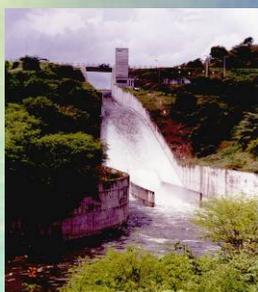


JUNE 2008

Senator Paul Simon Water for the Poor Act



Report to Congress



Bureau of Oceans, Environment, and Science
U.S. Department of State

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Senator Paul Simon
Water for the Poor Act
(P.L. 109-121)



Report to Congress
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Contents

Preface.....	v
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EXECUTIVE SUMMARY	vii
--------------------------------	------------

Chapter One

INTRODUCTION	1
---------------------------	----------

1.1 OVERVIEW OF THE REPORT	1
1.2 THE GLOBAL WATER CHALLENGE.....	1
1.3 THE U.S. RESPONSE	3
1.3.1 The Foreign Assistance Context	4
1.3.2 U.S. Goals and Objectives on Drinking Water and Sanitation.....	5
1.3.3 U.S. Approach on Water.....	5
1.3.4 Water in U.S. Foreign Assistance.....	7

Chapter Two

U.S. GOVERNMENT INTERNATIONAL WORK ON WATER IN FY 2007.....	9
--	----------

2.1 KEY RESULTS IN FY 2007	9
2.2 U.S. GOVERNMENT SUPPORT ON WATER.....	12
2.2.1 U.S. Agency for International Development	12
2.2.2 Millennium Challenge Corporation	14
2.2.3 Support to Intergovernmental Organizations	17
2.2.4 Support for Multilateral Development Banks.....	18
2.2.5 Water Sector Support in Iraq	19

Chapter Three
USAID/DEPARTMENT OF STATE
STRATEGIES FOR 2008 21

3.1 IMPLEMENTING THE FY 2008 STATUTORY REQUIREMENT
ON DRINKING WATER AND SANITATION21

3.2 REGIONAL STRATEGIES FOR FY 2008.....23

3.2.1 Sub-Saharan Africa23

3.2.2 Asia and the Pacific29

3.2.3 Europe and Eurasia33

3.2.4 Latin America and the Caribbean36

3.2.5 Middle East and North Africa.....38

Chapter Four
CONCLUSION41

Annex A
Addressing Water Challenges in the Developing World:
A Framework for Action

Annex B
USAID Funding for Water

Annex C
Examples of Eligible Drinking Water, Sanitation,
and Hygiene Activities (FY 2008)

Tables and Figures

TABLES

Table E.1:	Priority Countries for U.S. Water and Sanitation Activities, FY 2008	ix
Table 2.1:	Estimated USAID Water Obligations in FY 2007, by Region	13
Table 2.2:	MCC FY 2007 Water-Related Activities	16
Table 2.3:	Estimated U.S. Financial Support for Selected International Organizations, FY 2007	17
Table 2.4:	Estimated Water-Related Financing from Multilateral Development Banks, 2007	18
Table 2.5:	Water Sector Support in Iraq	19
Table 3.1:	Priority Countries for U.S. Water and Sanitation Activities, FY 2008	23
Table 3.2:	Priority Sub-Saharan African Countries	25
Table 3.3:	Priority Asian and Pacific Countries	30
Table 3.4:	Priority Europe and Eurasia Countries	34
Table 3.5:	Priority Latin American and Caribbean Countries	37
Table 3.6:	Priority Middle Eastern and North African Countries	39
Table B.1:	Estimated USAID Water Obligations FY 2002–FY 2006 – Includes Supplementals	B-1
Table B.2:	Estimated USAID Water Obligations FY 2002–FY 2007 – Excludes Supplementals	B-2
Table B.3:	Estimated Actual USAID Obligations in FY 2007 for Water Supply Projects and Related Activities by Country and Region	B-3
Table B.4:	Estimated FY 2007 USAID Obligations across Six Regions by Sub-categories of Activities	B-6

FIGURES

Figure 2.1:	Proportion of USAID Water-Related Obligations Going toward Drinking Water Supply, Sanitation, and Hygiene, FY 2003–FY 2007	13
Figure 2.2:	USAID Obligations for Water by Theme, FY 2003–FY 2007.....	14
Figure 2.3:	USAID Obligations for Water by Theme, FY 2003–FY 2007	14

Preface

President Bush signed the Senator Paul Simon Water for the Poor Act of 2005 (the WfP Act) into law on December 1, 2005. The Act requires the Secretary of State, in consultation with the U.S. Agency for International Development (USAID) and other U.S. Government agencies, to develop and implement a strategy “to provide affordable and equitable access to safe water and sanitation in developing countries” within the context of sound water resources management.

Over the past year, the Department of State and USAID have taken a number of steps to advance the goals of the WfP Act and to strengthen the U.S. response to water and sanitation challenges in developing countries. We have more clearly defined U.S. goals and objectives on water to respond to the Act and to take into account increasing demands for water—such as food production, energy, and the environment—and increasing risks, including the projected impacts of climate change. We have identified countries where water will be a priority for U.S. foreign assistance based on country need and where we believe U.S. assistance can make the most meaningful impact. We have developed a water framework (Annex A) that describes the kinds of investments the United States will make at the local, national, and regional levels to address water and sanitation challenges. We have developed strategies that identify region-specific goals, approaches, and outcomes. And we have established guidelines for the programming of resources on drinking water, sanitation, and hygiene to ensure that we meet our statutory obligations. Most importantly, we have also delivered results on the ground—providing nearly 2 million people with first-time access to an improved drinking water source and more than 1.5 million people with improved sanitation in 2007. We believe these are significant steps that represent a growing commitment by the United States to make water a core element of our foreign assistance.

We could not have done this alone. Over the past year, we have worked closely with a number of partners both inside and outside of government to inform our thinking and implement activities. We look forward to building on these partnerships as we strengthen our efforts to address the world’s water challenges.



Executive Summary

President George W. Bush signed the Senator Paul Simon Water for the Poor Act of 2005 (the WfP Act) into law on December 1, 2005. The Act requires the Secretary of State, in consultation with the U.S. Agency for International Development (USAID) and other U.S. Government agencies, to develop and implement a strategy “to provide affordable and equitable access to safe water and sanitation in developing countries” within the context of sound water resources management. It also requires the Secretary of State, in consultation with the USAID Administrator, to submit an annual report to Congress describing changes in the U.S. strategy and progress in achieving the objectives of the WfP Act.

In the 2007 fiscal year (FY), the United States obligated more than \$2.4 billion in support of water activities worldwide. More than \$900 million of this support funded water- and sanitation-related activities in developing countries, not including Iraq. As a result of these investments, millions of people have gained improved access to safe drinking water and sanitation; water resources are being managed more wisely and more productively; and many countries and communities are enjoying greater water security. In addition, nearly 2 million people gained first-time access to an improved water source, and more than 1.5 million gained first-time access to basic sanitation.

Combined support from USAID and the Millennium Challenge Corporation (MCC) for drinking water, sanitation, and hygiene activities exceeded \$590 million in FY 2007 (\$212 million from USAID and \$383 million from the MCC). Due to competing priorities and the completion of Middle East infrastructure projects, USAID’s support for drinking water supply, sanitation, and hygiene activities declined in FY 2007; however, these activities have become a larger part of the Agency’s water portfolio. The proportion of USAID support to drinking water supply, sanitation, and hygiene has grown from just over 40 percent of the Agency’s total water investments in FY 2003 to more than 80 percent in FY 2007. In FY 2008, USAID support for drinking water supply, sanitation, and hygiene activities will likely exceed \$300 million. This will further increase the proportion of water sector funding directed toward these activities. Funding for critical regions—such as Sub-Saharan Africa—also increased in FY 2007 for both USAID and the MCC. These investments represent a growing commitment on the part of the United States to reduce water-related diseases and to increase access to safe drinking water and sanitation in countries with critical needs. They also represent a shift away from other water-related investments that are critical for building a water-secure world, such as water resources management and water productivity.

The global water challenge remains daunting. While many countries are on track to meet the internationally agreed goals on drinking water and sanitation (see Section 1.2), many others—particularly those in Sub-Saharan Africa—are not. The lack of reliable access to acceptable quantities and quality of water not only threatens human health but also undermines economic growth and contributes to food insecurity. Water and energy are linked due not only to the role of hydropower in many countries, but also due to the energy-intensive nature of water and wastewater management.

In support of U.S. foreign assistance goals, the United States is working toward a water-secure world in which individuals and countries have *reliable* and *sustainable* access to an acceptable quantity and quality of water to meet human, livelihood, ecosystem, and production needs while reducing the risks of extreme hydrological events to people, the environment, and economies. This acknowledges the interconnectedness and interdependence of activities within the water sector and the need to address water and sanitation challenges in concert with other development issues.

The U.S. objectives on water are to:

- Increase access to, and effective use of, safe drinking water and sanitation to improve human health
- Improve water resources management
- Increase the productivity of water resources

The key approaches used by the United States to achieve these objectives are capacity building, institutional strengthening, and policy/regulatory reform; diplomatic engagement; direct investment; investments in science and technology; and working through partnerships.

Over the past year, the Department of State and USAID have begun work on a joint strategic framework on water—“Addressing Water Challenges in the Developing World: A Framework for Action” (Annex A). The purpose of the *Framework* is to provide embassies and USAID missions with guidelines for developing activities within their host countries to achieve U.S. objectives on water. The *Framework* represents the most complete statement to date of how the United States will invest its foreign assistance resources to implement the WfP Act within the context of a broader water strategy.

On December 23, 2007, Congress passed the 2008 Consolidated Appropriations Act, which states:

“[N]ot less than \$300,000,000 shall be made available for safe drinking water and sanitation supply projects, including water management related to safe drinking

water and sanitation, only to implement the Senator Paul Simon Water for the Poor Act of 2005 (Public Law 109-121)....”

To support the development of projects consistent with this statutory language, programming guidelines have been developed to ensure that activities have the stated intent to increase sustainable access to safe drinking water supply or sanitation services, improve the quality of these services, and/or promote hygiene.

Priority countries for FY 2008 are listed below.

Table E.1: Priority Countries for U.S. Water and Sanitation Activities, FY 2008

Sub-Saharan Africa		Asia and the Pacific		Europe and Eurasia	Latin America and the Caribbean	Middle East
Democratic Republic of Congo	Mozambique	Bangladesh	Philippines	Armenia	Haiti	Egypt
Ethiopia	Niger	Cambodia	Sri Lanka	Georgia		Iraq
Ghana	Nigeria	India	Tajikistan	Kosovo		Jordan
Kenya	Senegal	Indonesia	Timor-Leste			Lebanon
Liberia	Somalia	Laos	Vietnam			West Bank/ Gaza
Madagascar	Sudan	Pakistan				
Mali	Tanzania					
	Uganda					
	Zambia					

This report also includes strategies outlining region-specific goals, approaches, and expected outcomes for FY 2008.

In response to the Senator Paul Simon Water for the Poor Act and other statutory requirements, the United States has emphasized access to drinking water and sanitation in its foreign assistance programs. Support for drinking water supply, sanitation, and hygiene will increase in FY 2008 and will expand to cover more countries—many among the most in need. The Act has also helped focus U.S. efforts on water and sanitation and provides an important opportunity to strengthen the U.S. response to the global water challenge.



Chapter One

Introduction

President George W. Bush signed the Senator Paul Simon Water for the Poor Act of 2005 (the WfP Act) on December 1, 2005. The Act emphasizes the provision of affordable and equitable access to safe drinking water and sanitation in developing countries as a key component of U.S. foreign assistance programs. It requires the Secretary of State, in consultation with the U.S. Agency for International Development (USAID) and other U.S. Government agencies, to develop and implement a strategy “to provide affordable and equitable access to safe water and sanitation in developing countries” within the context of sound water resources management. It also requires the Secretary of State, in consultation with the USAID Administrator, to submit an annual report to Congress describing changes in the U.S. strategy and progress in achieving the objectives of the WfP Act.

1.1 Overview of the Report

This is the third report to Congress since the passage of the WfP Act. It builds upon the two previous reports (available at www.state.gov/g/oes/water). Chapter One provides an overview of the global water challenge and the U.S. response within the context of U.S. foreign assistance and the water sector as a whole, and introduces the joint USAID-Department of State Strategic Framework on Water (Annex A). Chapter Two highlights key results and reports on U.S. assistance in the water sector for the 2007 fiscal year (FY). Finally, Chapter Three describes guidelines developed to comply with the 2008 Consolidated Appropriations Act as well as regional strategies for addressing water issues in FY 2008.

1.2 The Global Water Challenge

Today, more than 1.1 billion people lack access to safe drinking water; 2.5 billion people lack access to improved sanitation. Each year 1.8 million people—90 percent of them children under five—die from preventable diarrheal diseases. Diarrheal diseases and related malnutrition account for virtually all of the deaths and nearly 90 percent of the overall disease burden associated with unsafe water supply, sanitation, and hygiene. Therefore, activities to improve water supply, sanitation, and hygiene are key health interventions.

Women and girls suffer disproportionately from inadequate water supply and sanitation. The United Nations Children’s Fund (UNICEF) estimated in 2005 that half of the girls in Sub-

Saharan Africa who drop out of primary school do so because of poor water and sanitation facilities.

The United States supports the internationally agreed goals on drinking water and sanitation:

- “[T]o halve, by the year 2015, the proportion of people unable to reach or afford safe drinking water...”¹ and
- “[T]o halve, by the year 2015, the proportion of people without access to basic sanitation....”²

To meet these targets, 80 million additional people must gain access to potable drinking water and 120 million additional people must gain access to sanitation services each year from 2005 to 2015. While much of the world is on track to meet the internationally agreed goals on water, most of Africa is not. Many African states will not meet these goals, particularly those related to sanitation and particularly in rural areas.

Each dollar spent on water and sanitation yields \$8 of benefits in saved time, increased productivity, and reduced health costs. The World Health Organization (WHO) estimates that reaching the internationally agreed goals on drinking water and sanitation would save the world nearly \$38 billion annually. Sub-Saharan Africa alone would save \$15 billion, or nearly 2 percent of average gross domestic product (GDP).

The United Nations (UN) reports that women in Mozambique, rural Senegal, and eastern Uganda spend 15–17 hours per week collecting water—often walking six miles or more in the dry season. Globally, meeting the internationally agreed goals would result in 272 million additional days in school, \$7.3 billion saved each year in medical costs, and an additional 320 million working days for people ages 15–59. Beyond the numbers, increased access to drinking water and

Box 1.1: The Drinking Water and Sanitation Challenge in Africa

The drinking water and sanitation situation in Africa is particularly bleak. In 27 African countries, more than 30 percent of the population does not have access to safe water. In nine of those countries, more than 50 percent of the people lack access to safe water. Forty percent of all child deaths from diarrhea worldwide are in Sub-Saharan Africa. In 36 African countries, more than 50 percent of the population lacks access to sanitation. Access to water and sanitation in schools is also a critical problem—in some areas, more than 150 girls and boys must share one latrine.

To meet the internationally agreed goals in Sub-Saharan Africa, more than 23 million people a year will need to gain access to an improved water source and nearly 28 million per year to basic sanitation. The challenge in some countries is particularly daunting: Ethiopia will need to provide access to sanitation for 30 million people—four times the current population with coverage. Kenya will have to reach 11.6 million people with safe water and 16.5 million people with sanitation.

¹ Millennium Declaration, New York, 2000.

² Johannesburg Plan of Implementation, Johannesburg, 2002.

sanitation would facilitate school attendance, empower women, promote human dignity, and reduce the suffering associated with high child mortality rates.

Well over 70 percent, and in many cases more than 90 percent, of freshwater supplies in developing countries are used for agriculture—a key economic driver in many of these countries. In many Sub-Saharan African countries, there is a direct correlation between rainfall and economic growth: when it rains, economies can grow; when it does not rain, countries face economic decline and food insecurity, or even famine. There is also a strong correlation between annual rainfall and percentage change in GDP. Countries must be able to maintain reliable supplies of sufficient quantities of water for domestic, industrial, environmental, and agricultural purposes. This is particularly challenging given the extreme hydrological variability many of these countries already face, as well as the projected impacts of climate change.

Finally, lack of access to water can increase tension and the potential for conflict. More than 260 watersheds—home to more than 40 percent of the world’s population—are shared by two or more countries. As water becomes scarce, tensions over shared resources are likely to rise both within and among countries. If managed properly, shared water resources can provide opportunities to build trust and cooperation, rather than becoming a source of conflict.

Many of these challenges are interconnected. If household waste is not treated properly, water supplies can be contaminated and the environment damaged. Without enough water for economic purposes, few families can generate the income to invest in water supply and sanitation improvements. Inefficient water use—particularly in those sectors that consume the most water, such as agriculture—can mean less water for all other uses. Furthermore, inefficiencies in energy use by insolvent water utilities often hamper the solvency of power utilities and represent a drag on the economy.

1.3 The U.S. Response

The United States is dedicated to improving the lives of people around the world. U.S. water activities directly contribute to the achievement of U.S. foreign assistance goals by protecting human health, promoting economic development, improving peace and security, and providing for basic needs in response to natural and manmade disasters.

The United States alone cannot achieve water security for developing countries. Water issues are fundamentally local challenges that require commitment, leadership, investments, and action by local, national, and regional governments and civil society. National governments must take the primary responsibility for ensuring their own development success by creating an enabling environment (including good governance, economic growth, and peace and security) that supports people, mobilizes local resources, and maximizes the benefits of donor support.

1.3.1 The Foreign Assistance Context

U.S. work on water is part of a larger, integrated foreign assistance strategy that helps to build and sustain democratic, well-governed states that respond to the needs of their people, reduce widespread poverty, and conduct themselves responsibly in the international system.

U.S. foreign assistance is supportive—targeted toward activities that reinforce recipient-country efforts to improve governance, promote economic freedom, and make sustainable sound public investments that support the welfare of their people. The specific approach depends strongly on the country context. For example, in stable developing countries, the challenge is to launch or maintain development progress, leading to a transition away from foreign assistance. The stronger the country's commitment (as represented by governance and policy performance), the greater the likelihood of progress and potential aid effectiveness. On the other hand, in fragile states (those that are on a downward spiral toward crisis and chaos, are recovering from conflict and crisis, or are essentially failed states), the focus is on strengthening institutions, basic governance, and stability so that more conventional development cooperation and progress are possible. The United States will also work broadly across all states to provide humanitarian relief in response to manmade or natural disasters; to support strategic states (key partners in the war on terrorism, the Middle East peace process, and the Stability Pact); and to address global and transnational issues such as HIV/AIDS and other infectious diseases, climate change, and direct support for international agreements.

Foreign assistance resources are allocated to activities within a country that offer the greatest promise to achieve U.S. foreign assistance objectives effectively and efficiently. The principles guiding resource allocations vary according to objective and depend on those factors that are most important for aid effectiveness and development results. For example, in stable developing countries, the levels of country need and commitment strongly influence resource allocations. Other important factors include local ownership and opportunities for partnerships. These factors may be weighed differently depending on country context: need and commitment may be the key factors in making resource allocations to address global and transnational issues, whereas development policy performance may be the greatest factor in assessing support to a stable developing country. Development must build on the leadership, participation, and commitment of a country and its people. Development cannot be unilaterally mandated and/or implemented; it requires close collaboration among donors, governments, communities, nongovernmental organizations (NGOs), the private sector, and the research community.

Finally, development challenges are interconnected. Just as access to drinking water and sanitation supports a broad array of development goals (such as improved health, peace and security, political and social progress, economic growth, and poverty reduction), other development activities directly or indirectly support increased access to drinking water and sanitation services. For

example, progress toward good governance and democratic accountability bolsters the public, private, and civil society institutions needed to resolve conflicts, maintain support for public and private efforts, and sustainably manage local water resources. Job creation and economic growth, together with strengthened fiscal management, help generate the resources needed to sustain both local capital investment and maintenance of water and sanitation infrastructure. Complex development challenges cannot be successfully overcome in isolation but require a broad set of interventions that create the enabling environment for sustainable progress.

1.3.2 U.S. Goals and Objectives on Drinking Water and Sanitation

In a water-secure world, individuals and countries would have reliable and sustainable access to an acceptable quantity and quality of water to meet human, livelihood, ecosystem, and production needs while reducing the risks of extreme hydrological events to people, the environment, and economies.³ Helping countries to achieve water security is fundamental to creating a safer and more prosperous world.

To achieve this goal, the U.S. objectives on water are to:

- **Increase access to, and effective use of, drinking water and sanitation to improve human health.** This includes both short- and long-term sustainable access to drinking water and adequate sanitation, as well as activities to improve hygiene.
- **Improve water resources management.** This includes optimizing the benefits of drinking water among competing uses while ensuring human needs are met and environmental resources are protected. It also involves supporting regional efforts in managing shared waters (both surface and ground) and managing and/or adapting to hydrological variability and the risks of floods and droughts.
- **Increase the productivity of water resources.** This includes maximizing the efficient and productive use of water used in industrial, agricultural, and other consumptive sectors, as well as supporting pollution prevention programs and other programs that reduce water losses.

1.3.3 U.S. Approach on Water

There are five essential elements to the U.S. approach on water: (1) capacity building, institutional strengthening, and regulatory reform; (2) diplomatic engagement; (3) direct investment; (4) investments in science and technology; and (5) working in partnership.

³ Adapted from David Grey and Claudia W. Sadoff, 2007, "Sink or Swim? Water Security for Growth and Development." *Water Policy* Vol. 9, No. 6, pp. 545–71.

Capacity Building, Institutional Strengthening, and Policy/Regulatory Reform: To remove impediments to success and to support stakeholder efforts at the local, national, and regional levels, the United States supports building the technical capacity to develop, implement, and manage water programs and projects at the local, national, and regional levels; building and strengthening institutions responsible for managing water or drinking water and/or sanitation services; and implementing policy/regulatory reforms that strengthen integrated water resources management, improve the transparency and accountability of utilities, protect water quality, and facilitate financial sustainability.

Diplomatic Engagement: The United States engages diplomatically at national, regional, and global levels to catalyze action, build partnership, and strengthen national and international commitment to address water and sanitation issues. For example, the United States has worked to advance action on international water and sanitation issues through global fora such as the World Summit on Sustainable Development (2002), the United Nations Commission on Sustainable Development, the World Water Forum, and the G8; and strengthen the actions of African leaders through the African Ministers' Council on Water and the African Union.

Direct Investment: The United States provides direct financial support to address immediate needs, build infrastructure, and mobilize local capital for investments through innovative financing mechanisms and credit enhancements. The budgets of most U.S. Government agencies to support international activities are small and cannot support large infrastructure investment. Typical investments often include activities such as hygiene and sanitation promotion and water quality improvements, which may involve small-scale hardware such as household-level water purification technologies. Notable exceptions are Jordan (where USAID assistance has helped build the Zara-Ma'in desalination plant and the As-Samra wastewater treatment project, which replaced an old wastewater treatment facility in Amman) and countries eligible for assistance through the Millennium Challenge Corporation (MCC).

Investments in Science and Technology: U.S. science and technical agencies play a key role in advancing local, national, regional, and global capacity to assess and address water challenges by providing advice, delivering expert training, and making scientific information globally accessible. Research by U.S. agencies has led to improved approaches for disinfecting and safely storing drinking water at the household level, reducing energy efficiencies in handling and processing water, predicting droughts and floods, and managing large-scale infrastructure to meet multiple needs.

Working in Partnership: The United States recognizes that engagement of partners in implementation will be critical to achieving improvements in all dimensions of water-related programming. The United States has developed a number of mechanisms—such as the Global Development Alliance and the Development Credit Authority—to creatively engage nongovernmental partners, including the commercial private sector and private philanthropic organizations, to address key development challenges. Such alliances have already been applied to diverse water challenges, from community watershed management to improved water supply and household water treatment (see www.usaid.gov/our_work/global_partnerships/gda/).

1.3.4 Water in U.S. Foreign Assistance

To achieve U.S. foreign assistance goals in a specific country, U.S. investments in the water sector are made as part of a comprehensive country plan. In developing these activities, the U.S. Government will continue to draw on the growing body of internationally endorsed principles and practices in all aspects of water supply, management, and productivity.

First among these principles is that water issues are fundamentally interconnected. To address drinking water supply and sanitation issues sustainably, water resources must be carefully managed throughout the sector. Integrated management of water resources is the only way to ensure long-term sustainable access to sufficient and affordable quantities of safe water for human, economic, and environmental uses.

A second principle is that foreign assistance must be effective. The United States is committed to investing in the water sector in ways that achieve the greatest impact through strategic, integrated, catalytic, and innovative action in close coordination with host country partner governments, civil society, and other donors. U.S. Government activities also work to strengthen the interlinkages between water and other development issues, such as maternal and child health, HIV/AIDS, governance, education, and humanitarian response.

In FY 2007, the Department of State and USAID began work on a joint strategic framework on water, “Addressing Water Challenges in the Developing World: A Framework for Action” (*Framework*). The purpose of the *Framework* is to provide U.S. embassies and USAID missions with guidelines for developing activities within their host countries to achieve U.S. foreign assistance goals on water. It will also serve to inform country-level counterparts and other members of the international water community about the U.S. Government approach to the water sector, facilitating improved collaboration, communication, and shared learning. The *Framework* recommendations are based on an assessment of U.S. investments in the sector and the limitations and comparative advantages of the U.S. Government and its partners. The *Framework* is attached to this report as Annex A. It represents the most complete statement to date of how the

United States will invest its foreign assistance resources to implement the Senator Paul Simon Water for the Poor Act as well as to achieve the U.S. Government's broader goals on water.

The *Framework* should not be considered a final statement but a work in progress. The Department of State and USAID will engage other experts (both within and outside of the water sector), recipient and donor governments, the UN, and other international organizations to further refine this *Framework*.

While this *Framework* will guide the development of foreign assistance programs at the country level, the decision on whether water should be a priority in a specific country plan is based on a number of factors including (but not limited to) the level of need, the enabling environment (that is, the likelihood that the project will yield long-term sustainable results), the U.S. comparative advantage versus that of other bilateral and multilateral donors, and the opportunities to leverage U.S. contributions. These decisions are made in consultation with the host country. Other factors, including consistency with U.S. foreign policy priorities and compliance with statutory directives that affect country, foreign assistance account, or sector specific resource allocations may play roles, as well.

Assessment of country need is a key factor in deciding whether and how water should be a component in a specific country plan. In addition to such indicators as access to an improved drinking water source, access to basic sanitation, and diarrheal disease rates, a number of other indicators are used to assess the broader relationships between water management, human health, and economic growth. Examples of key indicators used to assess needs in the water sector include:

- Total burden of water-related diseases
- Water-related disease outbreaks
- Renewable water available per capita
- Human/economic vulnerability to variable water flow and precipitation
- Stored water available per capita per day
- Dependence on shared surface water or groundwater

Chapter Two

U.S. Government International Work on Water in FY 2007

In FY 2007, the United States obligated more than \$2.4 billion in support of water activities worldwide. More than \$900 million of this support went to water- and sanitation-related activities in developing countries, not including Iraq. Of that amount, just over \$590 million went toward improving access to safe drinking water and basic sanitation and/or promoting hygiene in more than 50 countries around the world.

The United States also contributed to a number of multilateral development banks (such as the World Bank, the African Development Bank, and the Inter-American Development Bank) and international organizations (such as various UN organizations) that work on water. In addition, the United States provided over \$43 million to support three binational commissions—the Border Environment Cooperation Commission, the U.S. section of the International Boundary and Water Commission, and the International Joint Commission—that manage a number of transboundary water-related programs with Mexico and Canada.

2.1 Key Results in FY 2007

As a result of U.S. investments in water, millions of people gained improved access to drinking water and sanitation; water resources are being managed more wisely and more productively; and many countries and communities are enjoying greater water security. In addition, nearly 2 million people attained first-time access to an improved drinking water source, and more than 1.5 million received first-time access to improved sanitation.⁴ Other highlights from U.S. activities on water in FY 2007 include the following (implementing agencies are listed in parentheses):

Sub-Saharan Africa

- **Burkina Faso:** Constructed 264 latrines, 132 boreholes, and 10 child care centers in partnership with Plan International and Catholic Relief Services. (MCC) Dug wells in 20 villages, providing potable water to entire local populations. (USAID)

⁴ These are based on the definitions of “improved” drinking water sources and “improved” sanitation used by the United Nations Joint Monitoring Program.

-
- **Djibouti:** Installed solar pumps and water tanks in 23 rural area community health centers. (USAID)
 - **Ethiopia:** In partnership with the World Bank, strengthened local government and nongovernmental capacity to plan, budget, and implement hygiene and sanitation improvement in a region of 20 million people. (USAID)
 - **Ghana:** Constructed 486 latrines and trained nine community members in latrine-building skills. (Peace Corps)
 - **Ghana, Mali, and Niger:** As a partner in the West Africa Water Initiative, supported water source development and rehabilitation, latrine construction, household- and school-based sanitation and hygiene education, community mobilization, and policy development, providing nearly 300,000 people with access to improved water sources and about 60,000 people with improved sanitation. (USAID)
 - **Kenya, Madagascar, Malawi, Rwanda, and Zambia:** Distributed more than 5 million units of chlorine-based water disinfectant for household use, treating approximately 6.6 billion liters of drinking water. (USAID)
 - **Niger and Sudan:** Reduced guinea worm cases by 90 percent (Niger) and 71 percent (Sudan) between 2006 and 2007 with assistance from the Guinea Worm Eradication Program (in partnership with the Carter Center, the WHO, and the U.S. Centers for Disease Control and Prevention). (CDC)
 - **South Africa:** Facilitated access to improved sanitation for 44,312 people and to safe drinking water for 65,326 people. (USAID)
 - **Uganda:** Provided hygiene education and water purification tablets (treating up to 21 million liters of safe drinking water) to nearly 8,000 people. (USAID)

Asia and the Pacific

- **Asia/Regional:** Promoted adoption of 22 improved laws, policies, and plans, and trained more than 1,300 practitioners in 20 cities in seven countries in improving access to water and sanitation for more than 57,000 persons. (USAID)
- **Bangladesh:** Built new and rehabilitated existing water sources, providing safe drinking water supplies to 872,025 people. (USAID)
- **China:** Improved 50,000 hectares of critical watershed in southwestern China through habitat restoration and forest management activities. (U.S. Forest Service)
- **Indonesia:** Provided technical assistance and training to: (1) improve the drinking water supply for 190,000 people; (2) improve sanitation facilities for 9,000 people; (3) improve solid waste management for 2,800 people; (4) improve water resource management and delivery in 26 water supply companies; (5) enable eight water supply companies to achieve full cost recovery; (6) conduct more than 34 campaigns to ensure that households adopt adequate

health and hygiene practices; and (7) mobilize alternative financing for water utilities and their customers. (USAID)

- **Kyrgyzstan:** Rehabilitated irrigation systems in 17 communities, increasing agricultural productivity and water use efficiency for more than 114,000 people. (USAID)
- **Mongolia:** Instructed 2,447 children on, and trained 53 teachers to teach, the importance of hand washing. (Peace Corps)
- **Pakistan:** Provided technical assistance and training to support the installation of 6,000 water filtration plans and conducted hygiene promotion interventions expected to reach more than 30 million people. (USAID)
- **Philippines:** Created, in partnership with the Japan Bank for International Cooperation and the Government of the Philippines, a revolving fund that has helped to leverage \$5 million in private funds for two projects that will provide clean water to 283,900 people over the next 6 to 10 years. (USAID) Installed water supply systems and sanitation facilities in remote villages and conflict-affected areas of Mindanao, providing more than 106,000 people with access to drinking water supply and sanitation to 125,800 people. (USAID)

Europe and Eurasia

- **Armenia:** Developed plans for the construction and rehabilitation of drinking water systems in a small city with 27 surrounding villages, which will provide more than 100,000 people with 24-hour access to safe drinking water. (USAID)
- **Kosovo:** Extended public water networks into new areas or constructed new infrastructure to provide approximately 7,900 people with improved access to water and sanitation services. (USAID)
- **Montenegro:** Developed and gained adoption of a far-reaching water utilities reform plan that will improve drinking water and sanitation services for 640,000 people. (USAID)

Latin America and the Caribbean

- **Bolivia:** Provided improved drinking water and sanitation services/facilities to more than 60,000 people. (USAID) Constructed 143 drinking water systems benefiting 1,686 people in rural communities. (Peace Corps)
- **Dominican Republic:** Constructed gravity-flow aqueducts in six rural villages, providing 415 new families with access to safe drinking water. (Peace Corps)
- **Ecuador:** Constructed or improved 20 potable water systems reaching approximately 35,230 people in the northern provinces. (USAID)
- **Haiti:** Provided, in partnership with the Jolivet Safe Water for Families project, household water disinfection to 4,000 families a month, decreasing diarrheal disease by 55 percent in these communities. (CDC) Improved drinking water access for 21,500 people and sanitation

facilities for 144,000 others by completing sanitary rehabilitation projects in 9 health facilities, building latrines in 10 schools, and capping springs in 15 remote areas. (USAID)

- **Honduras:** Improved or constructed 64 community drinking water systems benefiting 33,356 people. (Peace Corps)

Middle East and North Africa

- **Jordan:** Built and provided technical assistance for water and sanitation infrastructure, providing improved access to drinking water for 2 million people and improved sanitation for 1.7 million people. (USAID)
- **Turkey, Iraq, and Syria:** Coordinated discussions among water experts, including academics and NGO representatives, from the three riparian countries, leading to their agreement to collaborate on the collection, management, and dissemination of data in the Tigris and Euphrates region. (Department of State/USAID)

2.2 U.S. Government Support on Water

More than 15 U.S. Federal agencies are involved in international water issues.⁵ Of these, only three receive direct appropriations related to water in developing countries: USAID, the MCC, and the Department of Defense. Many of the rest—the Geological Survey, Department of Agriculture, Environmental Protection Agency, CDC, Army Corps of Engineers, Peace Corps, and National Oceanic and Atmospheric Administration—provide key technical expertise and other support, often as implementing partners with USAID, the MCC, or the Department of State. Support data for the Department of Defense were not available for this report.

2.2.1 U.S. Agency for International Development

USAID is the lead U.S. Government foreign assistance agency responsible for development and humanitarian assistance programs. It develops strategies and plans, and it implements a wide range of program activities in targeted countries in concert with host governments, other U.S. agencies, the private sector, and NGOs.

⁵ See the 2006 *Report to Congress* at www.state.gov/g/oes/water for more information.

Table 2.1: Estimated USAID Water Obligations in FY 2007, by Region (dollars in millions)

	Africa	Asia & Near East	Europe & Eurasia	Latin America & the Caribbean	Central Programs	Total
Water Supply, Sanitation, and Hygiene	\$103.9	\$88.4	\$3.7	\$10.1	\$6.9	\$212.7 (81%)
Watershed Management	2.6	12.5	2.6	5.3	4.4	27.4 (10%)
Water Productivity	2.6	1.5	2.7	8.5	2.1	17.4 (7%)
Disaster Preparedness	0.2	0.2	0.0	0.0	5.3	5.7 (2%)
Total	\$109.3 (42%)	\$102.6 (39%)	\$9.0 (3%)	\$23.8 (9%)	\$18.7 (7%)	\$263.1

Notes: Figures have been rounded.

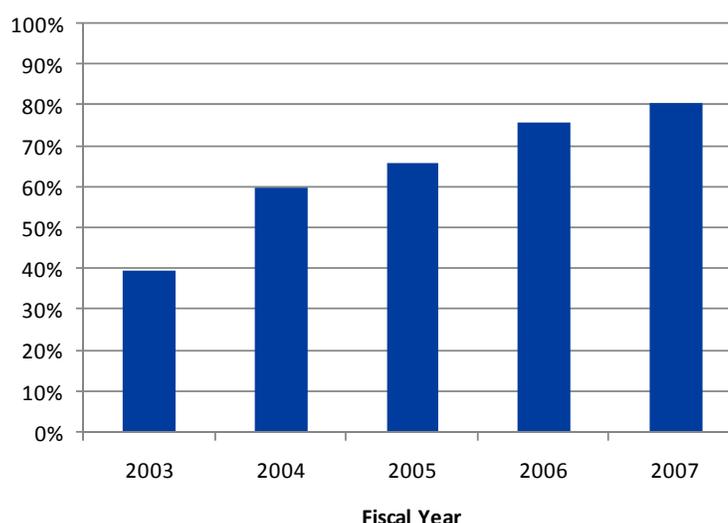
FY 2007 budget data represent best estimates from USAID analysis of information as of November of 2007.

In FY 2007, USAID obligated \$263.1 million for water-related activities in more than 50 countries (see Table 2.1). The Sub-Saharan Africa region received the greatest level of support both overall (\$109.3 million) and for water supply, sanitation, and wastewater management activities (\$103.9 million).

Water supply and sanitation obligations by country and account are shown in Annex B. Humanitarian assistance activities account for 63 percent (\$65.6 million) of the FY 2007 funds obligated for water supply and sanitation activities in Sub-Saharan Africa.

USAID investments in water supply, sanitation, and hygiene account for 80 percent of USAID obligations in the water sector in FY 2007. This represents a twofold increase since FY 2003 (see Figure 2.1).

Figure 2.1: Proportion of USAID Water-Related Obligations Going Toward Drinking Water Supply, Sanitation, and Hygiene, FY 2003–FY 2007



Overall, USAID obligations in the water sector declined in FY 2007. This is due to competing priorities as well as the completion of Middle East infrastructure projects. Funding for water resources management and water productivity has declined significantly in comparison to funding for water supply, sanitation and hygiene activities (see Figures 2.2 and 2.3; data for these figures can be found in Annex B).

Figure 2.2: USAID Obligations for Water by Theme, FY 2003–FY 2007
(as a percentage of total funding for each fiscal year)

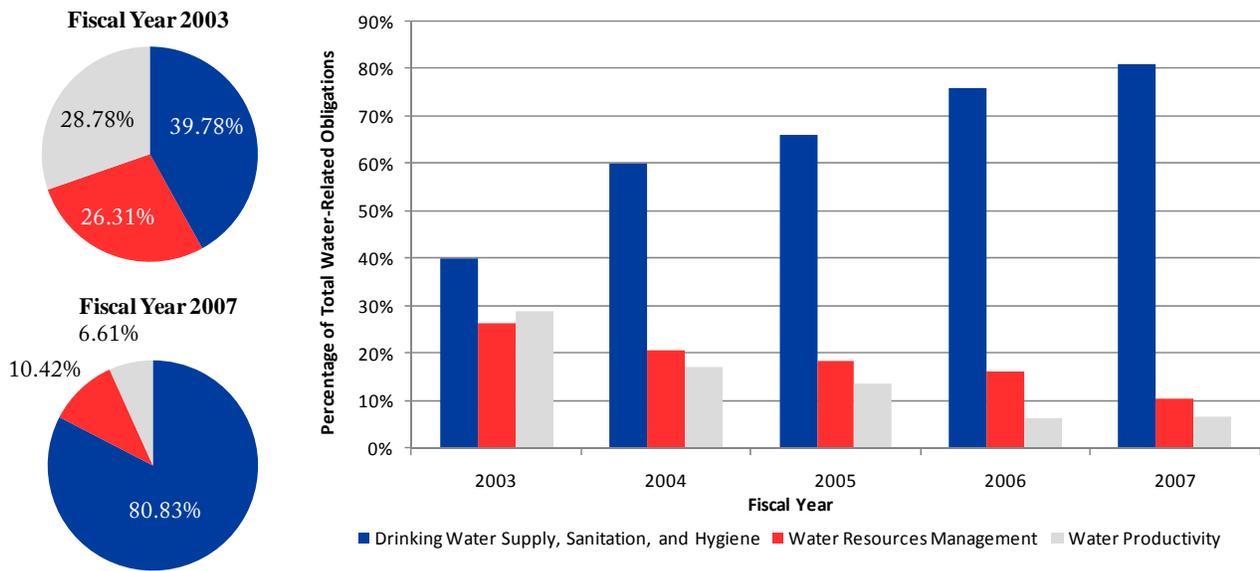
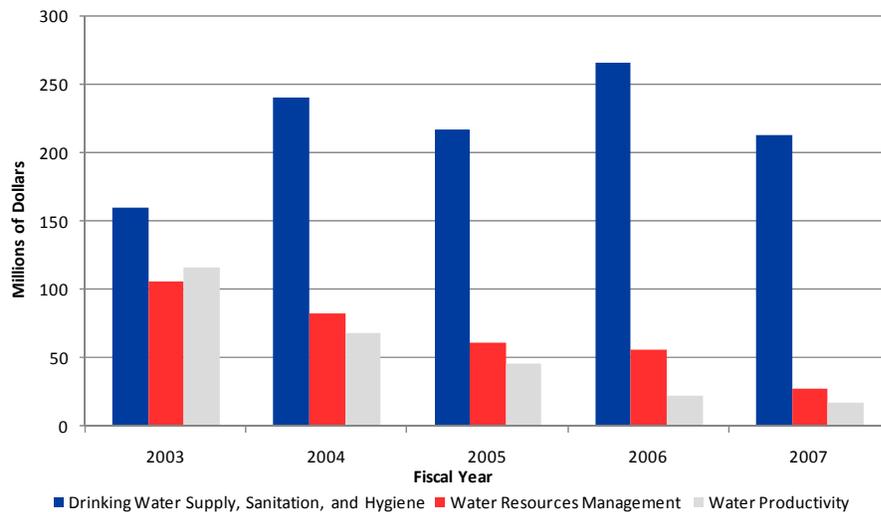


Figure 2.3: USAID Obligations for Water by Theme, FY 2003–FY 2007
(millions of dollars)



2.2.2 Millennium Challenge Corporation

The Millennium Challenge Account, established on January 23, 2004, provides U.S. foreign assistance through the MCC to reduce poverty through sustainable economic growth. The MCC is founded on the principle that aid is most effective when it reinforces good governance, economic freedom, and investments in people. The MCC provides support to projects and programs in eligible countries based on country-identified priorities. Countries are responsible for developing programs and then implementing them in accordance with a “Compact” negotiated with the MCC. Water-related activities are frequent components of these agreements. The MCC commits funds at Compact signing and then obligates these funds for the entire Compact when it enters into force. Disbursements are then made over the life of the Compact, which can last up to five years.

To date, the MCC has committed approximately \$879 million to the water sector, of which \$656 million was committed in FY 2007. Of these totals, \$443 million has been committed for drinking water and sanitation projects that promote economic development and improve health and education (of which \$383 million was committed in FY 2007). In addition, the MCC has committed a total of more than \$409 million to activities that increase water productivity including irrigation (of which \$255 million was committed in FY 2007) and \$23 million on improving water resources management (of which \$17 million was in FY 2007). Table 2.2 lists funds committed for water-related activities by the MCC in 2007.

Box 2.1 Increasing Access to Water and Sanitation in Mozambique

The MCC’s support to the Government of Mozambique (GOM) represents a major deliverable under the Water for the Poor Act and exemplifies many of the key pillars of the *Framework* in Annex A. Since FY 2006, the MCC has worked closely with the GOM to build off of its pioneering work begun in the mid-1990s and funded by the World Bank to put in place the essential sectoral institutions and regulatory frameworks to attract private sector involvement in construction, operations, and maintenance of systems. In FY 2006, the MCC provided the GOM with a grant to assist in project preparation work for a large investment in the water sector. The MCC’s initial grant support of \$4.9 million helped catalyze, in mid-2007, a multidonor funding package of \$240 million that included \$204 million from the MCC, \$15 million from the World Bank/International Development Association, \$15 million from the Africa Catalytic Growth Fund, and \$6 million from the Global Partnership on Output-based Aid. This package of support will benefit millions of people in Mozambique.

This multidonor funding package is an excellent example of donor coordination. It advances the goals of the Paris Declaration; provides a useful platform for ongoing coordination and alignment between government and its development partners; and should facilitate the scaling-up of future aid to the sector. In addition, the \$240 million multidonor investment program represents an important step toward implementing the commitments made at the 2003 G8 Summit in Evian, France, embodied in “Water: A G8 Action Plan.” This plan commits the G8 to assist in the efforts to provide safe drinking water and sanitation to the world’s poor, while helping to mobilize domestic resources in developing countries for water infrastructure financing through the development and strengthening of local capital markets.

Table 2.2: MCC FY 2007 Water-Related Activities (millions of dollars)

Country	Activity	Commitments in FY 2007*			Obligations in FY 2007**		
		Drinking Water Supply, Sanitation, and Hygiene	Water Resources Management	Increased Productivity	Drinking Water Supply, Sanitation, and Hygiene	Water Resources Management	Increased Productivity
Burkina Faso	Latrines and boreholes for schools and teacher facilities	\$12.9	--	--	\$12.9	--	--
El Salvador	Rural water and sanitation	24.0	--	--	24.0	--	--
Lesotho	Rural water and sanitation	30.2	--	--	--	--	--
	Urban and peri-urban water infrastructure	37.5	--	--	--	--	--
	Metolong Dam bulk water conveyance system	86.8	--	--	--	--	--
	Wetlands restoration and conservation	--	\$5.0	--	--	--	--
Mali	Irrigated agriculture	--	--	\$150.1	--	--	\$150.1
Morocco	Irrigated agriculture	--	--	105.4	--	--	--
Mozambique	Construction/reconstruction of wells and boreholes	9.0	--	--	--	--	--
	Rehabilitation/expansion of municipal sanitation and drainage	82.5	--	--	--	--	--
	Rehabilitation/expansion of water supply systems	79.4	11.7	--	--	--	--
	Technical assistance	21.0	--	--	--	--	--
Armenia	Irrigated agriculture	(Committed in FY 2006)			--	--	113.0
Cape Verde	Watershed management	(Committed in FY 2005)			--	\$6.8	--
Georgia	Regional infrastructure	(Committed in FY 2005)			60.0	--	--
Ghana	Irrigated agriculture	(Committed in FY 2006)			--	--	27.6
Nicaragua	Grants for water supply to farms	(Committed in FY 2005)			--	--	13.3
FY 2007 Total		\$383.3	\$16.7	\$255.5	\$96.9	\$6.8	\$304.0
Grand Total		\$655.5			\$407.7		

* Commitments are based on Compact signing. ** Obligations are based on Entry into Force.

Source: MCC

2.2.3 Support to Intergovernmental Organizations

The United States contributes to the general budgets of a number of international organizations that support freshwater projects around the world, as well as water and sanitation services in the context of emergency relief. These include many UN agencies, such as UNICEF, WHO, UNESCO, the United Nations Development Programme (UNDP), the United Nations Environment Programme (UNEP), the Food and Agriculture Organization (FAO), the World Meteorological Organization, the UN High Commissioner for Refugees (UNHCR), and the UN Relief and Works Agency for Palestine Refugees in the Near East (UNRWA). Other international organizations providing support include the Inter-American Institute for Cooperation on Agriculture, Organization of American States, Organization for Economic Cooperation and Development, Pan American Health Organization, Ramsar Convention on Wetlands, World Conservation Union, International Committee of the Red Cross (ICRC), and International Organization for Migration. U.S. support is detailed in Table 2.3.

Table 2.3: Estimated U.S. Financial Support for Selected International Organizations, FY 2007

Organization	U.S. Contribution to Core Budget (millions of dollars)	Percentage of Core Budget Spent on Water
United Nations Children's Fund	\$125.73	4.7%
World Health Organization	97.00	0.4%
United Nations Educational, Scientific and Cultural Organization	80.80	1.4%
World Meteorological Organization	11.00	4.7%
United Nations Environment Programme	5.75	11.4%
Food and Agriculture Organization of the United Nations	91.00	3.0%
United Nations Development Programme	100.00	0.4%
Total	\$511.28	

Note: The United States does not fund water programs directly through its core contributions to these international organizations, although a percentage of this contribution is spent on water-related programs. These budget estimates do not include additional voluntary contributions made by other donors to carry out specific water-related interventions around the world.

Source: Department of State and Department of Treasury

Through the Department of State's Bureau of Population, Refugees, and Migration (PRM), the U.S. Government is the largest bilateral donor to international humanitarian organizations such as the UNHCR, the ICRC, and UNRWA. PRM also provides support to NGOs in order to fill critical gaps in humanitarian response. Through the Migration and Refugee Assistance and

Emergency Refugee and Migration Assistance accounts, PRM provided over \$1 billion in FY 2007 for multisectoral protection and assistance programs for refugees and other populations of concern. Because inadequate quantities and quality of water undermine both protection and assistance, PRM closely monitors its international and nongovernmental partners to ensure that beneficiaries have access to water and sanitation at or above internationally recognized standards. Ensuring access includes building adequate quantities of water points such as wells and boreholes, regularly testing water to ensure safety, providing access to sufficient latrines, training refugees and their host communities to manage water systems, and implementing hygiene education programs. Because programs are inherently multisectoral, funds are not specifically earmarked for water/sanitation. In FY 2007, some of the largest PRM contributions were programmed as follows: (1) \$363.3 million to UNHCR; (2) \$168.9 million to ICRC; (3) \$154.1 million to UNRWA; and (4) \$108.6 million to NGOs for assistance-related activities.

2.2.4 Support for Multilateral Development Banks

The United States is a member of, makes financial contributions to, and exercises leadership in seven multilateral development banks that support freshwater projects around the world. In 2007, the multilateral banks provided more than \$3.9 billion in water-related financing, of which \$2.3 billion came from the World Bank Group alone (see Table 2.4). The Global Environment Facility provides funding to a broad range of projects and activities to protect the health of international waters, reduce contamination of international water bodies, manage transboundary water bodies and groundwater resources, address water scarcity, and promote sustainable management of fisheries.

Table 2.4: Estimated Water-Related Financing from Multilateral Development Banks, 2007

Organization	Amount (millions of dollars)
World Bank Group	\$2,300.0
African Development Bank	223.0
Asian Development Bank	415.7
Inter-American Development Bank	443.7
NADBank	39.9
European Bank for Reconstruction and Development	442.0
Global Environment Facility	37.1
Total	\$3,901.4

Source: Department of Treasury

2.2.5 Water Sector Support in Iraq

In 2007, the United States obligated approximately \$1.5 billion from the Iraqi Reconstruction and Relief Fund to provide direct support to water-related projects throughout Iraq. These funds supported hundreds of activities to increase access to safe water, improve wastewater treatment, and increase the productivity of water in the agriculture and industrial sectors (see Table 2.5). Water-related projects, including constructing or rehabilitating 21 large and more than 200 small water treatment plants or facilities, created the capacity to provide access to drinking water for 8 million Iraqis. Sanitation projects focused on rehabilitation of nine major sewage treatment plants with the capacity to serve 5 million Iraqis.

Table 2.5: Water Sector Support in Iraq

Activity	Amount (millions of dollars)
Potable Water	\$998.7
Water Conservation	23.8
Sewerage	188.2
Pump Stations and Generators	156.7
Solid Waste	2.7
Irrigation and Drainage	59.7
Dams	58.5
Basra/Umm Qasr Water Supply Scheme	27.0
Total	\$1,515.3

Source: Department of State



Chapter Three

USAID/Department of State Strategies for 2008

Previous reports to Congress on the WfP Act identify U.S. goals and objectives on water and sanitation issues and describe broadly how the United States will work to address water-related challenges in developing countries. Annex A to this report, “Addressing Water Challenges in the Developing World: A Framework for Action” (*Framework*), outlines in general terms the types of interventions the United States will invest in to achieve U.S. goals and objectives on water and sanitation at the local, national, and regional levels. This chapter summarizes general guidance and region-specific strategies for implementing U.S. activities on water in FY 2008. The regional strategies address key water challenges in each region within the context of the broader U.S. Government strategy and the general activities described in the *Framework*. These regional strategies will become more specific throughout the year as field staff better assess country needs and identify opportunities for U.S. engagement.

3.1 Implementing the FY 2008 Statutory Requirement on Drinking Water and Sanitation

On December 23, 2007, Congress passed the 2008 Consolidated Appropriations Act, which states that:

“[N]ot less than \$300,000,000 shall be made available for safe drinking water and sanitation supply projects, including water management related to safe drinking water and sanitation, only to implement the Senator Paul Simon Water for the Poor Act of 2005 (Public Law 109-121)...”

The FY 2008 statutory language places a strong emphasis on the drinking water, sanitation, and hygiene components of the U.S. strategy. To meet this requirement, the Department of State and USAID have established guidelines to support the development of activities consistent with the statutory language.

To meet the statutory requirement, activities must have the stated intent to increase sustainable access to safe drinking water supply or sanitation services, better the quality of these services, and/or promote hygiene. This intent must be demonstrated through objectively verifiable indicators linked to these goals.

Examples of drinking water and sanitation activities that meet these guidelines include investments in hardware (water supply through public utility, community, or household wells/taps; rainwater harvesting/water storage capacity; latrines and hand-washing facilities; or household-level technologies and products, including point-of-use water treatment products, water storage containers, and soap); complementary hygiene promotion and behavior change activities (community mobilization for sustained management and repair of hardware; social marketing of products and behaviors; or schools and clinic programs in the public and private sectors); and interventions to support an enabling environment (political leadership/sector reform; supportive national and state policies; community organizations; institutional capacity strengthening; and financing). A more detailed list of examples is attached at Annex C.

Under some circumstances, projects/programs related to water resources management, water productivity, and humanitarian assistance may fit the FY 2008 statutory requirement. For example:

Water Resources Management: Provision of drinking water supply, sanitation, and hygiene is more sustainable when supported by an integrated approach to water resources management. An integrated approach may include support to develop a sound information base and analyze hydrologic resources and ecosystems; equitable allocation among multiple competing human demands for water resources; best practices in land and water resources management; and strong and capable governance structures and processes relating to all water uses. When communities or nations share surface or groundwater resources, cooperation is necessary to ensure near- and long-term availability of water supplies for all water users and to prevent or mitigate potential conflicts.

Water Productivity: There is a strong relationship between household and productive uses of water. In many communities, water sources and water infrastructure are shared by both domestic and productive users (in other words, multiple use systems). In other contexts, the sustainability of community-managed infrastructure depends on enhancing household incomes to support operation and maintenance of domestic drinking water supply systems. Efficiency, conservation, demand management, and pollution prevention by both domestic and productive water users can ensure that sufficient quantity and quality of drinking water supply are available to meet human needs and sustain ecosystem health.

Humanitarian Assistance: In responding to manmade or natural disasters, ensuring access to safe water, basic sanitation, and appropriate hygiene is a primary concern. Generally, these are short-term interventions designed to respond to immediate needs and would not meet the FY 2008 statutory requirement. In some cases, however, these interventions transition into or directly provide long-term sustainable improvements in drinking water, sanitation, and/or hygiene. Such interventions include, for example, hand-dug wells, community boreholes, household latrines,

communal/institutional latrines at schools and clinics, and hygiene promotion. Although these kinds of activities cannot be programmed in advance, they do support U.S. efforts to meet the FY 2008 statutory requirement on drinking water and sanitation.

3.2 Regional Strategies for FY 2008

The following strategies identify priority countries and outline region-specific goals and approaches on water and sanitation for FY 2008. The priority countries for FY 2008 are shown in Table 3.1.

Table 3.1: Priority Countries for U.S. Water and Sanitation Activities, FY 2008

Sub-Saharan Africa		Asia and the Pacific		Europe and Eurasia	Latin America and the Caribbean	Middle East
DR of Congo	Niger	Bangladesh	Philippines	Armenia	Haiti	Egypt
Ethiopia	Nigeria	Cambodia	Sri Lanka	Georgia		Iraq
Ghana	Senegal	India	Tajikistan	Kosovo		Jordan
Kenya	Somalia	Indonesia	Timor-Leste			Lebanon
Liberia	Sudan	Laos	Vietnam			West Bank/ Gaza
Madagascar	Tanzania	Pakistan				
Mali	Uganda					
Mozambique	Zambia					

3.2.1 Sub-Saharan Africa

Sub-Saharan Africa encompasses the broadest possible range of geographical features, including rain forests, deserts, mountains, and rain-fed agricultural plains. Water issues are particularly acute in Sub-Saharan Africa but vary widely by region. Northern Africa, Southern Africa, and the Horn of Africa have the lowest levels of precipitation in Africa, and populations in these regions are heavily reliant on groundwater resources.⁶ Little is known about the volume of groundwater resources. Forty-two percent of the Sub-Saharan African population lacks access to an improved drinking water source and in rural areas, an average of 54 percent of the people lack improved drinking water sources. In 16 African countries, less than 25 percent of the population has access to sanitation. Urbanization in many Sub-Saharan African countries, in response to better job opportunities and other factors, constitutes a challenge for service provision. Rapid urbanization in countries with limited management capacity and infrastructure financing creates increasing stress on existing services. In Sub-Saharan Africa, 46 percent of all child deaths are from diarrhea, and water-related diseases create a burden most countries of the region are ill-equipped to carry.

People in Sub-Saharan Africa are also heavily reliant on rain-fed agriculture for food. Only 10.6 percent of land in Sub-Saharan Africa is arable land of high enough quality to support one major crop per year, and the percentage of arable land that is irrigated (7 percent) is by far the lowest in the world.⁷ Sub-Saharan Africa is also home to approximately 59 transboundary river basins.⁸

Improved and integrated water resources management among all water sectors is essential to helping the region support its populations, cope with climate variability, and adapt to climate change. Many countries in Africa already experience extreme hydrologic variability. These countries are also some of the most vulnerable to the projected impacts of climate change. Changing rainfall patterns coupled with lack of infrastructure and poor adaptive capacity will increase the stress within the region. Twenty-five African countries are expected to experience water stress or water scarcity over the next 20–30 years.⁹ Key impediments in the region include lack of local- and national-level commitment and leadership, lack of capacity, and poor investment environments.

⁶ “A Look at Water Resources in Africa,” 2003 International Year of Freshwater, United Nations. Website: www.wateryear2003.org. Accessed: May 12, 2008.

⁷ *Africa Environment Outlook 2*, United Nations Environment Programme. Website: <http://www.unep.org>. Accessed: May 12, 2008.

⁸ *Atlas of International Freshwater Agreements*, United Nations Environment Programme. Nairobi, Kenya, 2002, p. 1.

⁹ A Look at Water Resources in Africa.

3.2.1.1 Priority Countries

The priority countries, covering 5.7 million square miles in Sub-Saharan Africa, have a total population of 566.1 million people. Fifty percent of these people have access to improved water sources and 35 percent have access to improved sanitation. The average quantity of renewable water resources available per person is 7,500 cubic meters per year, and nine of the countries have less than 3,000 cubic meters per year. Four of the priority countries have water availability less than 1,500 cubic meters per year, indicating water stress.¹⁰ Underdeveloped water infrastructure in many countries generates significant regional differences between the availability and use of water, and populations may experience localized water shortages even with higher levels of total availability. Inadequate water supply, sanitation, and hygiene are responsible for the vast majority of diarrheal diseases, which account for approximately 17 percent of the deaths of children under 5 in the priority countries of Sub-Saharan Africa. Table 3.2 provides general and water-related information on the priority Sub-Saharan African countries.

Table 3.2: Priority Sub-Saharan African Countries

Country	Percentage Access to Water	Percentage Access to Sanitation	Annual Deaths of Children under Five from Diarrheal Diseases ^a	Per Capita Water Availability (cubic meters)	Population (millions)	Area (1,000 mi ²)
DR of Congo	46	30	112,220	--	456.0	875.5
Ethiopia	22	13	67,297	1,500	77.4	453.6
Ghana	75	18	10,248	--	22.1	95.6
Kenya	61	43	28,875	900	34.3	233.2
Liberia	61	27	7,439	66,500	3.3	44.4
Madagascar	50	34	13,858	18,800	18.6	234.8
Mali	50	46	23,058	7,500	13.5	496.0
Mozambique	43	32	19,470	11,300	19.8	319.6
Niger	46	13	34,254	2,700	14.0	506.8
Nigeria	48	44	177,253	2,300	131.5	369.6
Senegal	76	57	8,550	3,800	11.7	78.8

¹⁰ A value of 1,700 m³ per capita per year is a threshold below which water stress may occur, according to M. Falkenmark and G. Lindh, 1974, Impact of Water Resources on Population, submitted by the Swedish Delegation to the UN World Population Conference, Bucharest.

Country	Percentage Access to Water	Percentage Access to Sanitation	Annual Deaths of Children under Five from Diarrheal Diseases ^a	Per Capita Water Availability (cubic meters)	Population (millions)	Area (1,000 mi ²)
Somalia	29	26	10,098	--	8.2	255.2
Sudan	70	34	14,061	1,900	36.2	1,002.4
Tanzania	62	47	31,584	2,400	38.3	378.0
Uganda	60	43	32,336	2,500	28.8	96.4
Zambia	58	55	15,050	96,000	11.7	301.2

^a Source: WHO

3.2.1.2 Regional Objectives

- Increase access to drinking water, sanitation, and hygiene in order to reduce water-related disease and enhance productivity for vulnerable groups, including the poor, with an increasing focus on peri-urban and urban areas
- Support integrated water resources management principles, which promote an intersectoral approach to decision making, balancing human economic and social needs with ecological values and sustainability
- Enhance the productivity of water in agriculture to increase income and preserve water availability for domestic supply and for sanitation
- Strengthen the capacity to plan for and adapt to extreme hydrologic variability as a tool Sub-Saharan African states can use to adapt to the projected impacts of climate change

3.2.1.3 Key Approaches

Making and Expanding Partnerships

- Coordinate water sector development efforts among international donors, governments, and NGOs
- Expand nongovernmental, public, and private water partnerships in water activities to coordinate efforts and leverage the differential strengths of all parties (see Box 3.1)
- Engage local communities and provincial and national governments to create the conditions for sustainable water resources management to meet collective health, economic, and ecological needs (see Box 3.2)
- Collaborate with donors and multilateral institutions

Making Connections Among Water and Development Sectors

- Promote interventions to avoid water quality degradation due to poor land management and upstream pollution
- Encourage multiple-use services to provide reliable drinking water to rural residents and to support Sub-Saharan African economic activity, including agriculture production, livestock raising, aquaculture, and small and medium-sized enterprises
- Protect vulnerable groups such as young children or people living with HIV or AIDS from water-related diseases with health-focused interventions such as hygiene improvement
- Improve water security by strengthening cooperation on shared waters

Focusing on “software”—an enabling environment consisting of governance, technology, and finance—as well as targeted infrastructure investment

- Enhance capability of local partners to overcome governance, technical, or financial barriers to sustainable operation and management of the water sector
- Strengthen the enabling environment that offers a foundation for communities and partners to gain financial access, governance stability and access, and technological training and transfer (see Box 3.1)
- Build management capacity, effectiveness, and bankability of water utilities
- Provide capacity building, training, and technical assistance to enhance creditworthiness, especially for small and medium-sized utilities, municipalities, and other service providers

Box 3.1

Sustainable Water and Sanitation for Africa (SUWASA)

SUWASA is a new USAID program that promotes sustainable business models in the water sector in order to expand water supply and sanitation access to poor communities. This model includes: (1) utility level reform; (2) regulatory reform; (3) service models for the poor; and (4) innovative financing. This program will be implemented in up to 15 African countries.

The West African Water Initiative (WAWI)

WAWI is a public-private partnership that works with international NGOs in the water supply, sanitation, hygiene, and integrated water resources management sectors. WAWI provides highly vulnerable rural and peri-urban populations in Ghana, Niger, and Mali with small-scale potable water supply and sanitation services. This model supports an enabling environment by offering guidance on technical, financial, and governance issues.

Box 3.2

Okavango Transboundary Watershed Management Program

USAID is working within the Okavango watershed in southwestern Africa to support local efforts to improve water supply and sanitation services, improve management of the riparian ecosystem, and protect biodiversity. USAID provides training, heightens awareness on transboundary management methods, and otherwise supports local groups in their effort to implement integrated water resources management to protect the health of the ecosystem and the multiple uses of water in the region.

Enhancing USAID Effectiveness

- Strengthen and support USAID field capacity in the water sector
- Enhance monitoring and evaluation

3.2.1.4 Expected Outcomes

- Higher levels of access to drinking water supply and basic sanitation
- Greater access to local, public, and private funds for water and sanitation infrastructure investments
- More markets for safe household water treatment and sanitation products
- Lower incidence of diarrheal disease and other water-related illnesses in priority countries
- Greater water use efficiency and more equitable allocation through regional adoption of integrated water resources management and demand management approaches
- Improved regional water security through increased transboundary management capacity among key stakeholders

3.2.2 Asia and the Pacific

The Asia and Pacific region comprises a wide range of geographical features, including rain forests, deserts, and mountains, as well as irrigated and rain-fed agricultural areas. Sixty percent of the world's population lives in Asia, yet Asia is home to only 36 percent of the world's freshwater resources. While freshwater resources have remained constant, over the past 50 years demand has increased by more than 300 percent.

More than 452 million people in Asia and the Pacific lack access to safe drinking water, and 1.8 billion people lack access to basic sanitation. In addition, dramatic increases in domestic, industrial, and agricultural water demand and a general degradation of freshwater resources quality are among the consequences of Asia's rapid economic and population growth.

Rapid urbanization not only reflects population access to better urban services, but also constitutes a challenge for service provision. Increasing urbanization also makes it difficult for cities with limited management capacity and infrastructure financing to maintain service for rapidly expanding populations. Throughout the region, domestic and industrial wastewater is discharged to water bodies, largely without treatment. Source water pollution and lack of proper treatment are becoming key challenges to protecting existing safe water supplies. The lack of reliability of water supplies is causing countries to adopt more conservative resource management approaches.

More than half of all Pacific islanders lack access to drinking water and sanitation. Population growth, economic development, and the projected impacts of climate change heighten the vulnerability of Pacific islands to drought, tax their groundwater systems, and exceed the limited capacity of their governments and infrastructure to respond to these challenges.

3.2.2.1 Priority Countries

The priority countries, covering 2.9 million square miles in Asia and the Pacific, have a total population of 1.8 billion people. In these countries, 84 percent of people have access to improved drinking water, and 42 percent have access to improved sanitation. The average quantity of renewable water resources available per person is adequate at 4,400 cubic meters, but there is significant variation among the countries—two countries, India and Pakistan, have very low availability for their large populations. Insufficient water infrastructure in many countries creates shortages even when total water availability is more than adequate. Inadequate water supply, sanitation, and hygiene are responsible for the vast majority of diarrheal diseases, which account for approximately 17 percent of the deaths of children under 5 in the priority countries of Asia and the Pacific. Table 3.3 provides general and water-related information on the priority Asian and Pacific countries.

Table 3.3: Priority Asian and Pacific countries

Country	Percentage Access to Water	Percentage Access to Sanitation	Annual Deaths of Children Under Five from Diarrheal Diseases ^a	Per Capita Water Availability (cubic meters)	Population (millions)	Area (1,000 mi ²)
Bangladesh	74	39	55,400	8,000	141.8	57.6
Cambodia	41	17	5,146	32,900	14.1	72.4
India	86	33	419,601	1,800	1103.4	1314.8
Indonesia	77	55	27,633	12,700	222.8	761.6
Laos	51	30	1872	--	5.9	91.5
Pakistan	91	59	59,220	1,400	157.9	321.6
Philippines	85	72	8,760	6,000	83.1	115.8
Sri Lanka	79	91	540	2,600	20.7	25.5
Timor-Leste	58	36	657		1.1	9.3
Vietnam	85	61	--	10,800	84.2	127.8

^a Source: WHO

3.2.2.2 Regional Objectives

- Increase access to safe drinking water, sanitation, and hygiene in order to reduce water-related diseases and enhance productivity for vulnerable groups, including the poor, through innovative practices
- Mobilize finance from local and international sources for water infrastructure investments
- Improve security of water supplies through strengthened water resources management and transboundary cooperation

3.2.2.3 Key Approaches

Promoting Partnerships for Improved Service Delivery

- Coordinate water sector development efforts among international donors, governments, and NGOs
- Expand nongovernmental, public, and private water partnerships in water activities to coordinate efforts and leverage the strengths of all parties
- Strengthen regional networks and organizations to enhance cooperation and the sharing of best practices and to catalyze reform

Mobilizing Finance for Infrastructure Investment

- Support subnational financing opportunities through policy reform and introduction of appropriate infrastructure financing models (such as municipal bonds, revenue bonds, revolving funds, and other pooled financing)
- Strengthen national, provincial, and local capacity for infrastructure planning and preparation of “bankable” projects
- Provide capacity building, training, and technical assistance to enhance creditworthiness, especially for small and medium-sized utilities, municipalities, and other service providers (see Box 3.3)

Box 3.3

Timor-Leste

In Timor-Leste, USAID delivers improved household water and sanitation services in a watershed management framework that includes source water protection and safe wastewater disposal integrated with household service delivery.

Philippines

In the Philippines, USAID missions in Asia supported the Local Water Utilities Association through ECO-Asia to develop new loan products for less creditworthy utilities to improve creditworthiness and enhance access to financing for infrastructure improvements.

Engaging the Private Sector to Reduce Water-Related Disease

- Promote business models for scale-up of household water treatment systems, household sanitation, and hygiene promotion
- Engage in public-private partnerships with local and international companies and foundations to roll out safe and effective products
- Strengthen enabling conditions for private sector engagement through policy development and implementation in the public health sector, including consumer awareness and protection activities

Box 3.4

Mekong

USAID missions in Asia are initiating a public-private partnership in the Mekong subregion to support market development and scale-up of household water treatment systems, household sanitation, and hygiene promotion.

Mekong River Commission

USAID missions in Asia provide technical assistance and training support to the Mekong River Commission to strengthen the capacity of the Commission and member countries in transboundary waters conflict prevention and management, enhancing water security.

Strengthening Management Approaches for Improved Regional Water Security

- Promote watershed or “ridge-to-reef” approaches to water sector management to enhance collaborative planning and equitable distribution of resources
- Strengthen the role of regional institutions in promoting cooperation and performing transboundary impact analysis (see Box 3.4)

3.2.2.4 Expected Outcomes

- Higher levels of access to safe drinking water supplies and basic sanitation
- Greater access to local, public, and private funds for water and sanitation infrastructure investments
- More markets for safe household water treatment and sanitation products
- Lower incidence of diarrheal disease and other water-related illnesses in priority countries
- Greater water use efficiency and equitable allocation through regional adoption of integrated water resources management and demand management approaches
- Improved regional water security through increased transboundary management capacity among key stakeholders

3.2.3 Europe and Eurasia

Water resources in Europe and Eurasia are unevenly distributed among and within countries. Some countries in the region have a large surplus; Latvia, for example, consumes only one percent of its renewable resources annually.¹¹ Others, such as the Caspian lowlands, Kazakhstan, Moldova, parts of Russia including western Siberia, the Turkmenistan lowlands, and southern Ukraine, suffer chronic and periodic droughts. Agriculture accounts for 30 percent of average water abstraction and 50 percent of consumption in the region, although Central Asian agriculture withdrawals account for 91 percent of total water withdrawals.¹² Agriculture is the major factor in reducing the availability of water for domestic purposes, as well as in boosting the cost of water resource development.¹³

Ninety-nine percent of the Eurasian urban population benefited from improved water supply in 2002, compared with 82 percent of the rural population. In urban areas, sanitation service levels were 92 percent, versus 65 percent for rural areas. However, neglected maintenance has caused intermittent service. Negative service pressure in the water network allows pathogens in adjacent wastewater to seep into the network, and disease is then spread by the network that should prevent it. The WHO estimates that 14,000 children die annually in the region because of unsafe water and poor sanitation.

3.2.3.1 Priority Countries

The priority countries, covering 40,000 square miles in Europe and Eurasia, have a total population of 9.6 million. Eighty-seven percent of these people have access to improved water sources, and 88 percent have access to improved sanitation. While the average quantity of renewable water resources available per person is adequate at 5,859 cubic meters, there is significant difference between Armenia's 3,500 cubic meters and Georgia's 12,500 cubic meters. Inadequate water supply, sanitation, and hygiene are responsible for the vast majority of diarrheal diseases, which account for approximately 10 percent of the deaths of children under 5 in the priority countries of Europe and Eurasia. Table 3.4 provides general and water-related information on the priority Europe and Eurasia countries.

¹¹ *Water and Health in Europe*, Joint Report of the EEI and the WHO Regional Office for Europe, p. 9.

¹² FAO, Aquastat.

¹³ *Water and Health in Europe*. pp. XII and 9.

Table 3.4: Priority Europe and Eurasia Countries

Country	Percentage Access to Water	Percentage Access to Sanitation	Annual Deaths of Children under Five from Diarrheal Diseases ^a	Per Capita Water Availability (cubic meters)	Population (millions)	Area (1,000 mi ²)
Armenia	92	83	105	3,500	3.0	11.6
Georgia	82	94	230	12,500	4.5	27
Kosovo	--	--	--	--	2.1	4.2

^a Source: WHO

3.2.3.2 Regional Objectives

- Increase access to safe drinking water, sanitation, and hygiene to reduce waterborne disease and enhance productivity for vulnerable groups, including the poor
- Increase the quality of service delivery and the financial solvency of water and sanitation utilities
- Enhance the productivity of water in agriculture to increase income and preserve water availability for domestic supply and for sanitation

3.2.3.3 Key Approaches

An action plan for reforming the water and sanitation sector in Georgia will be based on best practices in water reform and finance. Relative risk assessment will determine priorities for wastewater treatment investment in Armenia, designed to protect human health, economic well-being, and healthy ecosystems. In Kosovo, innovative partnerships to institutionalize management and financing structures for long-term sustainability will complement direct investments in village-level water and sanitation systems.

Making and Expanding Partnerships

- In Armenia, expand partnerships with the Asian Development Bank, the European Union's Water Initiative, and the Environment for Europe program's Environmental Action Plan Task Force
- As the Georgian government completes its water utility reform action plan, work with the European Union to undertake joint implementation of the action plan
- Continue to work closely with already-active donors in Kosovo in multidonor efforts to build capacity in the seven regional water companies

Making Connections

- Safeguard MCC support to Armenia’s agricultural sector by assisting in prioritizing wastewater treatment projects that improve water quality and protect irrigation water intakes that supply food crops
- Focus on “software”—an enabling environment consisting of governance, technology, and finance—as well as targeted infrastructure investment
- Enhance the ability of local partners to overcome governance, technical, or financial barriers to sustainable operation and management of the water sector by improving sector regulation, regionalizing to achieve economies of scale, and involving the private sector in providing management improvements
- Support an enabling environment that offers a foundation for communities and partners to gain financial access, governance stability and access, and technological training and transfer

3.2.3.4 Expected Outcomes

- Higher levels of access to safe drinking water supplies and basic sanitation
- Greater investment in wastewater treatment
- Greater access to local, public, and private funds for water and sanitation infrastructure investments
- More markets for safe household water treatment and sanitation products
- Lower incidence of diarrheal disease and other water-related illnesses in priority countries
- Greater water use efficiency and equitable allocation through regional adoption of integrated water resources management and demand management approaches
- Improved regional water security through increased transboundary management capacity among key stakeholders

3.2.4 Latin America and the Caribbean

In general, the Latin America and the Caribbean (LAC) region is rich in water resources. The growing demand for water in some areas, including northern Mexico, Central America, and the Andes, and the management of drinking water and wastewater discharge pose a challenge in many cities. While overall access to improved drinking water sources in LAC is good (92 percent), in rural areas it is much less, at about 73 percent. Seventy-seven percent of the region's people overall have access to improved sanitation, but in rural areas, less than 49 percent are served.¹⁴ The gap between rural and urban access to improved water sources and sanitation is significant, and rapid urbanization in countries with limited management capacity and infrastructure financing creates increasing stress on existing services.

Other than rural populations, those most affected by lack of access to improved water and sanitation facilities include young children, indigenous peoples, and people of African descent. Haiti and Guatemala have a particularly high proportion of deaths among young children from intestinal infectious diseases (10–14 percent) compared with other Caribbean countries. Data on other LAC countries indicate that access to improved drinking water sources does not imply safe water, and hygiene remains a challenge. In addition, management of drinking water and wastewater discharge poses a challenge for many cities. Sewage treatment continues to be one of LAC's largest hurdles, presenting severe health and environmental risks. Hurricanes and related floods have significant negative impact on human health and life as well as agriculture and economic growth. Watershed management is a challenge in the approximately 70 major transboundary river basins shared by the countries of the region.

3.2.4.1 Priority Countries

Haiti is by far the neediest country for water, sanitation, and hygiene and will be the focus of efforts in the LAC region. This priority country, covering only 10,800 square miles, has a population of 8.5 million. Fifty-four percent of these people have access to improved water sources, and 30 percent have access to improved sanitation. The low average quantity of renewable water resources available per person, 1,700 cubic meters, presents a challenge to water management. Inadequate water supply, sanitation, and hygiene are responsible for the vast majority of diarrheal diseases, which account for approximately 17 percent of the deaths of children under 5 in the priority countries of Latin America and the Caribbean. Table 3.5 provides general and water-related information on the priority LAC country—Haiti.

¹⁴ UNICEF and WHO, *Progress on Drinking Water and Sanitation*, 2008.

Table 3.5: Priority Latin American and Caribbean Countries

Country	Percentage Access to Water	Percentage Access to Sanitation	Annual Deaths of Children under Five from Diarrheal Diseases ^a	Per Capita Water Availability (cubic meters)	Population (millions)	Area (1,000 mi ²)
Haiti	54	30	3,630	1,700	8.5	10.8

^a Source: WHO

3.2.4.2 Primary Objectives

- Increase access to safe drinking water supply and sanitation and improve hygiene to reduce waterborne disease and enhance productivity for vulnerable groups, including the poor
- Improve water resources management, resulting in better access to drinking water and effective use of water in other sectors
- Support implementation of integrated water resources principles that promote an inter-sectoral approach to decision making, balancing human economic and social needs with ecological values and sustainability
- Enhance the productivity of water in agriculture to increase income and preserve water availability for domestic supply and for sanitation
- Improve security of water supplies through strengthened water resources management and transboundary cooperation

3.2.4.3 Key Approaches

Access to water and sanitation in rural areas is particularly important for Haiti. LAC has successfully used the approach of integrated water resource management as a sustainable means to address many of the problems surrounding drinking water and sanitation.

3.2.4.4 Expected Outcomes

- Higher levels of access to safe drinking water supplies and sanitation, especially in rural areas
- Reduced mortality from diarrheal disease among children under five years of age
- Stronger environmental regulations and policies
- Higher water productivity and efficiency in agricultural and industrial sectors
- Improved watershed and river basin management

3.2.5 Middle East and North Africa

The Middle East North Africa (MENA) region, marked geographically by mountains, extensive deserts, and concentrated agricultural areas, receives very low average precipitation. It has the lowest per capita water availability of any region in the world, with an average of only 1,200 cubic meters per person.

Water access varies significantly within the region because of climatic and topographic factors as well as political and economic constraints. Palestinians face the largest regional water scarcity with only 60–100 liters¹⁵ per capita per day—well below the level considered water scarce. Rapid urbanization can strain available water resources and is both a result of better urban services and a challenge for service provision.

Middle Eastern states lack sufficient water resources for domestic, agricultural, industrial, and environmental needs and are using unsustainable amounts of available surface and groundwater resources. Thirteen countries in the world are withdrawing more than 100 percent of their total renewable water resources either through mining of nonrenewable groundwater or through desalination; 11 of these countries are in the Middle East.

Almost all of the region's cultivation is irrigated, accounting for over 85 percent of water withdrawals. However, free access and artificially low water prices lead to significant overuse, and inefficient irrigation practices cause significant water loss—approximately 70 percent of water resources diverted for irrigation fail to reach the crops. The balance of food security, economic development, and sustainable water use provokes ongoing debate within the region. In addition, watershed management is a challenge in the transboundary river basins shared by the countries of the region.

3.2.5.1 Priority Countries

These priority countries, covering 596,000 square miles, have a population of 115.8 million. Ninety-four percent of the total population has access to water and improved sanitation. The very low average quantity of renewable water resources available per person—1,206 cubic meters—presents an extreme challenge to water management. Inadequate water supply, sanitation, and hygiene are responsible for the vast majority of diarrheal diseases, which account for approximately 10 percent of the deaths of children under 5 in the priority countries of the Middle East. Table 3.6 provides general and water-related information on the priority MENA countries.

¹⁵ Estimates vary (sources: World Bank, UNDP, UNEP, International Red Cross, WHO).

Table 3.6: Priority Middle Eastern and North African Countries

Country	Percentage Access to Water	Percentage Access to Sanitation	Annual Deaths of Children under Five from Diarrheal Diseases ^a	Per Capita Water Availability (cubic meters)	Population (millions)	Area (1,000 mi ²)
Egypt	98	70	8,192	685	74.0	386.1
Iraq	85	93	5,676	2,900	28.8	169.1
Jordan	97	93	428	200	5.7	34.4
Lebanon	1	98	--	1,200	3.6	3.9
West Bank/Gaza	91	--	--	--	3.7	2.3

^a Source: WHO

3.2.5.2 Primary Objectives

- Expand access to safe drinking water and sanitation and improve hygiene to reduce waterborne disease and enhance productivity for vulnerable groups
- Improve water productivity by increasing irrigation efficiency and decreasing proportion of total water resources required for agriculture, thereby increasing water resources available for water supply and sanitation
- Identify and mitigate water conflicts at the local, national, and transboundary levels to improve security of water supplies

3.2.5.3 Key Approaches

USAID/Office of Middle East Programs water strategy addresses crosscutting issues in water resources management by:

- Strengthening regional processes/institutions for cooperative management of shared water in key regions
- Supporting governments to strengthen policies and regulations to use water more efficiently and protect the quality of water resources
- Promoting stakeholder participation and accountable water governance
- Building partnerships among communities, governmental agencies, and the private sector
- Assisting water utilities to increase the effectiveness of their operations and to expand services in rural and underserved areas
- Improving access to financing for water and sanitation infrastructure

-
- Engaging regional water entities (such as the Arab Countries Water Utilities Association, the Euphrates-Tigris Initiative for Cooperation, and the Arab Water Council), cooperating governments, local communities, donors, foundations, and private companies to address the water challenges in the MENA region
 - Identifying and training the next generation of water decision makers

3.2.5.4 Expected Outcomes

- Higher levels of access to safe drinking water and sanitation, notably in underserved areas
- Lower levels of mortality due to intestinal infectious disease
- Improved water use efficiency through accountable and equitable water allocation processes
- More effective joint participatory management of shared water resources locally and across boundaries

Chapter Four

Conclusion

In response to the Senator Paul Simon Water for the Poor Act, the United States has emphasized access to drinking water and sanitation in its development assistance programs. In FY 2007, the United States obligated more than \$900 million to the water sector globally (excluding Iraq). Of this, more than \$590 million was obligated for drinking water supply and sanitation. Support for drinking water and sanitation activities will increase in FY 2008 and will expand to cover more countries, many among the most in need. The Act has given the Department of State and USAID the opportunity to strengthen their approach on the water sector by developing their first joint strategic framework on water—see Annex A.



Annex A

Addressing Water Challenges in the Developing World

A Framework for Action

U.S. Agency for International Development
U.S. Department of State

Version as of June 2, 2008



Contents

Preface.....A-V

INTRODUCTION..... A-1

**IMPROVING ACCESS TO WATER SUPPLY AND
SANITATION, AND PROMOTING BETTER
HYGIENE A-3**

THE SCOPE OF THE PROBLEM A-3

 The U.S. Strategic Response..... A-4

**IMPROVING WATER RESOURCES
MANAGEMENT A-7**

THE SCOPE OF THE PROBLEM A-7

 The U.S. Strategic Response..... A-8

IMPROVING WATER PRODUCTIVITYA-11

THE SCOPE OF THE PROBLEM A-11

 The U.S. Strategic Response.....A-12

**WATER SECTOR PROGRAMMING IN
COUNTRY DEVELOPMENT PLANS.....A-15**

MONITORING AND EVALUATIONA-19

CONCLUSIONA-21



Preface

Global water resources are coming under increasing pressure. Demand is beginning to overwhelm supply, and supply itself is being impacted in both quantity and quality by seasonal hydrologic variability and local environmental degradation. For poor and marginalized populations, who often live on marginalized lands, reliable access to water is tenuous and ensuring adequate water quality is becoming increasingly difficult. As water resources become scarce and as pressures on these resources increase, tensions are likely to grow.

The U.S. Government brings extensive domestic and international experience, resources, and a willingness to enter into diverse and innovative partnerships to address this water crisis. This Framework is the expression of the overall U.S. Government approach to the world's water challenges, embracing the government's broad and interrelated portfolio of water expertise and approaches.

The U.S. Department of State and the U.S. Agency for International Development (USAID) are committed to investing in the water sector in ways that achieve maximum positive impact through strategic, integrated, catalytic, and innovative action, taken in close coordination with host country partner governments, civil society, and other donors. This Framework lays out guiding principles for U.S. foreign assistance strategic action in the water sector. As such, this document should be viewed as the overarching strategic Framework through which all of the diverse threads of U.S. Government water sector efforts can be woven together.

The 2005 Paul Simon Water for the Poor Act and 2003-2007 congressional appropriations have highlighted the importance of increasing access to affordable and safe drinking water and sanitation within the context of sound water resources management. These priorities and guiding initiatives of Congress are fully embraced within the Framework presented here.

At the same time, these priorities do not define the full scope of needed interventions to ensure that water resources are available to meet the entire range of human development needs, today and into the future. Water supply and sanitation service delivery is intimately connected to the sustainable management of upstream hydrologic ecosystems and impacts the health of humans and ecosystems downstream. The strength of economies is critically dependent on sustainable and sufficient supplies of high quality water resources, and the reliable maintenance and sufficient capital investment for water and sanitation infrastructure requires healthy economic development. The Framework also underscores numerous other water-related linkages between water and health, economic growth, humanitarian, democracy, and security goals of the larger U.S. foreign assistance enterprise, making a compelling case for supporting a broad-reaching and integrated approach to managing limited water resources. These interventions focus primarily on

technology, enabling environments and human capacity—rather than the construction of infrastructure and other direct capital improvements.

Introduction

As the first decade of the new millennium comes to an end, there remains no doubt about either the critical importance of water resources to every aspect of life on Earth or the enormity of the water challenges facing human society and increasing human populations. In spite of notable progress, improving water resources management, access to improved water supplies and sanitation, and water productivity remain immense challenges (see Box 1).

Box 1: The Global Water Crisis

- More than 2.8 billion people will be living in either water-scarce or water-stressed regions of the world by 2025.
- Freshwater ecosystems and environmental services from water resources and watersheds are increasingly at risk from human pressures including water withdrawals, dam diversions, and industrial development.
- Wetland ecosystems, which serve as buffers against natural disasters, are being lost around the world at alarming rates.
- Ninety-five percent of wastewater around the world is discharged into the environment without treatment.
- More than 1 billion people lack access to improved water supply services and more than 2 billion people lack access to improved sanitation, undermining efforts to protect public health.
- More than 50 percent of the world's hospital beds are occupied by people suffering from water-related diseases, and nearly 2 million people—the vast majority children under five—die from diarrhea each year.
- Seventy percent of water consumed by humans is directed to agriculture and cultivated food production.
- Ninety percent of all disaster-related deaths are water related.
- More than 260 watersheds are shared by two or more countries.

Meeting the growing demands on water resources for people, economies, and nature requires bold action by governments, water users, donors, and the private sector working in partnership to transform water management in fundamental ways. Several international leaders have called for a “blue revolution”—similar to the green revolution—to stimulate concerted action by governments and citizens to action and avert a looming widespread water crisis emerging in many parts of the globe. The U.S. Government is committed to using its foreign assistance resources in support of a “blue revolution” that will help achieve a water secure world where people and countries have reliable and sustainable access to an acceptable quantity and quality of water to meet hu-

man, livelihood, production, and ecosystem needs¹⁶ while reducing the risks associated with hydrologic variability and the projected impacts of climate change.

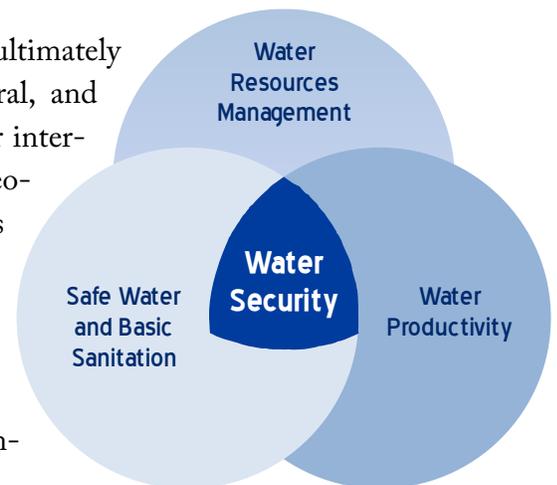
This Framework for Action outlines many of the key challenges and provides guidelines for strategic actions that will support individual, organizational and government efforts to achieve a water secure world. Three interrelated dimensions of water management must be addressed to reach this vision for a water secure world:

- Improving water resources management among competing needs
- Improving access to water supply and sanitation, and promoting better hygiene
- Improving water productivity in agriculture and industry.

Guidelines incorporated in the Framework draw upon the growing body of internationally endorsed principles and good practices. Among these, the U.S. Government understands that water issues are fundamentally interconnected, and specific activities are best developed within the context of the broader water sector issues.

The following three sections define U.S. Government objectives within each component of the water sector identified above, and provide embassies abroad and USAID missions with guidelines for programming resources and developing activities within their host countries. It also serves to inform country-level counterparts and other members of the international water community about the U.S. Government strategic direction within the water sector, facilitating improved collaboration, communication, and shared learning.

The U.S. Government recognizes that all water issues are ultimately grounded in unique and diverse local political, social, cultural, and ecological contexts, and therefore the portfolio of water sector interventions will be diverse. Guidance, developed for each geographic region, will outline specific goals and priority countries based on unique regional circumstances and U.S. foreign policy priorities. The elaboration of specific country-level activities will be informed by this regional guidance, in combination with the more in-depth analysis and consultation at the local level to determine the most strategic blend of interventions in each place.



¹⁶ Adapted from David Grey and Claudia W. Sadoff, 2007. "Sink or Swim? Water Security for Growth and Development." *Water Policy* Vol. 9, No. 6, pp. 545–71.

Improving Access to Water Supply and Sanitation, and Promoting Better Hygiene

The Scope of the Problem

The health, economic, and social consequences of limited access to clean water and improved sanitation services are enormous, and success in this area is linked to many U.S. Government foreign assistance priorities in tangible and substantive ways. In 2000, the international community declared a goal of halving the proportion of people on earth without access to basic water supply and sanitation services by 2015 as one of a number of internationally agreed goals. While globally the world is on track to meet the water supply internationally agreed goals, specific regions lag significantly, chiefly Sub-Saharan Africa, and especially in rural areas. The sanitation internationally agreed goal is much further behind, and little progress has been made almost anywhere in the developing world.

The internationally agreed goals tell only part of the story about water supply and sanitation service delivery. In many parts of the world, populations who nominally have “improved service” suffer problems of both water quality and service reliability. Sanitation is likewise deficient, with shortfalls in both household standards and, where available, service provision. For example, wastewater service is limited by a focus only on collection of domestic liquid waste, with next to no investment made in treatment of waste before discharge into water courses. The poor suffer disproportionately from low quality of service.

For both water supply and sanitation, a singular focus on the “numbers served” only focuses on immediate service delivery, without sufficient attention either to the long-term sustainability of the service, or to the deeper, structural changes required to overcome the huge gaps in service coverage that still remain. These problems will only increase in the future, as the global population is expected to reach more than 8 billion by 2025, with a large proportion of that growth in developing countries.

Monitoring Access to Safe Water

Internationally accepted measures of access to safe drinking water do not take into account water quality and reliability. For example, in Georgia the WHO and UNICEF estimate access to piped water is 87 percent. However, water quality in many of Georgia’s mid-sized cities is so poor that water-borne diseases are often contracted even by those receiving public water supplies. In Armenia, access is estimated by the WHO and UNICEF at 97 percent but in cities outside the capital, water is usually available less than half of the day, and as little as two to four hours each day in problem areas.

The U.S. Strategic Response

A U.S. Government strategic response to addressing the needs for expanding access to improved water supply and sanitation services, and promoting better hygiene practices begins with an understanding that the gap in achieving the internationally agreed goals is immense—from the financial, technical capacity, and governance perspectives—and cannot be addressed by any single actor alone. Donor funds combined represent a relatively small proportion of the overall resources and effort needed to meet the internationally agreed goals targets, improve service quality and promote better hygiene. The U.S. Government will focus on investments that yield significant long-term impact per dollar spent and create impact at scale. Based on past experience and best practices, such investments should focus on five programming areas:

- Strengthening the capacity and sustainability of small-scale service providers that operate in rural and peri-urban areas
- Improving the operating environment, operations and financial sustainability of utilities that serve cities and towns that are undergoing the most rapid population growth
- Mobilizing capital from domestic markets for infrastructure development on a permanent and sustainable basis
- Improving household and community-level hygiene and sanitation
- Capitalizing on humanitarian assistance/disaster programs in water supply and sanitation

For all aspects of water supply and sanitation access and improved quality of services, there are very different challenges and opportunities presented in the urban, peri-urban, and rural contexts. The U.S. Government strategic approach will customize its interventions accordingly, while also promoting shared learning to adapt/modify successful interventions.

Strengthen the capacity of small-scale service providers. In rural areas or small towns with smaller infrastructure needs, the United States continues to support direct service delivery within a model of ongoing cost-recovery and sustainable management at the local level. U.S. Government

USAID's ECO-Asia Program

USAID's ECO-Asia Program demonstrates innovative policies and practices for expanding water and sanitation services to support internationally agreed goals. The four program areas for Asia are: (1) Enabling water services delivery to the urban poor; (2) Demonstrating sustainable sanitation solutions; (3) Improving performance of water services utilities; and (4) Enabling access to finance for water services. Accomplishments include:

Surabaya and Bandung, Indonesia. The program is helping the Surabaya Water Supply Enterprise expand access to safe drinking services for nearly 15,000 low-income households over the next three years.

Negombo, Sri Lanka. The National Water Supply & Drainage Board (NWSDB) of Sri Lanka and Negombo Municipal Council (NMC) piloted an innovative water distribution system to supply piped water to a poor urban community of 400 residents in Negombo.

Marikina, Philippines. Eco-Asia facilitated a partnership between Manila Water and the city of Marikina to design a city-wide septage management program that will empty over 92,000 septic tanks in Marikina City every 5 years.

efforts also will test the use of innovative approaches to link small town and village water services into networks that can provide the technical and financial support when systems breakdown, and serve as avenues for building the capacity of these small-scale providers to achieve cost recovery and expand services.

Improve operations and financial sustainability of drinking water and sanitation services utilities. In larger towns and cities, it makes strategic sense for the U.S. Government to strengthen the capacity, operations and financial sustainability of the institutions that provide drinking water and sanitation services. By helping utilities to restructure operations, institute operating and financing reforms, build their capacity to operate as independent businesses, and improve performance and implement full cost recovery, these institutions will be more capable of expanding services to poor slums and peri-urban neighborhoods. Efforts will also center on strengthening the operating environment and regulation of these institutions to deliver new access to those who currently are unserved and improve the quality and reliability of service in targeted locations, particularly focused on vulnerable and poor populations.

Mobilize capital for expanding and rehabilitating infrastructure. Ultimately, achieving the internationally agreed goals requires expanding the pool of capital available to utilities, communities and households to expand coverage, improve services, and upgrade household sanitation. In conjunction with efforts to improve the creditworthiness of water and sanitation utilities, the U.S. Government is increasingly focused on mobilizing private sector capital from domestic markets for investments in water and sanitation system expansions and upgrades. In many cases, this involves helping governments put in place favorable policies and regulations, and establishing financing mechanisms such as pooled financing facilities, revolving funds and urban infrastructure funds that serve as financial intermediaries for a broader number of creditworthy utilities. Combining these mechanisms with credit enhancements such as USAID's Development Credit Authority (DCA) lowers risks to private sector investors and encourages their investment in the sector. DCA guarantees are also being used to leverage financing through micro-finance institutions for small scale systems and to fund household connection fees and sanitation upgrades.

Improve household and community-level hygiene and sanitation. To reduce water-related disease and achieve desired health impacts, the U.S. Government strongly endorses that all water supply and sanitation service delivery must be accompanied by strategic investments that promote good hygiene and sanitation practices at the household level that translate into measurable improvements in public health, especially the reduced morbidity and mortality of children under five. These will include investments in ensuring and protecting water quality, hand washing at critical times and the effective removal and proper treatment/disposal of wastes from the proximity of people's living and working environment. Interventions will be prioritized based on best practices with emphasis on:

- Increasing access to hardware and products such as hand washing facilities and household – level technologies and products including point of use water treatment commodities, water storage containers and soap;
- Instituting behavior change strategies such as community mobilization for sustained management of water supply and sanitation infrastructure; household investments in better waste disposal; hygiene promotion; social marketing of products and behaviors; school and health clinic hygiene promotion programs; and strengthened monitoring and evaluation systems; and
- Improving the policies, institutional support, and other dimensions of the enabling environment for improved sanitation and hygiene, including increasing coordination and collaboration among sanitation programs within the U.S. Government and between the U.S. Government and other sanitation partners (e.g., World Bank Water and Sanitation Program, UNICEF).

Capitalize on humanitarian assistance/disaster programs. In order to better capitalize on investments in humanitarian relief for drinking water, basic sanitation, and hygiene promotion, program designs will better integrate disaster risk reduction, humanitarian assistance, and development activities to build the capacity of governmental, non-governmental, and international partners. Specific activities could include establishing financing mechanisms that bridge the short-term humanitarian timeframe with the longer-term development one, designing emergency interventions that provide a foundation for development activities, and integrating risk analysis and risk reduction components into long-term development planning.

USAID’s Approach to WASH at Scale in Ethiopia

In Ethiopia, the USAID Hygiene Improvement Project (HIP), together with the World Bank Water and Sanitation Program, is supporting the Government of Ethiopia’s efforts to achieve universal sanitation coverage by 2012 in the Amhara region of 20 million. Ethiopia offers key lessons for an integrated scale approach with a national hygiene and sanitation strategy, multi-sectoral collaboration facilitated by the signing of a memorandum of understanding by three line ministries (health, water, and education), multiple implementation partners, and a comprehensive and strategic approach with training and tools for working in households and communities. A regional water, sanitation, and hygiene (WASH) movement has been created to mobilize stakeholders, build district and village level capacity and support implementation at the district level using a Total Sanitation approach. The program will launch activities in a minimum of 10 districts to achieve “open defecation-free communities.” Hygiene and sanitation behavior change is also reinforced using “MIKIKIR,” an approach for negotiating improved behaviors that uses existing health extension workers; a school WASH program, building knowledge and practice and encouraging school to community action; and a pilot program with PEPFAR partners and home-based care organizations helping to develop programming guidance on integrating WASH for people living with HIV/AIDS.

Improving Water Resources Management

The Scope of the Problem

Every country and community depends on sustainable fresh water of sufficient quantities and quality to provide for society's needs, sustain economy growth and maintain ecosystem services upon which all life depends. Surface and groundwater resources have come under enormous pressure everywhere from withdrawals, diversions, and pollution. Most countries share water resources with others, further complicating the management of this essential resource. Shared river basins cover 50 percent of the globe, are home to 40 percent of the world's people and contribute 60 percent of total fresh water flows.¹⁷

Growing populations and changing global climates are stressing water resources and hydrologic systems. Clearing forest lands for agricultural production and mineral and timber resources has degraded the uplands of many watersheds and impacted downstream ecosystems—including estuarine and coastal ecosystems—through more rapid runoff, increased erosion, reduced ground water recharge and greater probability of floods and droughts. Large areas of Africa and Asia experience significant water stress and hydrologic variability, with unpredictable precipitation and surface water flows. These regions will be particularly affected by climate change and variability, and both drought and flood events will be exacerbated—potentially forcing shifts in human settlements, agricultural practices and dramatic changes in livelihoods. Growing demands for energy and water to meet agricultural and urban needs has renewed momentum to develop dams and water diversion infrastructure by both major lending institutions and emerging economies. Unilateral decisions by countries to build new infrastructure that impacts water resources shared by other countries undermines the legitimacy of efforts to establish or carry out regional governance of shared river systems.

The challenge facing countries and communities is how to best use its finite water resources for meeting human, economic and environment needs while protecting the quality of this precious resource. Achieving these objectives requires governance and management approaches that guide the effective and sustainable use of limited water resources. As competing demands increase, the potential for tensions will heighten, placing current cooperative relationships at risk, and raising

¹⁷ Atlas of International Freshwater Agreements, 2002.

the possibility of conflicts over water rights, allocations and use. Avoiding conflicts over water is vital. Conflicts are expensive, disruptive, and interfere with efforts to relieve human suffering, reduce environmental degradation, and achieve economic growth.

The U.S. Strategic Response

U.S. strategic programming recognizes that shared resources are not just a source of potential tension, but an important opportunity to expand cooperation and transparent and democratic governance models across boundaries. Successes can furthermore have a positive influence that extends far beyond water resources management. The U.S. Government has actively supported cooperative and integrated approaches to water resources management around the world, at a transboundary, national and sub-national basin scale. It will continue to promote interventions that optimize regional benefits, mitigate water-related disasters, and minimize tensions in shared waters, while also helping to maintain shared ecosystems and improve overall water productivity and security.

Improving water resources management requires meeting immediate needs while protecting water quality and building the foundation for meeting future demands on water resources. We have learned over the past several decades that investments in policy and legal reforms, building local capacity and strengthening water resources planning, management and governance yield more lasting change than investments in infrastructure. By focusing on these types of investments, the U.S. Government can help create and support the underlying conditions for sustained improvements in water resources management.

Most U.S. Government water resources management investments will address issues of water quantity and quality through cross-cutting programs that focus on other specific development objectives. Within these programs, the U.S. Government will incorporate the principles of integrated water resources management that include:

- Improving resources planning at the appropriate hydrologic scale
- Addressing water quantity and quality across water use sectors
- Strengthen participatory governance involving the full range of water resource stakeholders
- Mobilizing financing to sustain investments in water resources management and protection
- Managing hydrologic variability and taking actions to mitigate and minimize impacts from droughts and floods

Improve water resources planning. The U.S. Government will make strategic investments in basin-scale or watershed-scale management, especially in locations where such activities support other foreign assistance priorities (see textbox). The U.S. Government will also pursue opportunities to engage in national water resources planning and policy setting in targeted countries of strategic importance. Technical approaches will draw upon sound information and science, and use spatial planning tools and participatory approaches to improve the capacities of national and local governments to monitor water resources, assess watershed threats, and support integrated management to address sources of degradation, hydrologic flows, and community and environmental impacts. By promoting the adoption of best practices by all water users, the U.S. Government can help ensure that hydrologic systems as a whole are managed in a sustainable fashion.

Address water quantity and quality challenges. While some U.S. Government programs will explicitly focus on addressing water quantity and quality challenges, this approach also recognizes that water is a ‘means’ to numerous development ‘ends,’ and embraces integrated programming that draws upon the best practices of integrated water management to address both water quality and quantity challenges within the context of other development assistance objectives (see textbox). In some countries, U.S. Government programming will support one aspect of water resources management in close coordination with other actors, making complementary investments that seek to address gaps, and collectively achieve a more holistic approach.

Strengthen participatory governance. There is a growing awareness by governments around the world that water management must be better integrated geographically and sectorally. However, water governance in most countries is very fragmented, and rarely involves stakeholders fairly and democratically in making decisions about how much water goes where, to whom, and for what purpose. While experts and organizations encourage integration and governance around hydro-

USAID mission in Indonesia Environmental Services Program

The USAID/Indonesia Environmental Services Program (ESP) covers six of the most densely populated provinces in Indonesia. ESP is a \$47 million program and works with water as an integrating theme to address the linkages among environmental health, water resource protection, biodiversity conservation and critical land rehabilitation with public health issues of diarrhea prevention and increased access to clean water and sanitation services as key focal areas.

ESP’s work is making a difference. In three years:

- 26 local policies supporting land tenure and community access rights passed
- 13,092 hectares of critical land rehabilitated
- 64,261 hectares of high conservation value forest under local management
- 152 community groups practicing improved natural resources management
- 61,479 households or 249,660 individuals with increased access to clean water
- 25,231 people trained in effective hand washing with soap
- \$15,318,000 of financial resources leveraged to expand and sustain ESP’s work
- 25 water companies with improved operations and efficiency indicators
- Indonesian cities finally taking wastewater collection and treatment seriously, and applying budget toward improved infrastructure

logic boundaries such as river basins, watersheds and aquifers, political and operational realities argue for flexible governance arrangements and based on participatory and democratic governance models at a variety of scales. The U.S. Government will emphasize improving governance and building capacity to support long-term improvements in water management. U.S. Government interventions could focus on building trust and facilitating dialogue, improving the information foundation for management decision making, and strengthening institutional and organizational capacity to effectively engage in cooperative management of water resources. Building transparent, effective, and equitable governance systems will help balance tradeoffs in the allocation and use of water, ensuring that human, economic and environmental needs will be met in the most optimal manner possible.

Mobilize financing. Lessons from the past 25 years highlight the critical need for financing to sustain improvements and investments in water resources management. With the exception of a few countries where infrastructure links to broader foreign policy objectives such as Iraq, Afghanistan, and Sudan, the U.S. Government does not invest directly in large water infrastructure projects. The U.S. Government supports efforts to develop and test innovative financing mechanisms such as payments for environmental services and carbon credits that can generate sustained flows of financing to support continued and expanded efforts to improve land and water resources management.

Managing hydrologic variability. Hydrologic variability and climate change pose serious threats to many regions of the world. The U.S. Government can help countries integrated risk reduction to droughts and floods into water resources management plans. The U.S. Government can also develop country capacity to monitor and assess the impacts of hydrologic variability on their economic and human development, and reduce their vulnerability through training, better planning for disaster preparedness and mitigation, and prioritizing investments and actions to minimize the impact of hydrologic variability and climate change.

Improving Water Productivity

The Scope of the Problem

Water is literally the lifeblood of human productive activity. Today, the competition for scarce water resources in many places is intense. Many river basins currently have insufficient water to meet all the demands—or even for their rivers to reach the sea and nourish critical fish nurseries, another important source of food protein. The critical importance of improving water productivity for essential economic development and ecosystem services will only increase in the coming decades, as the world’s population grows and economies industrialize. The world’s population faces two great challenges with respect to water—improving the efficiency of water use in agricultural and industrial production, and in growing urban centers, and protecting and maintaining water quality.

The great majority of freshwater used by humans is for food production—roughly 70 percent worldwide and 82 percent in developing countries. The current food security crisis underscores the need to expand production of basic grains. Scientists estimate that the amount of water required to meet the global food requirements will almost double by 2050 unless farmers adopt technologies and practices that yield more crop per drop. Hydrologic and climate variability and change will affect water use in agricultural production as some regions become drier—especially in the subtropics where most poor countries are situated. For example, the current rapid increase in food prices affecting countries around the world are caused in part by several years of bad weather in Australia, China, and parts of Eastern Europe which have reduced grain harvests, especially wheat. Industrial and commercial water consumption is also increasing as economies grow and develop. As river basins come under increasing pressure, the tradeoffs between water allocations for agriculture, industry, and ecosystem services—such as fisheries—will only intensify.

Seventy-five percent of the additional food needed for the next 50 years can be met by bringing the production levels of the world’s low-yield farmers up to 80 percent of what high-yield farmers get from comparable land. Better water management plays a key role in bridging this gap.

The effects of agriculture, industry, and commerce on water quality are enormous, largely unquantified, and nearly unchecked in most developing countries. Water quality is being degraded rapidly through widespread use of fertilizers and pesticides in agriculture, by industrial effluents, and through the uncontrolled dumping of untreated human wastes in rivers, lakes and oceans. The effects of uncontrolled water pollution show up in the increasing number of reports about pollution-related health problems, contaminated foods, wildlife morbidity and mortality, and biologically dead and dying rivers, lakes and ocean areas. All countries face increasing costs and

challenges in reducing pollution threats to human health, future livelihoods and overall ecosystem viability.

The U.S. Strategic Response

The U.S. Government will focus predominantly on approaches that:

- Improve water use efficiency in agriculture
- Help countries adapt to climate variability and climate change
- Reduce water pollution by industry

These are the most cost-effective and efficient ways to intervene and tend to be those that are most sustainable and market-friendly, and for which sound business cases can be made.

Improve water use efficiency in agriculture. A key aspect of improving water use in agriculture involves addressing issues of water prices and water rights; strengthening the role of institutions that enforce water prices and rights is critical as well. The U.S. Government will continue supporting efforts to improve agricultural productivity by emphasizing irrigation system efficiency, working with public and private extension services to increase the adoption of improved production technologies and systems and appropriate crops for specific environments by farmers, and, where appropriate, promoting the reuse of treated wastewater for agriculture. With the growing expansion of aquaculture, the U.S. Government can work with research institutions to develop improved aquaculture production technologies and systems that increase yields while reducing water demand and promoting the use of aquaculture species and systems that improve water quality.

Help countries adapt to hydrologic variability and climate change. In countries facing greater risks of drought or long-term drier climates, the U.S. Government will promote adaptation to drier climates by expanding efforts in water harvesting and small-holder water capture and distribution systems. The U.S. Government will build on its experience in designing and financing small and medium-scale water capture and distribution infrastructure to improve water security for rain-fed agriculture.

Reduce water pollution by industry. To reduce water pollution by industry, key areas of engagement include:

- Policy improvements that include “polluter pays” principles, and improving regulations and policies that establish clear and appropriate rules for private sector productive water use
- Strengthening the role of institutions tasked with enforcing regulations and protecting water quality

-
- Promoting the adoption of cleaner production processes by industries that reduce overall effluents and the treatment of wastes before discharge

Improve water use efficiency in cities. In growing urban areas, the U.S. Government can provide support in helping water utilities reduce physical leaks and institute and carry out demand-side management programs, craft regulations and ordinances, and design communications/outreach programs to promote water use efficiency by households and businesses.

The U.S. Government will also promote alliances with key private sector actors in order to couple development objectives with private companies' own commitment to responsible water management. These investments will be done with an eye towards shared private sector financing and piloting lower-cost or innovative technologies.



Water Sector Programming in Country Development Plans

In the end, all of the strategic water intervention areas outlined above must take shape in real places, within the real constraints and opportunities presented in each country. Programming decisions about the proper mix of interventions will take place at the country level as part of regular country level operational planning. There are critically important water sector needs in virtually every country where the U.S. Government engages in development assistance. Resources are limited, however, and competing development needs are often compelling.

In strategic development programming at the country level, the U.S. Government will seek the right balance that optimizes the impact of water sector investments while maintaining coherence of the assistance portfolio as a whole. In reaching this balance, the U.S. Government will take into account numerous factors (see text-box). The prior three sections have focused on factors specific to countries and regions. U.S. Government programming decisions also will be influenced by factors external to the country. These are briefly discussed below. In all cases, the ‘big picture’ of U.S. foreign assistance priorities will serve as the starting point.

U.S. Government comparative advantage. With limited resources, missions are encouraged to target areas of U.S. Government comparative strength in water resources management. For example, USAID has gained considerable experience in technical capacity building, institutional strengthening, legal and policy reform, participatory governance support, financing and resource mobilization, and fostering of innovation in all aspects of water management. Other U.S. agencies such as the U.S. Environmental Protection Agency are recognized worldwide for their specialized expertise in wastewater management and technologies. Finally, the U.S. Government has demonstrated leadership within the donor community

Planning Considerations for U.S. Government Water Sector Programming

Country-Specific Planning Factors

- Level and type of need in each water subsector (water supply, sanitation/hygiene, water resources management, water productivity, and water security)
- Country enabling environment related to the water sector

External (U.S. Government) Planning Factors

- U.S. Government comparative advantage
- Opportunities to integrate water investments within USAID’s overall country portfolio
- Leveraging opportunities to build on parallel and complementary activities of other donors and international NGOs.
- Partnership Opportunities (GDAs and Others) with significant matching resources or other value-added contributions
- Consistency with U.S. Foreign Policy priorities
- Compliance with statutory requirements, directives, and funding accounts

in supporting creative alliances and partnerships that engage private companies, international NGOs, and other donors in achieving common objectives in the water sector.

Opportunities to integrate water investments within USAID’s portfolio. The interconnectedness of water throughout all aspects of development is undeniable. The health, economic, and social consequences of water deficits in both quantity and quality for all users and for the environment are enormous and linked to many U.S. foreign assistance priorities in tangible and substantive ways. In fact, every development goal is linked to at least one dimension of water management. While this Framework describes specific approaches within various water subsectors, the U.S. Government will also seek opportunities to achieve water sector objectives throughout the development agenda. The following examples highlight just a few examples—both across the four highlighted dimensions of the water sector, and among water and other development sectors.

Potential linkages within water sector activities:

- **Water supply services and water resources management:** Poor land management and uncontrolled pollution degrade water quality. A more integrated approach to watershed resource management can improve the safety of drinking water supplies and benefit the environment and other downstream users of water.
- **Sanitation services and water resources management:** Most urban and rural sanitation solutions focus on removing fecal waste from the immediate human environment with little attention on the ultimate treatment and disposal of these wastes. This poses severe consequences for downstream human health, economic productivity, biodiversity, and ecosystem services. A more integrated watershed perspective would ensure that waste treatment and disposal are incorporated into ongoing efforts to improve sanitation services and household hygiene.
- **Water productivity and water supply services:** Infrastructure development and maintenance is one of the greatest challenges facing low-income communities. Beyond drinking water, rural residents also depend on reliable water sources for agricultural and livestock production, aquaculture and enterprise development. Promoting approaches such as Multiple Use Services (MUS) will simultaneously address the full spectrum of water supply needs of a community—both potable and productive.

Potential linkages between water activities and other sectors:

- **Water and HIV/AIDS:** Access to water in sufficient quantities and of high quality is essential for mitigating the diarrheal disease that afflicts more than 90 percent of people who live with HIV and AIDS. The U.S. Government has developed a Preventive Care Package for these populations and their families that includes safe drinking water, washing hands with soap, and safe disposal of feces. The U.S. Government encourages the incorporation of such activities into all HIV/AIDS programs.
- **Water and governance:** There is a close relationship between water resources management and good governance practices. The sustainability of water management efforts depends on getting the governance right. Interventions that strengthen governance of water resources and related organizations have positive repercussions including building the capacity of local governments, strengthening decentralized institutions, and empowering women to take leadership roles in community life.
- **Water and education:** Evidence clearly links school attendance to the availability of water supply and sanitation facilities in school compounds, especially for girls. The presence of adequate sanitation facilities ensures sustained attendance, particularly when girls reach adolescence. School-based water/sanitation/hygiene programs also serve as platforms to improve hygiene behaviors throughout communities as a whole.
- **Water and humanitarian response:** The U.S. Government makes significant investments in water supply and sanitation services in response to humanitarian crises caused by natural and manmade disasters. The cycle of disasters is projected to increase with greater climate variability and climate change, impacting environments and resources around the world. Sound water resources management, adaptation of infrastructure to increase resilience, and capacity building to support institutions and communities strengthen self-resilience during disasters can help break the cycle of chronic vulnerability and lay the foundation for more sustained development.

Leveraging opportunities with other donors. Multilateral donors such as the World Bank (including the Water and Sanitation Program) and the regional development banks, and bilateral donors such as Australia, Germany, Japan, Denmark, the Netherlands, the United Kingdom, and Sweden have significant water sector programs. The World Bank's Water and Sanitation Program, in particular, is at the forefront of many efforts to improve access to safe water and basic sanitation in Africa and Asia. Opportunities exist for the U.S. Government to leverage its efforts for greater impact by coordinating with ongoing or new programs funded by these donors.

Partnership Opportunities. USAID has pioneered alliances and partnerships with private companies, foundations, and international NGOs to solve water supply and sanitation challenges. Using the Global Development Alliance model, these partnerships have helped mobilize signifi-

cant resources to improve access to safe water and basic sanitation. Examples of these alliances include the Community Water and Sanitation Facility that works in partnership with different organizations in many countries, the West Africa Water Partnership and the Safe Water Partnership.

Consistency with U.S. Foreign Policy priorities. U.S. water sector investments are not made in a vacuum, but are always targeted within the context of broader U.S. foreign assistance priorities identified for each country within the areas of economic growth, health, democracy and governance, humanitarian assistance, or peace and security. The United States also supports activities in a broad range of country types, ranging from fragile states to strategic partner countries, so that a “one size fits all” model cannot apply. Specific water programming will always be guided by this macro-strategic foreign policy context.

Monitoring and Evaluation

All strategic actors in the international water sector require access to good information for multiple purposes, including strategic planning to prioritize interventions; advocacy to influence decision makers and mobilize resources; programming of specific project activities; accountability to clients/beneficiaries, governments, and/or donors; and advancement of overall water sector learning. Solid and credible metrics and monitoring systems that produce sound information are used to track specific progress of U.S. funded programs and assess national and international water sector trends.

To track program performance in the water sector against specific program objectives and support for broader worldwide goals, the U.S. Government has developed standardized common indicators and reporting systems that document how resources are being invested and the impact that they have. Moving forward, the U.S. Government will continue to refine and improve these information and reporting systems and provide guidance and training for field staff to improve project and program monitoring and evaluation in a manner consistent with international best practices.

Beyond the domain of U.S.-funded activities, there is recognition of the need to improve information about water resources management, use and progress towards achieving the internationally agreed goals. As both a producer and consumer of sector-level data and information, the U.S. Government is committed to sharing information and experiences to improve data collection, analysis and reporting on water sector metrics. The U.S. Government will participate, as appropriate, in international technical efforts to improve global data collection related to water supply, sanitation and hygiene, water resources management, and water productivity. To the extent that the U.S. Government invests in data collection in the water sector, it will work with the international community to enhance the depth and quality of water-related measures included in these efforts.



Conclusion

Global water resources are coming under tremendous stress. In many parts of the world today, current practices in the management, or mismanagement, of water resources have led to severe challenges in meeting future human, economic, and environmental water requirements. To achieve water security individuals and countries must have **reliable** and **sustainable** access to an acceptable quantity and quality of water to meet human, livelihood, ecosystem, and production needs while reducing the risks of extreme hydrological events to people, the environment, and economies. To achieve this goal, USAID and the Department of State will focus their efforts in three areas: (1) increasing access to, and effective use of, safe drinking water and sanitation to improve human health; (2) improving water resources management; and (3) increasing the productivity of water resources. Within each of these areas, U.S. Government investments will support activities and actions that lead to lasting changes in the underlying conditions for sustained improvements in water resources management.

The U.S. Government offers its experience and resources in support of efforts by committed countries to help achieve a water secure world with sustainable quantities and quality of water to meet human, economic and ecosystem needs.



Annex B

USAID Funding for Water*

B.1: USAID Water Obligations for FY 2002–FY 2006

Figures include all water-related obligations funded by direct or supplemental appropriations (that is, they include supplemental appropriations for Iraq, Afghanistan, and disasters).

Table B.1: Estimated USAID Water Obligations FY 2002–FY 2006 – Includes Supplementals (millions of dollars)

Estimated USAID Water Obligations	Fiscal Year				
	2002	2003	2004	2005	2006
Water Supply, Sanitation, and Wastewater Management	\$215.3	\$374.3	\$585.6	\$279.5	\$288.6
Watershed Management	133.4	109.4	82.5	67.4	53.6
Water Productivity	61.9	115.6	96.0	47.0	22.5
Disaster Risk Reduction	31.9	20.6	10.0	6.8	5.8
Total	\$442.6	\$619.9	\$774.1	\$400.6	\$370.4

Note: Figures have been rounded.

* FY 2007 budget data represent best estimates from USAID analysis of information as of November 2007.

B.2: USAID Water Obligations for FY 2003–FY 2007

These figures do not include supplemental appropriations for Iraq, Afghanistan, and disasters.

Table B.2: Estimated USAID Water Obligations FY 2002–FY 2007 – Excludes Supplementals (millions of dollars)

Estimated USAID Water Obligations	Fiscal Year				
	2003	2004	2005	2006	2007
Water Supply, Sanitation, and Wastewater Management	\$159.8	\$239.8	\$216.9	\$265.0	\$212.7
Watershed Management	105.7	82.5	60.7	56.0	27.4
Water Productivity	115.6	68.4	45.4	22.5	17.4
Disaster Risk Reduction	20.6	10.0	6.8	5.8	5.6
Total	\$401.7	\$400.7	\$329.8	\$349.3	\$263.1

Notes: FY 2007 budget data represent best estimates from USAID analysis of information as of November 2007. Figures have been rounded.

Table B.3: Estimated Actual USAID Obligations in FY 2007 for Water Supply Projects and Related Activities by Country and Region (millions of dollars)

Region/Bureau	Country or Operating Unit	Water Supply and Sanitation	IDFA* Water and Sanitation	Grand Total
Sub-Saharan Africa	Angola		0.320	0.320
	Burundi	0.043		0.043
	Central African Republic		0.274	0.274
	Chad		1.287	1.287
	Cote d'Ivoire		0.244	0.244
	Democratic Republic of Congo	1.000	0.260	1.260
	Eritrea		1.469	1.469
	Ethiopia	2.989	3.411	6.400
	Ghana	0.100		0.100
	Kenya	1.000	0.560	1.560
	Madagascar	1.618	0.288	1.906
	Malawi	0.190		0.190
	Mali	0.135		0.135
	Mozambique	1.550	0.470	2.020
	Nigeria	0.100		0.100
	Rwanda	0.034		0.034
	Somalia	0.550	8.020	8.570
	South Africa	0.750		0.750
	Swaziland		0.625	0.625
	Sudan	6.950	42.719	49.669
	Uganda	2.492	5.029	7.521
	Zambia	0.900		0.900
	Zimbabwe		0.344	0.344
	East Africa Regional	0.500		0.500
	WARP		0.250	0.250
	Africa Regional Bureau	17.400		17.400
<i>Sub-Saharan Africa Total</i>	<i>38.301</i>	<i>65.570</i>	<i>103.871</i>	

Region/Bureau	Country or Operating Unit	Water Supply and Sanitation	IDFA* Water and Sanitation	Grand Total
Other Asia & the Near East**	Bangladesh	0.010		0.010
	China	1.500		1.500
	India	1.267	0.500	1.767
	Indonesia	8.759	0.049	8.808
	Maldives		0.100	0.100
	Nepal	0.061	0.384	0.445
	Pakistan	22.990	0.600	23.590
	Philippines	2.332	0.037	2.369
	Solomon Islands		0.113	0.113
	Sri Lanka***	0.861	0.632	1.493
	Timor-Leste		0.277	0.277
	RDM/A	3.200		3.200
	ANE Regional	1.650		1.650
<i>Other Asia & the Near East Total</i>	<i>42.630</i>	<i>2.692</i>	<i>45.322</i>	
Middle East Regional (Egypt, Iraq, Jordan, Lebanon, and West Bank/Gaza)	Egypt	1.410		1.410
	Iraq		5.508	5.508
	Jordan	19.000		19.000
	Lebanon	2.846	1.668	4.514
	West Bank/Gaza	11.655		11.655
	Middle East Region	1.000		1.000
	<i>Middle East Regional Total</i>	<i>35.911</i>	<i>7.176</i>	<i>43.087</i>
Latin America & the Caribbean	Bolivia	2.475		2.475
	Colombia	0.100		0.100
	Ecuador	3.524		3.524
	El Salvador	0.060		0.060
	Guatemala	0.118		0.118
	Haiti	3.385		3.385
	Nicaragua	0.067		0.067
	Panama		0.020	0.020

Region/Bureau	Country or Operating Unit	Water Supply and Sanitation	IDFA* Water and Sanitation	Grand Total
	Paraguay	0.035		0.035
	Peru	0.293		0.293
	<i>Latin America & the Caribbean Total</i>	<i>10.057</i>	<i>0.020</i>	<i>10.077</i>
Central Programs	EGAT	1.554		1.554
	OFDA - Global		1.677	1.677
	Global Health	3.647		3.647
	<i>Central Programs Total</i>	<i>5.201</i>	<i>1.677</i>	<i>6.878</i>
Europe & Eurasia	Armenia	2.350		2.350
	Georgia	0.500		0.500
	Kosovo	0.380		0.380
	Moldova	0.150		0.150
	Europe Regional	0.287		0.287
	<i>Europe & Eurasia Total</i>	<i>3.667</i>		<i>3.667</i>
Total Directive – All Regions		135.517	77.135	212.652

Notes: FY 2007 budget data represent best estimates from USAID analysis of information as of November of 2007. Figures have been rounded.

* International Disaster and Famine Assistance.

** Excludes Egypt, Iraq, Jordan, and West Bank/Gaza.

*** Excludes \$1.756 million for Sri Lanka in an emergency supplemental appropriation (tsunami).

Table B.4: Estimated FY 2007 USAID Obligations across Six Regions by Sub-Categories of Activities (millions of dollars)

Activities	Sub-Saharan Africa	Asia & the Near East	Europe & Eurasia	Latin America & the Caribbean	Central Programs	Grand Total
Water Supply and Sanitation*	\$38.301	\$78.541	\$3.667	\$9.807	\$5.201	\$135.517
IDFA**-funded Water Supply and Sanitation*	65.570	9.868		0.020	1.677	77.135
Total Water Supply Projects and Related Activities	103.871	88.409	3.667	9.827	6.878	212.652
Watershed Management	2.632	12.482	2.580	5.268	4.445	27.407
Water Productivity	2.608	1.530	2.713	8.477	2.061	17.389
Disaster Risk Reduction Management	0.150 (0.791)	0.200			5.298	5.648
All Water Management Activities	5.390	14.212	5.292	13.745	11.804	50.444
Grand Total – All Water Funding Categories	\$109.261	\$102.621	\$8.959	\$23.572	\$18.682	\$263.096

Note: Figures have been rounded.

* Numbers come from Table B.3.

** International Disaster and Famine Assistance.

Annex C

Examples of Eligible Drinking Water, Sanitation, and Hygiene Activities (FY 2008)

The following activities are illustrative examples of projects or programs that would be considered consistent with the FY 2008 statutory requirement on water:

- Access to improved drinking water supply as defined by the Millennium Development Goals, i.e., the availability of at least 20 liters per person per day from an “improved” source within one kilometer of the user’s dwelling. An “improved” source is one that is likely to provide safe water, including household connections to a water supply distribution network, public standpipes (connected to networked systems, or from a community well or surface water source), boreholes, protected dug wells, protected springs, and rain-water collection. Access to improved sources can be rural or urban, and may be provided through utilities, community-based systems, self supply, and/or other long-term and permanent systems. Unprotected wells, unprotected springs, rivers or ponds, vendor-provided water, bottled water, tanker truck water (e.g., for emergency purposes) are not considered improved.
- Access to improved sanitation at the household level as defined by the Millennium Development Goals. Sanitation facilities are considered adequate if they are private and if they separate human excreta from human contact, including improved sanitation facilities, connection to a public sewer, connection to a septic system, pour-flush latrines, simple covered pit latrines, and ventilated improved pit latrines. Access provided can be rural or urban, and may be provided through community-managed simplified systems, utility-managed central network systems, or self-supply. Unimproved household level sanitation facilities, including open pit latrines or bucket latrines, are not attributable.
- Access to public or shared improved sanitation facilities in communal or institutional settings, such as schools, health clinics, and public markets, if they adequately separate human excreta from human contact and have a sustainable management and maintenance system in place, as well as sufficient hygiene facilities.
- Improvements in the quality of existing drinking water supply or sanitation services, including increasing the number of hours of water access per day or quantity of water available from a networked water system, improving the quality of water delivered by a sys-

tem, improving the maintenance of systems and reducing the number of days out of service, and increasing the number of household connections for people who already had access to another communal improved source.

- Treatment of drinking water quality at the system or community level, prior to distribution to users, including treatment plants and chlorination and filtering at the source.
- Provision of multiple-use water services that include both domestic drinking water supply and water supply for productive use needs of the community, such as small-scale agriculture/gardening, livestock, and microenterprise.
- Hygiene promotion activities to support behavior change in key areas including hand-washing, feces management, including sanitation promotion and marketing, and household point-of-use water treatment.
- Protection of surface water and groundwater quality of potable water supply system from direct contamination prior to distribution to users, including installation of barriers to prevent access to the water point by animals, people, or other contamination sources, or water quality protection activities where there is a credible, direct, and specific cause-effect linkage between the contaminating activity and a high-quality drinking water source.
- Enabling environment interventions related to the drinking water supply, sanitation, and hygiene sectors, including policy reform and legal and regulatory strengthening and enforcement.
- Institutional strengthening and reform related to issues such as drinking water supply, sanitation and hygiene, including capacity building of government and other key actors and organizational development, and water supply and wastewater utility governance/corporatization and utility reform.
- Water and/or sanitation infrastructure financing at all scales, including increased access to credit, strengthening of domestic private capital markets, and facilitating support from domestic financial institutions.
- Small-scale community-managed wastewater collection and treatment infrastructure.
- Software aspects of wastewater management at all scales, including community capacity building in technical and financial aspects of system management, large-scale utility corporatization and reform, improved cost recovery, and innovative financing.