairman HYDE. The gentleman's time has expired. Ms. Tobin and Mr. Kjorven, thank you very much for a very illuminating testimony, and we appreciate it. We now will let you go, and invite our next panel forward.

Mr. John Turner was sworn in as Assistant Secretary of State for Oceans and International Environmental and Scientific Affairs on November 13, 2001. Prior to his appointment, he was President and Chief Executive Officer of the Conservation Fund, a national non-profit organization dedicated to public-private partnerships to protect land and water resources.

Assistant Secretary Turner received a Master of Science degree in Wildlife Ecology from the University of Michigan. Coincidentally, Mr. Turner recently returned from an official trip to the Jordan River Basin, where he researched water and sanitation issues.

Ms. Jacqueline Schafer was appointed Deputy Assistant Administrator for the Bureau of Economic Growth, Agriculture, and Trade, at the U.S. Agency for International Development, in September 2002.

She served as Director of the Arizona Department of Environmental Quality in the cabinet of Governor Jane D. Hall between 1999 and 2002. Prior to that, she was appointed Assistant Secretary of the Navy for Installations and Environment by President George H.W. Bush.

Mr. Turner, would you please proceed with a 5-minute summary, if you can do so. Your full statement will be made a part of the record.

STATEMENT OF THE HONORABLE JOHN F. TURNER, ASSISTANT SECRETARY, BUREAU OF OCEANS AND INTERNATIONAL ENVIRONMENTAL AND SCIENTIFIC AFFAIRS, U.S. DEPARTMENT OF STATE

Mr. TURNER. Thank you, Mr. Chairman, good morning. I certainly appreciate the opportunity to appear before you this morning and thank you and the other Members, especially Congressman Blumenauer, for prompting us all this morning to focus on the global crisis on access to water and sanitation, and I also appreciate your reference to my recent trip to the Jordan River basin to look at the issues of water and sanitation. That was motivated in part by the hearing that you conducted last year on that subject.

Mr. Chairman, obviously there are many reasons that we should focus on this morning's subject, and why we should all care about it.

First, simply, for humanitarian reasons. As Dr. Tobin and others have pointed out, approximately 5,000 people die each day from preventable diarrhoeal diseases. This is a daily count somewhat equivalent to two World Trade Centers.

Most of these deaths as you pointed out, Mr. Chairman, are children under the age of 5. That is a child dying somewhere in the world every 15 seconds due to unsafe water, inadequate sanitation, and poor hygiene, a situation that I don't think that any of us can tolerate.

Sanitation is equally as important, especially for women and young girls. Many girls simply fail to attend school due to the lack of sanitation facilities and basic privacy.

A second reason is the obvious link between health and economic development. Currently, over 50 percent of the world's hospital beds are filled with patients suffering from water-related diseases.

The World Health Organization estimates that by reducing by half the proportion of people that lack access to safe water and adequate sanitation, the world would save nearly $90 million annually.

In agrarian-based developing countries the economic dependency on water is even greater. When it rains, economies prosper; when it doesn't rain, those countries that lack the capacity to store and save water experience economic decline, food in security, and even famine.

A third reason water is important is for stability reasons. Over 40 percent of the world's population live in more than 260 watersheds that are shared by two or more countries. As water becomes scarce, tensions over shared resources are likely to rise, both within countries and among countries.

Fourth, I think we all recognize that water is an important tool in building democracies. Water is a motivator. People want to be

invested in decisions that affect their well-being, and daily quality of life. They welcome participatory decision-making, transparency, and accountability associated with water use at the local, national, and regional levels.

So what is the U.S. currently doing? Just briefly, at the State Department, our bureau works closely with USAID and other agencies to build strong connections between our diplomatic and development efforts.

In our work, three shared priorities have emerged. First, we must combine water and health in any forward looking strategy. Two, we must promote integrated water resource management; and third, we all have to work to develop creative approaches to financing.

The majority of U.S. assistance in these areas is implemented through multilateral partnerships among U.S. agencies with other donor nations, NGOs, and the business sector.

For example, on the priority of water and health, at the recent UN Commission on Sustainable Development, the United States joined in the launch of the Health Through Water Partnership, which brought together a number of donor nations and international organizations.

On integrated water management, the Department has worked with USAID and an international NGO called the Global Water Partnership to build a multi-donor program aimed at strengthening the capacities of countries to manage water, now being applied in 15 different countries.

The priority of financing is a major challenge. Meeting the long term water supply, sanitation, and waste water treatment needs in developing countries will require significant funding.

The U.S. has pioneered an approach using partial loan guarantees and pooled financing that reduces investment risks to stimulate local currency investment for water-related infrastructure.

These guarantees can leverage $10 to $20 for every dollar invested by the U.S. For example, in the Indian State of Tamil Nadu, a United States investment of approximately $400,000 mobilize nearly $6.4 million in private and public funding to provide water and sanitation services to some 600,000 people.

We have learned a number of lessons over the past few years. First, saving lives requires that we address water sanitation and hygiene together.

Second, our efforts must be demand driven. Stakeholders, especially local communities, must be involved.

Third, we must seek sustainable approaches. This requires that countries have the capacity to maintain and operate infrastructure and manage water properly over the long term.

Fourth, we must consider the cultural context of specific water interventions and technologies; and finally, the resources needed will far exceed the ability of any one donor or of all donors.

So we must look to mobilize local capital, mitigate investment risks, and support local entrepreneurship. The good news is that I believe the United States and its partners are implementing some very successful strategies.

Turning to H.R. 1973, while the Administration is not taking a formal position on this proposal, we are pleased to convey that the

basic thrust of this legislation is strongly compatible with the approaches of the Administration and meeting the critical challenges of improving access to water and sanitation.

We appreciate the bill's recognition of the vital role that partnerships of other governments, the private sector, NGOs, and others can play. In looking forward, Mr. Chairman, the challenge for the world community is, obviously, how do we scale up our collective efforts to leave a more positive legacy for future generations and the globe? Thank you, Mr. Chairman, and I look forward to any questions that you might have.

[The prepared statement of Mr. Turner follows:]

PREPARED STATEMENT OF THE HONORABLE JOHN F. TURNER, ASSISTANT SECRETARY, BUREAU OF OCEANS AND INTERNATIONAL ENVIRONMENTAL AND SCIENTIFIC AFFAIRS, U.S. DEPARTMENT OF STATE

Chairman Hyde and other Members of the International Relations Committee, I appreciate the opportunity to appear before you today to discuss the global water crisis and U.S. strategies to increase access to safe water and sanitation. I will present a brief overview of the global water situation and then quickly highlight some of the efforts the Department has taken to address these issues along with a few comments on the proposed "Water for the Poor Act of 2005."

THE GLOBAL WATER SITUATION

I can think of few challenges as important as water and sanitation for us to take on. Today, it is likely that more than 1.1 billion people lack access to safe drinking water; 2.6 billion people lack access to proper sanitation. Each year, over 3 billion people suffer from water related diseases: 2–5 million die. The CIA reports that, by 2015, nearly half of the world's population will live in countries that are water-stressed (i.e., have less than 1,700 cubic meters per capita per year).

Why should we care? For humanitarian and health reasons: Each day, approximately 5,000 people die from preventable diarrhoeal diseases alone. This number does not include the millions of people with compromised immune systems, such as those with HIV/AIDS, or those suffering from malnutrition, where chronic exposure to unsafe water can be a key contributing factor in their death. Most of these deaths are in children under 5 years of age—that's a child dying every fifteen seconds due to unsafe water, inadequate sanitation and poor hygiene. This human cost is unfathomable. Sanitation is equally as important—especially for women and girls. Women who don't have access to sanitation facilities must often defecate in public or hold it in until nightfall. Many girls fail to attend school due to the lack of private sanitation facilities. These are conditions that undermine human well-being and dignity.

We should also care for development reasons: Currently, over 50% of the world's hospital beds are filled with patients suffering from water-related diseases. The WHO estimates that by reducing by half, the proportion of people that lack access to safe water and adequate sanitation the world would save nearly $90 billion annually. India alone loses 73 million working days per year due to the lack of clean water and inadequate sanitation. In agrarian-based developing countries the economic dependency on water is even greater—when it rains, economies can grow; when it doesn't, those countries that lack the capacity to store and save water experience economic decline and food insecurity, even famine. We have seen cases where water mismanagement and water pollution can reduce GDP by more than 2%—that's enough to keep a country in poverty, or if remedied, set it on a path towards economic growth. Hurricane Mitch reminded us all of the tremendous economic damage that floods can bring to a region. Water is also a good investment. Depending on the region, investing a dollar in water supply and sanitation can yield as much as $34 in return.

Water is also important for stability reasons. More than 260 watersheds are shared by two or more countries. Over 40% of the world's population live in a shared basin. As water becomes scarce, tensions over shared resources are likely to rise—both within countries and among countries. Promoting joint management and using water to build trust and cooperation in conflict-prone regions are important tools in reducing the risks of future conflicts.

Finally, water can be an important tool in building democracies. Water is a motivator. Everyone everywhere wants reliable access to safe water. People want to

be invested in decisions that affect their well-being. They welcome participatory decision making, transparency and accountability associated with water use at the local, national and regional levels. I recently heard an interesting story from a friend at Water Partners International—a U.S.-based NGO working internationally on water. He recounted a statement from one participant in a water project in Honduras that electing a representative to his community water committee was the first time in his life that he had voted. That's democracy, that's how to build a culture of democracy.

In sum, the lack of access to safe water and sanitation, along with poor water management undermines human health and dignity, reduces economic productivity, and contributes to instability.

OUR APPROACH

So what are we doing? OES works closely with USAID to build strong connections between our diplomatic and development efforts—an approach which has tremendous support within the Department and is yielding significant results internationally. On water, three shared priorities have emerged: water and health; integrated water resources management; and financing. The majority of U.S. assistance in these areas is captured under USAID's "Water for the Poor" initiative which our USAID colleagues will discuss shortly. I will highlight some work in each area to give you an example of how we work together and a sense of what can be done to address the global water crisis.

On water and health, the Department and USAID have been working CDC/HHS and other U.S. agencies to reduce the incidence of diarrheal disease in a number of ways including: increasing access to technologies to disinfect and safely store water at the household level (commonly known as "point-of-use" water treatment); promoting hygiene education; and supporting risk-based vulnerability analyses of water supply systems (known as water safety plans). The point-of-use approach is particularly appealing for two reasons: First, it can save lives now. Second, it's market-based. In other words, many of these technologies can be locally manufactured and distributed at a profit for local entrepreneurs. Over time, our hope is that subsidies for these products can be reduced and, with the proper social marketing, the number of users will grow on their own. The international community has been hesitant to accept this approach. Over the years, the Department and USAID's efforts through the G8 and other international fora have generated broader interest. At the thirteenth session of the UN Commission on Sustainable Development last April, for example, the United States joined in launching the "Health through Water" partnership which brought together a number of donors including the UK, Australia, the WHO and UNICEF to mobilize resources and stimulate greater action around point-of-use and water safety plan approaches.

On integrated water resources management, the Department has worked with USAID and an international NGO called the Global Water Partnership to build a multi-donor program aimed at strengthening the capacity of countries to manage water. Currently, more than five donor governments invest resources through this program in over fifteen countries around the world. One of these partners, the Netherlands, brings more than money to the partnership—they bring Royalty. The Crown Prince of Orange serves as a patron of the Global Water Partnership and works with us to raise the profile of these issues. Within the UN, we established the Shared Waters Initiative to strengthen cooperative management of shared water resources. Through this initiative, we are working to support regional dialogue in a number of key basins throughout the world—including the Nile—with donor partners such as the GEF, World Bank, Sweden and the Netherlands.

Meeting the long-term water supply, sanitation and waste water treatment needs in developing countries will require money. Estimates vary, but it is clear that tens, perhaps hundreds of billions of dollars will be needed annually. Much of this will have to come from within the countries themselves. USAID pioneered an approach using partial loan guarantees that reduces investment risks to stimulate local currency investment in water-related infrastructure. With the backing of the U.S. Treasury, these guarantees leverage ten to twenty dollars for every dollar invested. Combined with financing mechanisms like those we have used in the United States—such as pooled funds and revolving funds—these approaches can provide sustainable financial support for both large scale projects and local entrepreneurs. In the Indian State of Tamil Nadu, for example, a U.S. investment of approximately $400,000 will mobilize nearly $6.4 million to provide water and sanitation services to an estimated 600,000 people.

Together, the Department, USAID and EPA have worked through a number of international fora to increase the adoption of this approach among bilateral donors,

international financial institutions and multilateral organizations. We have also sought out partners that can complement this approach to leverage additional resources. For example, the Department and USAID's Office of Development Credit are now working with Japan in three countries to combine our loan guarantee mechanism with concessional lending from the Japan Bank for International Cooperation to support local infrastructure development.

A WAY FORWARD

We've learned a number of lessons over the past few years. First, saving lives requires that we address water, sanitation and hygiene together. The health benefits will appear when we approach these needs in an integrated holistic manner. Second, our efforts must be demand-driven. Stakeholders must be involved. Third, we must seek sustainable approaches. This requires that countries have the capacity to maintain and manage infrastructure. When we help drill a well, we must ensure that it is done within the broader context of water use and reuse, considering agricultural needs, waste disposal, and longer-term groundwater quality. Fourth, we must consider the cultural context of specific water interventions and technologies. What works in Boise, might not work in Bangladesh. Finally, the resources needed will far exceed the abilities of any one donor—or all the donors—to provide. So, we must look to mobilize local capital, mitigate investment risks and support local entrepreneurship. And we must work in partnership—building coalitions with other countries, multilateral institutions, the private sector, faith-based group, and NGOs. In other words, diplomacy and development must go hand-in-hand.

The good news is that the State Department and USAID have already been successfully working in this manner on water.

WATER FOR THE POOR ACT OF 2005

While the Administration has not taken a formal position on the "Water for the Poor Act of 2005," we are pleased to convey that the basic thrust of this legislation is strongly compatible with the Department's views regarding the critical importance of these issues and the role that partnerships with governments, the private sector, NGOs and others can play. Success requires strong linkages between our diplomatic and development efforts; coordination among the agencies; partnerships with multilateral institutions and regional organizations—such as UN organizations, the World Bank, and the African Ministerial Council on Water; and engagement with the NGO, private sector and foundation communities. The Department, in close cooperation with USAID, is actively engaged in such an effort.

I thank you for this opportunity to testify before this committee on behalf of the Department of State. I would be pleased to answer any questions you may have.

Chairman HYDE. Thank you. Ms. Schafer.

STATEMENT OF MS. JACKEE SCHAFER, DEPUTY ASSISTANT ADMINISTRATOR, BUREAU FOR ECONOMIC GROWTH, AGRICULTURE AND TRADE, U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT

Ms. SCHAFER. Mr. Chairman and Members of the Committee, I am pleased to appear before you today on behalf of Administrator Andrew Natsios of the United States Agency for International Development to discuss both the strategic approach and the concrete actions that USAID is taking to promote access to safe water and sanitation in developing countries.

My State Department colleague has described the enormity of the global water challenge with great compassion and conviction. To achieve the Millennium Declaration drinking water target for 2015 alone, for example, new services would need to be provided for 260,000 people every day between 2002 and 2015.

The situation for sanitation is even more dramatic, and at least 350,000 more people per day would require improved access to sanitation services. But access to services or lack thereof tells only part of the story. Solving the problem will require us to think beyond the hardware, the wells, the plumbing connections, to under-

stand the roles of women, children, communities, and the local private sector, and to reform the national and municipal institutions that manage water supply and sanitation services, and protect the water resource itself so that today's solutions endure for future generations.

Building on more than five decades of engagement in the international water sector, USAID is an active participant in forging a globally accepted set of strategic principles for confronting the world's water challenges.

The water action plan agreed to by the G–8 countries at Evian, France, in 2003, fully reflects USAID's strategic direction, and the five core principles in this plan provide a useful framework to understand how our agency is addressing global water security.

These principles are to promote good governance, number one. That is, working to ensure that decisions about water resources are based on transparent, participatory and democratic institutions, with political commitments at the highest levels in each country to make necessary reforms and investments in the water sector.

Two, utilize all financial resources. That is, employing donor assistance in a catalytic way to help committed countries tap the enormous amount of private sector financing available, while making public investments more efficient and sustainable.

Three, building infrastructure by empowering local authorities in local communities. That is, creating local capacity to address water supply and sanitation needs through sound management from catchment to consumer, and ensuring fiscal responsibility for the ongoing maintenance of the water systems.

Four, strengthening monitoring, assessment, and research; that is, fostering stewardship of the water resource itself by monitoring and assessing the quality and quantity of water resources to guarantee that there is sufficient clean water for personal health and hygiene, crops and livestock, municipal and industrial uses, and fish and wildlife, and their habitats.

And, five, reinforce engagement of international organizations. That is, working constructively with others in the international water community, including donors, foundations, governments, faith-based and other non-profit organizations, community groups, universities, and the private sector, to bring our collective resources and expertise to bear on the global water challenge.

Turning each of these principles into reality require just the kinds of strengths that USAID brings to the table, including our worldwide long-term field presence in more than 100 countries around the globe, and our capability to apply solutions that are appropriate to local circumstances.

In the few minutes that I have, it is impossible to provide you with an in-depth view of USAID's entire water portfolio, and so I ask with your permission, Mr. Chairman, that my full prepared statement be included in the record of this hearing.

I would like to take this opportunity to go a little further from the introduction that Mr. Turner gave you about our Water for the Poor Initiative, and describe this program in a little bit more detail.

For the past 3 years—that is, 2003, 2004, and 2005—USAID has been carrying out a government pledge to invest at least $970 mil-

lion directly in international water management activities, and to leverage millions more in private sector resources.

The Water for the Poor Initiative was announced in 2002 at the World Summit on Sustainable Development (WSSD) by Secretary Powell and signaled the Administration's commitment to U.S. global leadership in the water sector in three interrelated areas: Water supply and sanitation, watershed protection, and agricultural and industrial water productivity.

As we end the 3-year initiative at the end of this fiscal year, as Mr. Smith pointed out, I am happy to report that USAID will greatly exceed the commitment to our water investment commitment at WSSD, and our total obligations are expected to reach $1.9 billion, almost doubling the original pledge.

I am running out of time to give you some details about what we have done with those water resources, but they fall into three categories; water supply and sanitation, watershed management, and water efficiency. Let me give you two examples if you will permit me.

Beyond the direct number of people served—and we believe we are reaching 12 million additional people already for water supply, and 21 million additional people for sanitation services—we are particularly interested in maximizing the human health benefits associated with the infrastructure investments that we are making. What lies behind these figures is important, and we have learned what it takes to ensure that today's water supply and sanitation investments last into the future.

One innovative example is the safe water system which was developed by the Centers for Disease Control and Prevention, and promoted by USAID, UNICEF, and the World Health Organization, and dozens of other public and private organizations in 28 countries.

The safe water system includes the provision of locally-produced water disinfectant and safe water storage containers, and the promotion of improved hygiene behaviors to reduce diarrhoeal diseases in children under 5 years old, and other vulnerable populations.

My second example is to tell you about the West Africa Water Initiative, or WAWI, for which is a partnership of 13 private and public organizations, where $5.5 million of USAID resources has been matched with $36 million from private organizations, such as the Conrad Hilton Foundation, World Vision, and UNICEF.

The objective of this program is to invest in small scale potable water supply and sanitation activities in rural and periurban areas in Ghana, Mali, and Niger. And by 2008, a minimum of 825 bore holes and 9,000 latrines are anticipated, reaching more than 450,000 people.

The social, financial, and environmental sustainability of these systems is paramount for the WAWI partners, and all partners are insisting on investing heavily in community mobilization, governance, policy development, hydrogeological analysis, information management, income generation, and hygiene behavior changes as essential complements to the hardware investments that are made.

So we are trying to take what is called a holistic approach to providing safe affordable water, and that is sustainable in these remote communities in this portion of Africa.

I could go on and give you some more details. It is in my prepared testimony, but I don't want to go too far beyond the 5-minute allocation. So I will conclude my statement there and say that I would be happy to try and answer any questions that the Committee Members may have.

[The prepared statement of Ms. Schafer follows:]

PREPARED STATEMENT OF MS. JACKEE SCHAFER, DEPUTY ASSISTANT ADMINISTRATOR, BUREAU FOR ECONOMIC GROWTH, AGRICULTURE AND TRADE, U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT

Introduction

I would like to thank you, Mr. Chairman and Members of this Committee, for the opportunity to appear before you today as you consider the U.S. Government's strategies to combat global water challenges, including access to safe water and sanitation in the developing world, and H.R. 1973, the "Water for the Poor Act of 2005." My summary statement, along with the submitted written testimony, responds to the Committee's request for information on each of the topics listed in your letter of invitation to testify.

The global water challenge is indeed large, but we are making progress. USAID's interventions are strategic and focus on creating the enabling environment for sound governance and financing, creating partnerships in the public and private sectors, and leveraging resources.

While it is correct to place emphasis on the delivery of water supply and sanitation services, we recognize that there is demand for reliable sources of clean water across multiple sectors in every country. USAID and other federal agencies involved in the delivery of technical assistance in the water sector remain committed to promoting the efficient management and development of water resources, consistent with the principles of Integrated Water Resources Management (IWRM), tailored to local conditions, and in partnership with government, private sector, and civil society institutions wherever we work.

We are more clearly articulating a shared understanding of the central role that water security plays in virtually all areas of the U.S. international development agenda. All of USAID's major goals and several U.S. national interests are affected by our success in achieving integrated water resources management, including peace and national security, economic and food security, human health, ecological sustainability, humanitarian response, and democracy and human rights (see Box 1).

BOX 1—WATER AND THE U.S. NATIONAL INTEREST

- *Peace and National Security.* Water security at the local, national, and transboundary scale can contribute enormously to promoting a peaceful and secure world, fostering local and international cooperation, and preventing a myriad of foreign policy, diplomatic, and security problems.
- *Economic and Food Security.* Sustainable water resources management has significant implications for promoting economic growth and agricultural productivity worldwide, and can yield concrete benefits for U.S. private sector abroad.
- *Human Health.* Water insecurity has a direct bearing on the health of billions of people around the world, due to insufficient water, water contamination from human activities, and poor sanitation and hygiene practices.
- *Ecological Sustainability.* Appropriate water quantity and quality guarantee the sustainability of ecosystems upon which human societies and economies depend today and in the future.
- *Humanitarian Response.* Actions to predict, prevent, prepare for, mitigate, and respond to natural and human caused water-related disasters can help protect huge populations, especially the most vulnerable, and limit damage to billions of dollars in property and infrastructure necessary for economic survival.
- *Democracy and Human Rights.* Democracy and water security are mutually reinforcing goals, and democratic forms of governance are both a requirement for and a product of sustainable, integrated water resources management (IWRM).

The U.S. Strategic Framework in International Water

USAID has worked in the water sector since the 1960s. In the early decades of its work, the Agency engaged in a wide range of water-related activities, including dam construction, irrigation works and agricultural practices, water and sanitation infrastructure, and capacity and institution building across the entire spectrum. With lower funding levels in recent decades, as well as an increased emphasis on the human, social, economic and political dimensions of water resources management, interventions moved away from capital infrastructure activities toward the policies, laws, institutions, operational strategies, and financing necessary to build upon and sustain progress over the longer-term. In strategic states such as Egypt, Jordan, West Bank/Gaza, and most recently in Afghanistan and Iraq, USAID continues to invest in capital infrastructure, including public works for water supply and sanitation. USAID also undertakes capital projects in post-emergency humanitarian and reconstruction response, such as hurricanes, earthquakes, or the recent South Asia tsunami. Such capital intensive projects have been the exception. Our strategic approach has been to work with countries that have made clean water and public health a national goal to improve water sector institutions and reform water and sewerage utilities so they are financially sustainable and capable of providing reliable and affordable water to their people.

Since 1998, USAID has become increasingly engaged in the international dialogue on water, sharing the Agency's technical experience and promoting policy initiatives and development models at globally recognized events, including the World Water Forums (2000; 2003), the World Summit on Sustainable Development (WSSD, 2002), and the Commission on Sustainable Development (CSD, 2004; 2005). USAID has supported the USG commitment to the internationally agreed goals contained within the Millennium Declaration and the Johannesburg Plan of Implementation related to water, sanitation, and water resources management (see Box 2).[1]

BOX 2—SHARING AN INTERNATIONAL COMMITMENT

USAID is working with other U.S. Government agencies and the international community to accelerate and expand international efforts to achieve both United Nations Millennium Declaration Goals and the Johannesburg Plan of Implementation resolutions related to water, sanitation and Integrated Water Resources Management (IWRM):

"Halve, by the year 2015.....the proportion of people who are unable to reach or afford safe drinking water" *(Millennium Declaration)*

"Halve, by the year 2015, the proportion of people who are unable to reach or to afford safe drinking water....and the proportion of people without access to basic sanitation." *(Johannesburg Plan)*

"Develop integrated water resources management and water efficiency plans by 2005, with support to developing countries....." *(Johannesburg Plan)*

Water: A G–8 Plan of Action (2003)

Building on the outcomes of these international events and declarations, the G8 countries agreed to a "Water Action Plan" at the G8 Summit at Evian, France in 2003.[2] This Plan lays out principles that reflect USAID's strategic direction in the international water sector, and provides a useful framework to understand the Agency's programming priorities for water supply, sanitation, and water resources management.

The Plan lays out five major areas in which USAID is currently taking a significant leadership role in its international water programs:

- Promoting good governance;
- Utilizing all financial resources;
- Building infrastructure by empowering local authorities and communities;
- Strengthening monitoring, assessment, and research; and

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[1] See United Nations General Assembly Resolution 55/2 of 8 September 2000 (http://daccessdds.un.org/doc/UNDOC/LTD/N00/631/37/PDF/N0063137.pdf?OpenElement) and the Johannesburg Plan of Implementation 2002 (http://www.un.org/esa/sustdev/documents/WSSD__POI__PD/English/POIToc.htm)

[2] http://www.g8.fr/evian/english/navigation/2003__g8__summit/summit__documents/water__a__g8__action__plan.html

- Reinforcing engagement of international organizations

While each of these areas will be discussed separately, USAID's water sector activities individually and collectively incorporate and integrate all of these core strategic principles to maximize the effectiveness of the Agency's investments.

Promoting good governance is at the very heart of the U.S. international water sector strategy. USAID actively promotes an integrated water resources management approach, emphasizing transparent and capable institutional and legal frameworks from the local to the river basin, watershed, or coastal landscape scale. The Agency's interventions furthermore work to build the political will and commitment of countries to ensure both adequate delivery of water, sanitation, and hygiene services and the sustainability and protection of the water and watershed resources and ecosystems upon which these services depend, including lakes, reservoirs, rivers, groundwater, and coastal/estuarine zones (see Box 3).

BOX 3—PROMOTING GOOD GOVERNANCE

- Integrated river basin management, governance, and institutional strengthening has been the focus of efforts in *Morocco's Souss-Massa River Basin*, where USAID's investment over 10 years has improved water resources management and developed a model for basin governance that can be replicated throughout the country.
- In the *Okavango River Basin in Southern Africa*, a new USAID transboundary activity will work to strengthen the capacity of the regional river basin commission and participating governments to reform policies, improve water management planning, and encourage more efficient utilization of water resources among competing sectors. The project will develop the capacity of communities to manage water and ecological resources in a sustainable manner.
- A long-standing program in the 326,000-hectare *Panama Canal Watershed* supports watershed and land use management to ensure efficient operation of the Canal, protect biodiversity, and enhance livelihoods of residents. Institutional strengthening at the watershed scale is coupled with local governance support and promotion of best practices to maintain vegetative cover, protect water quality, and strengthen protected areas management.
- In *Jamaica*, USAID is the leader on a 'Ridge-to-Reef' approach in target watersheds and coastal areas, focusing on reducing the impact of contamination from agricultural runoff and nutrient-rich sewage effluent through interventions for improved agricultural practices and watershed management, education, and enforcement. The program utilizes a participatory governance approach to identify and prioritize interventions and has established extensive stakeholder and community consultations to achieve local ownership and commitment.
- In *Indonesia*, USAID has linked the delivery of services in water supply, sanitation and hygiene to upper watershed management and the maintenance of the environmental services provided by intact systems. A focus on improved health through integrated water supply and sanitation services, hygiene behavioral change, food security, and healthy ecosystems is undertaken through the involvement of stakeholders in decision-making, the full engagement of the public and private sectors, as well as the proper policy and enabling environment for financial and environmental sustainability.
- USAID's support to *Romania* replaces a centralized governance approach with a participatory, demand-driven system for more sustainable water resources management. Through participation in Water Users Associations (WUAs), farmers in the Danube River Valley were trained in improved irrigation and soil management practices. Ongoing training and technical assistance supports WUAs and relevant agencies with WUA organization, management, financial administration, and operation and maintenance of irrigation systems.
- USAID has supported a worldwide program to improve integrated lake and reservoir basin management, with pilot projects in *India, Nicaragua, Kyrgyzstan, Philippines, Armenia, Ethiopia*, and *Indonesia*. The effort established an international network of lake basin managers for increased awareness and exchange of information. It also develops and distributes best management practices, develops and provides access to lake basin management tools, and provides technical assistance for capacity building in select lake basin communities and countries. Partners included LakeNet, the Inter-

national Lake Environment Committee, the Japanese Prefecture of Shiga, the World Bank, the Global Environment Facility, and lake managers and researchers from over 25 countries.

- Integrated water resources management is a major focus of USAID's assistance to *Jordan* and supports the effective use of reclaimed water, the promotion of irrigation efficiency, the reduction of unaccounted-for municipal water, and improved cost recovery. The Ministry of Water and Irrigation (MWI), with USAID support, has helped satisfy the rapidly growing demands of communities, industries, and farmers in the face of very limited water resources. As the leading donor in the water sector, USAID has provided a mix of construction activities, technical assistance, and institutional strengthening.

Utilizing all financial resources from the public and private sectors is absolutely necessary to address the enormous water challenges facing the developing world. Access to clean drinking water and adequate sanitation in particular will only become a reality through substantial private sector investment and public-private investments in the protection of water source areas. Mobilizing these resources is a formidable challenge and will require significant legal and regulatory reforms and interventions, credit enhancements, commercial advisors and managers, an enabling public sector, and a public willing to pay market-based rates for water. USAID is a global leader in promoting innovative models to leverage capital for water and wastewater infrastructure through loan guarantees and other credit enhancements, revolving funds, private sector partnerships, payments for environmental services, and enhanced donor coordination (see Box 4).

BOX 4—UTILIZING ALL FINANCIAL RESOURCES

- In *India*, USAID used its Development Credit Authority (DCA) as a credit enhancement for the pooled financing of several municipal urban infrastructure projects. DCA is a proven and effective tool that permits USAID to issue partial loan guarantees to private lenders to achieve economic development objectives, helping mobilize local capital in creditworthy but underserved markets. In the state of Tamil Nadu, $6.4 million was made available to participating municipalities, providing benefits to an estimated 593,000 people. The pooled financing mechanism supported by DCA will provide investment funds to small and medium urban local bodies (ULBs) to implement water and sanitation projects, which will benefit low-income populations. USAID also used a DCA guarantee to support the second pooled municipal bond issuance to improve and expand provision of water and sewerage services in the Bangalore Metropolitan Area, through a $21.7 million bond for eight municipalities.
- DCA credit enhancement in *South Africa*, complemented by technical assistance and utility performance standards, is supporting water and sanitation service expansion. Municipal management improvements are matched with capital investment, resulting in expanded quality and quantity of water and sanitation services to the urban poor. This effort builds on successful financing of earlier water projects, such as municipal loans to the Greater Johannesburg Metropolitan Council, which the DCA helped place with ABSA Bank.
- Private sector participation in the infrastructure sector has historically been limited in *Egypt*. With USAID assistance, however, the Ministry of Housing and the South Sinai governorate in Egypt agreed to outsource the operations and maintenance for an entire water system covering nine cities, including plants, pumping stations, and networks. Under this new arrangement, the governorate focused on contract management and collections, and held the contractor accountable for performance through a performance-based contract. With a DCA guarantee, local commercial banks will provide up to $40 million in loans to improve and expand water and wastewater services, and serve as a model for replication in other parts of the country.
- In the *Philippines*, as part of the U.S.-Japan Clean Water for People Initiative announced at WSSD, USAID and JBIC launched the "Municipal Water Loan Financing Initiative" (MWLFI) with local partners, the Development Bank of the Philippines (DBP), and the Local Government Unit Guarantee Corporation (LGUGC). The MWLFI will facilitate the financing of local water supply and sanitation programs by combining Japanese development assistance funds with a matching amount of private sector Philippines resources

guaranteed by LGUGC and DCA. The "Philippines Water Revolving Fund" was also initiated based on a U.S. state/local model, and the government of the Philippines is receiving assistance to make the necessary regulatory changes to establish the fund. This model is being followed closely by the governments of other Asian countries.

- In *Mexico*, USAID supported the development of a national regulatory framework that allows for the creation of municipal bonds. Having achieved success, USAID's partners are now working with municipalities to structure favorable bond issuances that enable the municipalities to tap the local capital market to finance vital infrastructure projects.
- Working with a variety of partners in Latin America and Asia, USAID is exploring ways to link payment by downstream users for environmental services provided by upland watersheds, as a way to promote watershed management. USAID projects in *Jamaica, Tanzania*, and *Panama* are in various stages of analysis, development and implementation of such mechanisms to support financing of environmental services provided by healthy watersheds, including safeguarding water supplies and reducing sedimentation into hydroelectric dams.

USAID programs are likewise committed to *building infrastructure by empowering local authorities and communities* through programs that promote community ownership and participation; decentralized and transparent governance; household level technologies for basic sanitation and safe drinking water; and the vital role that women play in meeting community water, sanitation, and hygiene goals. USAID is especially committed to improving the reach of our foreign assistance mandate by increased involvement in public-private alliances, and created the Global Development Alliance (GDA) to support the development and consolidation of such partnerships. By forging and supporting alliances in the water sector, USAID is helping to mobilize the ideas, efforts, and resources of governments, businesses, and civil society to address the need for water supply, sanitation, and sustainable financing (see Box 5).

BOX 5—BUILDING INFRASTRUCTURE BY EMPOWERING LOCAL AUTHORITIES AND COMMUNITIES

- The *West Africa Water Initiative (WAWI)* is a $42 million, seven-year partnership of thirteen private and public organizations created in 2002 by the Conrad N. Hilton Foundation. WAWI's objective is to invest in small-scale potable water supply and sanitation activities in rural and peri-urban areas in Ghana, Mali, and Niger, with these activities serving as the entry point for an integrated approach to water resources management and development. USAID's commitment as part of this alliance is about $5.5 million to be spent over four years (FY02–05), matched by over $18 million from the Hilton Foundation, and an equal amount from the other partners. The full range of activities that will be undertaken by all partners includes enhanced governance and the enabling environment, well drilling and rehabilitation, alternative water source development, construction of latrines, household and school based sanitation and hygiene education, community mobilization, hydrogeological analysis, policy development, livelihoods, income generation and food security, information management, and gender mainstreaming. By 2008, a minimum of 825 boreholes, 100 alternative water sources for income generation, and 9,000 latrines are anticipated, reaching more than a 450,000 people. The WAWI partnership is currently engaged in strategic planning about the future, including consideration of how to replicate and scale up its model.

  Partners: Conrad N. Hilton Foundation, USAID, World Vision, WaterAid, UNICEF, Desert Research Institute (DRI), Winrock International, the Cornell International Institute for Food, Agriculture and Development (CIIFAD), Lions Clubs International, the International Trachoma Institute, the World Chlorine Council, the U.N. Foundation, and Helen Keller International.
- The *Safe Drinking Water Alliance* is a strategic public-private collaboration to develop innovative program approaches for ensuring the safety of household water intended for human consumption. In late 2003, USAID, Johns Hopkins Bloomberg School of Public Health/Center for Communication Programs, CARE, Population Services International, and Procter & Gamble

joined forces to leverage their respective expertise and resources to better understand the behaviors and motivations for choosing particular technologies for treating household water, share the knowledge gained, and identify opportunities for scaling up successful efforts to ensure safe drinking water. USAID is supporting the Alliance with $1.4 million to implement programs in Pakistan, Haiti, and Ethiopia which leverage in-kind and financial contributions from Procter & Gamble estimated at approximately $3.5 million, as well as technical and program support resources from the other partners.

Partners: USAID, Johns Hopkins Bloomberg School of Public Health/Center for Communication Programs, CARE, Population Services International (PSI), and Procter & Gamble

- USAID is launching a new global *Community Watershed Partnership* with The Coca-Cola Company to provide grants in eligible beneficiary countries to support community watershed protection and improved water supply and sanitation for the world's poor. Projects will involve collaboration among USAID Missions and implementing partners, local and national governments, and local Coca-Cola bottlers to develop and implement a range of activities appropriate for each country. In the first year, the $2.3 million partnership will initiate activities in Mali, Bolivia, and one other location to be selected through a competitive grants process.

  Partners: USAID, The Coca Cola Company, and the Global Environment and Technology Foundation

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Sound water resources management requires *strengthening monitoring, assessment, and research* in order to support water resources management decision-making with sound science and information. USAID is supporting data-collection and information management in most of its country-level programs. For example, in the Okavango River Basin in southern Africa and the Kura-Aras Basin of the South Caucasus, transboundary information collection, management, and data-sharing protocols are fundamental to the larger tasks of river basin management. Other examples include the installation of automated meteorological stations to improve the regional network for weather and snowmelt data collection in the five Central Asian Republics; remote sensing and GIS analysis applied to drought forecasting in Africa and lake basin management in Kyrgyzstan and Armenia; and participatory water quality monitoring in the Pastaza River in Peru. The Agency also supports sector-level applied research through its core support to international research networks and universities (see Box 6).

BOX 6—STRENGTHENING MONITORING, ASSESSMENT, AND RESEARCH

- *Collaborative Research Support Programs (CRSPs)* are communities of U.S. Land Grant Universities that work with developing country agricultural research systems, international agricultural research centers, U.S. agribusinesses, private voluntary organizations, developing country colleges and universities, USAID, and other federal agencies such as USDA. Water-related applied research, development of decision-support methods, development and dissemination of technical tools and approaches to increase efficiency and sustainability, and building of local capacity for participatory governance and management are promoted through CRSPs that focus specifically on Pond Dynamics/Aquaculture (PD/A) and Sustainable Agriculture and Natural Resource Management (SANREM).
- The *Consultative Group on International Agricultural Research (CGIAR)* is an association of public and private members supporting a system of 15 International Agricultural Research Centers that work in more than 100 countries. The CGIAR mobilizes cutting-edge science to reduce hunger and poverty, improve human nutrition and health, and protect the environment. The Group's mission is to contribute to food security and poverty eradication in developing countries through research, partnerships, capacity building, and policy support thereby promoting sustainable agricultural development based on the sound management of natural resources. USAID provides core support to several CGIAR centers, including the International Water Management Institute (IWMI) and the World Fish Center. In addition, since 2000, IWMI staff members have participated in long-term secondments to the USAID Water Team.
- USAID is supporting development of a methodology to determine the needs for *Freshwater Inflow to Estuaries*. In late 2003, USAID, The Nature Conser-

vancy and the University of Rhode Island Coastal Resources Center launched an ambitious project to develop and apply low-cost methods for assessing changes in volumes, pulsing, and quality of water to estuaries, and to work with governmental and non-governmental stakeholders to formulate action strategies to begin to address the consequences of such changes. Pilot initiatives are underway in both the Dominican Republic (the *Yuna River/Samana Bay*) and in Mexico (*Laguna de Terminos*), and a Methods Guide will be available in early 2006.

- Methodologies and approaches adapted to the developing country context in *Water Resources and Watershed Economic Valuation* have also been advanced by USAID through pilot activities in Latin America and elsewhere, documentation of lessons learned, and dissemination of a "how-to" manual for USAID officers to integrate valuation approaches in their water management programs.

Finally, USAID collaborates with other donors and international actors to *reinforce engagement of international organizations* in the common goal to avert a world water crisis and meet the global challenges to provide water supply, sanitation, and sustainable water resources and watershed management for all. USAID works with national governments, financial institutions, and others to leverage capital from private domestic markets through sub-sovereign lending, guarantee and insurance schemes for risk mitigation, and sovereign and foreign exchange risk coverage. The Agency also engages at the highest levels with major international organizations (including the UN agencies, International Financial Institutions (IFIs), other bilateral donors, international public-private networks, non-governmental organizations) to advance collaboration on integrated water resources management (see Box 7).

BOX 7—REINFORCE ENGAGEMENT OF INTERNATIONAL ORGANIZATIONS

- USAID has partnered with the U.S. Department of State and the Global Water Partnership (GWP) to advance the development of *Integrated Water Resources Management (IWRM) Plans* at the national level in three target countries—El Salvador, Ethiopia and Indonesia. The project seeks to improve management of water resources and increase access to safe drinking water and sanitation through building national capacity to develop, manage, and implement integrated water plans; strengthen civil society involvement in the development planning process; and support transparent and accountable water governance in each focus country. In addition, the process will promote greater engagement by countries with the donor and NGO communities to develop specific activities that address priority needs. Progress made by the focus countries will serve as a model for "bottom-up," partnership-driven approach to sustainable development and strengthens a mechanism other donors can use to support country efforts to develop integrated water resource management plans.
- Along with other major international organizations including the World Bank and UNICEF, USAID is a founding member of *The Global Public-Private Partnership for Handwashing with Soap*, which works to reduce the incidence of diarrheal diseases in developing countries by promoting changed hand washing behaviors. The initiative brings together the public sector, soap companies, and leading research institutions, making use of market and consumer studies to develop professional campaigns targeting high-risk groups such as children and mothers. Campaign channels include mass media, direct consumer contact, and government programs. Initiatives are active in Ghana, Nepal, Peru and Senegal. A global team closely monitors and synthesizes experiences to enable the continued development of state-of-the-art programs worldwide. Other partners include The World Bank and WSP, the London School of Hygiene and Tropical Medicine, the Academy for Educational Development, USAID, UNICEF, the Bank-Netherlands Water Partnership, and soap manufactures such as Colgate-Palmolive, Procter & Gamble, and Unilever.
- The Cities Alliance was launched by the World Bank and United Nations Centre for Human Settlements (UN-Habitat) in 1999, with members including all the G–7 governments plus Brazil, Netherlands, Norway and Sweden, the Asian Development Bank, UN-Habitat, the United Nations Environment Programme, the World Bank, and local authorities, represented by United

Cities and Local Governments (UCLG) and Metropolis. Alliance partners have joined forces to expand the level of resources reaching the urban poor, by improving the coherence of effort among on-going urban programs, and by more directly linking grant-funded urban development cooperation with investment follow-up. Created in 2002, *The Community Water and Sanitation Facility (CWSF)* within the Cities Alliance increases access to water and sanitation by providing grants to catalyze community-endorsed construction of improved water and sanitation services, and risk sharing and innovative financing. CWSF, through partnerships with private sector businesses, foundations, NGOs, CBOs, bilateral donors, multi-lateral development banks, and national and local governments will mobilize resources to support the efforts of slum dwellers and municipal governments to scale-up improvements in water access and sanitation.

Coordination and Implementation of Water Activities at USAID

Consistent with all of USAID's work, the Agency's portfolio of water activities is largely (but not exclusively) comprised of activities led by more than 100 Regional and Bilateral Missions and their implementing partners. Guided by our belief that water resource management problems and development challenges are best addressed by locally driven solutions, in locally appropriate ways, our worldwide portfolio of activities in 78 countries is designed and implemented in direct consultation with local and national partners and in the context of USAID country strategic planning. All activities emphasize and track measurable outcomes.

The Agency targets and tracks progress in 13 categories of water-related activities, including those related to: (1) water supply, sanitation, and wastewater management; (2) natural resources management; (3) economic development and food security; and (4) disaster preparedness. As for technical and sectoral areas of focus, an analysis of USAID's portfolio and expenditures reveals that Regional Bureaus and Missions are engaged in a broad spectrum of water activities across all sectors. For example, we have activities focused on the health and welfare of rural households (water supply, point of use water treatment and safe storage of water in the household, sanitation, and hygiene promotion), on the needs of urban areas (infrastructure and improved utility operations), on economic growth (often with emphasis on energy and industry), on food security (irrigated agriculture and soil/water quality), and on disaster management and humanitarian response.

To complement these targeted, locally demand-driven efforts, we strive to ensure that lessons learned are shared across the Agency's portfolio, and that an IWRM approach increasingly informs strategic plans and activity designs. In this way we continually endeavor to capture the best of *USAID's* local experience while sharing knowledge about the best of the world's experience with our Mission program staff. Our Agency Water Team is a good example of how we are working to coordinate across sectors, across Bureaus and Missions, and across agencies. We have several units at USAID/Washington that work on various parts of the integrated water resources management challenge, and these include our Urban Programs Team, our new Engineering and Infrastructure Office, our Office of Development Credit, our Global Health Bureau, our Office of Foreign Disaster Assistance, and each of our four Regional Bureaus. All of these units and more participate on our extended Agency Water Team which provides Mission support, knowledge management, and technical leadership in interagency processes and international fora. In this fashion, we coordinate internally, while contributing to and keeping abreast of the latest developments and best practices in the field of IWRM.

Beyond this considerable pool of technical expertise within the Agency, our implementation partners bring a wealth of experience and knowledge to our collective efforts. Our partners include universities, NGOs, faith-based organizations, international institutions (including the CGIAR centers), and a number of highly experienced private firms involved in the delivery of water services for decades. USAID's long-term presence in target countries provides a particular advantage in such collaborations, by establishing continuity with foreign governments and other partners, and providing necessary contextual perspective to achieve the aims of IWRM.

USAID Investment and Impact in the Water Sector

Water for the Poor Initiative

In 2002, Secretary of State Colin Powell announced the $970 million U.S. Government "Water for the Poor" Signature Initiative at the World Summit for Sustainable Development in Johannesburg. The three-year initiative has provided substantial

resources to improve sustainable management of water resources and address needs for increased access to water and sanitation.

Over the two and a half years since WSSD, USAID has made major progress in addressing the serious water resource management concerns facing developing countries around the world in each of the three component areas of the Initiative:

- access to clean water and sanitation services;
- improved watershed management; and
- increased water productivity.

Summary of Investments to Date

USAID will greatly exceed its commitment to water investments made at WSSD. The three-year total "Water for the Poor" Initiative obligations almost double the original commitment announced (with $970 million pledged, and an estimated actual total of $1.9 billion invested).

- Included in the *"Access to Clean Water and Sanitation Services"* category are projects involving construction and rehabilitation of water treatment plants, water and sewer networks, wells, and sewage treatment plants, as well as health and hygiene promotion programs that will vastly increase the health impact of infrastructure investments. Over the three years of the Initiative, USAID originally committed to providing $510 million in programs worldwide for water supply, sanitation and health projects. In the first two years of the Initiative, and excluding expenditures in Iraq, USAID actually invested about $400 million in over 60 countries to improve water services, sanitation, and wastewater treatment services to underserved populations. Estimates for the third year of the Initiative indicate an additional $392 million to be spent, bringing *the three-year total for the category (not counting Iraq) to $792 million*. Water supply, sanitation, and wastewater obligations in Iraq from FY03–05 add another $562 million to this amount, for a grand total of $1.31 billion over three years. In addition, USAID's Development Credit Authority has helped secure loan portfolio guarantees in South Africa, The Philippines, Morocco, India, Bosnia, Kyrgyzstan, Egypt, Honduras, and Ukraine, all expected to leverage over $228 million in private funds for water supply and wastewater services to supplement direct assistance.
- The second principal component of the Water for the Poor Initiative is *"Improved Watershed Management."* USAID committed to investing nearly $400 million over the three-year Initiative to integrate surface water, aquifer, and coastal zone issues to protect watersheds and better manage water and coastal resources. Activities include the development of policies, institutions, and management strategies at the regional, national, and local scales for improved watershed management and interventions to reduce water pollution. In the first two years of the Initiative, USAID invested $189 million on integrated watershed and coastal area management in over 50 countries, excluding Iraq. An additional $103 million is estimated to be spent in 2005, bringing *the three-year total for the category (less Iraq) to $292 million.* Iraq expenditures from FY03–05 add about $5 million more, for a grand total to $297 million over three years. The original target of $400 million was based on straight-line projections from prior year obligations, and the shortfall during this recent three-year period is explained by shifting priorities and programs, including greater investments in the other two components of the Water for the Poor Initiative.
- The final component of the Water for the Poor Initiative is *"Increased Water Productivity"*. In many parts of the world, water is becoming a constraint to economic growth and food production. Increasing diversions of surface water, over-abstraction of groundwater, and water quality deterioration threaten the sustainability of the resource and, in turn, the food production systems and economies. The productivity of water use can be improved in the agricultural, industrial, and commercial sectors. However, at the global level, agriculture consumes more than 70 percent of the freshwater used, and some of the most significant savings can be made by improving the efficiency of water use in that sector. In some countries, such as many in sub-Saharan Africa, there is potential to couple conservation and demand management with further development of water resources for agriculture and aquaculture. As part of the Water for the Poor Initiative, the United States committed to investing $60 million over three years to ensure that agricultural and industrial water use is as productive as possible. In the first two years of the Initiative, USAID invested $184 million in water productivity activities in 40 countries. In 2005,

$43 million additional is expected to be spent, bringing *the three-year total for the category (less Iraq) to $227 million*. An additional $23 million has been spent in Iraq from FY03–05, making the grand total invested in this category $249 million over three years.

The Water for the Poor Initiative commitment and actual obligated amounts for the three years of the Initiative are summarized in Table 1.

Table 1—SUMMARY OF ESTIMATED USAID OBLIGATIONS WATER FOR THE POOR INITIATIVE—FY 2003–2005

(millions of dollars)

CATEGORY	YEAR			
	2003	2004	2005	ALL YEARS
TOTAL WITHOUT IRAQ				
Water Supply, Sanitation, Hygiene	159.86	239.825	391.83	791.515
Watershed Management	105.656	83.338	103.154	292.148
Water Productivity	115.606	68.414	42.815	226.835
SUBTOTAL	381.122	391.577	537.799	1310.498
IRAQ ONLY				
Water Supply, Sanitation, Hygiene	218.863	324.935	17.8	561.598
Watershed Management	4	1	0	5
Water Productivity	0	22.652	0	22.652
SUBTOTAL	222.863	348.587	17.8	589.25
GRAND TOTAL INCLUDING IRAQ	603.985	740.164	555.599	1899.748

Summary of Impacts to Date

Among the major results achieved since the onset of the Initiative in the 78 countries where the Agency has implemented water programs, USAID can report that:

- Over 12,163,000 people in developing countries have received improved access to clean water supply;
- Over 21,395,000 people have received improved access to adequate sanitation;
- Over 2,400 watershed governance groups were convened and supported to undertake ongoing basin-scale, integrated water resources decision-making to address a diversity of water uses and needs; and
- Over 203 watershed management plans have been developed and approved by stakeholders at the watershed or basin scale.

Beyond these raw numbers, the types of interventions funded by USAID have contributed to a permanent shift in the way in which water resources management and water supply and sanitation service delivery are approached in the countries served, including:

- Improved institutions and enabling policies to permit mobilization of domestic capital from public and private sources to meet the needs of unserved populations in water supply and sanitation;
- Enhanced capacity of communities, governments, civil society, and the private sector to manage water resources and provide services in an efficient and effective manner;
- Strengthened structures for transparent, democratic governance, decision-making, and conflict resolution about water resources shared among many users;

- Increased opportunities for constructive partnerships between the public and private sectors, and among donors and international institutions;
- Increased sustainability of the natural resource base required to provide water services and process waste products;
- A more integrated vision and technical approach that links benefits from water resources management to other development goals including health, economic growth, education, and democracy and governance.

Looking Ahead: Water in the USAID Strategic Framework

The Agency is presently revising its approach to strategic planning, in general, moving beyond individual country strategies towards a core set of shared Agency Program Components, coupled with regional strategic frameworks that more comprehensively and strategically identify needs and priorities. Water-related activities are directly addressed in 3 of the 40 program components that will be explicitly targeted and tracked in the new Agency framework, and indirectly addressed in many others. One of USAID's new program components and associated common indicators deals directly with improving access to clean water and sanitation.

Our Regional Bureaus are now developing their own strategic frameworks consistent with the overall USAID program components, while remaining focused on the comparative advantage that USAID has within their region, and the mix of international interests and factors that must be considered in designing development assistance activities. Those regional frameworks are just emerging, but some can be expected to focus on the central role that successful water resources management plays in achieving and sustaining development objectives, including the reduction of conflict.

Financing water infrastructure is another major development challenge. For the Middle East alone, for example, to raise region-wide coverage to 90 per cent for water supply and 80 per cent for sewerage and sanitation, the World Bank estimates that additional water investment requirements are on the order of $5 billion annually. Funds from the international donor community are expected to meet less than 5 per cent of the financing needs. Access to clean drinking water and sanitation for much of the world will only become a reality through substantial municipal and private sector investment. USAID believes that regional solutions will play an important role in resolving serious water shortages, and our emerging Regional Bureau strategic frameworks will support the establishment of enabling environments and pooled financing mechanisms needed to attract municipal and private sector investment for water infrastructure.

All regions where USAID works are committed to addressing water resources management and water supply and sanitation service delivery in the most strategic and appropriate ways possible within the context of other national priorities, as well as Agency and U.S. government commitments and funding realities for each region.

Donor Coordination

To achieve the drinking water target in the Millennium Declaration for 2015, an additional 1.2 billion people will need access from 2002 to 2015. This number translates into providing new services for 260,000 people *every day* until 2015. The situation for sanitation is even more dramatic, and at least 1.8 billion will require sanitation from 2002 to 2015, or 350,000 new people per day.[3]

The total costs of meeting these 2015 targets depend on the type and level of service that will be provided, and the strategies employed to reduce the service deficit. The choice of countries, the urban-rural balance of the target group, the specific subpopulations targeted, and the technologies and service standards applied will all have a significant bearing on actual costs to meet these goals. Using the most basic standards of service and technology, it is estimated that the 2015 goals could be attained at an extra annual investment cost of about $10–12 billion.[4] However, providing full water and sewerage connections and primary wastewater treatment to unserved urban populations would raise the annual cost of the 2015 goal to $17 billion for water and $32 billion for sanitation and sewerage, or a total of $49 billion annually.[5]

Going beyond water supply and sanitation alone, in 2000 the World Water Commission estimated that to meet the full range of water needs by 2025—including ag-

[3] WHO/UNICEF Joint Monitoring Programme. Meeting the MDG Drinking Water and Sanitation Target: A Mid-Term Assessment of Progress. 2004.

[4] WHO/UNICEF Joint Monitoring Programme. Meeting the MDG Drinking Water and Sanitation Target: A Mid-Term Assessment of Progress. 2004.

[5] World Panel on Financing Infrastructure, Michel Camdessus Chair. Financing Water for All. March 2003.

riculture, environment, energy, and industry, as well as water supply and sanitation—about $180 billion would be required *each year* in new investments, not including operations, maintenance, or repairs (or $4.5 *trillion* dollars over the full 25 year period).[6]

The global water community is confronting this reality by taking a closer look at where resources are currently coming from, and where they must be increased in the future. Current estimates are that financing to address all water investment needs in developing countries is drawn from a mix of several sources including:[7]

- domestic public sector financing at the national or local level (from taxes, user fees, public debt, etc.) *[64% of total expenditures];*
- direct investments from domestic private sources *[19% of total expenditures];*
- direct investments from international private sources *[5% of total expenditures]; and*
- international sources of support and cooperation (including multilateral and bilateral Official Development Assistance (ODA)) *[12% of total expenditures].* (see Box 8)[8]

BOX 8—INTERNATIONAL DONORS AND THE WATER SECTOR

An analysis of donor data in the water supply and sanitation subsector alone reveals that in recent years total aid allocations have averaged about $3 billion a year. ODA for water supply and sanitation remained relatively stable in the 1990s, at about 6% of overall bilateral aid and 4-5% of multilateral aid. In 2005, all water-related funding represented about 6.8% of the total USAID budget, and water supply and sanitation obligations specifically accounted for about 5% of the entire Agency budget (including the budget for countries where there were no water investments at all).

Although virtually all major donors invest at least to some degree in water resources management, worldwide the water sector is dominated by a handful of donors. From 1999-2001, Japan was by far the largest investor in the water supply and sanitation subsector, accounting for about one-third of total aid to this category (35%). Activities funded by six other donors added up to a further 45%: the World Bank's International Development Association (IDA) (11%), Germany (11%), USAID (8%), France (5%), the UK (5%), and the European Commission (5%).

What is clear from these figures is that diverse financing sources have, and will continue to have, an important and distinct role to play in ensuring a sustainable and secure water future for the world. Each aspect of water resources management will require a unique combination of funding that may depend more heavily on some of these sources than on others. In all subsectors, however, it is certain that the majority of future investments must increasingly derive from an appropriate balance of self-regenerating domestic public as well as domestic and international private capital sources. This reality will more than ever require collaboration and cooperation among multiple actors from the public and private sectors within countries and throughout the international community.

The responsibility for forging the enabling environment necessary for sustainable financing as part of overall better water governance throughout the world is ultimately the responsibility of local actors. These processes are unlikely to take hold

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[6] World Water Commission. World Water Vision: A Water Secure World. The Hague. 2000. and Global Water Partnership. Towards Water Security: A Framework for Action. The Hague. 2000.

[7] Global Water Partnership. Towards Water Security: A Framework for Action. The Hague. 2000. Alternative estimates for the water supply and sanitation subsector only were provided by the World Panel on Financing Infrastructure (2003) based on analysis in the mid-1990s, where financing sources were assessed to be domestic public sector 65–70%, domestic private sector 5%, international donors 10–15%, and international private companies 10–15%.

[8] Overall donor estimates in Box 8 uses the DAC definition of water supply and sanitation which includes activities related to water resource policy, planning and programs, water legislation and management, water resource development and protection, water supply and use, sanitation, and education and training when associated with an activity that is primarily water supply and sanitation. Dams and reservoirs used for irrigation and hydropower, aid to the water sector extended within multi-sectoral programs, direct budgetary support, and loans are *not* included in this estimate. Source for Box 8: Tearfund, 2004. Making Every Drop Count: An Assessment of Donor Progress Towards the Water and Sanitation Target. Middlesex, UK.

in many places, however, without increasingly coordinated partnerships among external donors, domestic public bodies, the private sector, and civil society. Technical assistance plays a catalytic role. Targeted and strategic expenditures of development assistance funds can and do help promote advances in the sustainable management of water resources through good governance.

USAID's comprehensive strategy for integrated water resources management, as reflected in the five principles of the Evian G8 Water Action Plan, directly confronts this reality with catalytic and effective approaches to change. By "promoting good governance;" "utilizing all financial resources;" "building infrastructure by empowering local authorities and communities;" "strengthening monitoring, assessment, and research;" and "reinforcing engagement of international organizations," the conditions are created to encourage public and private sector investment, and maximize the impact, sustainability, and replicability of USAID interventions. Such support is most effective when directed to locally owned strategies that encourage innovative processes and approaches, broaden the menu of tools and options available, leverage internal and external support and investments, and build capacity in civil society and the public and private sectors alike.

USAID views on H.R. 1973 and Conclusion

Mr. Chairman, as you have now heard, USAID is making solid progress on our water resources management and development programs worldwide, and we are doing so with the same goals and approaches as are outlined in H.R. 1973. We are highly committed to contributing to the Millennium Declaration and the WSSD Plan of Implementation, and to influence the direction of others similarly committed. The scope of the challenge and the limited resources available to address it argue that we *must* be highly strategic and catalytic at every opportunity.

And I believe we are. We are placing strong emphasis on innovative financing, partnerships (both public-public and public-private), building the right enabling environment that will attract new private capital, and enhancing the capacity of governments and their institutions responsible for all aspects of water resources management—protecting sources, delivering services, and promoting public health. We are promoting community-based approaches while simultaneously advancing the practice of river basin and transboundary river basin management in many areas of the globe. Although much of our emphasis is on the delivery of water supply and sanitation services, we are also focused on the broader development objectives that are intimately connected to successful water resources management. The U.S. has considerable experience and expertise to share in all of these areas and more, but progress will hinge on our ability to foster the political commitment to provide safe drinking water and basic sanitation for people in countries that have multiple, pressing needs on their development agendas. This most emphatically includes reforming water sector governance, and establishing financially sustainable water sector institutions, including water and sanitation service providers, and establishing clear objectives and performance indicators.

H.R. 1973 describes well the key challenges and gives due emphasis to the human health and economic impacts. USAID is already in full support of the bill's intent to achieve improved international coordination, new and innovative financing, and community-based approaches that involve civil society in helping to achieve equitable access to safe water and sanitation.

I think that we can be proud of the leadership that the United States has demonstrated in recent years on these issues, and that we have positioned ourselves well to maximize further U.S. contribution and impact on the challenges of global water security. Thank you very much once again for the opportunity to testify before this Committee. I would be happy to answer any questions the Committee Members may have.

Chairman HYDE. Thank you, Ms. Schafer. Mr. Blumenauer.

Mr. BLUMENAUER. Thank you, Mr. Chairman. I must say that the first four witnesses, the depth of information that has been provided has been extraordinarily helpful, and I think that there is a lot here for us to chew on, both in your summary and for the material that all four witnesses have provided. And I, for one, am looking forward to doing that.

I would ask, Mr. Turner, and I appreciate your testimony that what we have done with the legislation is basically consistent with the approach of the Administration, because it was crafted in that fashion.

I was there, as you know, in Johannesburg in 2002, and I was impressed with parliamentarians from around the world and how our Government worked with them, to me it was a highlight, and a very positive signal.

So everything that we have done here is an attempt to try and build on that commitment and follow through. And I would appreciate either now or in the future if you can help us find out if there are things that are in the legislation that can be further fine-tuned so that the Administration statement that it is basically in agreement with the principles can translate into something that is actually supportive of the legislation.

Because I would like this to be a bipartisan monument to our seizing on an issue, and working with the Administration, with the Committee, both Parties, and just moving forward to accomplish that.

Do you have any notion of any further fine-tuning or adjustment that needs to be made?

Mr. TURNER. No, Congressman. I again want to thank you and congratulate you for the focus and the very thoughtful items in the bill. I read it personally, and as you can appreciate, when you get administrative comments on a bill it has to be—and we will do that, vetted through the interagency process, and in cooperation with the White House.

But we would be happy to submit what we hope are constructive comments on the bill. Thank you.

Mr. BLUMENAUER. Thank you. Ms. Schafer. My friend, Mr. Smith, talked about the $1.9 billion. Can we break that down between what is going to Iraq, Afghanistan, and maybe the West Bank-Gaza, versus what is going to the rest of the world?

I am just trying to get the numbers in my head on how much is tied up with other geopolitical activity, versus more narrowly focused on the wider piece. Not that I am interested in it not being spent in those communities. I think it is being—there is a lot of need in the restoration of Afghanistan.

Mr. Turner and I have talked about this before, but just a sense of what is going to be sustainable over time, because there was some extraordinary investments made in them.

Ms. SCHAFER. Mr. Blumenauer, I can take a stab at that for you. I am going to use 2004 figures, because we have pretty much of a complete picture for Fiscal Year 2004. Our 2005 data is good as of 90 days after the appropriation bill passed, and so it still has some time to play out.

So let's just take a look at the 2004 figures, and if you just look at water supply and sanitation, and not all the categories of the Water for the Poor Initiative, but just water supply and sanitation, the total for spending that USAID has made with all of our sources of funds was $564,760 million, or $565 million if you round it up.

Of that, Egypt, Jordan, Iraq, West Bank Gaza, accounted for $393 million. Afghanistan would be about another $29 million. So there is no doubt that in the Middle East and in Afghanistan and Iraq, if you look at just the water supply and sanitation figures, a vast majority of the funds goes there.

And the reason for that is that in those countries, we are spending money on water infrastructure projects, per se. We are actually

building drinking water supply facilities, and waste water treatment facilities.

That is not how we operate in the rest of the world, except perhaps in the situation like Sudan or post-hurricane situations in Central America, where we might build some smaller-scale facilities to provide water or sanitation.

Most of the work that we do, as I tried to describe in my statement, is policy-related work, and technical assistance, and training, so that when the capital investments are made, people know how to take care of them, and know how to sustain them over a long period of time.

Mr. BLUMENAUER. Thank you.

Chairman HYDE. The gentleman's time has expired. Mr. Smith of New Jersey.

Mr. SMITH OF NEW JERSEY. Thank you very much, Mr. Chairman. I want to thank both of you for your tremendous testimony, and for the good work that you are doing. Clean water does not get the kind of focus it ought to get, and I think the point that you made earlier, Secretary Turner, about how currently over 50 percent of the world's hospital beds are filled with patients suffering from water-related diseases, certainly demonstrates just how important clean water really is.

As we all know in the U.S., we have a major problem with contamination of water, whether it be through lead or chemical pollutants, and water-borne diseases seem to also be a major problem in developing countries.

But as many of these countries industrialize, they will obviously face a new set of challenges to keep their water supply as pure as humanly possible. And on the issue of supply, you might just want to briefly just touch on that.

I remember back in the 1980s that Bob Rowe, the former Chairman who hailed from my State, and a very good friend of mine still, he used to make the point that because of industrial processes and the like, that we in the U.S. were facing a water crisis in terms of actual supply, and because of very poor means of trying to utilize our supply. And we were not digging the wells deep enough, or we were not treating our aquifers with the kind of respect that they certainly deserve.

And we see that problem actually realized in New Jersey. But my question or questions are, one, Secretary Turner. You made the point that depending on the region, investing a dollar in water supply and sanitation can yield as much as $34 in return.

If you would not mind elaborating on that, because I think that is a very powerful statement. Regarding good governance, combined with another point you made, Ms. Schafer, about building infrastructure, does your office try to bring in water authorities in the U.S. and other industrialized countries who have an enormous amount of expertise, and who have successfully faced the challenges of keeping their water supplies clean?

I often visit the water supply or the water authorities in my own district. They are always improving best practices, and the same goes for water sanitation efforts with regards to dealing with sludge and things of that kind.

Are they brought in to any advisory capacity? Do they ever partner with developing countries like Nigeria, or anywhere else, on setting up a turnkey operation on a sanitation effort? Because they certainly have written the book, in my view.

Mr. TURNER. Well, Congressman, you touched on several points. One of the things that we are trying to do is in integrated water resource management and to go into very impoverished countries with other donor partners like Ethiopia, and like El Salvador, Indonesia, and 13 or 15 other countries, and is to try to get those countries as they develop their national plans on poverty reduction that they integrate water.

And not only integrate water, but their ministries, so that their Agriculture Ministry, their Finance Ministry, their Environment Ministry, their Forestry Ministry, are all working together on the overall concept of water and sanitation as part of their overall planning.

Perhaps related, as Ms. Schafer referred to, we find that a lot of the work to do is in the area of governance, effective governance. Do they have the right policies in place, and the right regulations, and do they recognize property rights? And do they have good scientists, and is it transparent, and do they involve the communities?

So I think that effective governance, whether interested in education, or HIV/AIDS, or economic development, environmental protection, or with providing water, some of the best work that we do in impoverished countries is to help them with effective governance.

The water contamination issue, we try to send technical teams, and we bring people here from impoverished countries through the work of EPA and USDA. We certainly have been focused on the issue of lead, and persistent organic chemicals through the POPs and PIC Treaty.

We will be considering some legislation on that. Mercury is a contaminant that the U.S. has led an international effort to focus on recently. Thank you, Mr. Chairman.

Mr. SMITH OF NEW JERSEY. Thank you.

Ms. SCHAFER. In further response to Mr. Smith's question, we are very pointedly looking to U.S. models and institutions like the various water and sewer authorities that you referenced in New Jersey to transfer information about how to go about financing water and waste water treatment facilities, particularly in countries that have capital markets that are either developed or are developing, and need some further strengthening.

The model that we have adopted in the United States of financing revolving funds, that is, appropriations from Congress going to States to establish water and waste water revolving funds, is something that we have discovered has application in the developing world.

We discovered first that India had found this example all by itself, and a number of Indian States, Tamil Nodu being one, and Karnatala being another, are looking at this pooled financing and ability to raise money in the bond market to supplement appropriations that they might get from the State or national government and then lend those to the smaller communities at favorable rates.

That example is also underlying the U.S.-Japan Clean Water for People effort, and Japan is very active of course in Asia generally, and that is where a great deal of their water program goes. And we are working with our missions in the Philippines, Indonesia, India, in that region, to establish the basis for creating revolving funds and other innovative financing arrangements in order to serve largely urbanized populations in those countries.

The applications in Africa are limited, but we still think, in South Africa, that we have got some examples of where this approach might work as well.

Eastern Europe is probably the best case where we might be able to use the United States model immediately.

We recently held a conference in Bucharest with seven of our missions and country teams in countries such as Armenia and Montenegro, Croatia, Ukraine, Russia. And all of them are interested in creating the United States-style resolving fund. They have access to capital, and they are looking at these models, along with a lot of development technical assistance to strengthen the institutions to use those funds, and to be able to answer the water and waste water treatment needs.

So, yes, we were invited to participate there—New York, Maine, and maybe a couple of other infrastructure finance authorities—these State bond banks—to show them how we go about doing this.

And of course they are very quick to take this on board and are anxious to apply it in their countries. So the answer to your question is emphatically yes, sir.

Mr. SMITH OF NEW JERSEY. Thank you so much.

Chairman HYDE. I wonder if Mr. Payne and Mr. Rohrabacher would be kind enough to hold their questions until after the next panel. We have another panel and I am anxious to get to them before we are called over for a vote. So would you be kind enough to hold back?

Mr. ROHRABACHER. Yes, sir.

Chairman HYDE. Is that all right with you, Mr. Payne?

Mr. PAYNE. Yes, Mr. Chairman.

Chairman HYDE. I appreciate that.

Mr. PAYNE. I just wanted to note though that only 6.5 percent of the funds that was pledged by the United States for the Water Poor Initiative is going to sub-Saharan Africa, and that is where the greatest need is, and 94 percent is going to Afghanistan, and Iraq, and other places. Thank you, Mr. Chairman.

Chairman HYDE. Thank you. We will thank you, Mr. Turner, and Ms. Schafer, for very instructive testimony. Thank you.

Ms. SCHAFER. Thank you, Mr. Chairman.

Chairman HYDE. The next panel will please come forward.

Mr. Peter Lochery is the Senior Advisor on Water and Sanitation for CARE USA. Some of Mr. Lochery's recent activities includes strengthening local water management in Egypt, Jordan, and the West Bank, and supporting the establishment of water and sanitation for the urban poor, an alliance focused on developing new business models to serve the urban poor. Mr. Lochery holds a Master's Degree in Public Health Engineering from Imperial College, the University of London.

Mr. Geoffrey Dabelko is Director of the Environmental Change and Security Project at the Woodrow Wilson International Center for Scholars. He is a principal investigator for the Navigating Peace Water Initiative, a multi-year effort to foster innovative thinking on key fresh water challenges.

Mr. Dabelko is also a lecturer at Georgetown University's School of Foreign Service, and he holds a Master of Arts and a Ph.D. in Government and Politics from the University of Maryland.

Mr. Malcolm Morris is Founder and Chairman of the Millennium Water Alliance, an alliance of American non-governmental organizations who are working to bring safe water and sanitation to those who lack sufficient access.

Mr. Morris is Chairman and Co-Chief Executive Officer of Stewart Information Services Corporation, and President and Chief Executive Officer of Stewart Title and Guarantee Company. He holds a Doctor of Juris Prudence from the University of Texas.

Mr. Lochery, would you please proceed with your testimony.

STATEMENT OF MR. PETER LOCHERY, SENIOR ADVISOR ON WATER, SANITATION AND ENVIRONMENTAL HEALTH, CARE USA

Mr. LOCHERY. Mr. Chairman, Ranking Member Lantos, and Distinguished Members of the Committee, thank you for inviting me to testify today. H.R. 1973, the Water for the Poor Act of 2005, will be landmark legislation.

Thank you, Chairman Hyde, for convening this hearing and moving the bill forward. Thank you, Congressman Blumenauer, for introducing the bill. Thank you, Members of the Committee, who have co-sponsored the bill.

On behalf of the more than 1 billion people who do not have access to an improved water source, and the 2.6 billion who do not have access to safe and secure sanitation, we thank you.

During my testimony, 20 children will die from water- and sanitation-related diseases. During this day, 130 classrooms of children will die from water and sanitation related diseases. During this month as many people who have died from water- and sanitation-related diseases have died from the recent Asian tsunami.

Let me tell you how this bill is going to help. First, this bill gives water and sanitation a foreign policy priority. For too long, water and sanitation have been the forgotten tsunami. This bill recognizes that water and sanitation is a cornerstone of development. Why is this so?

Because amongst other compelling reasons, people who are alive and well can go to work. Children who are not hauling water can go to school, and functioning states must have adequate water and sanitation services, and the United States has national security interests in preventing states from failing.

Secondly, this bill directs USAID to develop a strategy. This strategy should address challenges such as transparency and accountability in the delivery of water and sanitation services in developing countries. It should address equity in the delivery of services, ensuring that those most in need get access to improved water and sanitation.

It must address developing the capacity of local governments and the local private sector so that they are able to deliver services and support the maintenance of the services, and the backlog and bureaucracy in putting existing funds to work are removed.

Once again, the Water for the Poor Act of 2005 will be a landmark change in American policy. Thank you again for inviting me to testify.

[The prepared statement of Mr. Lochery follows:]

PREPARED STATEMENT OF MR. PETER LOCHERY, SENIOR ADVISOR ON WATER, SANITATION AND ENVIRONMENTAL HEALTH, CARE USA

Mr. Chairman, Ranking Member Lantos and members of the Committee, my name is Peter Lochery. I am CARE's Water Team Leader. I am also a Board member of three small non-profits: Building Partnerships for Development in Water and Sanitation, the Millennium Water Alliance, and Water Advocates. Thank you for the opportunity to present testimony this morning on behalf of CARE and for your leadership in taking up this critical issue.

My testimony will describe CARE's perspective on the global water crisis including the linkages between safe water and sanitation and other areas of development, the role of non-governmental organizations in helping to ameliorate water challenges in developing countries, and our views on H.R. 1973, the "Water for the Poor Act of 2005".

1. CARE

CARE was founded in 1946 to assist in the post-war reconstruction of Europe. Today CARE is one of the world's largest relief and development organizations, and is dedicated to ending poverty. CARE carries out a wide variety of programs in the areas of agriculture and natural resources, basic and girls' education, health (including reproductive health, children's health, and water, sanitation and environmental health), and small economic activity development.

CARE has implemented water and sanitation activities for forty-eight years, reaching over 10 million people in 20,000 communities in more than 40 countries, through an investment of over $350 million. CARE's current portfolio includes over 100 projects with significant water activities in 39 countries in Africa, Asia, Latin America and the Middle East. Funding is provided by multi and bi-lateral agencies, host governments, private corporations and individuals, and the communities served.

CARE's approach to water and sanitation activities reflects the organization's breadth of experience. During the 1960s, CARE focused on the provision of water supply hardware to poor rural communities in the developing world. As experience grew over the next forty years, the focus of activities gradually shifted from supply-driven provision of pumps and pipes to approaches driven by demand. These included working with households, communities and local organizations (both governmental and non-governmental) to increase sustainable access to safe water, promote sanitation, and improve hygiene behavior. Most recently, the emphasis has been on integrating water and sanitation activities with watershed management and productive uses of water such as micro-irrigation, and supporting local people and institutions in the integrated management of water resources at the local level. Although 75 percent of CARE's water projects are rural, CARE has undertaken an increasing number of urban projects in the last decade. These include water supply, drainage, sanitation, and solid waste management.

2. THE GLOBAL WATER CRISIS

In the coming decades, access to water may become a more critical problem than access to food, primary health care or education.

2.1 Overview

The world faces severe challenges to meet the growing demand for water and at the same time maintaining water quality. New sources of water are increasingly expensive to exploit, potentially restricting new water supplies to the better-off. In many developing countries agricultural water consumption far exceeds domestic and industrial use. As populations grow, increasing agricultural demand competes with demand from urban areas and industry and threatens supplies to important wetland ecosystems.

It is estimated that 2.7 billion people living in the developing world will experience severe water scarcity[1] by 2025. The bulk of this population will be in seventeen food-scarce countries of the semi-arid regions of Asia and sub-Saharan Africa. In rain-fed arid agricultural areas, including large parts of sub-Saharan Africa, China, the Indian sub-continent, Southeast Asia, the Middle East and parts of Latin America, water scarcity during prolonged dry seasons constitutes a serious challenge to the very subsistence of large populations. Over-exploitation of groundwater, particularly through its inefficient and over use, also poses a major threat to food security, environment and health. This threat involves the draw down of freshwater aquifers due to indiscriminate mining of groundwater on the one hand and rising water tables of saline water resulting from over-irrigation on the other.

A new politics of scarcity is emerging as rural areas, cities, regions, and neighboring countries compete for a limited and shrinking supply. Conflict over water has the potential to develop both between and within countries, between regions within a country, between communities and within populations in a community. Of the three principal forces that create scarcity and its potential to incite conflict or dispute—the depletion or degradation of the resource, population growth and unequal distribution or access—it appears that unequal distribution or access often plays the most important role.

The global water crisis is not just about water as a resource for economic welfare; it is also about public health. Domestic water supplies are increasingly threatened by pollution from industrial waste, untreated sewage, and chemicals in agricultural runoff. More than one billion poor people lack access to safe drinking water. About 2.6 billion do not have access to adequate sanitation and are forced to live in degrading and unhealthy environments. An estimated 2.1 million people, mostly children under five, die every year from preventable water-related diseases. Women and children, who are often the most vulnerable members of society, suffer most when access is poor or lacking.

Unsafe water and inadequate sanitation significantly increase the burden of disease among immune-compromised populations and undermine progress in treatment and care. HIV/AIDS patients suffer frequent debilitating bouts of diarrhea, and caregivers struggle to maintain hygienic conditions without water and sanitation. Using contaminated water to take with drugs or to mix feeds for children increases the risk of diarrhea and disease.

In many societies, women and children are responsible for collecting water. This can involve several hours of arduous work each day walking to and from distant water points; reduce the time available for childcare, household and productive activities; and prevent children[2] from attending school. It also potentially increases women and girls' exposure to sexual harassment, rape and contracting HIV. Lack of sanitation may also subject women to harassment when they seek privacy on the outskirts of the village or town to defecate and limit the times when they can defecate.

Anecdotal evidence suggests that many of the schools in the world, perhaps as many as half, do not have safe water, adequate sanitation and hygiene education. Infrastructure must be accompanied by improved hygiene if the transmission of disease is to be prevented. In addition, safe and separate sanitation for girls, particularly adolescents, is an important factor in maintaining and increasing school attendance by girls. There is also evidence that suggests that learning and attention span decline when pupils are dehydrated.

War and conflict often destroys not only community infrastructure and livelihoods, but also social capital and trust. Programming conducted in highly sensitive, volatile post-war contexts can fall victim to disorganization, distrust and resistance from members of the community. However, implementing water and sanitation programs in such an unstable environment can actually present a unique opportunity to rebuild a solid and sustainable foundation of community infrastructure, involvement, trust and peace.

Poor people themselves consistently place lack of water as one of their main poverty indicators and give it first priority in their own visions of the future. This is because the poor, particularly rural populations, continue to be the most vulnerable to changes in water availability and are the least able to cope with variations. They are at grave risk if there is a failure to find solutions to water management and environmental sanitation. An effective way of ensuring their right to water, through addressing the risks and uncertainties they face over access, is essential. Without

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[1] Water scarcity is defined as annual renewable water resources of less than 1,000 m^3 per capita.

[2] In Tanzania, 12 percent more children were found to attend school when safe water was available within 15 minutes rather than one hour from their home.

it, their capacity to achieve long-term livelihood security, including a healthy and secure living environment, and escape poverty is substantially reduced.

2.2 Current trends

Statistics on water and sanitation are produced by the Joint Monitoring Program of the World Health Organization (WHO) and the United Nations Children Fund (UNICEF) based on data reported by 152 countries. Table 1 combines the results for the 40 most populous countries in Africa, Asia and Latin America, and compares the results in 1970, 1980, 1990 and 2002.

Table 1. Drinking water and sanitation coverage (percent) for Africa, Asia and Latin America combined, subdivided into urban and rural (1970–2002)

Year	1970	1980	1990	2002
Urban water	65	74	82	95
Rural water	13	33	50	72
Urban sanitation	54	50	67	81
Rural sanitation	9	13	20	37

The table shows a pattern of steady progress over the last three decades, but there is still a huge task ahead because many people remain without services.

2.3 Water Coverage

There has been some progress in global water provision, and some countries have the potential to meet the Millennium Development Goal (MDG) of halving the proportion of people without access to an improved water source between 1990 and 2015. Indeed, the percentage of people in the world with access to an improved water source rose from 77 percent in 1990 to 83 percent in 2002. However, the situation is particularly troubling in Sub-Saharan Africa where over 287 million people are without access, only 55 percent of rural residents have access, and 13 countries are lagging behind and need major external assistance to get back on target.

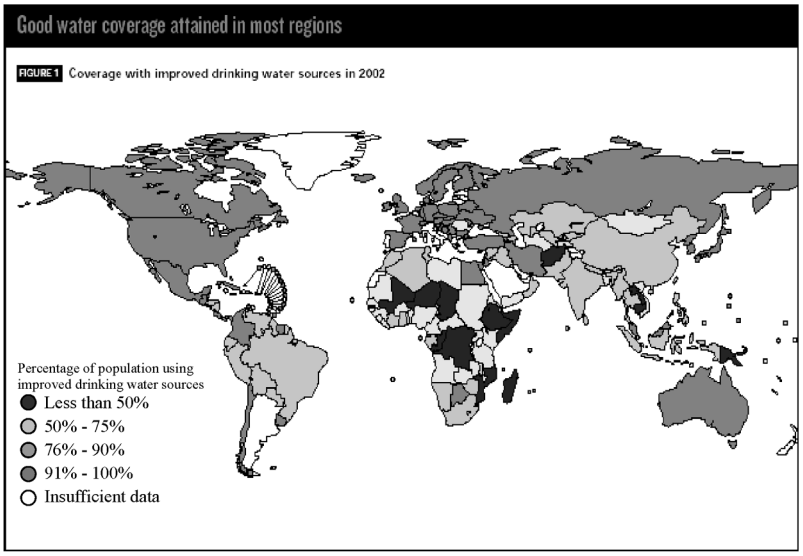
Africa is one of the fastest urbanizing regions due to drought, conflict and loss of jobs in rural areas. However, the vast majority of the population is still located in hard-to-reach rural areas where 45 percent of the population does not have access to an improved water source. This is an average figure and hides countries like Ethiopia where less than 20 percent of the rural population has access.

In South Asia and East Asia, the gross number of people without access to improved sources is comparable to Africa, but the percentage without access is much smaller because of the larger populations involved. Sub-Saharan Africa is also more dependent on outside aid than countries such as India where 90–95 percent of investment in the water sector comes from the government and internal sources.

Table 2: Access to improved water sources subdivided by region, 2002 (in millions) [3]

Region	Total Population	Served (%)	Unserved
Sub-Saharan Africa	685	397 (58)	287
South Asia	1,480	1,245 (84)	234
Southeast Asia	535	421 (79)	114
East Asia	1,374	1,071 (78)	302
Latin America	536	475 (89)	60
World-wide Total	6,225	5,149 (83)	1,075

[3] WHO/UNICEF Joint Monitoring Program for Water Supply and Sanitation, 2005.



Source: Meeting the MDG Drinking Water and Sanitation Target. A Midterm Assessment of Progress, United Nations, 2004

As can be seen from the above map, the vast majority of countries with less than 75 percent coverage are located in Sub-Saharan Africa.

2.4 Sanitation coverage: a world-wide problem

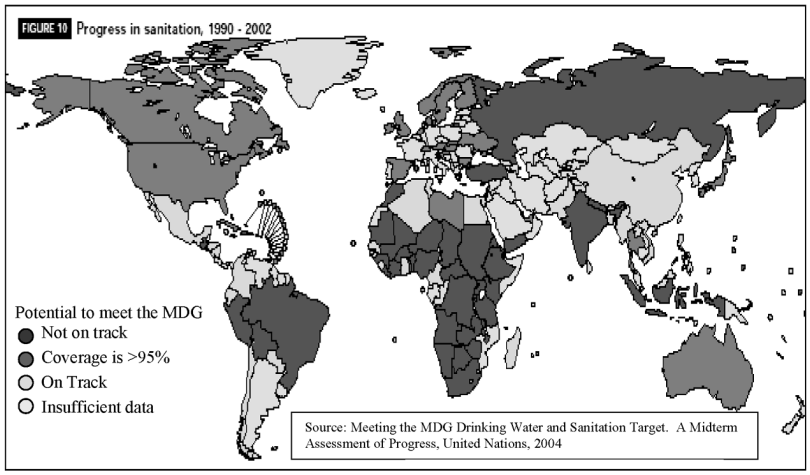
The figures for sanitation are worse than those for water in almost all regions. Sanitation coverage has increased more slowly, and the numbers without access are much larger. Two billion of the 2.6 billion people lacking adequate sanitation live in Asia. In India, for example, where major improvements have been achieved in water supply, less than 31 percent of the population has adequate sanitation. Among those countries with the 27 lowest rates of coverage—those in which no more than one third of residents have access to improved sanitation—18 are in Sub-Saharan Africa and eight in Asia.

Sanitation coverage has only improved by a modest nine percent over the past 10 years. Improving access to sanitation is particularly challenging and the current advances will not be enough to achieve the goal set at the World Summit on Sustainable Development (WSSD) in Johannesburg of halving the proportion of people without access to improved sanitation between 1990 and 2015. Compared to water interventions, we know much less about successful sanitation programs. Access to sanitation in rural areas is half that of urban areas, and over 2 billion people without access live in rural areas.

Table 3: Sanitation coverage subdivided by region, 2002 (in millions)

Region	Total Population	Served (%)	Unserved
Sub-Saharan Africa	685	248 (36)	436
South Asia	1,480	539 (31)	941
Southeast Asia	535	328 (61)	207
East Asia	1,374	626 (45)	749
Latin America	536	399 (75)	136
World-wide Total	6,225	3,606 (58)	2,618

Sanitation is a worldwide problem. According to the United Nations Midterm Assessment, five regions (Eurasia, Oceana, South Asia, Sub-Saharan Africa, and Western Asia) are not on track to meet the WSSD Goal.



2.5 Sector Performance

The performance of the water and sanitation sector in delivering sustainable water and sanitation services remains inadequate when measured against the internationally agreed targets. Why should this be so? A recent 14 country study[4] identified seven key "concerns".

Prioritization. There are two compelling reasons for prioritizing water and sanitation. When poor people have a voice, access to safe water is very often their top priority. This proved to be the case recently in Ethiopia when USAID asked communities to prioritize amongst a range of child survival interventions. The second reason is that people cannot escape poverty without safe water and sanitation. The WHO has estimated that $84 billion worth of benefits are being lost annually in the developing world because of the failure to meet the MDG targets for water and sanitation[5]. However, very few developing countries prioritize water and sanitation in their planning and budgeting processes[6], and official development assistance for water supply and sanitation projects from the OECD countries and the major international financial institutions declined from a peak of $3.9 billion in 1995 to $1.5 billion in 2002 before rising to $2.7 billion in 2003.

Transparency. There is a shortage of data on how and to what extent developing country governments use their water and sanitation budgets. This makes it difficult to analyze what is happening in the sector in order to expose inefficiency and inequity, and tackle vested interests that prevent money from being used for the unserved and underserved.

Equity. Water sector aid from the OECD countries has been channeled to relatively few countries. From 1997–2001, the ten largest recipients received 48 percent of the total (although this was reduced from over 60 percent during 1995–96). China, India, Vietnam, Peru, Morocco and Egypt were among the top ten in both periods, with Turkey, Indonesia, Tunisia and Sri Lanka slipping out of the top ten to be replaced by Mexico, Malaysia, Jordan and the Palestinian administered territories in the second period. In 2001–2002, only 12 percent of the total aid to the water sector went to countries where less than 60 percent of the population had access to an improved water source, a group which includes most of the least developed countries[7]. A similar pattern of discrimination against the very poor can occur

[4] "Getting to boiling point: Turning up the heat on water and sanitation", WaterAid, 2005.
[5] Hutton G & Haller L. "The Costs and Benefits of Water and Sanitation Improvements at the Global Level", WHO, 2004.
[6] A scorecard assessment of developing country and donor progress, CARE, Oxfam, WaterAid et al, 2004.
[7] A scorecard assessment of developing country and donor progress, CARE, Oxfam, WaterAid et al, 2004.

within countries where middle class urban inhabitants benefit at the expense of slum dwellers and people in rural areas. Piped systems can, for example, require user contributions that are beyond the means of the poor.

Sector coordination. "Overlapping water and sanitation projects along with multiple funding and reporting systems results in inequalities and confusion. The lack of sector coordination frequently manifests itself in the variety of technology and equipment used in projects and different, often contradictory, operational practices leading to poor sustainability of water supply systems." [8] For example, a rural water and sanitation project in Mozambique had to convince the provincial governor to intervene when another agency distributed free and subsidized spare parts that threatened the viability of a private sector supply chain. Once the subsidized spare parts were off the market, a sustainable supply of spare parts was achieved and availability increased.

Capacity. Many developing countries are decentralizing and devolving responsibility for water and sanitation to the district level. In theory, this is a positive step as it puts responsibility for water and sanitation at a level of government that is more approachable and accountable to the users. In practice, district government often has neither the financial resources nor the skilled staff to carry out its responsibilities. This is particularly true in remote locations where housing, schools and public services are poor or non-existent, and qualified government staff members are unwilling to serve. Bureaucracy and lack of capacity are proving to be bottlenecks in a number of countries and result in major delays in expenditure.

Privatization. The major international water companies have shown little interest recently in the traditional privatization models often proposed as a condition for a loan or credit. The high level of risk involved with these contracts and the weak regulatory environments have dissuaded most bidders. For example, German multinational RWE Thames has stated that they do not wish to see forced private sector involvement. Other approaches are beginning to show some success: a public-private partnership in Uganda is introducing effective competition alongside the organizational and political changes necessary for efficient utility operation.

The small-scale local private sector plays an extensive role in constructing water and sanitation facilities, and can also provide hygiene education, promote sanitation, and train communities in operation and maintenance. The small-scale private sector is sometimes the only source of water for poor communities although the poor can pay a high price for this service, particularly in peri-urban communities that do not have access to municipal facilities.

A more sensitive, context driven approach to privatization is required.

Expenditure and aid. Traditional thinking suggests that large investments for centralized infrastructure with per capita costs of several hundred dollars are required. While large investments are needed in urban centers in developing countries, appropriate technology and lower levels of service can be used to significantly reduce per capita costs. In rural areas, investments of $30–50 per capita are adequate for water supply, hygiene education and sanitation particularly where communities play a role in sourcing local materials and constructing the facilities.

Calculating the financing gap between the resources available to a country and what is needed to achieve the Millennium Development Goals for water and sanitation is a two-stage process. First, one must analyze sector efficiency, i.e. what resources are actually available and are they being used efficiently. And second, one must assess the amount of additional resources required at a realistic per capita rate. The latest UN calculations[9] suggest that aid for water and sanitation needs to more than double in 2006 to $7 billion to increase the total annual investment to more than $30 billion.

3. THE ROLE OF NON–GOVERNMENTAL ORGANIZATIONS

There is a broad range of NGOs that address water-related issues. Some are concerned with implementation, others engage in advocacy, and yet others undertake both. CARE is part of the last group and I can best explain what we consider to be the role of a NGO in the water sector by describing our water strategy.

Within CARE, we use the opportunities water programming presents to address not only the human condition through access to basic services but also the underlying causes of poverty such as poor governance, inequitable distribution of resources and social exclusion based on gender, class and ethnicity.

Our goal embodies the elements of water security (equitable access, efficient use and sustainable management):

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[8] "Getting to boiling point: Turning up the heat on water and sanitation", WaterAid, 2005.

[9] Investing in Development, UN Millennium Project, 2005.

"To enhance the livelihood security of poor rural and urban communities through equitable access, efficient use and sustainable management of limited and dwindling water resources".

This goal reflects CARE's commitment to serve individuals and families in the poorest communities in the world, but it also requires work at national and international levels, a range of interventions, and multiple partners including the private sector. Through a process of analysis, we identified five strategic objectives[10] and four intermediate objectives that contribute to our strategic goal and form a framework for our water programming. The four objectives are to:

#1. Increase our capacity to promote and provide quality services in water, hygiene and sanitation, and within agriculture and natural resource programming.

While CARE cannot hope to directly satisfy the enormous needs of those who lack basic services, our involvement in facilitating service provision is important. In addition to making a direct contribution to a substantial number of communities, the implementation of sustainable projects that are replicable elsewhere provides opportunities for innovation and learning lessons, and builds credibility and relationships for undertaking advocacy.

#2. Strengthen the capacity of stakeholders, particularly at the local level, to fulfill their roles and responsibilities in the sector.

CARE assists communities and local governments to define their rights, roles and responsibilities within an institutional framework for participatory planning and management. Securing the rights of communities to water is an important part of this process. Particular attention is paid to the needs, roles and skills of women as critical planners and users of water and sanitation systems, and as monitors of water resources.

#3. Build a broad-based constituency to advocate for the rights and needs of people to access water for health and productivity.

This is not just about building a constituency that is aware and supportive of water-related issues, but about helping people see the world, and their place in it, in a different way. Helping poor people gain access to water and sanitation is not just a moral obligation, it contributes to security and prosperity in an increasingly inter-connected international environment.

#4. Develop strategic partnerships and alliances with international organizations, governments, academia, non-governmental organizations, communities and the private sector.

CARE recognizes that building relationships with partners with skills and experience that complement CARE's expertise is imperative to broadening program impact. CARE also develops partnerships with the communities it serves and with local organizations that share CARE's vision and values. CARE seeks ways to ensure that power and accountability are shared, to facilitate consensus on sectoral issues, and to build the capacity of partners. Such processes are critical where a range of actors must collaborate in project design and implementation.

4. H.R. 1973—THE "WATER FOR THE POOR ACT OF 2005"

Global access to water and sanitation has most recently been addressed at a series of meetings held by both the State Department and the Aspen Institute, bringing together government agencies, corporations, foundations, and non-governmental agencies with an interest in water. These meetings provided a forum to share information and lessons learned, and set the stage for the development of a broad consensus on potential roles for different U.S. actors, which has never existed before.

Leaders in Congress have propelled the issue forward with the introduction of H.R. 1973, the "Water for the Poor Act of 2005", and a complementary bill in the Senate, S. 492, the "Safe Water: Currency for Peace Act of 2005". Both bills establish access to water and sanitation as a priority in the fight against global poverty, require the development of a strategy, which addresses some of the outstanding gaps expressed earlier in this testimony, and provide an opportunity for the U.S. Government to further define its role in this important arena.

Moving forward, my main concern is that the sums appropriated in fiscal year 2006 and subsequent years are adequate to carry out the provisions and activities outlined in both pieces of legislation. I would also highlight the importance of deter-

[10] The strategic objectives are increased sector investment, well-informed public participation, inclusion of stakeholder concerns and practices in policy and planning, full sharing and use of expertise and experiences, and decentralized and holistic management of water.

mining appropriate financing mechanisms—whether it be grants, loans, investment insurance or loan guarantees—to address water and sanitation needs. For example, in peri-urban and rural areas, where the use of loans for water and sanitation is in its infancy, grants are typically a more effective financing mechanism.

5. CONCLUSION

The U.S. affirmed its commitment to improving access to water and sanitation worldwide at the 2002 World Summit on Sustainable Development. Now is the time to realize that commitment. Greater international assistance and cooperation is needed to reach the internationally agreed upon goals of reducing by half the proportion of people without safe drinking water and basic sanitation by 2015. H.R. 1973, the "Water for the Poor Act of 2005" and its counterpart in the Senate are important steps forward.

Thank you again for the opportunity to testify before this Committee and to Chairman Hyde for raising the profile of this issue. I would also like to extend special thanks to Representatives Earl Blumenauer, Jim Leach, E. Clay Shaw, Jr., and Tom Lantos, who spearheaded efforts to develop this important piece of legislation. I look forward to working with the Committee to advance H.R. 1973, a critical tool that will help promote affordable and equitable access to water and sanitation for the world's poor.

Chairman HYDE. Thank you, Mr. Lochery. Dr. Dabelko.

STATEMENT OF GEOFFREY D. DABELKO, Ph.D., DIRECTOR, ENVIRONMENTAL CHANGE AND SECURITY PROJECT

Mr. DABELKO. Thank you, Mr. Chairman, and Members of the Committee. It is a real honor, and I thank you for the opportunity to discuss water and sanitation, and U.S. foreign assistance.

The Water for Poor Act of 2005 is an exciting piece of legislation that I believe will go a long way toward meeting these challenges, and raising the priority of water and sanitation in U.S. foreign policy.

Previous witnesses have given a very clear picture of the global water challenges that we face, literally discussing how we are trying to safeguard the lives of billions of people without access to safe water or adequate sanitation.

But we are also discussing issues of utmost importance to U.S. national security. Reducing human suffering, encouraging development, and building goodwill, increases our security by reducing poverty and the underlying sources of instability around the world.

I would like to focus on three points, Mr. Chairman. First, the United States can enhance its national security by increasing water and sanitation foreign assistance to developing countries.

Second, integrating water and sanitation programs into other sectors will make water and sanitation programs more effective, but also improve the results of programs in other sectors, such as health, agriculture, education, economic development, and, in fact, conflict prevention.

And, third, very briefly, improving donor coordination and increasing multilateral efforts would make water and sanitation foreign assistance more effective as well. Let's turn first to the threats and opportunities, frankly, in the national security realm.

Today, we see evidence of increasing water scarcity and declining water quality contributing to political tensions—and even violence—that directly impact U.S. security interests at home and abroad.

Increasing water scarcity in Kenya pits herders and farmers in increasingly violent clashes in Northern Kenya. Local communities

in China are standing up to polluting industries that foul the water supplies, sometimes leading to violent conflicts between the local people and the local authorities.

Civil protests, in part sparked by dramatic hikes in water prices, have contributed to the paralysis of successive governments in Bolivia. The connections are clear. Improved water and sanitation are, in fact, the bedrock of development, and a key step in addressing poverty and the underlying causes of insecurity.

But while developing countries face this new global crisis that threatens their stability, the donor community is not responding with sufficient aid that can help avert these threats.

And as we heard in earlier testimony, most of the U.S. water development aid is given to just a handful of countries. Yet, water and sanitation sector aid is not necessarily well matched with either the water and sanitation need, or the geopolitical need to address poverty and stability.

The United States could do more to address water and sanitation issues across sub-Saharan Africa, for example, the location of key fragile and failing states. Africa's share of USAID water and sanitation assistance, excluding integrated health programs and disaster relief, is around 7 percent, as the Congressman indicated.

Such a water peacemaking strategy could generate dividends beyond just water. It builds trust and serves as an avenue to talk when parties are in conflict or stalemated on other issues.

It forges people-to-people relationships as demonstrated by the Good Water Makes Good Neighbors program in the Middle East by Friends of the Earth Middle East, which the Committee heard testimony about last May.

And since 1999, the Nile Basin Initiative, which was also discussed earlier, facilitated by the UN, the World Bank, and with support from USAID, among others, has regularly brought together the ministers of all 10 riparians in the basin, where they are negotiating a shared vision for sustainable development.

So I would echo the gentleman's testimony about this being something that is turning a corner, and while not explicitly a peacemaking strategy, this coming together in fact has some of these properties.

The U.S. Government should support and encourage efforts to apply lessons learned from this prominent effort in other basins, such as it is in, say, the Okavango basin, where oil-rich Angola, Botswana, and Namibia have some of the same issues at stake.

Not only can cooperative water management help prevent conflict, but it can also help resolve wars that are caused by other problems. For example, the conflict between India and Pakistan was not initially caused by water, but in order for India and Pakistan to have a sustained peace, they must negotiate the usage of water.

Finally, there are some signs that cooperative water management can help countries recover from war and emerge from post-conflict reconstruction safer, healthier, and more stable.

The transboundary Mesopotamia Marshlands program has brought Iraqi and Iranian scientists together for the first time in 29 years under UN auspices. By establishing joint water management structures, and promoting dialogue and cooperation—albeit at

very initial stages—among these former combatants, we can hope that steps may help prevent the reemergence of conflict.

Let me turn briefly to my second point, integrating water and sanitation programs into other sectors that will make both the water and sanitation—and the other linked sector—programs more effective.

Both donors and recipients face sectoral and departmental stovepipes that impede efforts to address water's fundamental role in development. Developing countries must move from recognizing the link between water and development, to adopting integrated steps to improve water and sanitation at the national and local levels.

More government agencies, beyond the ministries of water, environment, or development, should incorporate water's benefits for the economy, for agriculture, health, education, and security, into their budgets and their policies.

The Water for the Poor Act could be a critical step toward this goal. And what we ask of developing countries we need to do ourselves; increased collaboration across bureaus and offices within the U.S. Government would capitalize on key links to the wide range of development goals that water has, with its connections to health, education, economic development, and conflict prevention.

Some of these linkages are being acted upon by different offices within the U.S. Government. The State Department's excellent water team, particularly in the Middle East, has made very constructive impacts on water and conflict connections with very limited resources.

The new USAID Office of Conflict Management and Mitigation has put these issues together with water and conflict. Mr. Chairman, I will just mention my third point, improving donor coordination and increasing multilateral efforts, which appears prominently in the Water for the Poor Act, and I won't expand here.

I will just say, in conclusion, that the time is right for the United States to act on water and sanitation while it is a low-cost and high-return investment on foreign assistance.

It is critical to act now before the negative security impacts become more apparent, and while the benefits are still within reach. Of course, clean water will not directly prevent terrorism, but reducing human suffering and encouraging development, and building goodwill, increases our security by reducing poverty and the underlying grievances around the world. Thank you, Mr. Chairman.

[The prepared statement of Mr. Dabelko follows:]

PREPARED STATEMENT OF GEOFFREY D. DABELKO, PH.D., DIRECTOR, ENVIRONMENTAL CHANGE AND SECURITY PROJECT

Mr. Chairman and members of the Committee, I would like to thank you for the opportunity to discuss safe water and sanitation and U.S. foreign assistance.

We are all aware of the devastation wrought by HIV/AIDS on sub-Saharan Africa. However, developing countries in Africa and elsewhere face another severe crisis that demands our help. Three to four million people—using half of the hospital beds in the world—die *each year* from another silent killer: unsafe water. The vast majority of these victims are children, struck down by waterborne typhoid, cholera, diarrhea, and dysentery, and virtually all live in developing countries. Lack of water also impedes the social and economic development of those who survive: women and girls in many parts of sub-Saharan Africa must walk an average of six kilometers to fetch water—*each way*—preventing them from going to school or working outside

the home. And millions more are too sick from chronic waterborne illness to attend school at all.

The victims of dirty water need our help. The United States government has an active program, but we can do more, and we can do it better. The "Water for the Poor Act 2005" goes a long way towards this goal. I would like to focus on three key points related to the legislation before the Committee:

1. The United States can enhance its national security by increasing water and sanitation foreign assistance to developing countries. Furthermore, water management offers unique opportunities to build peace between parties in conflict.
2. Integrating water and sanitation programs into other sectors will make water and sanitation programs more effective—and improve the results of programs in other sectors, such as health, agriculture, education, economic development, and conflict prevention.
3. Improving donor coordination and increasing multilateral efforts would make water and sanitation foreign assistance more effective.

1. The United States can enhance its national security by increasing water and sanitation foreign assistance to developing countries. Furthermore, water management offers unique opportunities to build peace between parties in conflict.

Why should the United States increase its foreign assistance to help developing countries improve their access to safe water and sanitation? Simply put, safe water will make us all safer. Without it, neighboring users sometimes come to blows. For example, increasing water scarcity in Kenya pits herder against farmer, and urban dweller against rural peasant. Communities in China are standing up to industries that pollute water supplies, sometimes leading to violent confrontations between the protesters and local officials. Civil protests, in part sparked by dramatic hikes in water prices, have contributed to the paralysis of successive Bolivian governments.

The connections are clear. Improved water and sanitation are the bedrock of development. A healthy, productive labor force requires safe drinking water, for example, and women's education and empowerment require adequate water sanitation. Development is key to building democracy and ensuring state stability. But while developing countries face this new global crisis that threatens their stability, the donor community is not responding with the aid necessary to avert these threats.

Most of United States' water development aid is given to a handful of countries (Afghanistan, Egypt, Indonesia, Iraq, Jordan, Pakistan, and West Bank/Gaza). Geopolitical interests certainly shape any foreign policy, and no one is naïve enough to suggest ignoring these interests. However, our aid in the water and sanitation sector is nearsighted. Africa's share of USAID water and sanitation assistance, excluding integrated health programs and disaster relief, is only 7 percent. In 2000–2001, only 12 percent of total OECD water sector aid was delivered to countries where less than 60 percent of the population has access to an improved water source. While these statistics predate the $970-million "Water for the Poor 2003–2005" initiative announced by the administration at the World Summit on Sustainable Development, donors are still doing too little to address the water crisis.

The increasing scarcity and declining quality of water, however, not only threaten U.S. national security, but also offer opportunities. Increasing global leadership in water and sanitation would improve the United States' international stature while helping to alleviate poverty, build democracy, and provide humanitarian assistance. In addition, instead of focusing heavily on the threats posed by water scarcity, the United States could also more actively exploit the *peacemaking* potential of water management. We could leverage opportunities to manage water problems in ways that build confidence, trust, and peace between parties in conflict.

Such a "water peacemaking" strategy could generate dividends beyond water. First, it builds trust and serves as an avenue to talk when parties in conflict are stalemated on other issues. Second, it establishes habits of cooperation among states, some with little experience cooperating, such as in the Kura-Araks basin in the Caucasus or in other states of the former Soviet Union. Third, it forges people-to-people or expert-to-expert relationships, as demonstrated by the "Good Water Makes Good Neighbors" program in the Middle East.[1]

Two hundred and sixty-three rivers are shared by two or more countries, providing ample opportunities for states in conflict to share water. Water is frequently used as a lifeline for dialogue and cooperation during conflict. Some examples:

[1] For more on Friends of the Earth Middle East and its Good Water Makes Good Neighbors program, see http://www.foeme.org/.

- The Indus Waters Treaty stayed in force despite three major wars between India and Pakistan since its signing in 1960.
- Cambodia, Laos, Vietnam, and Thailand formed the Mekong Committee in 1957 and continued exchanging water data throughout the Southeast Asian wars of the 1950s, 1960s, and 1970s.
- From the 1980s until the early 1990s, while both nations were formally at war, water managers for Israel and Jordan held secret "picnic table" talks to arrange sharing the water from the Jordan and Yarmuk rivers.

Despite the warnings of impending "water wars"—especially in the Nile River Basin—research indicates that nations do not go to war over water.[2,3] Since 1999, the Nile Basin Initiative, facilitated by the UN Development Programme, the World Bank, and the Canadian International Development Agency, and supported in part by USAID, has included all the Nile's riparians in ministerial-level negotiations to formulate a shared vision for the basin's sustainable development.[4] While not explicitly a peacemaking effort, this cooperative program provides vital avenues for dialogue and promises tangible advances in development, thus reducing tensions.

The U.S. government should support and encourage efforts to apply lessons learned from such prominent efforts. In another "basin at risk," Angola, Namibia, and Botswana want to use the Okavango River in potentially incompatible ways, which could reopen old wounds in this former war zone. Basin-wide institutions such as the Okavango River Commission, however, are actively fostering cooperation to meet the countries' changing needs and head off conflict. In one of its few multilateral water projects, USAID is supporting this fragile water basin institution as it tries to peaceably meet the region's water, sanitation, and development needs.

Not only can cooperative water management help prevent conflict, but it can help resolve wars caused by other problems. For example, neither the conflict between Israel and Palestine nor the conflict between India and Pakistan was caused by water scarcity. Nevertheless, water resources are key strategic assets that each party must agree how to share before conflict can end. By dedicating working groups to negotiating water issues, the respective peace processes have explicitly recognized the importance of shared water resources.

Finally, cooperative water management can help countries recover from war and emerge from post-conflict reconstruction safer, healthier, and more stable. As Pekka Haavisto, head of UNEP's Post-Conflict Assessment Unit, writes in *State of the World 2005*, efforts to restore the transboundary Mesopotamian marshlands have brought Iraqi and Iranian scientists together for the first time in 29 years.[5] By helping establish water management structures that promote dialogue and cooperation among former combatants, these steps may prevent the reemergence of conflict.

But the future of water conflict and cooperation may not look like the past. Soon, for example, Chinese plans for eight hydropower dams on the headwaters of the Mekong River may have dramatic implications for the countries downstream—Burma, Thailand, Laos, Cambodia, and Vietnam—if, as some predict, these dams will disrupt rice cultivation and the river's rich fisheries.

2. Integrating water and sanitation programs into other sectors will make water and sanitation programs more effective—and improve the results of programs in other sectors, such as health, agriculture, education, economic development, and conflict prevention.

Both donor and recipients face the challenges posed by sectoral and departmental stovepipes that fail to recognize water's fundamental role in development. Although research on the economic benefits of improved water and sanitation is somewhat limited, the WHO estimates that the $11.3 billion annual investment needed to meet the drinking water and sanitation targets in the MDGs would return $84 billion each year, and save health agencies $7 billion in health care costs and individuals $340 million.[6] School attendance would jump by an extra 272 million days a year, and children under 5 would gain 1.5 billion healthy days. A WaterAID study

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[2] Wolf, Aaron T., Shira B. Yoffe, & Marc Giordano. (2003). "International waters: Identifying basins at risk." *Water Policy 5*, 29–60.

[3] Wolf, Aaron T., Annika Kramer, Alexander Carius, & Geoffrey D. Dabelko. (2005). "Managing water conflict and cooperation." In Worldwatch Institute, *State of the world 2005: Redefining global security* (pages 80–95). New York: Norton.

[4] See the Nile Basin Initiative (NBI) Secretariat's website at http://www.nilebasin.org/.

[5] Haavisto, Pekka. (2005a). "Environmental impacts of war." In Worldwatch Institute, *State of the world 2005: Redefining global security* (pages 158–159). New York: Norton.
_____. (2005b). "Green helmets." *Our Planet 15*(4), 21–22.

[6] World Health Organization. (2004). *Evaluation of the costs and benefits of water and sanitation improvements at the global level.* Geneva: World Health Organization.

of the impacts of improved water and sanitation in Madagascar found that the water projects had reduced child illness and infant mortality rates.[7] The time saved from fewer long walks to gather water left children more time to study. Offering water in the schools led to improved sanitation and hygiene. New community-based organizations emerged from water user associations, thus illustrating how water management can help build democratic institutions.

Developing countries must move from recognizing the link between water and development to adopting integrated steps to improve water and sanitation at the national and local levels. More government agencies—beyond the ministries of water or environment—should incorporate water's benefits for the ecosystem, economy, agriculture, health, education, and security into their budgets and policies. The Water for the Poor Act 2005 could be a critical step towards this goal: the U.S. government should seek to obtain visible and vocal support from developing-country leaders for integrating efforts and increasing public "on-budget" funding for water and sanitation. These on-budget resources should not be limited strictly to water, environment, or development ministries, but extend to finance, health, education, agriculture, and infrastructure ministries. External funding, whether from bilateral donors, international organizations, or NGOs, will inevitably rise and fall over time. But the support under discussion should help generate additional on-budget resources for water and sanitation from recipient governments.

And what we ask of developing countries, we need to do ourselves. Collaborations across bureaus and offices would capitalize on key links to a wide range of development goals. The new USAID Office of Conflict Management and Mitigation, for example, is a cross-cutting department that examines water and conflict across the world, as described in its forthcoming Water and Conflict Toolkit. To support the objectives of the Water for the Poor Act 2005, the Committee should add funding for training the next generation of water managers. Many U.S. universities and institutes are well-positioned to arm Americans and international managers alike with skill sets that go beyond engineering and hydrology to include development and agricultural economics, law, ecology, public health, urban planning, and foreign and security policy. This support for interdisciplinary training will, in the long run, help overcome the stovepiping that plagues many water and sanitation efforts on the ground and within donor agencies today.[8]

3. Improving donor coordination and increasing multilateral efforts would make water and sanitation foreign assistance more effective.

Water is naturally multilateral: it pays no respect to national boundaries. This poses a challenge for donors used to looking at problems from a bilateral, not regional or purely local, perspective. As the Committee considers the Water for the Poor Act 2005, it should recognize the challenges that arise from donor dollars flowing to national governments, while water supply and sanitation are typically managed and funded at local levels.

This state-to-state funding path also constrains most donors from taking regional approaches, which could address larger water problems across ecosystems. The United States should build on its regional efforts, as well as work more often with multilateral institutions to escape the bilateral constraints of USAID. In addition, a multilateral approach could help the United States operate in regions where it is constrained by its perceived alliances with one country or group.

The United States is not alone in its interest in expanding water programs. The portfolios of at least 20 UN entities include water. The World Bank, the Global Environmental Facility, and the British, Canadian, Dutch, German, Japanese, and Swedish aid agencies have made integrated water programs a key priority. The Water for Poor Act calls for USAID to review its own programs and derive lessons from its efforts. However, the review could be even more productive if it also included a selection of water and sanitation programs from leading international organizations, bilateral donors, and overseas NGOs.

This crowded field produces a dizzying array of programs and policies, which can undercut each other. Coordinating donor efforts could reduce the burden on already-taxed aid recipients, who complain that some donors give them insufficient funds, set unrealistically short time frames, change priorities midstream, require burdensome reporting, establish competing programs, impose inappropriate models, and are unwilling to collaborate. Through regular, high-profile forums, the U.S. government should continue to encourage coordination and increased funding for water

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[7] See http://www.wateraid.org/what__we__do/where__we__work/6301.asp

[8] See, for example, programs such as those at Oregon State University http://www.transboundarywaters.orst.edu/ and the Universities Partnership for Transboundary Waters http://waterpartners.geo.orst.edu/.

and sanitation. While a "Global Fund for Water" modeled on the Global Fund for HIV/AIDS, TB, and Malaria may not be a politically viable or efficient alternative, there is still dramatic room for improving coordination among international organizations and bilateral donors.

Conclusion

Every eight hours more people die from waterborne disease than were killed in the September 11th attacks. Of course clean water will not directly prevent terrorism, but reducing human suffering, encouraging development, and building goodwill increases our security by reducing poverty and underlying grievances around the world, including in key countries and communities of strategic concern to the United States. As stated in the 2002 National Security Strategy, "Poverty does not make poor people into terrorists and murderers. Yet poverty, weak institutions, and corruption can make weak states vulnerable to terrorist networks and drug cartels within their borders." Poor water and sanitation are key causes of this destabilizing poverty, and addressing these poor living conditions can be central to improving broad-based U.S. national security.

Note

I am a federal employee at the Woodrow Wilson International Center for Scholars, the official memorial to the nation's 28th president housed within the Smithsonian Institution. I am testifying in my own personal capacity and my comments do not reflect the views of the Woodrow Wilson Center. In the interest of full disclosure, I would like to note that for the past five years, the Wilson Center's Environmental Change and Security Program has also received funding from the U.S. Agency for International Development in the amount of $500,000—$625,000 per fiscal year for activities on population dynamics, environment, and foreign policy. Funding for the Environmental Change and Security Program's Navigating Peace Initiative on water has been provided by the Carnegie Corporation of New York. For more information, please visit www.wilsoncenter.org/ecsp

Chairman HYDE. Thank you very much. Mr. Morris.

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

Mr. MORRIS. Thank you. Chairman Hyde, Congressman Blumenauer, and Distinguished Members of the Committee on International Relations, thank you for drilling new ground with this historical hearing on water.

The Water for the Poor Act well lays out both the problem and the need for very clear action. I am Chairman of a Fortune 1000 company, who considers it a privilege to have discovered first-hand the need for clean water on a trip to Africa in 1990, which led to the founding of Living Water International.

Later, the Millennium Water Alliance was launched after the World Summit on Sustainable Development in 2002. We brought together in collaboration for the first time U.S. 501[c][3] organizations focused on providing water to poor and developing countries.

My testimony will focus a moment on Ethiopia for brevity, where 70 percent, or 42 million people, lack access to clean drinking water, their greatest need. The provision of sanitation is critical and boosts the health benefits of clean water.

Following these interventions, health and hygiene training becomes imperative. Here is a plan that works. Rural areas are most lacking in access to clean water all over Africa, about 53 percent.

A secretariat is first formed in the country. Standards for water quality, types of pumps, applicable regulations, are established and the secretariat then provides a single source of transparent reporting both to donors and to governments.

Partner meetings are held at water project sites to induce constructive criticism, knowledge sharing, and development of best

practices among the providers of water and sanitation. The MWA builds capacity to appropriately deploy available money for water developments in each country.

The MWA works at the community level with local officials, forming a community board of both men and women to oversee the community's water needs. Available options are discussed, including the expense of operating a facility.

Once a solution is selected the MWA works with community members, who provide great participation in its implementation, and with participation comes ownership. Each implementing team includes apprentices so that production capacity can be doubled each year.

With this model, starting out with only $1.5 million in the first year, and doubling expenditures and capacity only one each year, water sanitation, health and hygiene training, can be expanded to virtually every citizen within a 10-year time frame.

Based on the initial experience of the MWA, we could provide basic water sanitation, health and hygiene training to 42 million people in Ethiopia, at a cost of $1.68 billion. This is not all from the United States. This is money from all world donors and the Ethiopian Government itself.

The MWA is committed to training the local population to create capacity in water, sanitation, health, and hygiene. The process helps lay the groundwork to establish businesses that can be launched and will be available for continuing maintenance and future upgrading of community water systems.

If those countries being granted debt relief this week coming up would spend much of the former debt payments on providing clean water and sanitation, those countries would be able to supply water and sanitation to all of their communities within a decade, using a model of efficient implementation.

As a businessman, I understand the many competing needs that all leaders are faced with. However, if no provision is first made for clean water, I predict that no country will ever rise out of its poverty and will always be an international burden.

Without clean water, these countries will be back at a future G–8 table with further requests for debt relief. Faced with 50 percent of the hospital beds of the world filled because of water-related diseases and huge losses of labor hours, we have a virtual silent tsunami that buries any potential for economic development.

As a humane society, we want to throw everything that we can at treating illnesses. However, we must also vaccinate against these illnesses, and that vaccination is clean water.

Peter Agre of Johns Hopkins University received the Nobel Prize for Chemistry in 2003 for the discovery that every cell of the human body contains a channel through which only one thing can pass, and that is water. Water channels are key, he says, to crucial activities, such as making the heart beat, the brain function, and the limbs move.

And with 100 trillion cells in your body, without clean water that is 100 trillion ways for something to go wrong. Dr. Richard Garrison, a professor at the University of Texas Health Sciences in Houston, has written a universal health coverage plan, and from that, I quote:

> "By any account, the first, most effective implementation would be the provision of pure drinking water. Therefore, LEVEL ONE of the vertically integrated healing arts is the provision of drinking water."

Disease in a society can radiate out from any contaminated source. Every citizen must be fully aware of the preciousness of this resource, and guard their right and their responsibility.

The things considered by most folks to be appropriate to the physician are not nearly as effective at preventing or treating disease as is the provision of pure drinking water. Therefore, the vertically integrated healing art should start at the drinking water level.

Adequate supplies of clean water provides huge benefits for the whole global community as well. My company, a public company, had its Canadian operations totally shut down by the SARS epidemic, spread through a lack of adequate quantities of water for simple handwashing in China.

HIV/AIDS patients cannot successfully be treated without access to clean water, and their caregivers must have access as well. A new water-borne disease, Hepatitis E, has broken out in the Central African Republic and spread into Chad and Darfur.

I fully encourage the passage of H.R. 1973. We must quit spending our dollars to fix recurrent problems and not addressing their root cause. It is much less costly to fix the root cause.

Not one Member of Congress would be reelected if members of their district were told that there were better things to spend money on than clean water, and their constituents did not have clean water.

The people in other countries are no different. Their children die while they languish without clean water, unable to develop and staying in squalor, and forever dependent on us.

The Water for the Poor Act will make it a major objective of the United States foreign assistance to promote good health, economic development, poverty reduction, women's empowerment, and environmental sustainability, by providing assistance to expand access to safe water and sanitation, and improving hygiene for the people around the world. Thank you very much.

[The prepared statement of Mr. Morris follows:]

PREPARED STATEMENT OF MR. MALCOLM S. MORRIS, CHAIRMAN, MILLENNIUM WATER ALLIANCE

Chairman Hyde and distinguished members of the House Committee on International Relations, thank you for inviting me to testify before you today on H.R. 1973, the "Water for the Poor Act of 2005".

First I commend Congressman Blumenauer for introducing this vital legislation which well lays out both the problem and the need for clear action.

I am Chairman of a Fortune 1000 company who was privileged to discover first hand the need for clean water on a trip to Africa in 1990 which led to the founding of Living Water International. Later, the Millennium Water Alliance was launched just after the World Summit on Sustainable Development in 2002. It brought together in collaboration for the first time, U.S. 501 C–3 organizations that were totally devoted to providing water or had large components providing water to developing countries. I am attaching a brief history of the Millennium Water Alliance.

My testimony will focus on Ethiopia for brevity but my comments are translatable to many countries. 70% or 42 million people in Ethiopia lack access to clean drinking water. Just drinking water is the greatest need. The provision of sanitation is critical and boosts the health benefits of clean water. Once water and sanitation are

provided it is critical to break past habits and teach people to utilize these new interventions.

Let's focus on a plan that works. First, emphasis is on rural water and sanitation. Rural areas are most lacking in access to clean water all over Africa.

A Secretariat is first formed in the country consisting of a manager and a financial officer. The Secretariat draws interested parties together from member organizations, US AID, UNICEF, Country water ministries and even local water NGO's. Standards for water quality, types of pumps, and applicable regulations are established. The Secretariat oversees collection of information on finances and service levels and provides a single source of information to governments and funding agencies.

The Secretariat holds partner meetings at water projects sites to induce constructive criticism, knowledge sharing and development of best practices among the providers of water and sanitation.

The World Bank has designated funds for Ethiopia but the country itself does not have the capacity to appropriately deploy the money for water development.

The MWA works at the community level with local officials. A community water board of men and women is created to oversee the community's water needs. The MWA then works with local officials and board to ascertain what system is appropriate to meet their needs. Available options are discussed including the expense of operating a facility. Once a solution is selected, the MWA works with community members who provide great participation in its implementation.

Each implementing team includes extra members to apprentice with the goal of being able to split teams and double production capacity within one year. Systems are open to inspection and other teams are welcome to study for purposes of replication. With this model starting out with only $ 1.5 million in the first year and doubling expenditure and capacity only once each year, water, sanitation and health and hygiene training can be extended to virtually every citizen within a ten year time. The total cost for Ethiopia in today's dollars, approximately $1.68 Billion.

The MWA is committed to training the local population to create capacity in water and sanitation, health and hygiene. In the process, indigenous population will have been trained in bookkeeping, teaching and trade skills which will allow them to turn their expertise gained into ongoing business skills to continue maintenance and the development of more advanced water systems.

If those countries being granted debt relief would agree to spend all such former debt payments on providing clean water, I believe those countries would each be able to supply water and sanitation to all their communities within a decade. This is using a model of efficient implementation as described with guidance like the MWA provides.

As a businessman, I understand the many competing needs leaders are faced with. However, if no provision is first made for clean water, I predict no country will rise out of its poverty and will always be an international burden. Without clean water, those countries will be back at a future G8 table with the same request for debt relief once again. Faced with 50% of the hospital beds of the world filled because of water related disease, 80% of premature death and sickness from bad water and huge losses of labor hours, we have a silent tsunami that buries any potential for economic development. As a humane society we want to throw every thing we have at treating the illnesses. However, we must instead vaccinate against the illness. That vaccination is clean water.

Peter Agre of Johns Hopkins received the Nobel Prize for Chemistry in 2003 for the discovery that every single cell of the human body contains a channel through which only one thing can pass and that is water. Water channels are key to such crucial activities as making the heart beat, the brain function and the limbs move. With 100 trillion cells in your body, there are one hundred trillion ways to get sick without clean water.

Dr. Richard L. Garrison, Professor, University of Texas-Houston, Health Science, Department of Family Practice and Country Medicine has written a plan on a universal coverage health system. From that, I quote: "By any account, the first, most effective implementation would be the provision of pure drinking water. Therefore, LEVEL ONE of the vertically integrated healing arts is the provision of pure drinking water. This must include every individual universally, because disease in a society can radiate out from any contaminated focus. Every citizen must be made fully aware of the preciousness of this resource so that they will guard their right and their responsibility.

Most people would not consider drinking water issues to be the business of the physician. However, everyone would admit upon reflection that the things considered by most folk to be appropriate to the physician are not nearly as effective at preventing or treating disease as is the provision of pure drinking water. Therefore,

if drinking water is not an issue for the health system, then it must be conceded that other systems have more impact on health than does the health system. This ought not to be! Therefore, the vertically integrated healing arts should start at the drinking water level." I will be happy to provide a full copy of this paper.

Adequate supplies of clean water provide a huge benefit for the whole global community as well. The SARS epidemic spread due to lack of adequate quantities of water for simple hand washing. HIV/Aids patients cannot be successfully treated without access to clean water and their caregivers are exposed as well. In the Central African Republic, there is an outbreak of a new disease called Hepatitis E. This disease is being spread through the water and has reached Chad and into Darfur.

I fully encourage the passage of H.R. 1973. We must quit spending dollars to fix recurrent problems and not addressing the root cause. It is much less costly to address the problem and fix it. Not one member of Congress would be reelected if members of their district were told that there were better things to spend money on than clean water on if their constituents did not have access to clean water. The people are no different in other countries which we let languish without clean water, unable to develop and staying in squalor and forever therefore dependent on us. The Water for the Poor Act will make it a major objective of united States foreign assistance to promote good health, economic development, poverty reduction, women's empowerment and environmental sustainability by providing assistance to expand access to safe water and sanitation and improving hygiene for people around the world.

Mr. SMITH OF NEW JERSEY [presiding]. Thank you very much, Mr. Morris. Mr. Rohrabacher.

Mr. ROHRABACHER. Thank you very much, and again as Henry Hyde exits, I would like to thank him for his leadership in actually bringing this legislation to a hearing today, and of course the author of the legislation as well.

There are just a couple of things that I am at odds with, and there are a couple of things that I agree with. First of all, I don't think that we have any apologies to make as Americans that sometimes we make investments, humanitarian investments, that also relate to our strategic needs as a people.

There is nothing wrong with that, and the fact that we are spending so much money in the Middle East, if it would help bring peace, that is a wonderful thing, because that would then free tremendous other resources that we could use for more humanitarian purposes or other humanitarian purposes.

That is one of the reasons that I consider myself a supporter of the Red Sea to Dead Sea Project, that would enormously increase the amount of water available in that area of Jordan, Israel, and the West Bank, and what will be Palestine.

Because when you look at what is going on in the West Bank, the walls that they are going to supposedly build around the West Bank, a lot of it had to do with walling off water resources. And until anybody recognizes that and looks at that, and sees that as a motive, we are not going to be able to solve that problem.

So let's increase the water level of supplies in that area and it will be easier to bring peace to that area. Billions of dollars would then be freed from militarism to more humanitarian efforts.

It seems to me that what we have here today, and from the testimony that I have heard, it is very similar to what we heard in the debate over what type of development aid we should have in the past.

And microenterprise used to be a real controversial—or at least it wasn't an accepted principle. The idea that we should have micro efforts aimed at individuals, and helping people in need, rather than mega projects that would develop entire economies, et cetera.

And in the end, microenterprises has become very popular now because it ensures at least a certain amount of progress in a society. Mega projects quite often don't go anywhere unless you can get control of the corruption in a society.

So a micro approach, whether it is economic, or whether we are talking about water, is a way to get around the corruption that prevents the type of progress that we are looking for.

That is why I would think that what we need to do is try to find focus, and this legislation is aimed at this, Water for the Poor. How do we make sure that we get clean water to those people whose children are now dying, who end up in hospitals costing huge amounts of money for the society?

How do we get directly to them and get around perhaps corrupt governments that we would have to deal through if we had a bigger project in mind? And with that in mind, I wonder if we can again talk about some of the—is the answer here trying to get people—number one, we and the last witnesses talked about wells, and improving wells, and things like that in Africa. But do we also need to, for example, have packets of water that can be put into clean water for a family, or something like that? It seems to me that you could drop bleach or whatever it is into—one drop of bleach might clean out the bacteria from the water.

Is that the approach that we should take, or should we take instead building aqueducts for countries so that water can be transported from one place to another? Which is the approach that is the best, and I will open that up to the panel?

Mr. MORRIS. The approach that we are taking is a people-to-people approach. It is at the grassroots level, and is working at the very local level, and not with the—other than working with the central government to establish standards that are acceptable within a country, we work straight at the local level.

So there is no corruption that enters in. It is a people-to-people effort, and involves the community, and self-help, and training. These are not mega projects. Most of the people in urban—even urban sub-Saharan Africa, do have access to clean water.

If you are well enough to be able to afford it, you can buy clean water. There are interventions such as you are speaking of using chlorination, household chlorination, that are fine in certain circumstances where there is a fairly clean source of water available. Most of what we are dealing with in the areas that we work with is really not susceptible to that treatment.

Mr. ROHRABACHER. You mentioned community development. In fact, maybe that is someplace in between the individual humanitarian effort and having to go through a centralized government, and maybe some other thoughts on that?

Mr. LOCHERY. I think in answer to your question, it is important to realize that as we progress in understanding how to bring water and sanitation services, particularly to the poor, we open up new technologies.

Five or 10 years ago, people were not talking about point of use water treatment. Now it is being talked about quite extensively. And what I mean by point of use water treatment is what CDC and many other partners have been promoting, in the form of simple dosing with sodium hyperchlorates.

Proctor and Gamble marked a product. It is called Pure, and it comes in a packet, and is more expensive, but not only does it disinfect the water, but also takes out any sediment that is there, and there are other point of use methods.

But I think we need to keep an open mind and if I can use the phrase which the British use, there are horses for courses. In other words, you need different types of race horses for different types of race courses. And it is important. Sometimes we do not adapt.

The second point that I would like to make is that we do need to work with governments. I mean, we can work directly people-to-people as NGOs, and we work with local organizations. But we also work with government, and one of the reasons that we work with government is that if we look at Ethiopia, for example, if you look at their water budget, how much are they spending at the moment in their budget?

They are spending about 38 percent of their budget each year. So they don't have enough to reach the Millennium Development goal in Ethiopia, but it comes from two reasons. One, inability to spend the money that they have already, and secondly, they need additional money.

So we have to free up those funds that countries already have, and work with them to reduce bureaucracy at different levels within the government.

Mr. ROHRABACHER. Mr. Chairman, thank you very much, and just one final note. The corruption level in some of these countries—I mean, including Ethiopia—if we could just—frankly, to ask people here to spend more of their hard-earned money for countries whose governments just wink and nod, and there is corruptions at the highest levels, it is not realistic.

When you talk about going to bypass those governments and trying to get directly to the people, that is a realistic assessment, because Americans, like everybody else, have good hearts. It tears us apart to think of children dying needlessly.

But don't expect us to think that corruption level—that unless that comes down, there is no way that we are going to be able to channel more resources that have to go through those governments.

Mr. PAYNE. Will the gentleman yield?

Mr. SMITH OF NEW JERSEY. Mr. Payne, you are next.

Mr. PAYNE. Oh, okay. Thank you. You know, there is no question there is corruption. I think though that we have these hypotheticals in our mind that all the money is going to corruption.

And if you have a way to quantify and know exactly how much corruption is going on, I would appreciate—Mr. Rohrabacher, I am responding to your question. I know that your colleague is chatting. Excuse me.

But I just wanted to say that if you have quantifiable evidence that the water program has this tremendous amount of corruption, I would appreciate it if you could get that information. I think we, in many instances, hallucinate sometimes, and come up with these problems.

We know that corruption exists, but to say specifically that there is a certain thing happening at a particular place, I think that does

a disservice to those taxpayers that you are talking about, who do not want to see their money go into corruption.

Mr. ROHRABACHER. I would be happy to answer that question. If the question is aimed at me, I would be happy to answer. If you would yield.

Mr. PAYNE. Well, your time was up. I am using up my time.

Mr. ROHRABACHER. I thought you were asking me a question.

Mr. PAYNE. No, I was just making a statement to you, and perhaps some other time we could have a colloquy, but I do think that I would question the validity of your off-hand statement that there is a tremendous or exorbitant amount of corruption in the water program in Ethiopia.

Mr. ROHRABACHER. Excuse me, but let me note that I never said the water program in Ethiopia. I said corruption in the Ethiopian Government.

Mr. PAYNE. We are talking about water, and that is what we are focusing on right now. Anyway, just quickly, I guess my time is almost expired, but I just would like to indicate that I think that we, and my colleague, talked about the fact that—and I agree that we need to support our friends, and that our programs should have some national security component to it. It should have something to do with our allies, but when 94 percent of the water for the poor is going simply basically to the war on terror, then I question when 5,000 people are dying a day because of water-related illnesses, what we will finally end up doing is concentrating on Afghanistan, Iraq, et cetera, and find that we are creating other heavens for terrorism.

A lot of times a penny wise is a penny foolish, and I think if we can target programs to prevention, and we don't necessarily create problems that we find, but I just wonder how—and anyone could answer it, but how are we going to come close to our Millennium Challenge Account of having the water problem by 2015 at the current rate?

And that will be just my last question, do you think we can reach the goal at this time, and if not, what do we have to do to alter it? I also had a question about—and not really water related, but about this whole locust question.

And I would hope that the Millennium Challenge Account folks could look at that, because under colonialism, there was a regional approach to locusts. They laid their eggs at a particular time, and if you know that water is going to come into a particular area, you can kill the eggs before they hatch, and the problems that Mali had with these tremendous locust problem.

I would like to talk to the Millennium Challenge. I met with the President of Niger, and they said that it would probably not be very costly at all to reconvene this regional group of individual countries that could prevent the terrible tragedy that we saw with millions of locusts.

And 30 years ago, it would have been located by the regional colonial groups, and they would go into spray or to kill the lavas before they would hatch, but without that cooperation.

So I think that might be something that we would like to talk to the Millennium Challenge people about. It is not directly water

related, but I think if we stretch it somewhat, we can see that if it wasn't for water, these eggs would not hatch.

But just in relation to the goals and what could be done, if anyone would like to address that in the remaining minute that I have left.

Mr. MORRIS. I would just like to make a comment. I have just returned from two countries in Africa to review the operations of the Millennium Water Alliance. And having gone to Kenya and met with President Kibaki, who was elected to end corruption, and then had a stroke, and I think lost a little bit of ground there. But he came up on national TV at a meeting with us, and made a commitment to take water to 20 million people in Kenya on national TV. Within hours all over the country, that word was out.

We are going to be doing two major projects over the summer as a result of that meeting. These are headlines in the Kenyan paper right here about American support coming to Kenya for water. A Presidential well, which is underway right now. President Kabiki will have the ministers of finance, water, health, and education, along with 10 members of Parliament, who have agreed to do water projects in their districts.

And at this nationally televised event, the President will challenge all 210 members of Parliament of Kenya to do likewise and complete one or more water projects in each of their districts.

He will reiterate that the provision of clean water is key to the economic development, health of the nation, and critical to the ability of that nation to educate its children.

It has nothing whatsoever to do with corruption. This is at the local level. A second project is the peace well. You all spoke of the peace situation, at the dedication of the peace well where 21 children were killed in the 30 days before we arrived, and the President at that well dedication will proclaim that all over the world water has been the trigger for conflict.

Even in Kenya, our own children have been killed in conflicts over water, but with the dedication of this peace well, water will become known as the trigger for peace in Kenya.

And the Kenyan Parliament has reacted by passing a discretionary constituency fund, devoting 2.5 percent of its Federal budget, allocated among each member of Parliament to use for the most pressing needs in each member's district. Again, the President is asking each member to devote a part of their discretionary account to water.

They have additionally established a new Khs180 million fund for water projects that will be done in these key areas of critical conflict, up in the northern areas where it is very hot.

And we cannot—I think as an international community, we cannot let this opportunity pass, and the poor of the country suffer because a government is not yet perfect. And Kenya has not qualified for the Millennium Challenge Account. It has not qualified for debt forgiveness, and they want to use this water effort as a key way to show the world that we can do something with the United States.

And there is not going to be any corruption involved. And I will be leading Members of our Congress to Kenya for the dedication of

that peace well in Kenya. I would invite your participation in helping bring our two nations together.

And I want to reiterate in the light of the latest headlines that this is not a paid junket. This is a key opportunity for our nation to begin implementing the practice of water diplomacy.

Mr. SMITH OF NEW JERSEY. Thank you. Mr. Blumenauer.

Mr. BLUMENAUER. Well, I am just stunned, Mr. Chairman, with just that the testimony keeps getting better and the focus on it. I just want to thank our witnesses. I look forward to following up with each of them.

I am in a slight difficulty. I have an amendment on the Floor that I need to get to in a moment, but I have been a huge fan of what CARE is doing and being able to focus in a very practical way makes a big difference, I think, for people to understand the motivation and the intensity that we need to have for the legislation.

Dr. Dabelko, your focus on these three elements, and integrating it into our work is something that I think we want to take back to our Committee to be able to reinforce what we are trying to do, and why.

And I just confess, Mr. Morris, that in your testimony when you talked about the example in Ethiopia of being able to tie the links together with a sustained plan over time, and being able to channel resources that we are giving to people, I love the notion about tying debt forgiveness.

And in your observation that in many places there are people who are paying a lot of money now. Mr. Chairman, this is something that I think we can work on together, because many of these desperately poor countries, there is a huge amount of money that is being spent now on inadequate, unreliable water, that if we can provide the framework, as Mr. Morris was talking about, we can leverage that in a way that we can achieve the Millennium Development Goals.

And I want to express my appreciation. I would like to follow up with each of the three of you as we try and fine-tune this and extend the network, because the same way that I think Mr. Morris talked about, giving water as an example for some of these countries that from a distance look like basket cases. But if we give them something concrete that will provide momentum, they can help them come together.

Mr. MORRIS. Absolutely.

Mr. BLUMENAUER. I truly believe that this legislation is something that we can do on this Committee that is bipartisan, that is cost effective, that meets our other objectives, and that will have a healing impact.

So I deeply appreciate the work that the Committee has done to this point, and these panels, as we were talking a moment ago, have just been superb, in terms of ammunition that we can use.

And I think helping give a broader sense of the urgency for this, because we will have had 600 children lose their lives needlessly in the course of this hearing, and it is that sort of focus, I think, that can help us make a difference. And I just am deeply appreciative for what people have done. Thank you.

Mr. SMITH OF NEW JERSEY. Thank you very much, Mr. Blumenauer, and thank you for your extraordinary leadership on this issue.

Mr. BLUMENAUER. Now we need to go save Amtrak.

Mr. SMITH OF NEW JERSEY. I'm with you. Now, we are joined by John Culberson, a Distinguished Member from the State of Texas, who is a Member of the Appropriations Committee. I yield such time as he would like.

Mr. CULBERSON. Thank you, Mr. Chairman. Mr. Blumenauer, and Mr. Payne, I want to pledge to you on my behalf to work with you on the Appropriations Committee to spearhead the effort on appropriations to make sure that the money that Congress sets aside for this noble and invaluable purpose is actually spent.

I know that you all have to run, but I want to ask the witnesses, and Mr. Morris in particular, how much money has the Appropriations Committee set aside for the development of safe clean drinking water in Africa over the last 2 years, and how much has actually been spent by USAID?

Mr. MORRIS. I think that it was about $50 million a year, and I think it was around $7 million the first year, and $10 million the second year.

Mr. CULBERSON. So only 7 to 10 total has been spent of a total of about how much?

Mr. MORRIS. Fifty million a year. Seven million the first year, and I think 10 million the second year.

Mr. CULBERSON. So, $17 million out of $100 million? I want the Members to let that sink in, because this is the problem, and it is why I am here. Malcolm Morris is a constituent and someone that I admire immensely. Malcolm has no personal stake in this. He is a very successful businessman from Houston. His parents founded Stewart Title. Malcolm is doing this out of the goodness of his heart, and the depth of his faith and conviction of how important this is for the people of the Third World.

I have come to admire Malcolm immensely. I believe that the United States should do everything in our power to shift our foreign aid focus from handing out sacks of wheat and radios, portable radios, to providing safe clean drinking water, because it does indeed revolutionize these Third World countries, and liberate women, and improve health.

Malcolm has been doing that with Living Water in Houston, based out of Houston, that you founded. And USAID has said the right things, and has committed to do the right things, but they simply are not doing it.

Seventeen million dollars out of $100 million appropriated, and so the appropriators need to work with you, Mr. Chairman, and the authorizers. The bill looks terrific.

I have just scanned it and looked through it, and I would encourage you to add some language to make USAID, to require them, to implement what the President envisions, and what this Committee envisions, and what the Congress has envisioned.

And that is to provide safe clean drinking water to these people who are just desperate for it. All the mechanisms are there, aren't they, Malcolm? I mean, you have been able to go in and talk to the Committee very briefly about your success in Ethiopia and in

Kenya of what you have done so far with the resources that you had at hand.

Mr. MORRIS. USAID committed only $800,000 to Ethiopia through the MWA. Vanessa Tobin, who is behind me, and I made a trip. We flew 9 hours and drove 18 hours through Ethiopia in a 1-week period. And I just want to tell you that we went to the area of Tigray. There were triple the planned number of people using one bore hole. We talked to them, and we said to the assembled community that we are from the United States.

Our friends in America understand that water is life, and because we love them, and they, along with USAID, have provided the money for MWA to work in your community and provide this new water source.

And I want to tell you that if every one of you could have been there, the vote would have been 100 percent out of the Congress, because the people clapped, and they jumped, and they danced, and they screamed their support for the United States.

There was no animosity. This was basic grassroots diplomacy and action. They told us later that the only time that community had seen aid before from the United States was in times of famine.

But now USAID, with us, has come with water to help them produce their own crops, and avoid the pangs of famine. I could do nothing better than to support this bill and give you that good report.

Mr. PAYNE. That was just the point that I was trying to make earlier when I talked about the very small amount that was going into sub-Saharan Africa, and if we can show that America cares, if we show projects like this, if we show people that we do want to see their children grow up and women be free, and so forth, we can prevent the 95 percent that we are spending in Iraq and the West Bank, and all the rest.

In other words, if we can nip the grounds for terrorism in the bud by small programs like that, then we don't have to spend the 95 percent over there.

Mr. CULBERSON. If the gentleman will yield. There is no question that the goodwill that is generated by this type of work is just extraordinary, and you do revolutionize lives. It turns people's lives around in these countries.

And the point that I really wanted to make was not only to come to personally thank you, Malcolm Morris, for your superb work in this area, but all of you who have worked in water, to vouch for this good man's good heart, and his character, and the work that he has done.

But also as appropriate to impress upon you as the authorizers that it is just absolutely inexcusable for 83 percent of the money to be sitting there unspent. And $100 million set aside for this purpose, and we cannot get USAID off the dime to make it happen.

On the Appropriations Committee, we have a long tradition of obviously not wanting to get into the authorizing area. We don't want to intrude on the jurisdiction of other Committees to pass authorizing legislation.

But as a new Member of the Committee, it has been very frustrating to me. Are we on the Appropriations Committee simply to be a light switch, maybe a dimmer switch, to turn on or off the

money, with no authority to make sure that the bureaucracy is actually enforcing the law that you have passed?

I think we need to work together to change the rules of this House so that the Appropriations Committee can be the enforcers, and we can pass and come up with non-substantive procedural mechanisms to ensure that the bureaucracy doesn't get the money until they can prove that they are enforcing the law that you pass.

Otherwise, we will continue to see this pattern, and this is true not only in this Committee with USAID, but in many other areas, with transportation, with the Federal Aviation Administration, with all the agencies of the Federal Government. The bureaucracy does not move until we work together.

And I really want to work with you, and you have my commitment, Mr. Chairman, to do everything in my power to work with you not only in supporting this bill, but I hope that we can amend it in a way.

And perhaps the House rules as well, so that the Appropriations Committee can force USAID to do the right thing, and follow the will of Congress and this President in providing safe clean drinking water to these people and these countries who need it so desperately, and are so grateful for it.

And what you have obviously done was so little, $800,000, and look at the result. Imagine what we could do if they would just spend the money we appropriated. Thank you, Mr. Chairman, and thank you, Malcolm.

Mr. SMITH OF NEW JERSEY. John, thank you very much for being here as a Member of the Appropriations Committee. Obviously we work hand-in-glove on some of the issues, and it is important to send the message that delay is denial for the 5,000 people who die every day due to water-borne and diarrheal diseases.

Delay certainly does not in any way advantage them, plus the many more millions for whom a very serious illness results. I do appreciate your comments, and you for joining us here today.

I do have just a couple of questions before I conclude the hearing, unless Mr. Payne has some additional questions as well. Thank you all for your testimony, as it was extraordinary. Mr. Blumenauer and I were talking earlier about how this gives us additional ammunition to promote this extremely vital cause.

Dr. Dabelko, I became aware of the water issue back in the early 1980s, but particularly regarding the treatment aspect, such as oral rehydration and the like. I know that USAID, to its credit, has a very robust program in places like Egypt and elsewhere, where children have been saved because of the administration of the salts and glucose.

It does work, but obviously going to the root cause is the easy way to do it, and you gentlemen are doing an extraordinary job. Dr. Dabelko, obviously with your work on the Center for Scholars, higher education training seems to me to be one of the most important things you do.

The information transfer is successful if we can convey the best practices sooner rather than later, perhaps by bringing over people who could learn in our universities, and perhaps working with you. What is being done to train up a generation of people in the developing worlds?

I had asked Ms. Schafer earlier about the whole issue of sustainability as it relates to debts, or as I should say, bonds. I couldn't say debt, although it is debt. That kind of mechanism is important, however, because I do believe that is how we keep our sanitation capability alive and well.

None of us would own a home if we didn't take out a mortgage. It just does not work that way. You can't have all that money up front, and foreign aid only goes so far. But on the technical side, are we training up a generation of men and women throughout the world, particularly in Africa, who can bring back to their villages and hamlets the knowledge of how to clean up their water?

Mr. DABELKO. Thank you very much, Mr. Chairman. It is a most welcome question, and I think you really put your finger on a critical need as you highlight, for example, the financial mechanisms.

It introduces a whole set of different skills that the new generation of water managers have to have. It has to go beyond hydrology, beyond engineering, especially as we talk about going to local programs that are much more integrated into a whole development package with education, and health, and agriculture, and such.

So, I am pleased to say that there are programs in the United States that are very strong. In fact, one in Congressman Blumenauer's district, at Oregon State University, in the Geography Department, really has this philosophy that a broad set of skills are necessary.

I think that it would be fair to say that there is a lot of room for additional people and resources to be trained in this diverse set of skills, and that we do have the universities and the programs that could do that.

Perhaps not enough of them have this broad focus, but it would certainly be very valuable, in overcoming some of the narrow sectoral approaches, to actually train the folks that are going to be doing it in these broad approaches from the very beginning.

Mr. SMITH OF NEW JERSEY. To the best of your knowledge, and I think you might be more likely to know this, does the Fulbright Scholarship Program or any of our State Department and foreign aid or higher education programs, include a component that tries again to train up a generation?

I know that we do it in the business area. Actually, not so long ago, I visited a number of Fulbright Scholars in Vietnam and spoke to them, and I didn't ask the question, frankly, are any of you into dealing with water resources and the like? But is that something that is being done?

Mr. DABELKO. Sir, to the best of my knowledge, it is not explicitly made a focus of our program, but it could be in part, depending on what the person coming here was interested in doing.

There are some small programs supported by private foundations that are targeted toward bringing people in a broad set of development areas, including water and resources management, over for relatively short visits, though not necessarily for the amount of time that they might need to really develop the skills. But it is certainly an area that would be rich and ripe for growth.

Mr. SMITH OF NEW JERSEY. Yes, Mr. Lochery.

Mr. LOCHERY. I just wanted to make a comment on financial mechanisms. Whereas, there is significant experience on the provi-

sion of loans and credit guarantees for urban water and sanitation, experience on providing loans for water and sanitation in periurban areas and also in rural areas is much more scant.

One of the reasons for this is that people are very poor. They are living on $1 or $2 a day. But there is some initial experience, and there are clearly some opportunities for providing a mix of loans and grants to rural people for water and sanitation.

But I mention that it is a mix of loans and grants that is being tried at the moment, and I think that we do have to sort of bite the bullet here and realize that for many poor people in rural areas that they do need a grant. They just don't have the resources to pay back a loan.

Mr. SMITH OF NEW JERSEY. The Foreign Affairs Assistance Act will be up on the Floor probably the week of the 17th, and I would like to look into the possibility of doing an amendment if it will scope this out to see if it has any validity. But that it would direct some of our higher education grants to at least look into trying to again train up some people in this area, because to the best of my knowledge, it is not happening, but I don't know one way or the other. We will ask that question of the State Department and USAID as well, to see if they know of any breakout to try to direct some of this money into that area.

And in terms of the grants, I take your point that grants rather than loans certainly would be much more advantageous for local authorities to do this. Let me just ask you, Mr. Morris, because you raised this, but all three of you might want to answer this, but on the issue of grant relief. Senator Rick Santorum and I, in the past, have introduced legislation on debt relief. He was successful in getting a portion of that attached to Henry Hyde's bill on AIDS, the $15 billion Omnibus Bill.

Now, as far as you know, very often when we talk about how that money will be used, it is in much more general terms than I would like. I would like very specific, delineated usages of the money that is saved for debt relief.

But you make a very powerful point that the money should really be put—hook, line, and sinker—into the water issue. Do all of you agree with that? I mean, given all the competing priorities that we have? I mean, is this the one that we really should be saying, this is where we make a difference? Mr. Morris.

Mr. MORRIS. I want to say that I have tried to make things simple to people. Whether building a company, building a country, building a house, you start with a foundation. And water is the foundation.

You might have money set aside for a roof, or for walls, or windows, et cetera, but if you don't start with your foundation, the house will collapse. And water is the foundation. It is not the end.

But when people have clean water and they don't have diarrhea, they can then do for themselves. We have put water out there for a school, and we gave it for people to use the water. It cost us maybe $5,000 to put in a well.

The people built two-, three-story stone classrooms. The school holds 325 students. The school, in 4 years and from scratch, scores number one in the western district of Kenya. We spent $5,000 giving the people water so that they could do as a community, and be

healthy, and have water for access for building, and build for themselves.

When people do for themselves, it makes them much more proud, and gives them ownership, than if you come in and do aid for them. Now, the worst thing that we do is to try to create a world of people dependent on foreign aid.

Giving people water again gives them the ability to start out in life and do something on their own. And that is why I am so focused on this area.

Mr. SMITH OF NEW JERSEY. Yes?

Mr. DABELKO. I would just say, generally, if there are means and incentives to get water and sanitation on budget in the recipient countries, then that is certainly a goal that should be part of any package that this House passes.

I think that, by definition, foreign assistance will always be a small percentage of the money that is spent in any given country on water and sanitation. And so raising those totals in the recipient government is critical.

Mr. LOCHERY. I think it gets back to the issue of prioritization and I don't think we are seeing enough developing countries prioritize water and sanitation. Once they start to prioritize water and sanitation, it begins to appear in their poverty-reduction strategy papers.

Incidentally, there was a review of, I think, 14 poverty-reduction strategy papers across sub-Saharan Africa, and Asia, and only two mentioned water and sanitation in any significant fashion.

I think once water is prioritized, then governments will make their own decisions about how they are going to use debt relief. I think one needs to be a little bit cautious about instructing governments about how they are going to use debt relief.

Furthermore, I think there needs to be a more careful look at what funds governments have available for water and sanitation, and how they are using them, and what the shortfall is.

And then that will indicate what additional funds they have, and clearly debt relief would be important then for making up those funds.

Mr. SMITH OF NEW JERSEY. But on the other hand, every dollar of debt relief is another name for a foreign aid dollar. So, having at least some condition on the strings, it would seem to me that sends a message of priority from our part. It is found money in a sense for them as well.

Let me ask just one final question on good governance, which obviously is a very big issue. To the best of your knowledge, do any of you know if the programs that we sponsor, like the National Endowment for Democracy, but especially like IRI and others who train up politicians and people—and usually the focus there as we all know is on getting access to the media, and creating a civil society, and having good transparent elections—but it seems to me that it would also be an opportune time to say to that local mayor who is not a candidate for mayor that there should be some training in the area of clean water and sanitation.

I remember a mayor running in my district years ago, and she did become the mayor. She said that my platform is to talk gar-

bage. If I talk garbage, I get elected, because that is our main problem. We have a very serious garbage problem.

In my district, we have had serious problems with national priority listing sites under the Super Fund. We probably have more garbage in my district than any other State. Our State has more than any other State in the country per capita.

So we know a little something about garbage, and it is an issue, and in this case, toxic waste, that we are always trying to educate ourselves on. And it seems to me that by including this perhaps in the curriculum, that there is not a whole lot that you might be able to convey when IRI or some other group is training up politicians in developing countries.

But clean water seems to be something that they could grasp very, very easily, and without having to go right to the consultant, like we do some days in our States. But if you could speak to that. Is that being done to the best of any of your knowledges?

Mr. MORRIS. I would just make a comment on one quick recent example that I have experienced. President Ravalomanana of Madagascar was educated at Abilene Christian College and served as mayor of the city. He found out, if you take care of water and sanitation issues, this is key.

He got elected President just because he took care of those issues as mayor. He is very popular, and he is very, very committed to taking water to all of the country of Madagascar.

I have found—I mean, after President Kabiki of Kenya made the statement and went on public television, when I got to visit with President Girma the following Monday in Ethiopia, he was saying that we don't want to take 10 years. We want to take 7 years. And I said that you can't do it in 7 years. We can do it in under 8, but we can't do it in 7.

They just opened the door and rolled out the red carpet, if you can take care of water. Start surveying the people in these countries and you are asking what their number one needs are, it is in water, education, sharing openness of our politicians, bringing politicians here for education, I think is very key.

But again the very first time I ever went to Africa in 1990, the first thing that probably happened to me in government was being asked for a bribe to get equipment out in order to help the people, and I told them that no, the equipment was already paid for, and belonged to the lord, and they shut up about it, and I have never had another person ask since.

And we work again at the local grassroots level. People at the grassroots level, at the mayoral, at the community level, boy, you start taking money away from their water sanitation projects, you are going to be in trouble. So that forces a lot of focus, if you will, on the politicians at that level.

Mr. SMITH OF NEW JERSEY. I think this issue of transparency, so that when people demand services, which they do, politicians at different levels cannot avoid dealing with that demand. They can't get it under the carpet. They have to deal with it.

And then we will see them starting to decide that they need to use the resources that are available to them for water and sanitation. So I think it is the opening up of those channels from the grassroots to let people express their demand and give voice, and

then it makes it much more difficult for people, for politicians, to divert monies to other purposes.

I want to thank you gentleman for your testimony and look forward to staying in touch with you going forward, and we do appreciate it. Without objection, the hearing is adjourned.

[Whereupon, at 1:27 p.m., the Committee was adjourned.]

APPENDIX

MATERIAL SUBMITTED FOR THE HEARING RECORD

PREPARED STATEMENT OF THE HONORABLE EARL BLUMENAUER, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF OREGON

Thank you, Mr. Chairman, and thank you, Mr. Lantos, for your interest in this issue and for your leadership in working to raise the profile.

The topic of this hearing may be the global crisis in water and sanitation, but its subject is really the millions of girls who can't go to school today because they need to spend hours walking to gather water for their families, the hundreds of thousands of hours of productivity for economic growth that will be lost because half of the developing world is sick from a water related disease, and the 10,000 people who will have died unnecessarily by the end of today.

At the 2002 World Summit on Sustainable Development in Johannesburg, the United States and 185 other countries agreed to the goal of cutting in half the percentage of people without access to safe water and basic sanitation by 2015. The challenge is large, but can be met. Over the last 20 years, 2 billion people have gained access to clean water and 600 million have gained access to sanitation services.

I introduced legislation, H.R.1973, the "Water for the Poor Act," which many of the members of this Committee have cosponsored. It makes increasing access to safe water and sanitation in an affordable and equitable way a major purpose of U.S. assistance, calls for a strategy to meet specific goals and benchmarks, and expresses policy in support of integrating water into other development aims, such as health, education, and economic growth. Similar legislation has been introduced in the Senate by Majority Leader Frist and Minority Leader Reid.

"Water comes from God," the joke goes, "but He forgot to put pipes in the ground." I believe that we've developed many of the technologies and financing mechanisms to take over where God left off.

Now, as we await next week's G–8 Summit focusing on Africa and extreme poverty, I hope that the United States and other donor countries will step up and do our share in creating sustainable and affordable access to water and sanitation for the very poor. The Water for the Poor Act is designed to make that happen.

The Copenhagen Consensus group of economists—a group skeptical of foreign aid—rate investments in water and sanitation as some of the best and most effective investments in development, growth, and ending poverty. This is not assistance that ends up in Swiss bank accounts. Instead it puts local people to work and saves children's' lives.

Before I close, I want to thank a number of the groups that have worked with my office to create this legislation: Water Advocates, a new advocacy group in DC focusing on global water issues, CARE USA, Mercy Corps, the National Wildlife Federation, the Millennium Water Alliance, the US-India PAC, and the Institute for Multi-track Diplomacy. I also want to thank Robin Roizman from the Democratic staff and Lara Alameh from the Republican staff for all the work they've done to make this hearing possible.

I look forward to hearing from our witnesses today about exactly what the United States can do to work with developing countries to make this natural resource available to people in the right quantity, with the right quality, at the right time.

PREPARED STATEMENT OF THE HONORABLE DAN BURTON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF INDIANA

Mr. Chairman, thank you for holding this critically important hearing this morning. I look forward to hearing from the witnesses on how to best address the global water crisis.

Nothing is more essential to a healthy and productive society than the inexpensive and safe access to potable water. Unfortunately, there are still two major problems facing the global water supply; availability and quality.

Water shortages adversely affect sanitation, irrigation, and even crop production. It is estimated that approximately 2 billion people living in roughly 40 countries are currently affected by water shortages and/or poor water quality.

These critical shortages and health concerns disproportionately affect the world's poor and developing countries, mostly located in Africa and Asia. In fact 50% of developing populations live in water poverty, with no underground sewage, toilets, or even latrines and more than 5 million people each year die due in part to easily-preventable waterborne diseases such as diarrhea, dysentery and cholera.

This problem does not just affect poor and developing countries; it directly impacts the United States national security, where the Ogallala Aquifer, one of the world's largest natural water providers, which provides water to ranchers and farmer in eight American States, from South Dakota to Texas, is quickly being depleted without replenishment. As a result, nation-wide aquifer levels are dropping to historic lows year by year, which may adversely affect America's agricultural output and our economic security.

As we sit here today and hear expert testimony on the global water crisis, we must remain committed to providing the utmost water availability and quality to all the people of the world.

Through research, development, and implementation, we can utilize new scientific technologies and practices, such as desalination, treadle pumps, drip irrigation, and developmental sustainability; combined with approving *The Water for the Poor Act (H.R. 1973)*, introduced by my colleague from Oregon, Mr. Blumenauer, which I proudly co-sponsor and domestic global water aims including the United Nation's Millennium Declaration, we can make a firm attempt to slow down the pace of this global crisis.

The next world war should not be fought over access to clean and potable water. Once again Mr. Chairman, thank you for holding this important hearing.

PREPARED STATEMENT OF SRINIVAS VUTHOORI, M.D., US INDIA BUSINESS ALLIANCE, EXECUTIVE MEMBER; SCRYPTIONS INTERNATIONAL INC., CEO AND FOUNDER; THE MYR CORPORATION, CEO AND FOUNDER

I would like to take this opportunity to thank Chairman Hyde for holding this hearing and for allowing me to provide testimony before this Committee on what I believe to be the most easily preventable morbidity—water borne diseases.

As a practicing physician in the United States who has experience in the developing world, and as an entrepreneur and an executive committee member of the US India Business Alliance, I appreciate the enormity of humanitarian and economic aspects this legislation will have on this preventable morbidity. This is why I strongly support this bill.

Morbidity, the rate of disease, due to water borne diseases in populations of developing nations vary as high as up to 80%. This is related strongly to poor sanitation, unsafe drinking water and lack of access to water sources.

The relationship between economic growth from human capital and reduction of morbidity is overlooked by many developing nations. In today's global economy, the importance of this could not be any more emphasized. This Bill proposes to mobilize and leverage the financial and technical, and managerial expertise of businesses, governments, nongovernmental organizations and civil society in the form of public private alliances.

This legislation addresses the economic aspect of unsafe water many times and is completely correct. The bill states that every dollar spent on safe water would yield an economic return of $3 and $34, depending on the region. In other words, an investment of $1,000,000 would yield an economic gain between $3,000,000 and $34,000,000. This is millions of dollars that the global economy is losing due to a preventable problem, but through this legislation could easily gain. Affecting more than 2.4 Billion lives, even a small reduction in morbidity will affect the quality of lives of millions and translates to gain of potentially billions of hours of otherwise lost human capital. This Bill proposes to encourage reforms and increase the capac-

ity of foreign governments to formulate and implement policies that expand access to safe water and sanitation.

The top twenty water borne disease include (Anemia, Arsinicosis, Ascariasis, Campylobacter, Cholera, Cyanobacterial toxins, Dengue, Dengue Hemorrhagic Fever, Diarrhea, Drowning, Fluorosis, Dracunculiasis, Hepatitis, Japanese Encephalitis, Lead Poisoning, Leptospirosis, Malaria, Malnutrition, Methemoglobinemia, Oncocerciasis, Tinea, Scabies, Schistosomiasis, Spinal injury, Trachoma, Typhoid and Paratyphoid).

In medicine, we are taught to practice of the doctrine "prevention is better than cure". However, there are few diseases in medical practice which are out-and-out preventable.

The cost for development of any single new drug and vaccines to fight the above list of diseases ranges in the amount of 800 million dollars from research and development, clinical trials to production, marketing and delivery.

This wide spectrum of water borne diseases as mentioned above are preventable by money spent on infrastructural changes providing safe water and sanitation and would eliminate the need for billions for dollars spent on treatment.

The unified global approach to the eradication of smallpox in 1980 has set the stage for landmark achievements through enactment of governmental policies.

I would like thank Chairman Hyde and Congressman Blumenauer and their staff for supporting and introducing this Bill.

In my opinion, the acceptance of this Bill has the ability to have an impact on both the global economy as well as humanitarian effects that will far surpass the mammoth achievement of the WHO's historic fight on eradication of smallpox.

PREPARED STATEMENT OF MR. DAVID DOUGLAS, PRESIDENT, WATER ADVOCATES

IN SUPPORT OF H.R. 1973, THE WATER FOR THE POOR ACT OF 2005

Mr. Chairman, Ranking Member Lantos, and distinguished Members of the Committee, thank you for the opportunity to discuss our support for H.R. 1973, the "Water for the Poor Act of 2005." We also want to commend Representative Blumenauer for sponsoring this bill, his many cosponsors for supporting it, and to express our appreciation to you, Mr. Chairman, for the leadership and support you are showing by way of this hearing.

Water Advocates is a new US non-profit dedicated to increasing American public and private support for safe, affordable and sustainable supplies of drinking water and adequate sanitation around the world. Water Advocates' board members are the executives of WATERLINES, CARE, WaterAid, Water for People, and WaterPartners International. In addition to being the President of Water Advocates, I am head of WATERLINES, an all-volunteer non-profit organization that has provided technical help and funding for drinking water projects in over 200 rural communities in 12 developing countries. Neither Water Advocates nor WATERLINES is seeking to receive public funding.

As you know, 1.1 billion people across the world lack access to safe drinking water and 2.6 billion have no adequate sanitation. Developing countries themselves bear the primary burden to address this problem, and they are already investing 80% of the funding needed for their water infrastructure. But the US, by increasing its aid for safe and affordable supplies of water, can both complement this indigenous effort and leverage new public and private funds.

We are heartened by the "Water for the Poor Act," and its Senate counterpart, the "Safe Water: Currency for Peace Act." (S. 492). These bills would make access to safe water and sanitation for developing countries a specific policy objective of the US foreign assistance program.

H.R. 1973, which urges increased Official Development Assistance via "an appropriate balance of grants, loans, investment insurance, [and] loan guarantees," significantly increases America's ability to provide safe and affordable water and adequate sanitation.

Private-sector charitable organizations, including those whose executive officers make up the Water Advocates board of directors, are already doing a great deal to address this serious problem, but more must be done. We urge strong bi-partisan support for the Water for the Poor Act, because we believe it will meet pressing humanitarian needs. This proposed legislation will do the following:

- *Save lives and reduce disease:* Water-related diseases currently kill between 2 and 5 million people annually (and nearly 4,000 children a day) and cause 80% of the developing world's sicknesses (including cholera, typhoid, trachoma and schistosomiasis).

- *Reduce hunger:* The chief cause of malnutrition is often not lack of food supplies but contaminated water supplies (that trigger diarrheal dehydration and prevent nutrients in available food from being absorbed by the body).
- *Improve economic development:* Sick people often cannot work and half the world's hospital beds are filled with those suffering water-related disease. A study by the Stockholm International Water Institute and the World Health Organization has shown that every $1 invested in safe water and sanitation yields a return of between $3 and $34.
- *Strengthen education:* Children are often kept home from schools to help collect water. UNICEF estimates that half of the world's schools lack drinking water and sanitation. (Without access to latrines, studies show, adolescent girls are less likely to attend schools.)
- *Empower women:* Women across Africa and Asia walk an average of 6 kilometers daily to collect (often contaminated)drinking water.
- *Encourage grass-roots democracy:* In certain corners of the developing world, the first votes ever cast by citizens will be for the local water-committee.

USAID has long supported drinking-water and sanitation projects abroad, but current levels of funding are woefully inadequate. Recent US Administration statements—from President Bush's "Water for the Poor Initiative" to American commitments made at the Johannesburg Summit—provide strong support for clean water in Africa, Asia and Latin America. This bill builds on those expressions of support.

H.R. 1973 will further encourage the rising level of interest in water among private sources of US funding. Across the US—from civic groups like Rotary, to faith communities, to corporations and private philanthropies—a deeper understanding of the worldwide casualty toll caused by contaminated water is bringing with it unprecedented new levels of private funding and support.

Again, thank you for the opportunity to testify before the Committee on this important issue. We strongly support this legislation.

MATERIAL SUBMITTED FOR THE RECORD BY MR. PETER LOCHERY, SENIOR ADVISOR ON WATER, SANITATION AND ENVIRONMENTAL HEALTH, CARE USA

A Silent Tsunami

The Urgent Need for Clean Water and Sanitation

William K. Reilly and Harriet C. Babbitt

The Aspen Institute
and
The Nicholas Institute for Environmental Policy Solutions

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Foreword

Few issues matter more to public health, economic opportunity, and environmental integrity than the availability of clean water and sanitation. With the 4th World Water Forum scheduled for Mexico City in March 2006, the Aspen Institute and the Nicholas Institute for Environmental Policy Solutions at Duke University conducted a multi-stakeholder dialogue to help highlight the importance of global water issues, suggest steps to provide water and sanitation services more rapidly and effectively, and to identify and draw attention to constructive ways the US government and other US participants can take part in the Forum.

In April 2005 a distinguished group of leaders from business, government, and environmental and other non-governmental organizations met for two and a half days at the Aspen Institute's Wye River Conference Center to learn from each other, to explore the sometimes competing values underlying policy disagreements, and to consider appropriate responses to the challenges identified. Their expertise was matched only by their commitment to discover and implement solutions to the world's water challenge. This report is a summary of their conclusions.

We were honored to have as our distinguished co-chairs Ambassador Harriet C. Babbitt, Senior Vice President of Hunt Alternatives Fund and former Deputy Administrator of the Agency for International Development, and William K. Reilly, Founding Partner of Aqua International Partners and former Administrator of the Environmental Protection Agency. Their varied and complementary experiences – in development and the environment, in the public and private sectors, in Administrations of both political parties – and their ability to explore details while framing the issues broadly allowed them to extract and focus the wisdom of an extremely knowledgeable group.

The co-chairs' overview and conclusions constitute the body of this report. While the richness of the dialogue cannot be recreated, their essay summarizes their sense of the group's principal conclusions and insights. The findings and recommendations are based on the group's agreement in the concluding session of the meeting, but participants were not asked to agree with their final wording, and no person's participation should be assumed to imply his or her organization's endorsement of any specific finding or recommendation.

We appreciate the encouragement of the Mexican organizers of the 2006 World Water Forum in the conception and organizing of the meeting and their receptivity to our findings. We gratefully acknowledge the assistance of Mark Van Putten of *ConservationStrategy*™ and Gordon Binder of Aqua International Partners in planning and preparing for the meeting, and the grace and efficiency with which Katrin Thomas handled advance arrangements and managed the details of the meeting.

We are also grateful to the Charles Stewart Mott Foundation, the Wallace Genetic Foundation, Procter & Gamble, Coca Cola, American Water, Dow Chemical, and CH2M-Hill for their financial assistance. Without their generosity and confidence in our work, the meeting could not have taken place.

The mission of the Aspen Institute is to foster enlightened leadership and open-minded dialogue. Through seminars, policy programs, conferences and leadership development initiatives, the Institute and its international partners seek to promote nonpartisan inquiry and an appreciation for timeless values. Its Program on Energy, the Environment and the Economy brings together in a neutral forum individuals from government, industry, environmental and other public interest groups, and the academic world to improve policy making through dialogue on current and future energy and environmental issues.

The Nicholas Institute is a new and innovative environmental science and policy institute designed to fill the need of policymakers, businesses, and organizations for unbiased data and dialogue about the important environmental questions facing the world. The Institute will marshal the broad resources of the Duke University community – including the Nicholas School of the Environment and Earth Sciences, the nationally ranked Fuqua School of Business, and the Duke Law School – and the expertise of university partners in industry, government, and environmental organizations to craft innovative and practical solutions to critical and inevitable environmental challenges.

John A. Riggs
Executive Director
Program on Energy, the Environment, and the Economy
The Aspen Institute

Timothy Profeta
Director
The Nicholas Institute for Environmental Policy Solutions
Duke University

Recommendations in Brief

1) Clean water and sanitation must become a higher priority because they are fundamental to human health and reducing poverty.

2) All schools and orphanages should have clean water, sanitation, and hygiene education by 2015.

3) The President of the United States and his Administration should develop a strategy to mobilize American resources and institutions to become more involved in water internationally.

4) For reasons of health, the economy, and environmental sustainability, governments must invest more in water infrastructure.

5) Decisions about covering the costs of clean water and sanitation should be decided through a participatory process that ensures the needs of the poor are met and provides sufficient funds for maintenance.

6) Because water and sanitation are often the responsibility of women in much of the developing world, they should become more directly involved in managing water resources and making water-related decisions.

7) Development assistance should emphasize building local capacity, creating legal frameworks for managing water, and building local sources of funding.

8) Promising partnerships among governments, not-for-profits, community and faith-based organizations, and businesses should be replicated and scaled up.

9) Decentralized water treatment systems or point-of-use household treatment, coupled with sustained hygiene education, should be deployed more widely, especially where they can reduce water-related disease immediately.

10) Decisions about managing water resources must involve all stakeholders and all relevant factors in supply and demand, with efficient water use and protection of ecosystems as central goals.

A Silent Tsunami
The Urgent Need for Clean Water and Sanitation

William K. Reilly and Harriet C. Babbitt, Forum Co-Chairs

Across much of the developing world, a silent tsunami is raging: for lack of clean water and sanitation, as many poor people are dying each month as perished during the Southeast Asian tsunami of December 2004.. An estimated 6 million died in 2003, according to the World Health Organization, many of them young children. In addition to death and illness, a loss of hope and opportunity are direct consequences of water borne and related diseases. But unlike the tsunami that devastated Southeast Asia, this one can be stopped.

Access to adequate clean, affordable supplies of water, as well as sanitation and hygiene, is fundamental to human health, to human dignity, to reducing poverty, and to expanding economic opportunity. Yet a billion people or more go without safe drinking water; twice that lack adequate sanitation.

In the past, the conventional response might well have been to plan large engineered drinking water and wastewater facilities, to lay pipes and extend coverage to each household. That is a lengthy, expensive, and difficult proposition. And there are many impediments, from insufficient project development capabilities to financial risks to local opposition, that explain the lack of viable projects. Such large projects may still make sense in dense, populated areas, but new approaches are necessary to get clean water and sanitation to people in villages and other non-urban places. Both water and sanitation are critically important, although each represents a different challenge for service providers and a different calculation of costs and benefits.

Fully satisfying the need for clean water and sanitation on a lasting basis requires a perspective broader than just delivery of basic services. In too many countries, water resources overall are badly managed. Responsible ministries are weak or lack capacity. Local water utilities also lack adequate skills and resources but nevertheless see the responsibility for water and sanitation devolve to them. Investment in water infrastructure is limited. Since water tariffs are minimal, there is insufficient revenue even to maintain the system. And the threat of climate change complicates the challenge. It has the potential to upend familiar patterns of precipitation, leading to drought or more flooding and rendering existing infrastructure obsolete.

In short, providing clean water and sanitation and sustaining the economy and the environment require better management of water resources at all levels of government. To meet the challenge internationally, it is difficult to escape the conclusion that more national governments are going to have to elevate the priority for water in their budgets,

development plans and projects, and other decisions. International donors, public and private, will also have to step up their efforts. And yet, in contrast to the outpouring of support in the Southeast Asian tsunami's aftermath, the political will and other essential elements to address water needs seem, for the most part, in short supply.

The ultimate responsibility for providing safe, affordable, and ecologically sustainable water and sanitation services falls to governments, at the national, provincial, or local level. How these services are provided – whether through public utilities or private operators, through concessions or community groups – matters less than that the services *are* being delivered.

Donors, bilateral and multilateral aid agencies, and others have a critical role in meeting the water challenge, especially in helping poor countries and in fostering regional cooperation on water issues. Money will be needed, but that is not the only contribution donors can make. They can also help fill the need for technical help in creating legal and regulatory frameworks and long-lasting institutions to improve water management; for technology transfer; and for exchanges, education, and training to build capacity. These may offer low-cost means of providing assistance, especially for development agencies whose budgets are spread thinly to meet many legitimate purposes.

Still, we heard repeatedly in our dialogue and we have come to accept that in all but the poorest countries most of the money spent on water inevitably will have to come from within the affected countries themselves. That means finding innovative ways to mobilize and put to work local or domestic financial resources. And it means enlisting nongovernmental, community, and faith-based groups, as well as the business sector, in creative partnerships to deliver needed water services. In the end, we concluded that meeting this challenge can wait no longer.

Solutions Are Available

The group of experts who gathered at Wye are intimately familiar with the sobering array of issues and statistics, and we chose not to belabor the magnitude or complexity of water problems. For us, the most illuminating part of the discussions was learning about the rich examples of projects and sponsors bringing safe, affordable, and sustainable water and sanitation to those in need. A good amount of experimentation is under way with approaches that go beyond delivering water through large-scale, expensive engineered projects. Several creative models, institutional reforms, innovative financing, and partnerships between and among development assistance agencies, nongovernmental groups, and private companies were described. Especially intriguing are decentralized water treatment systems and household point-of-use products that offer immediate intervention to reduce death and disease as well as community and faith-based models for extending access to services. (See Box, Promising Examples and Models, p x.)

Many of these projects are promising. To reach more people, however, they need to be expanded, replicated, and scaled up, no easy task to be sure. They will need money

and technical know-how, which may become increasingly available through governmental support – in the United States, through the US Agency for International Development (USAID), USAID's Global Development Alliance (GDA), and the new Millennium Challenge Corporation. And around the world, the private sector, non-governmental groups, philanthropies, UN agencies, multilateral development banks, and others have significant contributions to make, financial and otherwise.

The results of these projects are for the most part going unheralded. We heard again and again of the need for a simple, compelling message that could draw attention, raise awareness, build public support, and, most importantly, mobilize resources and motivate action. We learned about the need to tell the stories of people, families, children who have benefited from better access to clean water and sanitation. We heard, too, about the need for variations on the theme that could engage new audiences across different sectors of society. Several participants in the Wye session tested messages about saving lives and expanding opportunities. But we quickly came to the realization that this gathering of technical experts and policy advocates was probably not the best group to devise messages to spur people to act.

One singular thrust, however, caught everyone's imagination: We were captured by the potential impact of using schools and orphanages to mobilize resources to deliver clean water and sanitation to children. UNICEF, we learned, recently estimated that half the world's schools lack these basic services. The task seems manageable, something that could be pulled off within a reasonable time frame, even if not everyone in need would be reached right off. Aside from the obvious health benefits for children, this is seen by community and faith-based groups with direct experience as a way to improve school attendance and academic performance, to give children reason to hope for a better future, and a means to benefit their families and their communities through outreach and expanded access to water. School attendance, especially by young girls, who now may spend hours each day hauling water from distant sites, would likely increase with all the collateral benefits this would bring to societies. This is a real opportunity to engage more fully government, business, civil society, and others to assist those poor countries where the political will to address water issues is beginning to emerge.

The humanitarian impulse to get clean water and sanitation to people in need is strong. The economic and environmental arguments compelling. The array of solutions is growing. The time for action is now.

PROMISING EXAMPLES AND MODELS

- Mexico recently enacted a new national water law under which responsibility for water decisions is decentralized and intended to be made involving local officials on a river basin or watershed basis. Mexico for the most part has already reassigned responsibility for irrigation from the national government to the irrigators themselves, a move that can improve water management and bolster civil society. No one underestimates how difficult change is in this country where management of water resources

has been highly centralized. But changes are occurring and considered by those who know the country nothing short of revolutionary.

- Globally a growing number of nongovernmental groups are employing community-based models to provide water and sanitation. This approach involves working closely with affected communities, tailoring projects to local water conditions, tapping indigenous knowledge, applying inexpensive and convenient technologies, ensuring services are sustainable financially and operationally, and integrating hygiene education into all projects, especially the health value of regular hand washing. Water for People, for example, is the not-for-profit arm of the American Water Works Association, which represents water utilities. A little more than a decade old, with a modest, but growing budget, Water for People has been working in 450 communities on every continent.

  Water for People has learned in its work in Africa that often the first step is to build trust between the people of the community and the institutions of government; then comes the technical and other assistance that actually begins to deliver clean water. Sanitation, the field staff have learned, is a bigger challenge. The organization's experience underscores several other critical points: gender issues are paramount throughout the developing world, because water and sanitation are often the responsibility of women and girls. They've also learned to insist that the community contribute something of itself, in labor and importantly finance – or the endeavor isn't valued. Partnerships are critical and can tap Peace Corps and other volunteers to bring in needed skills. Water for People is organizing a "sister city" exchange whereby US water utilities will help build technical capacity in local water providers.

- Living Water International is one of a number of faith-based organizations involved with providing safe drinking water. Drawing on its pool of volunteer engineers, geologists, construction managers, educators, and others, and working especially with schools, orphanages, and hospitals, Living Water drills wells, provides pumps, trains local people in maintenance and repairs, and offers related services such as hygiene education and mobile medical units. To date the group has completed more than 1800 water projects, serving over 3.5 million people daily in 21 countries.

  Living Water International also was a prime mover in creating the Millennium Water Alliance to coordinate the clean water and sanitation work of several community and faith-based providers, with a goal of reaching 500 million people by 2015.

- World Vision, which has helped provide schools with water in Cambodia and West Africa for more than 15 years, is part of the West Africa Water

Initiative, launched at the World Summit on Sustainable Development in 2002. In Ghana, Niger, Mali, and elsewhere (with support from the US Agency for International Development, the Hilton Foundation, and others), the Initiative will bring water to 400,000 people by identifying and developing water supplies, building local water management capabilities (including repair and maintenance), and devising a self-sustaining means of finance. With many partners, it's taken a while to plan, but activities are now under way.

- Winrock International is one of the partners in the West Africa Water Initiative. In Nepal, Winrock International also carried out a project to install drip irrigation that benefited not only farmers, but water providers, manufacturers, and the broader community.

- RWE Thames Water, which primarily provides water services in England, also holds water concessions in several cities around the world. Learning from the enormous expense of extending coverage in Jakarta, Thames began to explore lower-cost ways to deliver clean water. As one example of its subsequent approaches, Thames recently joined with the non-profit community-based organization WaterAid, CARE, and other non-profit, for-profit, and academic organizations in a partnership called Water and Sanitation for the Urban Poor (WSUP). The focus is on delivering sustainable, equitable, and affordable water and sanitation services in low-income urban and peri-urban communities, among the most challenging environments in which to operate. The first project is getting started in Bangalore, India, with sponsors expecting to announce soon the next effort in Africa.

  These efforts are targeting areas of greatest need, building local capacity by involving the community from the start, using donor funds to jump-start the project while designing self-supporting and sustainable operations, and incorporating hygiene education and integrated water management as key elements.

- Widely known for its humanitarian work in disaster relief and development, CARE has worked in the water sector for nearly half a century, helping reach over 20 million people in more than 40 countries. CARE, too, employs a community-based model and incorporates water management principles at the local level in places like Bangladesh, El Salvador, Jordan, and the West Bank, to cite a few.

  With the US Centers for Disease Control and others, CARE helped pioneer the household treatment Safe Water System, combining a simple low-cost disinfectant, safe storage vessels, and hygiene education. During the tsunami in Southeast Asia, CARE brought immediate help with point-of-use treatment to get people clean water. As tragic as the impact

of the disaster was, millions lacked access to clean water and sanitation *before* the tsunami. After attending to immediate and urgent needs, CARE and other groups will use the recovery and rebuilding phase to develop community water and sanitation services in the region on a lasting, financially viable basis.

- CARE also put to good use a product created by Procter & Gamble in partnership with USAID, Population Services International, and others. PUR is a sachet of simple chemicals (the equivalent of a waste water treatment plant in a small packet) that when mixed with dirty water destroys or settles out pathogens, heavy metals, and other contaminants, providing clean drinking water at the household level.

  The company's intent at the start was to develop a commercial product that millions of poor households could readily afford, called by marketing experts "the bottom of the pyramid," but market introduction costs were too high for a conventional business model to succeed. The company then created partnerships with several governments, social marketing NGOs, and global relief organizations to make the product available for disaster relief, including the 2004 tsunami, and to create small scale local entrepreneurial business models that benefit rural villages and urban slums in the developing world.

- The Coca-Cola Company is also taking a keen interest in water issues in its operations and in communities near its facilities, surveying more than 850 facilities in over 200 countries to identify priorities related to watershed stress, supply reliability, and stakeholder issues.

  Coca-Cola also has started a number of water projects, working with local communities and other partners. In 2004, in Vietnam, the company and the United Nations Development Program launched Clean Water for Communities to develop sustainable solutions that meet community needs. The project provided 180 water tanks to nearly 500 families in six provinces, giving them access to clean water. In India, Coca-Cola has begun harvesting rainwater in all company plants and with government authorities set up local rainwater harvesting projects around the country. In Rajasthan, for instance, the company joined with a local NGO to set up the state's first such project. In Kadadera, an indigenous system of water collection was rehabilitated through the construction of more than 30 recharge shafts. Elsewhere, as part of Coca Cola's assistance to tsunami relief, the company earmarked $1 million for sustainable development of water and sanitation in affected communities through well rehabilitation, village water system installation, and water storage. Resources were doubled through a partnership with the UN Foundation and UN agencies.

Finally, Coca Cola is working with World Wildlife Fund and local partners to fund watershed conservation projects in the Chihuahuan Desert straddling Texas and Mexico; the Mekong River Basin of Vietnam; the Atlantic forest of Brazil, the Zambezi Basin in southern Africa, and the rivers and streams of the southeastern United States.

- WaterHealth International (WHI), a new US company, is developing two different commercial models for rural and urban communities. Decentralized community water systems are providing clean water in quantities that can serve rural populations of up to 3,000 people. In its first installation in the state of Andhra Pradesh, India, in a partnership with the Naandi Foundation, treated water is now reaching 80 percent of the households in the village, and residents for the first time are paying small fees. The company estimates that the fees should be sufficient not only for operating and maintaining the facility, but also for recovering the initial capital investment over a period of years. WHI's franchised water stores in the Philippines provide opportunities for local entrepreneurs to own and operate small businesses that produce and deliver clean water to residents in urban and peri-urban communities. The company plans to expand both models to Africa and other regions.

- Although funding is concentrated mostly in the Middle East – Egypt, Jordan, and the West Bank – we heard about many projects that USAID has seeded directly and through the Global Development Alliance. All told, USAID's Water for the Poor Initiative has funneled money to more than 70 countries, helping more than 10 million people gain improved access to clean water and sanitation.

  USAID has pioneered the use of loan guarantees in Tamil Nadu, India, to reduce risks for private lenders to water and sanitation projects. In India, too, and Mexico, USAID is helping develop pooled funds to support water projects, an idea borrowing heavily from the successful use of state revolving funds in the United States. USAID also has launched the Balkans Infrastructure Development Facility (BIDFacility) to support development of infrastructure, including water projects, in the region. Not every country may be ready now to take advantage of these innovative financing regimes. Yet experience in the United States suggests that starting at a small scale, with incremental pilot projects, can lead to bigger endeavors as experience builds.

Why Now?

Why indeed? So much has been written, so much has been said about water. The issue appears in news stories almost daily and has been catalogued in books and

weighty reports. Awareness is rising about the urgency of the problems and the need for action. What's less well publicized, in our view, is that there are fixes to some vexing problems in some places – a chance, in other words, to stop the relentless tsunami.

We do not dismiss the good work in prior efforts. Although an international decade for drinking water supply and sanitation expanded coverage during the 1980s, progress was overtaken by population growth and urbanization as more poor people concentrated on the edge of cities with no access to public services. Another water decade was launched March 22, 2005 – "International Decade for Action - Water for Life" – to stress the central role that water plays in sustaining human life and well-being, to refocus political and global commitments on water, and to further cooperation at all levels. Three World Water Forums also have shed light on the global challenge in providing clean water and sanitation. A fourth is scheduled in March 2006, in Mexico City, the first time the international gathering will be hosted in the Western Hemisphere.

Further impetus has come from the Millennium Declaration and the Johannesburg Plan of Implementation, adopted by the community of nations during the 2002 World Summit on Sustainable Development. The Millennium Development Goals seek to reduce by half by 2015 the number of people without access to improved drinking water and adequate sanitation. Each in itself is a challenge, together something formidable.

Our colleagues at Wye reported that the drinking water goal is barely on target and sanitation is falling behind. This is cause for concern. UN agencies are doing a better job tracking implementation of the goals, but progress varies greatly region by region, with most anxiety expressed about the countries in Sub-Saharan Africa. China and India, too, are singled out for attention, as half the people without access to clean water and sanitation reside in these two most populous countries. The state of play certainly will be a focus at the upcoming World Water Forum.

In the United States, one especially promising development is the introduction of legislation on global water issues by Senate Majority Leader William Frist, co-sponsored with Senate Minority Leader Harry Reid and Senator Richard Lugar, chair of the Foreign Relations Committee. This makes for a propitious moment: For the first time there is leadership in Congress to spur greater US involvement in water issues internationally.

Dr. Frist encountered the water issue, we were told, during a trip to Africa to investigate HIV/AIDS, one of the other great tragedies stalking the African continent. He grasped readily the tie between HIV medications and the need for clean water if the disease is to be treated effectively. His legislation calls for, in part, a strategy to deepen US government support and to broaden the government's reach through partnerships with non-profit and nongovernmental groups, with companies, with the philanthropic community, and other sectors of US society.

The rationale for a greater US role is strong. For some who gathered at Wye, the humanitarian impulse is the driver – saving lives, reducing disease, giving people a new chance at life. For some, national security looms large. They see access to clean

water and sanitation as building blocks for economic growth, political stability, and democracy, thereby reducing the breeding grounds for would-be terrorists and lessening the likelihood that unrest will draw the United States into far-off conflicts. For others, it is economic arguments – providing a climate for investment and job creation, tapping new markets for products and equipment, boosting productivity through better worker health, mitigating operational risks for company facilities that depend on water where it is becoming scarcer. Still others at the meeting want to safeguard natural resources, because healthy, functioning freshwater and related ecosystems, including wetlands, estuaries, forests, and others, are directly linked to the well-being and future prospects of people.

Whatever the motivations, attention to the global water challenge today is growing. The consequences of lack of access to clean water and sanitation throughout the world are preventable. Given the urgency and the building momentum, the time for action is now.

The Broader Context

Demand for clean water is exploding everywhere. Population doubled over the past century, while water use grew sixfold! More people are concentrating in urban areas where there are few public services and little money to provide them. Experts forecast growing demand for water to meet food needs, even though agricultural production already takes the lion's share of water in virtually every developing country. Energy demand is growing rapidly, which puts a larger call on water resources. And economic development to produce everything from cars to microchips also requires clean water.

Rising demand is coupled with greater scarcity and other supply problems in many places. Water supplies are limited by pollution, excessive pumping of groundwater, mismanagement, outright waste, and inefficient use. Typically, only a small percentage of wastewater is treated before disposal – an estimated 14 percent in Latin America.

For years, development economists favored roads, ports, airports, power plants, and telecommunications as the building blocks of a growing economy. Water was hardly a priority. That began to change in the 1990s, as cholera swept through Latin America, reaching as far north as the US-Mexico border. More than 10,000 people died and a million were sickened. That got attention. Since then, new analyses of costs and benefits are helping to make the economic case for investment in water in developing countries.

The water challenge is not strictly a problem of the developing world. The United States is an affluent country that has benefited from decades of investment in water infrastructure. And yet, state water managers foresee scarcity even with normal precipitation. Analyses by several groups over the past few years project substantial funding gaps in meeting water infrastructure needs – hundreds of billions of dollars over the next 20 years for repairs of aging systems, upgrades and extensions, and meeting new regulations to deal with pathogens and other contaminants in the water.

The United States has learned a lot about water, in many instances, the hard way when something didn't work or officials failed to consider the full array of factors, especially environmental factors. Healthy, functioning ecological systems are necessary for human and economic health. The price of failing to heed this is steep: rivers no longer reaching the sea, 50 percent of wetlands lost and with them water filtration and the buffers they provided against flooding, 20 percent of freshwater fish endangered, deterioration of coastal resources, and more. Costly fixes are required to compensate for the ecological servicesnature once provided. Today, expensive large scale, multi-stakeholder restoration initiatives, supported by federal and state funds, are under way for the Everglades, the Great Lakes, Chesapeake Bay, and other parts of the country.

But there's a lot that has gone right, and the point to stress is that investments by the US federal government in water infrastructure, and the institutions that plan and carry out these investments, have proved essential to the country's development. Of particular interest at our forum was a discussion of the Tennessee Valley Authority (TVA), which targeted a region of the United States lagging behind in development. In the 1930s, more than 90 percent of the people had no electricity, about three-fourths no piped water, few had radios, less than a quarter of the people owned cars or trucks. Most lived on subsistence farming. Soil erosion and flooding were ruinous. Then came TVA. Within a generation, it saved billions of dollars by preventing floods. It helped farmers conserve productive soils. It spurred improvements in health, literacy, industrial production. It brought electricity, refrigeration, navigable links to seaports, and revenues from hydropower to devote to community development. It brought opportunity.

TVA's history underscores that investments in large-scale, geographically-based initiatives can pay off handsomely. They do require vision and leadership. Other elements of success: they are multiple use in purpose, they draw in the range of stakeholders, including the people who live there and are, thus, most affected, and they enjoy the active support of political leaders, national and local. Countries around the world at a stage of development comparable to the Tennessee Valley in the 1930s might benefit from this experience. And so might regional initiatives, in the Nile, Niger, and Senegal river basins, for example, supported by the Global Environment Facility and other international institutions.

Several of our colleagues at the meeting spoke directly about the need for water decisions to take account of the full spectrum of supply and demand issues in providing drinking water and sanitation. This notion of full accounting is embodied in the concept of integrated water resources management, which engages all the relevant functions, information, and stakeholders. Under this umbrella, good decisions can be made, or at least better decisions than in the past. Oftentimes, for example, conservation or improved efficiency of use is a cheaper way to boost water supplies than developing new reservoirs or other expensive infrastructure. In fact, industry, power production, and agriculture are the largest consumers of water in the United States, and it is the improvement in efficiency in these sectors that underlies the US record of holding water use essentially level since the mid 1970s, even as population and economic production

have soared. Integrated water resources management can help ask and answer the right questions about meeting demand for water.

Internationally, a good example of the failure to apply integrated thinking can be seen in India. Farmers pay virtually nothing for electricity and thus in some communities are pumping so much groundwater that the water table is dropping 10 to 15 feet a year. That's hardly sustainable, and is especially lamentable when alternatives like drip irrigation are available to cut water demand and increase crop yields. Energy, agriculture, water – all would do better if the interrelationships were fully considered.

Though the economic and environmental cases for furthering adoption of integrated water resource management are becoming unassailable, many poor countries, we heard, need assistance from donor countries and agencies to define the problem fully (typically not merely increasing water supplies), and to set up the framework, institutions, plans, and financing to improve water resource management.

Public or Private?

Getting safe, affordable, and sustainable water and sanitation to those without are hardly contentious goals. But how that gets done can prompt considerable controversy. Two issues, in particular, seem to raise red flags – the idea that access to water should be a fundamental human right, even provided free to users, and the idea that the private sector can play a beneficial role in delivering needed services.

Arguments over privatization, in our view, distract from the fundamental objective, which is to improve water delivery and sanitation. This is a responsibility that belongs to governments and that many governments have manifestly failed to carry out. In the current environment, when long-term concessions to private companies are out of favor, and private investors are shunning water investments, we believe the focus must be directed at holding governments more strictly accountable for water services.

Some groups argue that access to water should be a fundamental right. We heard great sympathy around the table for ensuring access of all to clean water and sanitation. But the practical, operational dimensions gave everyone pause: What would it really mean? Who would enforce it? How?

That "water should be free" to users also seems a popular refrain of some groups because of concern for poor households. Surely it's clear, however, that treating, transporting, and storing water costs money. So does treating and disposing of wastewater. Moreover, proper pricing encourages efficient use and reduces waste. Costs have to be covered in some way, by ratepayers through tariffs or by governments through tax revenues or a combination, and should be decided through a process that is transparent, accountable, and participatory and that ensures the needs of the poorest households are met. To be sure, full cost recovery may be an unattainable objective; few utilities, including in the United States, do so. Some may cover operations and maintenance, but few can cover capital costs for upgraded or expanded coverage. In

fact, the US government helped finance the capital costs of water infrastructure throughout the country. So too, developing countries will have to look beyond ratepayers to provide funds for infrastructure.

The poor now pay dearly for their water – in payments to truck vendors, in ill health from drinking contaminated water, or in time spent securing water from distant sources. They also pay in the degradation of natural resources on which they depend. Concern for the poor is not misplaced. But practical and responsible methods for dealing with the problem are available – cheap rates for the amount of water necessary to sustain life, for instance, or transparent subsidies to poor households or water providers on their behalf.

A decade ago, private provision of water utilities was hailed by many as bringing new capital, management skills, and efficient operations to the global water challenge. But the approach hasn't realized its initial promise, and most private operators no longer see developing countries as good markets. The risks are large and rising, the returns rather limited. One major lesson from these experiences: the private model works only when there is a functioning legal and regulatory framework. This underscores the centrality of the governance agenda – transparency, accountability, anti-corruption, citizen participation, a working judiciary – to advancing better water services.

We embrace the notion that a life-sustaining quantity of clean water for drinking, bathing, and hygiene is necessary for life and for health, and providing it is a responsibility of government. That governmental bodies have failed to provide these essential water services, to invest in their development and maintenance, led to private initiatives – and to a backlash. Opposition to private participation often obscures and confuses the essential challenges of providing water and sanitation: to create honest, transparent public bodies to oversee, or provide directly, water services, for which, in turn, they collect enough revenues and apply those funds to maintenance to keep pace with population growth, economic development, and other public needs. The typical experience of water departments in developing countries is one of overstaffing, poor accounting and billing, failure to maintain pumps and pipes, and recovery of only a third of the cost of service. This must be transformed.

Those who oppose private finance, construction, or management of water infrastructure have the obligation to help improve the delivery of public services or to explain how public bodies alone can do what most in the developing world have so conspicuously failed to, that is, provide adequate, clean water at reasonable cost. The urgent requirement is clean water. The question of who provides it, whether a public or private entity, strikes us as a secondary consideration.

It is often concern for the poor that causes groups to challenge private sector involvement in water, with mistrust of the profit-making motive perhaps underlying the concern. The controversy surrounding private water operators delivering services via ownership or contractual arrangements should not undermine the emergence of a new phenomenon: for-profit companies are joining with non-profit organizations in

partnerships that voluntarily take on the challenge of helping provide water services to communities or institutions. More such companies are coming to understand that there is a strong direct business case for greater attention to water supply and demand, including the availability of clean water and sanitation to those in need. And more non-profit organizations, eager to use partnerships to achieve their aim, are coming to accept that businesses can make constructive contributions beyond philanthropy by developing and supporting new small-scale, sustainable, for-profit local enterprises in the water sector.

The company representatives who participated in the Wye dialogue recognize that without adequate supplies of clean water, they may not be able to continue operations. Without clean water, company products may not be usable. Without clean water, workers' ill health may lower productivity. Company representatives told us quite clearly that these practical incentives are causing more firms to consider how they might contribute to resolving water issues, whether leading initiatives that draw on company, community, and donor assistance; extending water services directly; contributing to nongovernmental or local groups to enable them to deliver services; developing models for small-scale local enterprises to deliver water services; or providing other technical or financial help.

As more groups, institutions and companies – alone and in partnerships – address the need for clean water and sanitation for those who lack these services, we hope, and we expect, to see progress accelerate.

Recommendations

The discussions at Wye culminated in a series of recommendations that drew widespread support. (These are summarized at the beginning of this report.) Our intended audiences are the policymakers in Congress and the Executive Branch, who can make things happen directly or in concert with other governments and international agencies, and the broader community of interests around the US and abroad that have something tangible to contribute – nongovernmental groups, companies, philanthropies, professional societies, and others. Many of these actors can move more quickly than governments or international agencies, and so we urge their direct involvement in meeting the global water challenge.

1) **Clean water and sanitation must become a higher priority because they are fundamental to human health and reducing poverty.** National governments, which bear prime responsibility, as well as regional and local governments, donors, and others in the water sector must provide greater resources and convey a sense of urgency. To monitor progress in meeting internationally agreed water and sanitation goals, periodic country-level reporting is needed, which will require assistance in countries without the ability to gather health-related statistics.

2) **All schools and orphanages should have clean water, sanitation, and hygiene education by 2015.** The United States and other donor countries, international agencies, developing country leaders and the private sector should mobilize resources to meet this need.

3) **The President of the United States and his Administration should develop a strategy to mobilize American resources and institutions to become more involved in water internationally.** The rationale for greater US involvement in meeting the need globally for safe, affordable, and sustainable water is compelling and is captured in legislation introduced by Senate Majority Leader Frist and co-sponsored by Minority Leader Reid and Foreign Relations Committee Chairman Lugar.

4) **For reasons of health, the economy, and environmental sustainability, governments must invest more in water infrastructure.** These investments must be considered in the context of other water related issues, including agriculture, energy, flood control, and ecosystem functions.

5) **Decisions about covering the costs of clean water and sanitation should be decided through a participatory process that ensures the needs of the poor are met and provides sufficient funds for maintenance.** Except for the poorest countries, the needed resources, which are substantial, for the most part will have to come from the affected countries themselves. Whether they are paid for by governments with tax revenues, by ratepayers through tariffs, or a combination, should be a pragmatic decision arrived at through a participatory process that is open, transparent, and accountable.

6) **Because water and sanitation are the responsibility of women in much of the developing world, they should become more directly involved in managing water resources and making water-related decisions.** Women currently bear most responsibility for collecting water for families in underserved communities and, along with children, will benefit most from better water and sanitation service. All agencies and institutions in the water sector should strive to ensure that women participate fully in managing and making decisions regarding water resources.

7) **Development assistance should emphasize building local capacity, creating legal frameworks for managing water, and building local sources of funding.** Improved municipal financial management in the developing world can enhance credit and expand access to domestic capital. Clear legal and regulatory regimes are essential for managing water and enabling private investment. Technical assistance is also necessary to build capacity for delivering water services. Rebuilding after natural disasters, when assistance may be more plentiful, should support sustainable solutions for water and sanitation services.

8) **Promising partnerships among governments, not-for-profits, community and faith-based organizations, and businesses should be replicated and scaled up.** Many creative interim and long term solutions to the need for clean water and sanitation exist. Mobilizing resources for these initiatives and coordinating their efforts are essential.

9) **Decentralized water treatment systems or point-of-use household treatment, coupled with sustained hygiene education, should be deployed more widely, especially where they can reduce water-related disease immediately.** These, along with market-based, small-scale enterprises and other decentralized distribution and treatment options, offer promising new approaches to meeting the need for clean water and sanitation.

10) **Decisions about managing water resources must involve all stakeholders and all relevant factors in supply and demand, with efficient water use and protection of ecosystems as central goals.** Planning efforts must take account of all aspects of supply and demand, including agriculture, energy, flood control, and ecosystem functions, as well as the needs of all interests.

The 4th World Water Forum

Besides seeking to stimulate greater US engagement on water issues internationally, the Aspen Institute and the Nicholas Institute convened this dialogue to contribute suggestions to the 4th World Water Forum scheduled for Mexico City, March 16 to 22, 2006. In January 2005, César Herrera Toledo, Vice Director of Mexico's National Water Commission General Program wrote, "We are pleased that the Aspen Institute's dialogue has been designed to serve as a Preparatory Workshop and look forward to receiving its results as we finalize plans for the Forum." The Commission has the lead in organizing the Forum for the government of Mexico.

As a contribution to the Forum, the following letter was sent April 20, 2005, to Vice Director Herrera.

April 20, 2005

Ing. César Herrera Toledo
Vice Director
National Water Commission / Comisión Nacional del Agua
Insurgentes Sur 2416, Col. Copilco el Bajo, C.P. 04340
Delegación Coyoacán, México D.F.

Dear Mr. Herrera:

As co-chairs of the "Water, Development, and U.S. Policy" dialogue convened by the Aspen Institute and the Nicholas Institute, March 30 -April 2, we are writing to report to you and other organizers of the 4th World Water Forum about the results of our meeting. Your January 6th letter to John A. Riggs at Aspen invited our contribution, which we are pleased to provide.

We had a full and stimulating discussion among some 30 participants, who came from a variety of sectors and backgrounds – environment, development, the public sector, private companies and more (a list of participants is attached). We will send the report and the website link when it is final. In addition to brief descriptions of nongovernmental, corporate, and other initiatives by U.S. groups working internationally to bring water and sanitation to communities, schools, and other venues, we anticipate the report will contain the following highlights:

- The need is clear to elevate the priority for clean water, sanitation, and hygiene education by governments, donor agencies, companies, and others; and progress is as much a matter of building political will as it is of building capacity and securing finance.
- As a signature initiative, agencies and institutions, including the private sector, should be mobilized to get water and sanitation to all schools and orphanages within a generation.
- The U.S. government should prepare a strategy for greater international leadership and participate constructively in the 4th World Water Forum.
- A large need exists for public investments to improve water resources management.
- Improving governance by creating a legal and regulatory framework for water resources management is as important as, and must accompany, greater funding.
- Except in the poorest countries, domestic sources of investment will have to cover most of the costs of water service improvements.
- Point-of-use and other community and household level interventions can offer immediate health benefits.
- Integrated water resources management can make an essential contribution to clean water and health, as well as other goals.

We are especially pleased that your colleague Francisco Gurria was able to join us to speak about preparations for the Forum. His presentation and remarks prompted an excellent discussion of the opportunities and concerns, which we summarize below.

First, with Mexico hosting this international Forum, a tremendous opportunity exists to shine the spotlight on the urgent need for clean water, sanitation, and hygiene education in Mexico, as well as throughout the developing world. Elevating the priority at home and among your neighbors in the region should be possible. In his opening remarks, President Fox has a unique platform to command world attention to this problem, speaking with passion and from a position of strength given all that you are doing in Mexico to address water issues. It is our understanding, for example, that Mexico is moving away from the notion of water as a free good, recognizing that clean water and sanitation have costs and those costs must be covered. Further, we understand that the new water law assigns responsibility for water management to state and local governments, and that the shift in irrigation from government control to user groups is nearly complete. These are important and timely moves and we urge that President Fox explain what Mexico is doing and why for the benefit of many of the assembled countries.

Second, the Forum's emphasis on solutions, tangible on-the-ground results, models, examples, case studies, and partnerships strike us as right on target, as embodied in the overarching theme "Local Actions for a Global Challenge." Past Forums have witnessed fundamental disagreements over philosophy, ideology, and strategy that have impeded progress, in our view. Though some of these issues may resurface, we hope they won't again distract from the most fundamental questions of how to improve access to clean water and sanitation to people in need and how to improve management of water resources for the benefit of all. Showcasing what works, why, and the lessons learned, we believe, will inspire others and make the point these water problems are solvable with sufficient will, finances, and know-how.

Third, communications and public relations planning are critical to the Forum's success. Not only can extensive publicity about the Forum advance the cause of clean water and sanitation in Mexico and worldwide, but we understand there may be an alternative civil society forum, which will be competing for media attention with the main Forum. We applaud your efforts to involve NGO leaders in the main Forum, at the Fair, on panels and in workshops, and in other venues. They often bring a rich experience of working directly with communities and local people, they bring a perspective that differs from that of government officials, and their involvement would be valuable. We encourage you to continue to seek their input in the planning and their participation during all or part of the Forum. One way might be to include a specific session or two on the key issues they cite – for example, water as a human right or private sector participation – to give them a voice at the Forum and structure the discussion.

News media, as no doubt you know, thrive on controversy and will try to exploit the differences between the main Forum and a civil society forum. There is no way to rein in top reporters, nor should you try. But providing them a steady diet of good experts

and practitioners with whom to speak, project briefings, field visits, regular announcements, and story ideas and themes or messages for the day should help – in other words, a very active program for media. Remarks by President Fox and other prominent speakers throughout the Forum should help frame and underscore the issues. Former heads of state like Oscar Arias have enormous credibility and should attract attention. Other high profile celebrities or officials, likewise, can help present and amplify the Forum's messages.

Mr. Gurria stated that Forum organizers are working to find a few simple messages to come out of the Forum. This is welcome news. Our meeting recognized the need for a simple compelling message that conveys both the urgency of the water challenge and the ability to solve it, as a means of raising awareness and building public support. We were a technical and policy group, however, and did not arrive at any consensus about that message. We concluded that involving communications or public relations professionals would be worthwhile.

Fourth, Mr. Gurria asked us to suggest some U.S. examples that might be relevant. One is the Tennessee Valley Authority. In the 1930s, more than 90 percent of the people in this large, multi-state region had no electricity, about three-fourths had no piped water, few had radios, and less than a quarter of the people owned cars or trucks. Most lived on subsistence farming. Soil erosion and flooding were ruinous. Within a generation, that all changed. TVA saved billions of dollars by preventing floods. It helped farmers conserve productive soils. It led to improvements in health, literacy, and industrial production. It brought electricity, refrigeration, navigable links to seaports, and revenues from hydropower to devote to community development. TVA's history underscores that large public infrastructure investments can pay off handsomely, indeed they may be essential to spur economic growth. Countries around the world at a stage of development comparable to where the Tennessee Valley was in the 1930s might benefit from understanding this experience.

The United States also has considerable experience, including both successes and failures, that might usefully be shared about river basin management, large scale restoration and the importance of incorporating ecological values into water resources management. Our country has learned, often at extensive cost, that healthy, functioning ecological systems are critical to human and economic well-being.

Our recent experience with more efficient use of water may also be relevant to Mexico and Forum participants. In large measure due to improved efficiency of use in agriculture and industry, U.S. water consumption has remained in total about where it was in the mid 1970s and on a per capita basis about where it was in the 1950s.

Fifth, our personal experience on U.S. delegations to large international meetings suggests it may be too much to ask Ministers to forego negotiating an accord. Mr. Gurria stated that the Forum's hosts hope to draw a sizable official U.S. delegation, as well as many other participants from our country. We, too, hope that comes to pass. To help make it more likely, regarding the Ministerial Declaration, we urge that you use

your government's good offices to ensure that the Ministers are not asked to negotiate new international rights or norms in the water sector. To ask for such negotiations, in our view, may well prove divisive and discourage high-level U.S. government participation.

There is much positive to say in a Declaration: Urging prompt action, reasserting internationally agreed to goals, recognizing the importance of partnerships, applauding commitments that have been made, underscoring the value of more efficient water use and the centrality of good water resource management to the health of people, economies, and the environment. These and other elements would seem fine and non-controversial. Too often, the Declaration is negotiated as if it is the most important output. Frankly, our hope would be that Ministers would not have to devote a majority of their time at the Forum to negotiating a Declaration on which there is disagreement over lengthy, bracketed text. It is the examples and models which will motivate others that most deserve time and attention.

We would hope to see the Ministers visit field projects, take part in workshops to learn what has worked, stay accessible to press, and meet with their counterparts and others to develop and launch initiatives to further extend water services to the poor and promote other Forum objectives. The partnerships that could emerge, given the opportunity for willing Ministers and others to meet, would be a far more exciting result from the 4th World Water Forum than another Declaration on water. In the end, our discussions led us to conclude that the time for talking about water problems has passed, the time for emphasizing solutions and action is now.

This 4th World Water Forum is an immense undertaking and all the dialogue participants join in wishing you and your fellow organizers great success. We would be pleased to discuss any of the above points at greater length if that is helpful.

We look forward to seeing you in Mexico City a little less than a year from now. With every good wish,

Sincerely yours,

William K. Reilly Harriet C. Babbitt

Cc: Francisco Gurria
Rodolfo Ogarrio

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President
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Holly Burkhalter
US Policy Director
Physicians for Human Rights
Washington DC

John F. Turner
Assistant Secretary
Bureau of Oceans and International
Environmental and Scientific Affairs
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Washington DC

For Further Information

A reader concerned about the silent tsunami might well ask: what can I do? The participants at Wye offered a few thoughts.

First, let your Senators and Members of Congress know you care about US involvement in water issues internationally and ask what they are doing to help.

Second, consider supporting community based, faith based, and other groups that are delivering water services to people in need. Though hardly an exhaustive list, the groups represented at Wye offer a starting point:

- CARE, www.careusa.org/careswork/whatwedo/health/water.asp
- Living Water International, www.water.cc
- Millennium Water Alliance, www.mwawater.org/key.html
- Water Advocates, www.wateradvocates.org
- Water for People, www.waterforpeople.org
- WaterHealth International, www.waterhealth.com
- Winrock International, www.winrock.org/what/forestry.cfm

Third, learn more about water issues. Again, though hardly exhaustive, the following websites are considered informative:

1) UNESCO, www.unesco.org/water/
2) UNICEF, www.unicef.org/wes/index.html
3) US Environmental Protection Agency, www.epa.gov/ebtpages/water.html
4) The World Bank, www.worldbank.org/watsan/
5) Pacific Institute for Studies in Development, Environment, and Security, www.pacinst.org/topics/water_and_sustainability/
6) The World Water Council, www.worldwatercouncil.org
7) The 4th World Water Forum, www.worldwaterforum4.org.mx

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