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Safeguarding the World's Water

2011 Report on USAID Fiscal Year 2010 Water Sector Activities



July 2011

Cover Photo Credit: Abdul Hameed Khalid, M&E Specialist, Nangarhar Regional Office, USAID's Afghan SWSS Project.

Community children collect drinking water from a well with a hand pump constructed by USAID's Afghan SWSS Project in Shinwar District, Nangarhar Province.

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Introduction and Summary

The following report summarizes the fiscal year (FY) 2010 investments and programs of the U.S. Agency for International Development (USAID) in water supply and sanitation projects consistent with the Senator Paul Simon Water for the Poor Act of 2005 (Public Law [P.L.] 109–121).¹ The report describes all USAID water management programs that strive to ensure “water security and sustainability with equity.”² These programs address the following specific areas: 1) water supply, sanitation, and hygiene (WSSH); 2) watershed/water resources management (W/WRM) and global climate change adaptation; 3) water productivity (WP) and food security; and 4) water-related disaster risk reduction (DRR) from floods, storms, and droughts. The report presents these programs comprehensively in budget form (i.e., budget figures reflect the budget amounts from all projects), together with narrative descriptions of illustrative water sector activities undertaken by USAID/ Washington, D.C., and USAID country Missions and regional bureaus in FY 2010.

The Problem

The world faces enormous water challenges. According to the World Health Organization (WHO) and the United Nations Children’s Fund (UNICEF), nearly 884 million people do not use improved sources of drinking water, and nearly three times that many – 2.6 billion – do not use improved sanitation.³ Implicit in these two figures are a host of multidimensional water-related challenges to short- and long-term development progress, because without significant improvements in water and sanitation access, global development goals in child



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A young girl in India’s Gujarat state squats to collect water from a hose crudely hooked to a pipeline that passes along the edge of her village.

mortality, primary education, disease reduction, environmental sustainability, and poverty reduction will not be achieved.

The above shortfalls in access to improved sources of drinking water and improved sanitation undermine economic growth, social development, and public health. In many countries, the effort to obtain a daily household water supply cuts deeply into time and productive activities – especially of girls and women – that could be devoted to education or employment. Girls are often assigned the task of fetching water, and therefore they suffer the greatest burden of lost education due to lack of improved household water supplies. Young children are particularly vulnerable to water- and sanitation-related health threats and suffer the greatest water-related disease burden – every year nearly 1.5 million children under 5 years of age die from diarrhea caused largely by unsafe drinking water but also by inadequate sanitation and hygiene.

Efforts to improve water supply, sanitation, and hygiene are constrained by inadequate policy and regulatory frameworks, a fragmented institutional infrastructure often with weak components such as limited human resources, and insufficient funding to perform essential functions.

¹The FY 2010 funding figures presented are based on estimates of budget allocations and budget commitments reported by USAID operating units around the world through April 2011.

²“Water security and sustainability with equity” simultaneously considers the need for human access to safe and affordable water for health and well-being; the assurance of economic and political stability; the protection of human populations from the risks of water-related hazards; the equitable and cooperative sharing of water resources; the complete and fair valuation of the resource; and the sustainability of ecosystems at all parts of the hydrologic cycle.

³WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation. Progress on Sanitation and Drinking-Water: 2010 Update at <http://www.unicef.org/media/files/JMP-2010Final.pdf>

Over the coming decades, the world's water challenges will loom larger. As water resources become scarce and pressures on them increase, tensions are likely to grow. Global demand for water is doubling every 20 years, and more than 2.8 billion people will live in either water-scarce or water-stressed regions by 2025. Human pressures on freshwater ecosystems, water resources, and watersheds from urban growth, industrial development, and pollution continue to build. Wetland ecosystems, which serve as buffers against natural disasters and breeding grounds for fisheries, are being lost around the world at alarming rates. More than 260 river basin watersheds are shared by at least two countries and are thus possible sources of international tension and conflict. Meeting these challenges is imperative if all the world's people are to have access to water supplies of sufficient quality and quantity to meet global health, environmental, social, and economic needs.

USAID Water Supply, Sanitation, and Hygiene Activities (WSSH)

USAID's WSSH activities focus on three "pillars" required for sustainable access to and use of improved water supplies and sanitation:

- Access to appropriate hardware and supplies – National, municipal, and community water supply systems and sewers, household sanitation facilities, and other household-level technologies and products, such as soap and handwashing devices
- Hygiene and sanitation promotion, behavior change, and demand creation – Community mobilization for sustained management of drinking water supply and sanitation services, social marketing of products and behaviors like point-of-use (POU) drinking water treatment and safe feces disposal, dissemination of messages through mass media and other communication channels, and WSSH promotion through school and health clinic programs
- Enabling environment – Improved policies, institutional support, community organization, finance and cost recovery, utility reform, governance/regulatory im-



SKY WISEMAN

Women in Ethiopia collect water at a community tapstand.

provements, improved operations and maintenance, and public-private partnerships for improved WSSH

Increased WSSH coverage alone, through increased supply systems, technologies, and products, is not sufficient to ensure sustainability.

Water supply and sanitation must be integrated with other USAID programs, including education, climate change, food security, health, and humanitarian assistance in order to make these programs fully successful.

USAID's WSSH projects address the provision of clean and adequate supplies of drinking water and improved sanitation facilities to rural and urban communities, as well as promote demand for sanitation and appropriate hygiene behaviors. They also promote good watershed management practices that protect drinking water supplies from contamination. Project activities include improvement or rehabilitation of water sources, wells, and delivery systems; removal of contaminants from drinking water through both large-scale treatment plants

and small-scale or household POU water treatment; and sanitation improvements. USAID also addresses the need to improve the capacity of municipal and community governments and public and private utilities and other organizations to deliver potable water and sanitation infrastructure services in a sustainable, cost-effective, as well as water- and energy-efficient manner. Activities support legal, regulatory, and governance reforms needed to finance, operate, and maintain these services.

USAID Watershed/Water Resources Management Activities (W/WRM)

All countries and communities depend on sustainable supplies of fresh water of sufficient quantity and quality to meet their needs, sustain economic growth, and maintain ecosystems. They all face the challenge of how best to use and protect this finite but renewable resource. Water resources and hydrologic systems are under enormous pressure from population growth, environmental degradation, and climate change. The clearing of forest lands for agriculture, mining, and logging has degraded many watersheds and impacted downstream estuarine and coastal ecosystems through more rapid runoff, increased erosion and sedimentation, reduced groundwater replenishment, and the increased potential for floods and droughts. Climate change may exacerbate these impacts and potentially force dramatic shifts in human settlements, agricultural practices, and livelihoods. In addition, most countries share water resources with others, further complicating the management of this essential resource.

The objectives of USAID's W/WRM activities include:

- Meeting human needs
- Protecting environmental resources
- Optimizing the benefits of water among competing uses for drinking water, agriculture, industry, and environments and ecosystems
- Supporting efforts to manage and/or adapt to hydrological variability and the risks of flood and drought associated with global climate change

Achieving these objectives requires highly participatory and holistic governance and management approaches. As competing demands upon limited water resources increase, the potential for tensions will heighten, raising the possibility of conflicts over water rights, allocations, and use. Avoiding such conflicts is vital, because of their impact on human life, expense and disruption of ongoing development efforts to relieve human suffering, reduce environmental degradation, reduce vulnerability to future disasters, and achieve sustainable economic growth.

W/WRM activities promote the conservation and sustainable use of water resources, thereby protecting the quantity and quality of surface water and groundwater for drinking, irrigation, and other uses. W/WRM also maintains aquatic ecosystem services provided by rivers, lakes, aquifers, fisheries, wetlands, and coastal environments. They also address a wide array of land uses within watersheds that may have local impacts while also affecting downstream communities and ecosystems. Integrated W/WRM, water quality protection, and pollution prevention and control support the management of watersheds and ground and surface water. W/WRM programs promote environmentally sound technologies and clean production practices that reduce the amounts of raw material, water, and energy used in agricultural, industrial, manufacturing, and other production processes. They also seek to enhance the beneficial uses of water



A man tests a water source in a watershed in Indonesia.

USAID

and reduce human health risks from water by reducing, preventing, and mitigating water pollution.

Specific W/WRM activities include helping governments, civil society, and communities:

- Improve water resources planning
- Address challenges to water quantity and quality
- Strengthen participatory governance through multi-stakeholder approaches
- Mobilize financing
- Manage hydrologic variability

In these areas, USAID assists with broad-based policy development, strategy and structure development, and institutional strengthening. For countries that share river basins with neighboring countries, USAID's transboundary W/WRM activities focus on data sharing and protocol development. In addition, W/WRM activities support surveys of water balances, water supply, aquatic life, and habitat protection.

USAID Water Productivity Activities (WP)

Improving the productivity of available water is critically important for economic development. Economic activities ranging from agriculture to industry all require dependable water supplies. Food production depends on predictable, high-quality supplies of freshwater or healthy estuarine and marine waters. More than 70 percent of all human freshwater use is devoted to agriculture, often in irrigation systems that are inefficient and environmentally unsustainable. As urban, industrial, and commercial water consumption increases, the trade-offs between water allocations for domestic use, agriculture, industry, and ecosystem services will only intensify.

USAID's WP programs seek to maximize efficient, productive water use in multiple sectors, such as industry and agriculture, and to support pollution prevention, water loss reduction, and demand management programs. They focus on approaches that:

- Improve water use efficiency in agriculture
- Help countries adapt to hydrologic variability and climate change
- Reduce water pollution and improve efficiency of water use by industry
- Improve water use efficiency in cities
- Expand productive fisheries and improve their sustainability and protection

WP programs in agriculture emphasize irrigation system efficiency. They work with public and private extension services to increase farmers' adoption of improved production technologies, systems, and appropriate crops. Where appropriate, they promote the reuse of treated wastewater for agriculture. They also 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.

USAID Water-Related Disaster Risk Reduction Activities (DRR)

Floods, storms, and droughts cause massive loss of life and economic losses in the billions of dollars. From 2000 to 2009, water-related disasters such as floods, droughts,



SAID QUATTAR

These vegetable plots in Morocco demonstrate the use of plastic mulching techniques and drip irrigation to increase the productivity of scarce resources.

and windstorms (for example hurricanes, cyclones, and typhoons) killed more than 555,000 people (55 percent of the total fatalities caused by natural disasters);⁴ affected nearly 2.5 billion people (95 percent of the total population affected by natural disasters); and are estimated to have cost nearly \$790 billion (81 percent of total estimated damages from natural disasters). These weather- and climate-related events can have significant impacts through loss of livelihoods; destruction of shelters; destruction of ecosystems; damaged infrastructures for water supply and sanitation, energy, power, and transportation; disruptions in health and social services; scarcities of food and water; and conflicts and migrations. The direct and indirect impacts of such disasters can set back economic development and increase a population's vulnerability to natural hazards.

Reducing the risk of and vulnerability to water-, weather-, and climate-related disasters is part of the International Strategy for Disaster Reduction, and identifying, monitoring, understanding, and forecasting hydrometeorological hazards are critical first steps for developing and implementing DRR plans, strategies, policies, and measures. The USAID Office of U.S. Foreign Disaster Assistance (OFDA) works closely with communities, national and local governments, international and regional organizations, and non-governmental organizations (NGOs) to identify, manage, and strengthen capacity and to increase resilience to hydrometeorological disasters at all levels. These activities have strong links to managing natural resources, including water, and seek to enable countries and communities to prepare for and cope with hydrometeorological disasters through an integrated multi-sectoral approach that emphasizes capacity building and locally sustainable, environmentally sensitive measures. Specific activities encompass strengthening early warning capacity and information dissemination and include:

- Flood forecasting
- Drought monitoring, climate prediction, and climate change mitigation



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Cows search for grass in rural Uganda. Climate change is affecting the availability of food for livestock in Uganda.

- Global flood hazard mapping
- Community-based flood and drought management
- Global flash flood guidance systems
- Dissemination of hydrometeorological information to end users, populations in remote areas, and people at risk

FY 2010 Results for Water Supply, Sanitation, and Hygiene (WSSH)

As shown in Table 1 at the end of this chapter, USAID achieved the following WSSH results during FY 2010:

- Provided more than 2.8 million people with improved access to drinking water supply
- Provided nearly 2.9 million with improved access to sanitation facilities
- Disinfected nearly 12 billion liters of drinking water through POU treatment activities in 15 country programs and USAID's central global health program, with Madagascar (more than 2.5 billion liters treated), Zambia (2.2 billion), and Rwanda (1.95 billion) the three largest treatment results

⁴ International Federation of Red Cross and Red Crescent Societies. World Disaster Report 2010 at <http://www.ifrc.org/Global/Publications/disasters/WDR/WDR2010-full.pdf>

Table 6 in the Results and Financial Tables at the end of this report breaks these figures down by individual USAID operating unit, based on information from the Foreign Assistance Coordination and Tracking System (FACTS).

Prior to FY 2007 USAID reported access to water supply and sanitation results as improved access to water supply or improved access to sanitation. But after FY 2007, the definitions of the “numbers of people” indicators under the Water Supply and Sanitation element in the new Framework for Foreign Assistance focused on numbers of people receiving “access to improved” water supply and “access to improved” sanitation, rather than improved access. The new definition corresponds with the used by the United Nation’s Joint Monitoring Program (JMP) to measure progress toward the internationally agreed-upon Millennium Development Goals (MDGs) on water supply and basic sanitation. Those people reported under the older definitions often

already had some form of access to an improved water supply or improved sanitation, based on the JMP definitions, but their level of service was further “improved.” The difference between the MDG “access to improved” and USAID’s use of “improved access” is important because the MDG “access to improved” refers to people who are receiving their first access to an improved water supply or improved sanitation. These are people (usually the very poor in urban slums or small rural villages) who did not previously have such access.

FY 2010 Budget Allocations

USAID’s investments in “water and sanitation supply projects” (the language of the appropriations legislation, Public Law (P.L.) 111–117 of December 16, 2009, Omnibus Appropriations Act, 2010) reflect the urgent need to help countries provide their populations with safe and affordable domestic water supplies that are effectively integrated into overall water resources management.

For all aspects of the water sector (WSSH, W/WRM, WP, and DRR), USAID’s total FY 2010 investments amounted to approximately \$642.2 million, a two percent increase from the \$630 million investment level of FY 2009. Geographically, the majority (86 percent) of water sector allocations were spread across three of five regions: Asia (\$254.8 million, 40 percent), sub-Saharan Africa (\$207.8 million, 32 percent), and the Middle East (\$92.9 million, 14 percent) (Figure 1).

The total water sector portfolio of \$642.2 million was dominated by investments in drinking water supply, sanitation, and hygiene, with \$520.4 million in WSSH funds (81 percent), followed by \$53.1 million for WWP (eight percent), \$47.2 million for W/WRM (seven percent), and \$21.5 million for DRR (four percent) (Figure 2). The breakdown of the total water sector budget of \$642.2 million into its components is provided in Figure 3.

WSSH: The breakdown of all WSSH investments, totaling \$520.4 million (Figure 4), was as follows:

- \$317.2 million (61 percent) WSSH – funded with development assistance accounts (mainly DA and ESF), this WSSH amount is in the primary Framework



USAID

An 11-year-old girl collects water from an improved well in rural Senegal.

for Foreign Assistance Water Supply and Sanitation element 3.1.8.

- \$116.7 million (22 percent), International Disaster Assistance (IDA)
- \$36.9 million (seven percent), household WSSH activities funded via the Global Health and Child Survival (GHCS) funding account
- \$33.3 million (seven percent), via other development assistance program elements and sub-elements including education (WSSH in schools), health (WSSH in health clinics), democracy and governance (WSSH in municipal services), and alternative development (WSSH in communities receiving anti-drug development assistance)
- \$16.3 million (three percent), via the Food for Peace (FFP) program

Of the total \$520.4 million USAID WSSH funds in FY 2010, \$191.1 million (37 percent) were allocated to sub-Saharan Africa and \$177.2 million (34 percent) to Asia (Figure 5). These were followed by the Middle East \$89.5 million (17 percent); Latin America and the Caribbean (\$38.5 million, seven percent); USAID/Washington Central Programs (\$19.9 million, four percent); and Europe and Eurasia (\$2.0 million, 0.4 percent) (Figure 5).

W/WRM: In FY 2010, USAID reported nearly \$47.2 million in W/WRM allocations, with Asia's 58 percent the largest share among the USAID regions (Figure 6). Both the Asia and Africa regions had substantial increases in W/WRM investments from FY 2009.

WP: WP funds, which appear in the Framework for Foreign Assistance primarily under the Agricultural Sector Capacity program element, were reported at \$53.1 million, a moderate increase from \$45.3 million in FY 2009. The Asia region accounted for nearly three-quarters of the allocation, followed by Africa at 11 percent (Figure 7).



KENDRA HELMER/USAID

USAID support in post-earthquake Haiti included supplying potable water for people in displaced persons camps.

DRR: In FY 2010, USAID supported nearly \$21.5 million (including \$4.5 million through the FFP program) for hydrometeorological risk reduction activities (Figure 8). While the majority of the DRR funds are from the International Disaster Assistance (IDA) account, some development accounts funding is included in USAID's water sector summary for DRR within the Disaster Objective area of the Framework for Foreign Assistance. More than half (54 percent) of these funds were allocated in Asia, with Africa (22 percent) and central programs (18 percent) also receiving significant shares.

Congressional and Agency Background

USAID also fulfilled the congressional directive in the FY 2010 Consolidated Appropriations Act (P.L. 111-117, December 16, 2009), which states:

"... of the funds appropriated by this Act, not less than \$315,000,000 shall be made available for water and sanitation supply projects pursuant to the Senator Paul Simon Water for the Poor Act of 2005 (P.L. 109-121)."

The Agency fulfilled the water earmark with budget allocations of FY 2010 funding of nearly \$339.7 million for activities meeting the earmark criteria (Table 2), defined by USAID as activities meant to:

"... implement the Senator Paul Simon Water for the Poor Act of 2005 with an emphasis on increasing

sustainable access to safe drinking water and sanitation and improving hygiene. Eligible activities include development account-financed drinking water supply, sanitation, and hygiene activities and activities under watershed/water resources management and water productivity that have been approved for inclusion under water earmark funding.”

The \$339.7 million water earmark allocation for FY 2010 represented a 13 percent increase from the \$300 million earmark allocations of FY 2008 and 2009. The box on page 15 looks further at this and other funding trends in USAID’s water sector:

The USAID programs, projects, and activities that address water and sanitation supply reflect the continuing efforts of USAID, the State Department, and other U.S. Government agencies to carry out a comprehensive strategy for implementing the Senator Paul Simon Water for the Poor Act of 2005, which made access to safe water and sanitation for developing countries “a specific policy objective of U.S. foreign assistance programs.” During FY 2010, these efforts were carried out by the State Department and USAID. Much of the information provided in this report is derived from submissions to FACTS from all USAID operating units as of April 2011. All the information provided in the tables and figures is derived from FACTS, which includes funding allocations from FFP, and from OFDA reporting of IDA funding.

FY 2010 Funding for Water Supply and Sanitation Projects (WSSH)

The water directive in the Omnibus Appropriations Act, 2010 resulted in an initial allocation level of funding of \$339.7 million in 2010. USAID’s official budget allocation decisions for the FY 2010 water earmark funds by region, operating unit, and funding account are shown in Table 2 at the end of this chapter (see Table 7 at the end of the report for these figures by individual USAID Mission). Table 3 shows FY 2010 budget allocations for W/WRM, WP, and DRR activities by region and central programs, while Table 4 shows the allocations of all WSSH activities by region and development accounts funding source. Table 5 shows these allocations by funding theme.

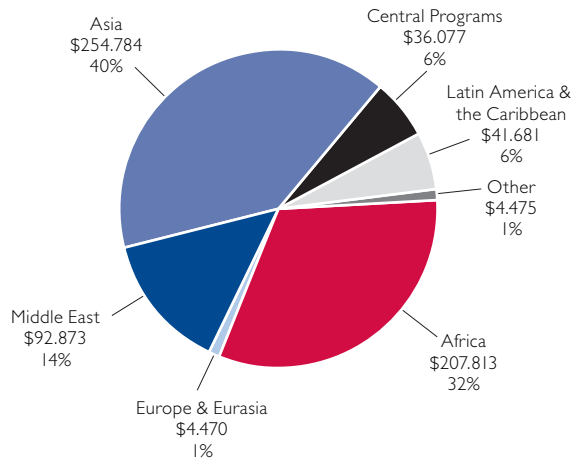
Following Table 5, Figures 9 through 14 show FY 2010 water sector budget allocations by WSSH, W/WRM, WP, and DRR in each of USAID’s geographic regions and its central programs funding out of Washington, D.C. The box on page 15 describes and illustrates with figures funded trends in USAID’s water sector. The sections that follow then present representative illustrations of USAID’s WSSH, W/WRM, WP, and DRR activities in FY 2010.

USAID



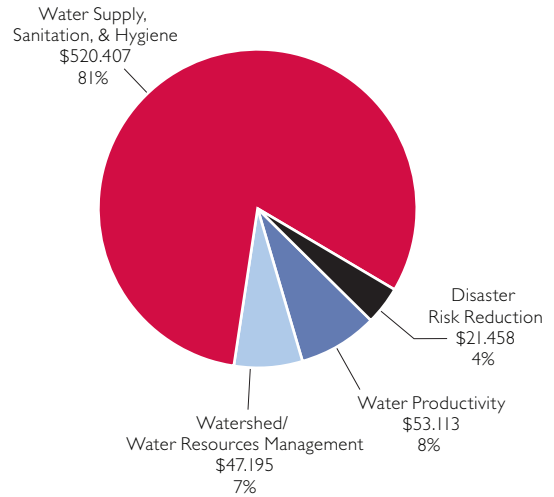
Young men collect water from a borehole in Juba, Southern Sudan.

**Figure 1: USAID Budget Allocations for the Water Sector by Region
FY 2010**
Worldwide Funding \$642.173
(Millions of Dollars)



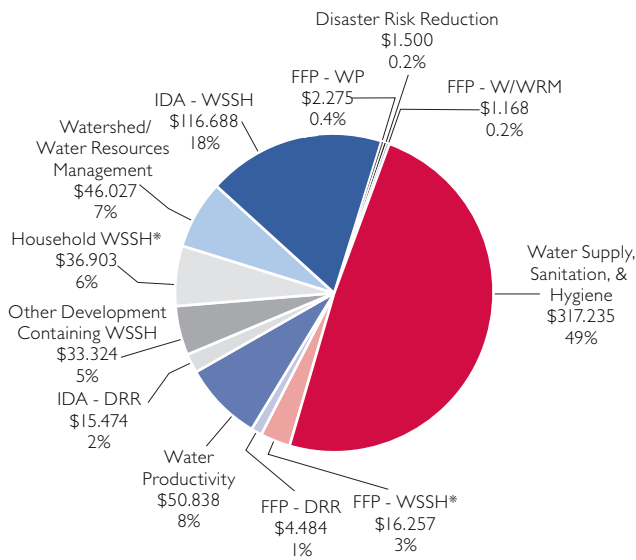
Data Source: FACTS Extract March & April 2011 with OFDA Extract April 2011

**Figure 2: USAID Budget Allocations for the Water Sector by Key Issue
FY 2010**
Worldwide Funding \$642.173
(Millions of Dollars)



Data Source: FACTS Extract March & April 2011 with OFDA Extract April 2011

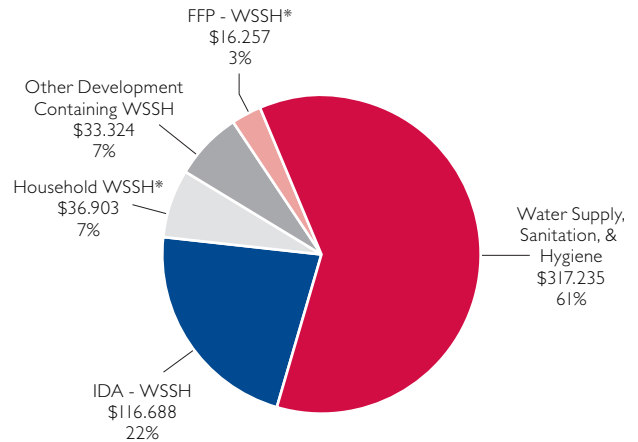
**Figure 3: USAID Budget Allocations for the Water Sector by Funding Theme
FY 2010**
Worldwide Funding \$642.173
(Millions of Dollars)



Data Source: FACTS Extract March & April 2011 with OFDA Extract April 2011

* FFP - WSSH: Africa's FFP - Household WSSH of \$10.857 million is included in FFP - WSSH and not in regular Household WSSH in this chart.

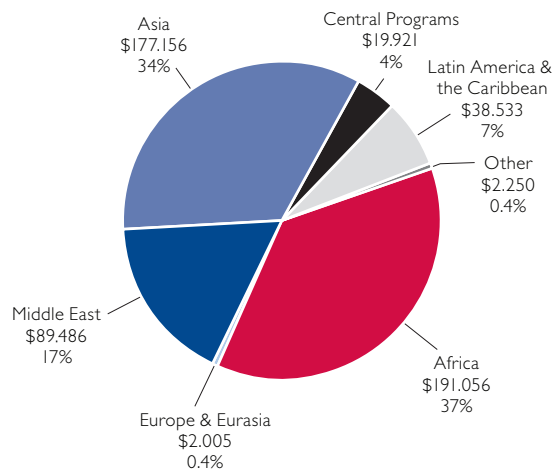
**Figure 4: USAID Budget Allocations for Water Supply, Sanitation, & Hygiene by Funding Theme
FY 2010**
\$520.407 – 81% of World Total
(Millions of Dollars)



Data Source: FACTS Extract March & April 2011 with OFDA Extract April 2011

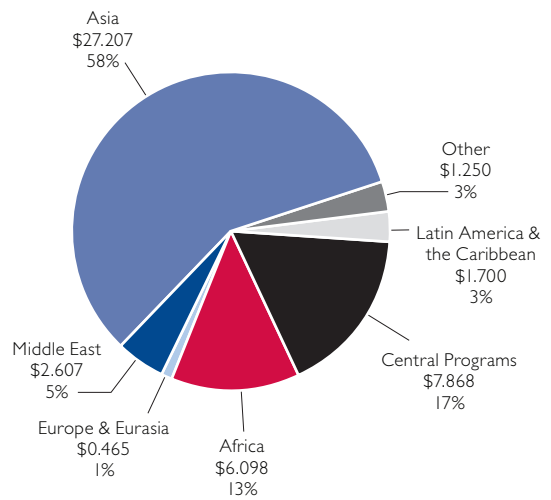
* FFP - WSSH: Africa's FFP - Household WSSH of \$10.857 million is included in FFP - WSSH and not in regular Household WSSH in this chart.

Figure 5: USAID Budget Allocations for Water Supply, Sanitation, & Hygiene by Region FY 2010
\$520.407 – 81% of World Total
 (Millions of Dollars)



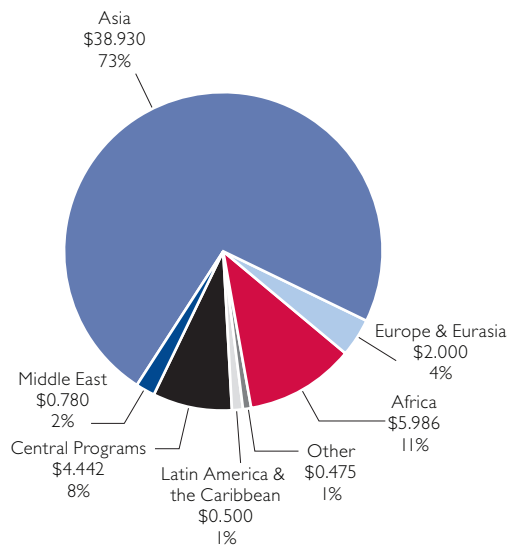
Data Source: FACTS Extract March & April 2011 | with OFDA Extract April 2011

Figure 6: USAID Budget Allocations for Watershed/Water Resources Management by Region FY 2010
\$47.195 – 7% of World Total
 (Millions of Dollars)



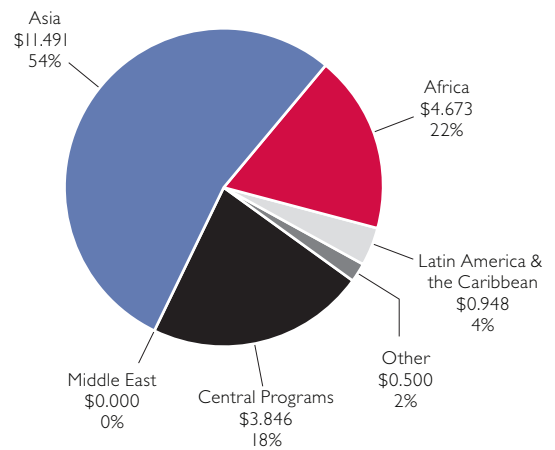
Data Source: FACTS Extract March & April 2011 | with OFDA Extract April 2011

Figure 7: USAID Budget Allocations for Water Productivity by Region FY 2010
\$53.133 – 8% of World Total
 (Millions of Dollars)



Data Source: FACTS Extract March & April 2011 | with OFDA Extract April 2011

Figure 8: USAID Budget Allocations for Disaster Risk Reduction by Region FY 2010
\$21.458 – 4% of World Total
 (Millions of Dollars)



Data Source: FACTS Extract March & April 2011 | with OFDA Extract April 2011

Table 1: FY 2010 Number of People with Improved Access to Drinking Water Supply and Sanitation Facilities, and Liters of Drinking Water Disinfected with Point-of-Use (POU) Treatment Products by Region*

	Number of People with Improved Access to Drinking Water Supply	Number of People with Improved Access to Sanitation Facilities	Liters of Disinfected Drinking Water by POU Treatment
GRAND TOTAL	2,844,484	2,889,105	11,981,200,173
Africa	1,346,057	2,054,859	10,025,963,293
Asia	1,278,431	555,389	198,930,140
Middle East	33,572	191,998	
Latin America & the Caribbean	181,828	84,873	8,859,615
Europe & Eurasia	4,596	1,986	
Central Programs			1,747,447,125

* FY 2010 budget data represent best estimates from USAID analysis of information as of December 2010.

NOTE: A dash (-) within a cell represents that activities were being operated within that category, but funds for the activities had been allocated during a previous fiscal year. Cells that contain no data represent that there was no activity taking place for that particular category during FY 2010.

Table 2: Allocations from Foreign Assistance Accounts to Meet the 2010 Statutory Requirement on Water Supply and Sanitation Projects by Region* (Millions of Dollars)

Allocations from Foreign Assistance Accounts to Meet the 2010 Statutory Requirement on Water Supply & Sanitation Projects by Region	DA	GHCS/ USAID	ESF	AEECA	Grand Total**
GRAND TOTAL	128.473	34.913	171.304	4.970	339.660
Africa	88.000	16.670	32.000		136.670
Asia	14.500	10.370	49.486	1.500	75.856
Middle East	1.500	0.300	77.118		78.918
Latin America & the Caribbean	7.553	2.373	10.700		20.626
Europe & Eurasia				3.470	3.470
Central Programs	16.920	5.200			22.120
Other			2.000		2.000

* FY 2010 budget data represent best estimates from USAID analysis of information as of December 2010.

** Grand total represents the \$339.660 million FY 2010 water earmark.

NOTE: A dash (-) within a cell represents that activities were being operated within that category, but funds for the activities had been allocated during a previous fiscal year. Cells that contain no data represent that there was no activity taking place for that particular category during FY 2010.

ACRONYMS: DA = Development Assistance; GHCS/USAID = Global Health and Child Survival/USAID; ESF = Economic Support Fund; AEECA = Assistance for Europe, Eurasia, and Central Asia

Table 3: FY 2010 USAID Budget Allocations across Regions and Central Programs by Selected Subcategories of Water-Related Activities* (Millions of Dollars)

FY 2010 USAID Budget Allocations across Regions and Central Programs by Selected Subcategories of Water-Related Activities	Africa	Asia	Middle East	Latin America & the Caribbean	Europe & Eurasia	Central Programs	Other	Grand Total
Watershed/Water Resources Management	6.098	27.207	2.607	1.700	0.465	7.868	1.250	47.195
Water Productivity	5.986	38.930	0.780	0.500	2.000	4.442	0.475	53.113
Disaster Risk Reduction	4.673	11.491	-	0.948		3.846	0.500	21.458
All Non-WSSH Activities	16.757	77.628	3.387	3.148	2.465	16.156	2.225	121.766

* FY 2010 budget data represent best estimates from USAID analysis of information as of March & April 2011 and OFDA information as of April 2011.

NOTE: A dash (-) within a cell represents that activities were being operated within that category, but funds for the activities had been allocated during a previous fiscal year. Cells that contain no data represent that there was no activity taking place for that particular category during FY 2010.

Table 4: USAID Budget Allocations for WSSH Activities by Region and Development Accounts Funding Source*
(Millions of Dollars)

All Water Sector Activities	Africa	Asia	Middle East	Latin America & the Caribbean	Europe & Eurasia	Central Programs	Other	Grand Total
Water Supply, Sanitation, & Hygiene**	135.513	141.200	77.093	9.480	2.005	19.921	2.250	387.462
IDA-Funded Water Supply, Sanitation, & Hygiene	43.686	31.556	12.393	29.053				116.688
FFP Title II-Funded Water Supply, Sanitation, & Hygiene	11.857	4.400		-				16.257
All Water Supply, Sanitation, & Hygiene (WSSH) Activities	191.056	177.156	89.486	38.533	2.005	19.921	2.250	520.407

* FY 2010 budget data represent best estimates from USAID analysis of information as of March & April 2011 and OFDA information as of April 2011.

** Enacted supplemental appropriations included Pakistan \$65 million in ESF account.

NOTE: A dash (-) within a cell represents that activities were being operated within that category, but funds for the activities had been allocated during a previous fiscal year. Cells that contain no data represent that there was no activity taking place for that particular category during FY 2010.

Table 5: FY 2010 USAID Budget Allocations for the Water Sector across Regions and Central Programs by Funding Theme*
(Millions of Dollars)

FY 2010 USAID Budget Allocations for the Water Sector across Regions and Central Programs by Funding Theme	Africa	Asia**	Middle East	Latin America & the Caribbean	Europe & Eurasia	Central Programs	Other	Grand Total
GRAND TOTAL	207.813	254.784	92.873	41.681	4.470	36.077	4.475	642.173
Key Issue Water Supply, Sanitation, & Hygiene	191.056	177.156	89.486	38.533	2.005	19.921	2.250	520.407
Water Supply, Sanitation, & Hygiene	105.855	116.603	76.400	3.152	1.900	11.325	2.000	317.235
Other Development Containing WSSH	12.760	14.106	0.193	3.098	0.105	2.812	0.250	33.324
IDA - WSSH	43.686	31.556	12.393	29.053				116.688
Household WSSH***	16.898	10.491	0.500	3.230		5.784		36.903
FFP - WSSH ***	11.857	4.400		-				16.257
Key Issue Watershed/Water Resources Management	6.098	27.207	2.607	1.700	0.465	7.868	1.250	47.195
Watershed/Water Resources Management	4.930	27.207	2.607	1.700	0.465	7.868	1.250	46.027
FFP - W/WRM	1.168					-		1.168
Key Issue Water Productivity	5.986	38.930	0.780	0.500	2.000	4.442	0.475	53.113
Water Productivity	3.711	38.930	0.780	0.500	2.000	4.442	0.475	50.838
FFP - WP	2.275							2.275
Key Issue Disaster Risk Reduction	4.673	11.491	-	0.948		3.846	0.500	21.458
Disaster Risk Reduction	-	1.000	-			-	0.500	1.500
FFP - DRR	1.584	2.900						4.484
IDA - DRR	3.089	7.591		0.948		3.846		15.474

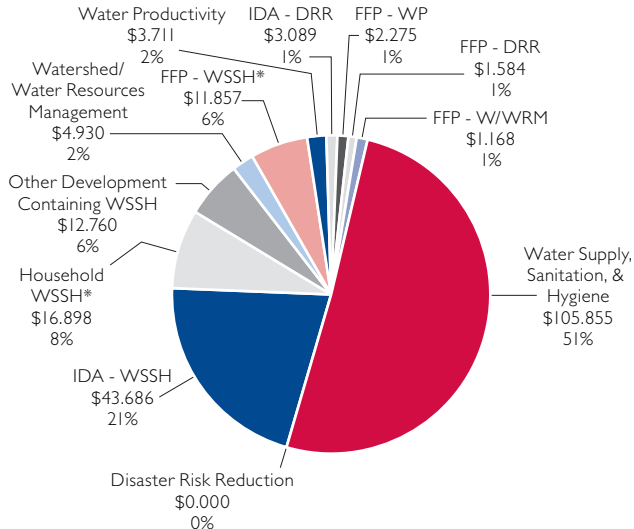
* FY 2010 budget data represent best estimates from USAID analysis of information as of March & April 2011 and OFDA information as of April 2011.

** Enacted supplemental appropriations included Pakistan \$65 million in ESF account.

*** FFP - WSSH: Africa's FFP - Household WSSH of \$10.857 million is included in FFP - WSSH and not in regular Household WSSH in this table.

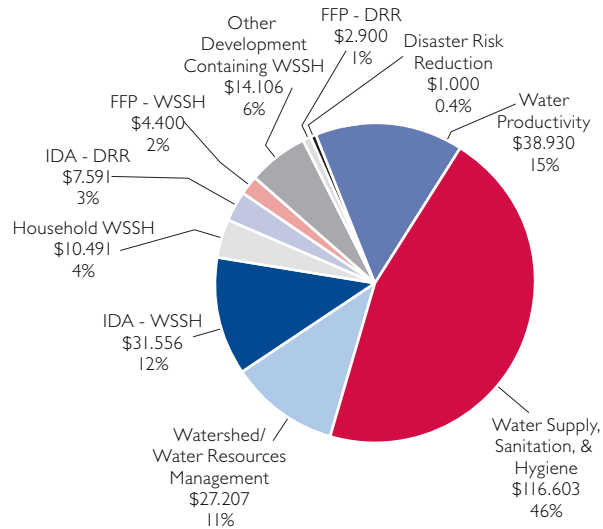
NOTE: A dash (-) within a cell represents that activities were being operated within that category, but funds for the activities had been allocated during a previous fiscal year. Cells that contain no data represent that there was no activity taking place for that particular category during FY 2010.

Figure 9: USAID Budget Allocations for the Water Sector by Theme, Africa FY 2010
\$207.813 – 32% of World Total
 (Millions of Dollars)



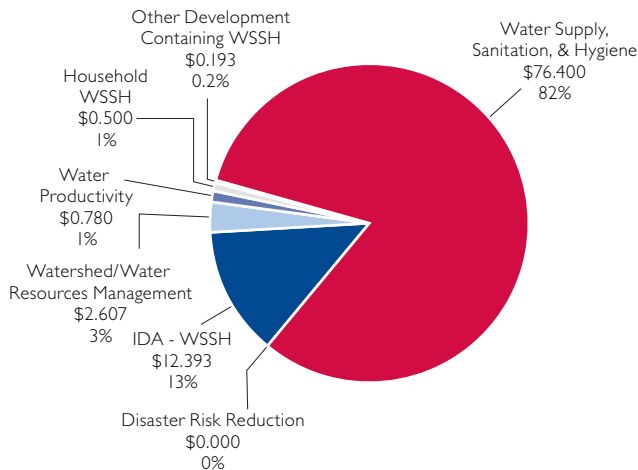
Data Source: FACTS Extract March & April 2011 with OFDA Extract April 2011
 * FFP – WSSH: Africa's FFP - Household WSSH of \$10.857 million is included in FFP - WSSH and not in regular Household WSSH in this chart

Figure 10: USAID Budget Allocations for the Water Sector by Theme, Asia FY 2010
\$254.784 – 40% of World Total
 (Millions of Dollars)



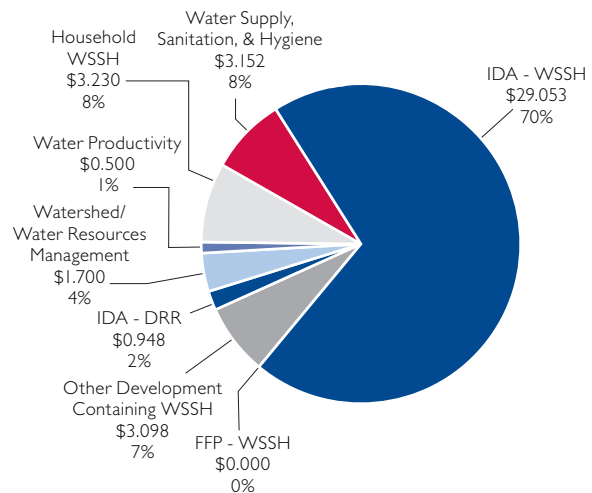
Data Source: FACTS Extract March & April 2011 with OFDA Extract April 2011

Figure 11: USAID Budget Allocations for the Water Sector by Theme, Middle East FY 2010
\$92.873 – 14% of World Total
 (Millions of Dollars)



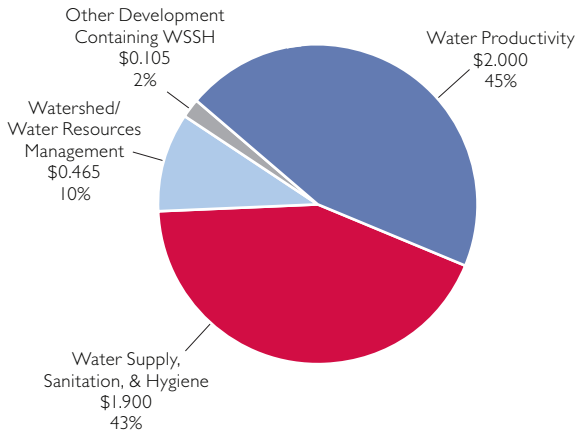
Data Source: FACTS Extract March & April 2011 with OFDA Extract April 2011

Figure 12: USAID Budget Allocations for the Water Sector by Theme, Latin America & the Caribbean FY 2010
\$41.681 – 6% of World Total
 (Millions of Dollars)



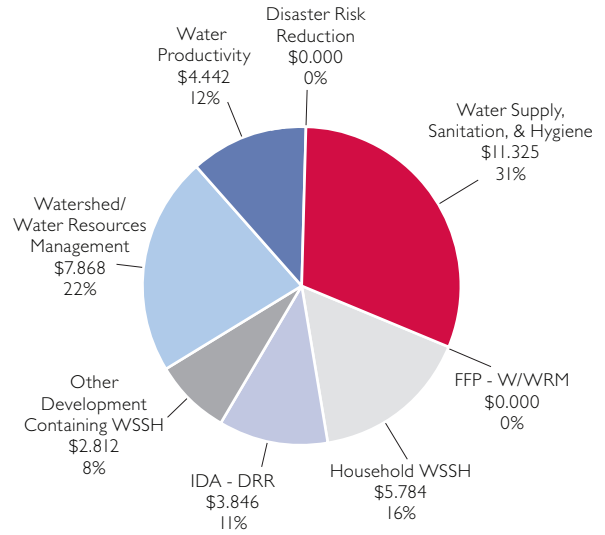
Data Source: FACTS Extract March & April 2011 with OFDA Extract April 2011

Figure 13: USAID Budget Allocations for the Water Sector by Theme, Europe & Eurasia FY 2010
\$4.470 – 1% of World Total
 (Millions of Dollars)



Data Source: FACTS Extract March & April 2011 | with OFDA Extract April 2011

Figure 14: USAID Budget Allocations for the Water Sector by Theme, Central Programs FY 2010
\$36.077 – 6% of World Total
 (Millions of Dollars)



Data Source: FACTS Extract March & April 2011 | with OFDA Extract April 2011

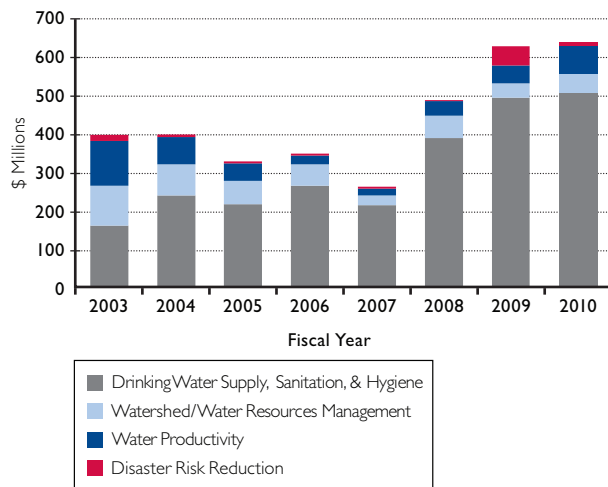
USAID Water Sector Funding Trends

In FY 2010, USAID WSSH funding directed at safe drinking water supply and sanitation projects reached \$520.4 million, the most from regular development appropriations sources (not including supplemental appropriations for Afghanistan or Iraq or other activities) since careful tracking of water sector funding levels began in 2000. The approximately \$27 million dollar increase from FY 2009 continued the upward trend in WSSH funding, which surged by 83 percent between FYs 2007 (\$213 million) and 2008 (\$389.9 million). The FY 2010 WSSH funding of more than \$520.4 million represented 81 percent of USAID's \$642.2 million total water sector portfolio.

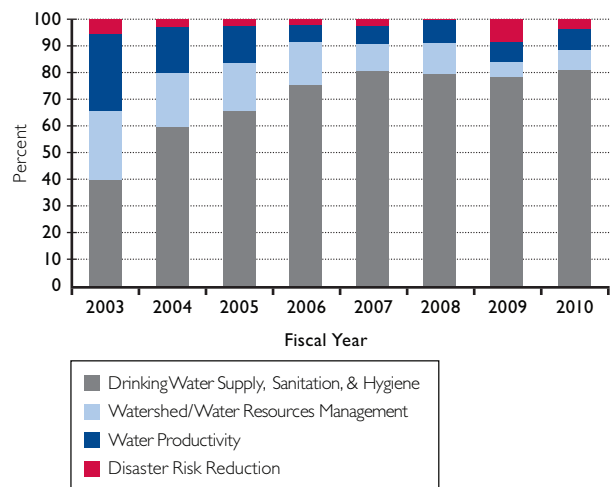
The remainder of the USAID FY 2010 water portfolio was split among WP, which received \$53.1 million (eight percent); W/WRM, \$47.2 million (seven percent); and DRR, \$21.5 million (four percent). The largest change between FYs 2009 and 2010 was a decline in DRR allocations from \$50.6 million (eight percent in FY 2009) to \$21.5 million (four percent in FY 2010).

The congressional directive for "water and sanitation supply projects" has increased throughout the decade, from \$100 million between 2003 and 2005 to the 2006–2007 level of \$200 million and then to \$300 million in FYs 2008 and 2009. Accordingly, WSSH rose as a percentage of all water sector allocations and commitments from 40 to 80 percent between 2003 and 2007 and has remained around 80 percent since. W/WRM and WP, taken together, meanwhile dropped from more than 60 percent to less than 20 percent. Since 2007, the entire USAID water sector portfolio more than doubled, from \$263 million in 2007 to \$630 million in FY 2009 and \$642.2 million in 2010, as did all WSSH activities, from \$213 million to \$493 million in FY 2009 and \$520.4 million in FY 2010. The figures below show USAID's water sector budget allocations by theme in actual amounts and as a percentage of total funding for FYs 2003 through 2010.

**Figure 15: USAID Budget Allocations for the Water Sector by Theme
FYs 2003 to 2010
(Millions of Dollars)**



**Figure 16: USAID Budget Allocations for the Water Sector by Theme
FYs 2003 to 2010
(As a Percentage of Total Funding for that Fiscal Year)**



Illustrative USAID Activities in FY 2010 in Water Supply, Sanitation, and Hygiene

Established WSSH Programs Continue to See Results

Results reported from ongoing USAID WSSH programs in 2010 included:

Democratic Republic of the Congo – In FY 2010, nearly 234,000 people gained access to improved drinking water supply and more than 123,000 people gained access to improved sanitation facilities. While these achievements substantially surpassed annual targets, they represent less than five percent of the population's needs in the target health zones. Through social marketing, water purifying products were distributed to allow the disinfection of more than 58.2 million liters of drinking water. The annual target of 33 million liters was exceeded because significant amounts of the products were distributed in emergency situations in cholera-endemic areas.

Ethiopia – In FY 2010, the United States funded the establishment/rehabilitation of 108 protected water supply systems comprising 86 hand-dug wells, 21 springs, and one motorized system. USAID programs contributed to the construction of 5,640 household pit latrines and 14 communal pit latrines for schools and health facilities as well as the development of more than 45 solid waste disposal systems in health facilities. Through these efforts, 56,200 people have access to safe drinking water, far exceeding the planned target of 15,000, and 28,200 people have access to improved sanitation facilities. Each solid waste disposal system established a water, sanitation, and hygiene (WSSH) committee (with women making up at least 40 percent of committee members) to oversee management and sanitation and hygiene promotion. USAID trained 737 WSSH committee members and 391 health extension and community health workers to ensure proper sustainability of the schemes and health information. In addition, the distribution of more than 20,000 behavior change materials and the use of innovative approaches resulted in changed



SKY WISEMAN

USAID funded the construction of this hand-dug well in Ethiopia's Somali region

behavior related to safe disposal of excreta, handwashing at critical times, and safe storage and handling of water. USAID/Ethiopia also helped improve pastoralists' access to water sources in regions often plagued by drought and overuse of water resources. USAID drilled eight deep boreholes (including installation of pumps and electrical lines), five springs, and five water reservoirs, and constructed 2,074 latrines. With FFP funds, USAID developed more than 320 hand-dug wells and supported the establishment, reinstatement, and capacity building of water and sanitation committees.

Haiti – USAID infrastructure programs completed 26 clean water activities in six "hot spot" cities and improved sanitation facilities at more than 40 schools. These activities increased permanent access to clean water for more than 170,000 people, double the year's target. Nearly 16,500 families, representing more than 82,000 people, benefited from improved sanitation activities that included clearing urban drainage canals that were also public toilets, garbage disposal sites, and breeding grounds for disease-carrying insects. These individuals also received safe water products from a USAID-supported health program. See page 23 for a summary of USAID's WSSH response to the January 2010 earthquake in Haiti.

Indonesia – In FY 2010, USAID efforts resulted in nearly 195,000 Indonesians gaining access to safe water and

more than 17,300 people benefiting from 67 community-based sanitation systems. USAID also assisted four city governments in eastern Indonesia in developing sanitation strategies. The Ministry of Health adopted a national action plan that will enable 10,000 villages to implement the new national community-based total sanitation policy developed with USAID assistance.

Kenya – As a result of USAID’s FY 2010 WSSH program, nearly 352,000 Kenyans obtained access to clean drinking water for the first time, more than triple the target of 100,000. Some 64,100 people had a modern sanitation facility for the first time, compared with a target of 50,000. As part of USAID project process to reach these numbers, USAID supported 2,780 safe-water outreach sessions to small groups. These sessions reached almost 99,000 individuals. Nearly 200 large events – “Water Days” or other public-awareness events – reached more than 150,300 people. The program also carried out social marketing for chlorine-based water purification tablets for treating water at home. Nearly 85 million water purification and treatment tablets were distributed, and more than 1.8 billion liters of water were treated for household use. USAID/OFDA carried out additional WSSH activities that benefited up to 89,000 people.

Madagascar – WSSH activities benefited nearly 889,000 persons living in rural areas. Working through the DIORANO-WASH network of more than 130 government agencies, NGOs and private voluntary organizations (PVOs), religious and social leaders, journalists, and private sector partners, USAID-supported activities promoted “community-led total sanitation” (CLTS) and trained nearly 2,000 local facilitators, 2,000 parishioners, and 500 community agents in hygiene and sanitation activities.⁴ CLTS and other approaches were undertaken in 668 villages in 320 communes in 12 out of Madagascar’s 22 regions. As a result, 8,000 people and 2,150 households no longer practice open defecation in the USAID

⁴ Community-led total sanitation is an innovative methodology for mobilizing communities to completely eliminate open defecation (OD). Communities are facilitated to conduct their own appraisal and analysis of OD and take their own action to become ODF (open defecation free). CLTS was pioneered by Kamal Kar (a development consultant from India) together with VERC (Village Education Resource Centre), a partner of WaterAid Bangladesh, in 2000 in Bangladesh.



USAID/MADAGASCAR

Children at a school in Madagascar line up to wash their hands with soap before going home for lunch.

intervention areas. In addition, 2,885 latrines were constructed, and more than 64,000 people in target areas gained access to improved sanitation, more than 10 percent higher than the target. USAID also worked closely with scout associations, Red Cross volunteers, and community leaders to promote the use of the Sûr’Eau POU water treatment product at the household level. Use of Sûr’Eau resulted in 2.5 billion liters of treated potable water being available to 496,000 households in Madagascar during the year. In urban areas, USAID support helped refurbish or build 10 fee-for-use sanitary units, with the number of users reaching 12,000 persons a month. USAID also promoted hygiene and stimulated demand for sanitation by training more than 270 local masons in the production, installation, and maintenance of the Sanplat washable and hygienic platform slab. In four regions, USAID repeated its annual household survey of hygiene practices, such as handwashing, drinking water use and storage, and hygienic disposal of human feces. In addition, 15 technical studies on water supply in priority communes helped identify the most appropriate technologies for providing sustainable potable water. USAID-funded projects also worked with community leaders to define a 10-year Commune Water and Sanitation Business Plan with the goal of improving WSSH services in priority villages.



Residents of northern Pakistan's Konch Valley unload supplies provided by USAID for building sanitation facilities near their homes.

Pakistan – USAID supported a network of 13 local NGOs to distribute water purification sachets and other hygiene products. To encourage acceptance and correct use of the products, NGOs were trained in demonstrating and promoting safe handling of drinking water and also in promoting handwashing and basic sanitation practices. As a result, more than 78 million liters of safe drinking water and 14.3 million water purification packets reached nearly 48,000 families. USAID also built the capacity of 51 local Pakistani partners to promote hygiene in 40 districts, including nearly all Federally Administered Tribal Areas and Frontier Regions. In the tribal areas, more than 33,000 hygiene promotion materials were distributed to teachers and students in 1,113 primary schools, ultimately reaching more than 15,000 students. In addition, radio spots reinforced these messages, airing 25,400 times across target districts. See page 25 for a summary of USAID's WSSH response to the floods that struck Pakistan beginning in July 2010.

Sudan – Sudan's WSSH program, USAID's largest in sub-Saharan Africa, ensured that sufficient POU water treatment products were distributed to disinfect approximately 190 million liters of water. The program enabled access to improved drinking water for more than 432,000 people and trained nearly 80,000 individuals in good health and hygiene practices.

Zambia – The School Water, Sanitation, and Hygiene Education (WASHE) program constructed 153 wells, 388 latrines with adjacent handwashing stations, and 217 double ventilated improved pit latrines, and rehabilitated 22 water-fed toilet blocks. As a result, more than 86,000 students now have access to improved sanitation facilities. WASHE also drilled 58 boreholes and renovated 95 water pumps, bringing clean drinking water to more than 51,000 students. To support the retention of female teachers in rural areas, USAID also assisted with the construction of 100 new latrines and washrooms at teachers' houses and 71 single latrines for teachers on school compounds. The program also established 400 school WASHE committees consisting of teachers, peer educators, and participants from neighboring communities with access to water points. The committees maintained latrines and water pumps, collected user fees from the community, and organized repairs. These committees also instructed students in the careful use of facilities and introduced hygiene education to the schools and local communities through drama clubs, educational murals, and the delivery of hygiene education lesson plans.

New in Africa in 2010

The USAID Missions in Ghana, Liberia, and Tanzania launched new WSSH initiatives in 2010.

Ghana – To address WSSH challenges in Ghana, USAID began a new activity with five components: 1) support for WSSH facility infrastructure; 2) a small grants facility to encourage innovation; 3) capacity building; 4) behavior change activities; and 5) the development and management of partnerships with private companies and civic groups to leverage resources for infrastructure. In each of these areas, gender factors that limit participation or access are specifically addressed. Work began in Ghana's Volta, Eastern, Greater Accra, Central, and Western regions, with the project selecting 11 local NGOs to provide behavior change communication services and mobilize communities in project areas to ensure that infrastructure is properly maintained and that hygiene behaviors are adopted. These NGOs received training in action plan development and monitoring and evaluation in WSSH activities. Together with the Ghanaian National



A Ghana Health Services community health center and USAID/Ghana support the operation of this handwashing station in a slum in the port town of Tema.

Community Water and Sanitation Agency, the project also selected 13 districts and district steering teams to participate in monitoring and evaluation and manage project issues. In the 13 districts, 137 communities were selected and sensitized for WSSH issues. A baseline survey was conducted to determine current WSSH access, use, and behaviors and to serve as a reference to track project results.

Liberia – The contract for the new five-year WSSH program was awarded late in the fiscal year with the goal of making measurable improvements in water supply in seven counties in order to reduce disease and the impact of illness, particularly on women and girls. The program will protect traditional water sources, such as creeks, springs, and open dug wells; partner with communities and households; improve water storage and POU decontamination; increase proper sanitation and hygiene through the promotion of handwashing stations, soap, and investments in human waste disposal; and

support policy development. The program will work at the national, country, community, and household levels. WSSH committees initiated health and hygiene promotion and education in 35 communities.

Tanzania – USAID/Tanzania developed a new integrated “iWASH” program based on a WSSH sector rapid assessment. With support from the Water and Development Alliance (WADA), the innovative partnership between USAID and the Coca-Cola Foundation, iWASH takes an integrated approach across natural resources management, rural development, and WSSH. It is the first effort in Tanzania to employ a multiple-use services approach focused on local WSSH markets and service providers. In critically threatened watersheds, iWASH will: 1) increase sustainable access to WSSH services for poor rural and small-town populations; 2) increase the number and capacity of water user groups to design, manage, and take a leadership role in long-term sustainable provision of safe and clean drinking water; 3) increase access to sustainable financing of WSSH activities; and 4) support sustainable management of the quantity and quality of water resources for domestic water supply and ecosystem services. After the award signing in February 2010, initial work included sensitization efforts at regional and local levels and with the Ministry of Water and Irrigation, where the program was well received. Later FY 2010 activities included training of private sector small-scale drillers and pump manufacturers in technologies iWASH aims to promote. USAID/Tanzania’s program also completed an evaluation of the 2007–2008 “WADA I” program in Tanzania in order to incorporate and apply lessons learned in the new “WADA II” iWASH activity.

Point-of-Use (POU) Water Treatment in Africa

USAID’s five-year Social Marketing Plus for Diarrheal Disease Control: Point-of-Use Water Disinfection and Zinc Treatment (POUZN) Project concluded in November 2010 after expanding POU water treatment in seven countries in sub-Saharan Africa, Haiti, and Nepal. The project led to a significant increase in use of water treatment products in the majority of the water disinfection programs. Exposure to mass media, social and



Students at a Benin primary school attend a water purification demonstration.

community support, perceived availability of POU water treatment, perceived threat from unsafe water, and individual self-confidence in one's ability to treat the water appropriately were all significant factors in increased use.

Some examples of project successes:

- In **Benin**, health workers, NGOs, public and private distributors, and retailers were trained about the Aquatabs water treatment product. The project then worked with local NGOs to reach the public on a person-to-person basis in key villages. These interpersonal communications were complemented by mass media promotion through radio, television, and billboard advertisements. Household water treatment practices showed improvements during the course of the project, with households with children under age 5 that had ever treated their water in the past more than doubling between 2006 and 2009.
- In **Kenya**, the POUZN Project increased accessibility to and demand for water treatment products by leveraging partnerships with NGOs, community-based organizations (CBOs), and district health officials to expand distribution, promotion, and behavioral messages among poor and vulnerable communities in Coast Province. After the conclusion of targeted communication activities in December 2009, a network of CBOs was able to continue to provide products through links with sales representatives and

retailers and share safe water messages with their communities. Through its partnerships with CBOs, the project expanded availability of three POU products – WaterGuard, PUR, and Aquatabs – and awareness and knowledge of POU treatment. In a 2009 survey of Coast Province, 69 percent of those surveyed knew that diarrhea can be contracted from water; 88 percent of caretakers in households with children under age 5 had heard of WaterGuard, and 80 percent knew where to obtain it.

- In **Rwanda**, POUZN diversified its distribution partners to include public sector health clinics, the commercial/pharmaceutical sector; community health workers, NGOs and CBOs, associations of people living with HIV/AIDS, and community health insurance providers. The project developed a communication campaign called “Good Life” that focused on the notion that Sûr'Eau offers caregivers comfort and peace of mind when they treat their water. Interpersonal communication techniques complemented the mass media campaign, increasing the impact of its efforts. As a result of these activities, POU water treatment availability and use in Rwanda made significant gains. The project put Sûr'Eau into local shops and caregivers' hands throughout the country, achieving near universal coverage in urban areas and reaching just less than half the population in rural areas. With such high coverage, usage increased dramatically. A 2010 survey showed the proportion of those who had ever used Sûr'Eau had doubled since 2007, from 20 to 40 percent. Moreover, 19 percent of survey respondents in 2010 reported using Sûr'Eau in the last 24 hours to treat their water.

New Water and Development Alliance Projects in Africa

The USAID/Coca-Cola Company's Water and Development Alliance (WADA) program supports a wide variety of water-related programs in Angola, Burundi, Ethiopia, Ghana, Ivory Coast, Kenya, Malawi, Mali, Mozambique, Niger, Nigeria, Senegal, South Africa, Tanzania, Uganda, and Zambia. The partnership's goals are to provide access to clean water and sanitation, promote hygiene, protect and conserve local water and watershed



Students in South Africa have benefited from leak repairs and the installation of improved water supply and sanitation infrastructure at schools through the USAID/Coca-Cola Company's joint Water and Development Alliance.

resources, and facilitate the productive and efficient use of water. During FY 2010, the Alliance provided nearly 38,000 persons in sub-Saharan Africa with improved water supply and more than 4,600 persons with improved sanitation services. Eight new multiyear programs, representing a \$12.7 million investment, were initiated in Angola, Burundi, Ghana, Malawi, Mozambique, Senegal, South Africa, and Tanzania. These programs are three-year initiatives, representing a shift toward longer-term efforts and exemplifying WADA's commitment to lasting sustainable solutions to global water challenges. With this new investment, USAID and the Coca-Cola Company will have committed \$28.1 million since 2005 to support 32 projects in 22 countries worldwide in Africa, Latin America, the Middle East, and Southeast Asia.

Multiple-Use Services Project in Niger Brings Multiple Benefits

USAID's Water for Health and Wealth: Multiple-Use Water Services project in Niger is bringing health, nutrition, income, and employment benefits to villagers in regions where it has been implemented. Multiple-use services (MUS) programs assume people need and use water for a range of purposes, from drinking and cooking in the home to generating income from farming and other economic activities, as opposed to a single use – only

for use in the home, for example, or for productive uses such as crop irrigation and livestock.

In the Niger project, villages have a new water supply developed with support from USAID and Coca Cola. Instead of drawing unclean water for drinking or watering crops from traditional wells, a system of rope pumps, treadle pumps, and irrigation canals provides clean water to homes and plentiful water for larger produce gardens with new crops. Cleaner water means better health, and the gardens are providing families with a year-round source of nutrition and increased income. The MUS project also has generated new employment, because both the rope pumps and the treadle pumps are manufactured locally, using only local materials. They also can be repaired locally for far less cost than the hand pumps in previous use.

The MUS program has so far improved water access for more than 13,500 people, helped more than 80 gardeners increase their crop yields, provided hygiene training for more than 17,000 persons, and installed and provided training for seven experimental aquaculture ponds. The use of the MUS strategy is based on a systematic cost-benefit assessment of multiple- versus single-use services and the potential suitability of MUS for South Asia and sub-Saharan Africa. The results of that assessment in 2007 indicated that while MUS can initially cost more than single-use systems, they offer significant advantages over the long term.

Collaborative Support for PEPAM in Senegal

In 2005, Senegal developed a programmatic approach to coordinate water supply and sanitation stakeholders called the Programme d'Eau Potable et d'Assainissement du Millénaire (PEPAM, or, in English, the Millennium Potable Water and Sanitation Program). PEPAM has been instrumental in setting Senegal's progressive water and sanitation sector policy and is an investment program that appears sufficient to meet Millennium Development Goal targets in urban and rural water supply and sanitation. As a major donor in Senegal's rural WSSH sector, USAID funds distinct projects under the larger PEPAM program.

In FY 2010, USAID programs continued to harmonize their water and sanitation efforts with PEPAM at the national and local levels and with the programs of other donors in the sector. For example, USAID's Millennium Water and Sanitation Program harmonized its work with PEPAM by putting in place effective service delivery frameworks and local government systems for planning and implementing water supply and sanitation programs. The USAID program helped 22 rural communities complete local water and sanitation plans and infrastructure inventories. In addition, it helped communities establish and train 54 water users associations and local management committees to address water and sanitation infrastructure planning and management. Women held 45 percent of the management positions of the water user associations supported by USAID, upholding the empowerment of female stakeholders in decision-making and management.

WSSH Infrastructure and Training in Somali Schools

USAID WSSH assistance in Somalia takes an integrated education and health approach to ensure that renovated and newly constructed classrooms are equipped with sanitation facilities, including latrines and handwashing facilities, and that teachers, parents, and children are trained in hygiene promotion. In FY 2010, nearly 24,000 students benefited from renovated and newly constructed WSSH facilities in schools. The construction and rehabilitation of school facilities included rehabilitating 121 latrines, constructing 210 new latrines, installing 142 handwashing facilities, rehabilitating 11 water tanks, and constructing 51 new water tanks in 62 schools throughout Somalia.

The program targeted schools in Somaliland, Puntland, and South-Central Somalia. In Somaliland, USAID helped rehabilitate 36 latrines and construct 66 new latrines. In addition, 47 handwashing facilities were installed or rehabilitated and 16 new water tanks installed. Almost 10,000 boys and girls benefited from these WSSH facilities. In addition, the program piloted hygiene and education clubs in 13 schools. To ensure equal gender participation, each club has 34 members, consisting of two teachers, two parents, and 30 students (15 boys and 15 girls). Hygiene and sanitation kits were distributed to the clubs of 10 primary schools in Marodijeex region. The kits consisted of wheelbarrows, shovels, rakes, buckets, brooms, and bar and detergent soaps. The sanitation kits helped make the clubs popular and increased the number of students interested in joining the clubs.

In Puntland, the program rehabilitated 42 latrines, built 92 new latrines, rehabilitated eight handwashing facilities, installed 81 new handwashing facilities, and built 20 water tanks. More than 9,200 boys and girls benefited from these WSSH facilities.

In South-Central Somalia, nearly 2,300 students in six schools benefited from 13 rehabilitated latrines and 20 new latrines, a handwashing facility, and seven new water tanks. The program also targeted 11 schools in Benadir and middle and lower Juba regions that received 30 rehabilitated and 32 new latrines, 16 new handwashing

AARON BROWN/USAID



USAID-supported WSSH activities in Senegal included the launch of a “one roof, one latrine” campaign in the Fatick region.

Even while the FY 2010 focus was on planning, awareness, demand creation, strengthened water users associations, and local and national-level collaborations, the program also provided more than 10,200 people with improved access to drinking water supply and nearly 2,680 people with access to improved sanitation.

facilities, and eight new water tanks, benefiting nearly 2,500 boys and girls.

As a result of these program activities, access to safe water storage facilities increased by almost 100 percent in the targeted schools. Students' hygienic practices improved, latrine usage increased significantly, and the incidence of waterborne diseases in the targeted schools declined. Before the program was implemented, latrine usage by students was poor, especially by girls. However, after the introduction of hygiene and sanitation training in the targeted schools, girls' use of latrines in schools increased.

WSSH Activities in Haiti Earthquake Response

The January 12 earthquake in Haiti created a sanitation emergency for virtually the entire country, particularly affecting the more than 1.5 million Haitians displaced by the disaster. In response, USAID, its U.S. Government partners, and the international community worked with the Government of Haiti to improve sanitation facilities to prevent the spread of disease. Immediate post-earthquake water and sanitation initiatives included installations of latrines and wash stations, a one-time distribution of clean water to more than 200,000 displaced persons, and distribution of 116,000 water

containers that benefited more than 291,000 people. Another 65,000 people, many of them in temporary camps, received chlorine tablets for purifying water. By late March, daily water distributions from USAID and other partners were reaching 1.2 million people. USAID was a major funder of activities of the relief effort's WSSH "cluster," whose partners built more than 11,000 toilets and nearly 3,000 showers, provided five liters of water per person per day, established 450 private water kiosks, trained more than 3,200 hygiene promoters, and distributed 200,000 hygiene kits. USAID additionally provided 11 water purification units, 22 water bladders, and 20 desludging trucks to empty latrines, and a USAID partnership with the Haitian Ministry of Health trained 120 youth peer educators in good hygiene and sanitation practices.

USAID also partially funded repairs to the Port-au-Prince piped distribution network that increased its capacity to 120 million liters – 50 percent more than it provided before the earthquake. Before the new rainy and hurricane seasons set in, USAID supported efforts to clear critical areas of congested drainage canals and clear debris from three key storm water channels to minimize flooding. When the cholera outbreak occurred in October, USAID/OFDA's cholera response plan included four elements: providing chlorine to increase availability of safe drinking water; providing national hygiene education outreach; providing Oral Rehydration Salts (ORS) and medical supplies; and increasing the number of cholera treatment centers (CTCs) and units (CTUs), particularly in underserved and rural areas.

Instituting Water Demand Management and Water Use Efficiency in Jordan

As one of the world's 10 driest countries, Jordan continually faces a water crisis. The country uses 50 percent more water than it receives; its needs are increasing with population growth and economic development; and its supplies are threatened by climate change. Instituting "water demand management" (WDM) and embracing water use efficiency throughout the country are thus at the foundation of USAID's water sector assistance. In 2010, this assistance received global recognition when

KENDRA HELMER/USAID



In Haiti, a positive result for vibrio cholera bacteria is seen in the Petri dish on the left. USAID/OFDA's cholera outbreak response plan focused on preventing cholera cases, reducing cases requiring hospitalization, and reducing the fatality rate.



Community grants support this water harvesting location in rural Jordan.

the Global Water Summit designated USAID's Instituting Water Demand Management in Jordan (IDARA) program the world's most comprehensive water efficiency project. Since its inception in 2007, IDARA activities have included:

- Developing an institutional model of WDM covering water policy, regulations, institutional support, technologies, best management practices, education, and outreach
- Fostering public-private partnerships to promote water use efficiency programs
- Supporting the Ministry of Water and Irrigation in developing a national water demand management policy
- Implementing pilot water efficiency projects to turn "best practices" into action
- Assisting a government task force on best management practices of water use in high-rise and high-density development projects
- Partnering with CBOs to advance water use efficiency in rural areas
- Promoting and institutionalizing sustainable water-efficient practices in the design and maintenance of

Jordanian parks and landscapes and developing a management guide on "water-wise" landscapes

- Helping the Ministry of Public Works and Housing develop a new standardized national plumbing code with equipment certification

In 2010, IDARA completed a nationwide survey of industrial and commercial water use to create the basis for a program of conservation practices, policies, and standards for safe water.

Managing wastewater and expanding its treatment and reuse is also a major element of water use efficiency in Jordan, and gaining public acceptance of the use of treated wastewater is a major achievement of the USAID/Jordan water program. In 2010, a wastewater treatment plant serving 30,000 residents of small communities was completed, and USAID/Jordan's Operations and Maintenance Training project continued to certify water and wastewater plant operators while expanding its scope to include water distribution and wastewater collection.

Water Resources and Infrastructure Program in West Bank and Gaza

USAID's West Bank and Gaza Mission supports water infrastructure projects essential for a viable Palestinian state, including water well drilling and water transmission and distribution projects. Through its Water Resources and Infrastructure (WRI) Program, in FY 2010 USAID constructed 115 water cisterns and installed more than 51,000 linear meters (167,323 feet) of water pipes to supply 4,700 cubic meters (1.2 million gallons) of water per year to 10 villages across the West Bank. As a result, 43,000 people received improved drinking water supply. In terms of the bulk water supply system, an additional 105.3 kilometers (65.4 miles) of water transmission pipelines were constructed.

The Infrastructure Needs Program (INP), a component of WRI, supported construction of a new water transmission line extending the existing bulk water supply system; construction of four new water distribution systems and four new water reservoirs; and procurement of 199



Reservoir construction is a major activity of USAID's Water Resources and Infrastructure Program in the West Bank and Gaza.

kilometers of small- and large-diameter steel water pipes. These projects benefited more than 1.4 million Palestinians. Under INP, rehabilitation of nine well pumping stations and construction of five new water wells and three new water reservoirs began in 2010 and will continue into 2011.

The Emergency Water and Sanitation and Other Infrastructure (EWAS) II Program, another WRI component, provided assistance to disadvantaged and isolated communities in rural areas. Water and sanitation facilities of two girls schools were upgraded, and a water drainage system was provided to a village in Hebron district. EWAS II also constructed a sewage line in Hebron's old city and 120 water catchments for drinking purposes in a marginalized Bedouin village in the southern part of the West Bank. These projects benefited more than 31,600 people.

WSSH Activities in Pakistan Flood Response

Extraordinarily heavy July 2010 rainfalls in northern Pakistan brought devastating floods to much of the country. With widespread flooding occurring in 82 of the country's 122 districts and eventually affecting 18 million people and destroying 1.7 million homes. In the

water sector, flood waters swamped wells, destroyed pipes and taps, and contaminated rivers and ponds with bacteria and sediments. To address the resulting drinking water and sanitation crisis, USAID and its implementing partners rehabilitated pumps and wells, provided emergency water supplies, and distributed POU disinfection products to thousands of families. By November 2010, USAID had provided 13 mobile water treatment units capable of supplying 220,000 people with five liters of clean water each day. The units were stationed in some of the most flood-affected districts and produced more than 7.5 million liters of clean water. USAID also provided twelve 10,000-liter water bladders; approximately 500,000 five- and 10-liter water containers for families to collect, transport, and store household water; and more than 8,100 storage tanks. In partnership with UNICEF and local NGOs, USAID distributed 15 million chlorine tablets and 12 million combined flocculation and disinfection sachets, each able to treat 10 liters of water in a single application. To address sanitation needs and minimize outbreaks of waterborne diseases such as diarrhea and cholera, USAID grantees built thousands of communal latrines in areas housing more than 600,000 displaced people. USAID-funded relief organizations traveled to flood-affected communities to conduct 172 health and hygiene sessions for flood-affected families and distributed 625,000 bars of soap along with related educational materials to promote proper health and hygiene practices. The total effort produced enough clean water for more than two million flood victims per day across the entire nation and limited the impact of waterborne diseases.

Afghan Water Supply and Sanitation Project Delivers First-Year Results

Launched in October 2009, the Afghan Sustainable Water Supply and Sanitation (SWSS) Project partners with other NGOs, community organizations, and provincial reconstruction teams (PRT) to design, install, and operate sustainable potable water systems and hygiene promotion mechanisms. Another activity is to mobilize communities to end open defecation using community-led total sanitation (CLTS) interventions led by SWSS-trained facilitators and hygiene promoters.

These interventions raise awareness of collective hygiene behaviors and result in community members improving their household latrines.

In poor communities, SWSS is expanding access to potable water supply and sanitation services and decreasing the incidence of water-related diseases through household hygiene interventions. Beyond the provision of basic WSSH services, SWSS boosts community awareness of the need for water conservation and watershed protection in relation to potable water supply.

The SWSS approach encompasses:

- Providing technical assistance for installing and maintaining clean water delivery systems with communities
- Executing an extensive parallel health and hygiene education program that engages beneficiaries in resolving their own water, sanitation, and hygiene challenges
- Mobilizing innovative forms of capital that expand the engagement of the small-scale private sector in providing WSSH goods and services

In each of these endeavors, SWSS also seeks to support capacity building, community empowerment, demand

creation, innovative financing and entrepreneurship, gender mainstreaming, and environmental improvement.

Between the project's inception in October 2009 and early 2011, SWSS achieved the following results:

- 750 improved water wells constructed serving 127,700 people
- CLTS programs serving 37,919 people, with 5,417 household latrines built or improved
- Active programs in 22 of 35 provinces
- Six ongoing provincial CLTS programs
- Three community piped water schemes contracted and under construction

New Safe Drinking Water Project in Tajikistan

Access to clean water in Tajikistan is among the lowest in the world. According to the WHO, 42 percent of the population is without clean water, and only 20 percent of Tajiks consume water from a modern, centralized water treatment and distribution system. Up to 60 percent of intestinal diseases in the country are waterborne. To address these problems, USAID launched the Tajikistan Safe Drinking Water Project (TSDWP) in FY 2010. TSDWP works with communities (both local governments and citizens) to increase access to sustainable potable water supply in households in competitively selected rural communities by 1) improving community capacity for health promotion, 2) supporting communities in building water supply infrastructure, 3) involving the community in operating and managing the infrastructure, and 4) providing intensive training in health and hygiene. TSDWP also builds the capacity of local health workers and community leaders to promote improved hygiene behaviors, such as proper handwashing by schoolchildren, improved water storage, and use of affordable POU water treatment methods in homes, villages, and schools.

In the first year of TSDWP's operation, eight partner communities began construction of water supply infra-

CHEMONICS INTERNATIONAL



An 11-year-old Afghan girl fills a teapot from a new village well.



A Tajik villager collects water from a USAID-funded pump steps away from his home.

structure that will ultimately deliver safe drinking water to almost 12,000 people. Health educators from the TSDWP health team held a series of education sessions on waterborne diseases and hygiene promotion in seven TSDWP partner communities. More than 1,800 school-children participated in sessions conducted by TSDWP-trained child-to-child educators. Another series of education sessions on waterborne diseases and hygiene promotion was conducted by community health educators in TSDWP partner communities; nearly 1,100 adults completed these sessions.

Within the framework of TSDWP, USAID and Tajikistan Technical University also supported the creation of the Center for Safe Drinking Water Solutions. The Center will provide students from the Department of Water Engineering with practical internships on the development of safe drinking water alternatives and will find safe drinking water solutions for rural communities while also preparing Tajikistan's next generation of water engineers.

Philippine Water Revolving Fund

In FY 2010, USAID's continued support to the Philippine Water Revolving Fund (PWRF) helped finance two water supply projects that will provide 150,000 people

with access to improved water supply once the systems are constructed. PWRF supports the ambitious plan of the Philippine government to reshape how the country's water and sanitation infrastructure is financed and bring improved water and sanitation services to 14 – 15 million Filipinos. PWRF seeks to mobilize innovative financing for water and sanitation infrastructure, expand the number of viable water and sanitation infrastructure projects, and strengthen water and financial sector policies and institutional capabilities. It leverages public funds with private funds—with USAID's Development Credit Authority providing credit guarantees for the private funds. With the two new water supply projects, PWRF and private financing have assisted at least eight projects. In FY 2010, USAID also supported efforts to increase PWRF use by:

- Providing technical assistance for drafting a water regulatory commission bill
- Training utilities on business planning and water accounts
- Supporting partnerships among water utilities
- Drafting guidelines for rationalizing water subsidies

The program is also promoting better long-range planning by utilities and helping the government establish a project development facility to address financing issues.

WSSH Activities Continue to Assist Asian Cities

USAID's Environmental Cooperation-Asia (ECO-Asia) water and sanitation program, operating out of the USAID Regional Development Mission for Asia (RDM/A), achieved clean water and sanitation objectives by facilitating "twinning" partnerships between water service providers and by implementing WSSH marketing activities. During FY 2010, eight partnerships in six countries and marketing activities in three countries improved access to water and sanitation for 420,000 people. ECO-Asia continued to strengthen WaterLinks, the regional partnership network of water service providers that promotes improved access to services



Low-cost ceramic water purifiers, marketed in Cambodia by USAID's WaterSHED activity, eliminate the need to boil water, resulting in potentially substantial carbon reduction as well as clean water for consumption.

through utility-to-utility exchange of best practices. Main focus areas included:

- Enabling safe water access for the urban poor
- Promoting sustainable sanitation
- Strengthening utility performance
- Improving water quality

WaterLinks is recognized globally by the United Nations Human Settlements Programme (UN-HABITAT) as a model for facilitating water operator partnerships. WaterLinks twinning programs were launched, implemented, or expanded in China, India, Indonesia, the Philippines, Thailand, and Vietnam.

In Cambodia, another RDM/A project titled Water, Sanitation, and Hygiene Enterprise Development (WaterSHED) introduced new latrine designs and low-cost

water filters and developed a new ceramic water purifier production facility in Kampong Chhnang province that opened on the first day of FY 2011 and will eventually be able to produce up to 10,000 purifiers a month. WaterSHED also marketed WSSH products and services in Laos and Vietnam.

DWASH in Timor Leste

In some rural areas of Timor Leste, access to sanitation is less than 30 percent, open defecation is prevalent, and people travel extraordinarily long distances to gather water. To address these problems through sustainable WSSH interventions, USAID introduced its District Water Supply, Sanitation and Hygiene Services (DWASH) Project. DWASH trains district government and water agencies, community-level water user groups, community health volunteers, and natural resources management groups to operate water resources and delivery systems more efficiently. Training has improved these stakeholders' understanding of their responsibilities, facilitating a better sense of stewardship and reducing conflict.

The DWASH community-based management framework promotes decentralized decision-making for all program service areas. Water management groups are established to manage newly rehabilitated water systems. To sustain the local structures, the project trains district- and subdistrict-level government employees responsible for community water supply and sanitation services in facilitation and monitoring skills.

DWASH accomplishments in FY 2010 included enabling or providing:

- Approximately 20,000 people in two districts with improved water supply
- Handwashing stations in 58 percent of assisted communities
- 55 WSSH and natural resources management committees
- No visible open defecation in 59 percent of households
- Training to 7,038 stakeholders

Illustrative USAID Activities in FY 2010 in Watershed/Water Resources Management

USAID/Ecuador's Wide-Ranging W/WRM Portfolio

USAID/Ecuador continued its support for a number of water-related environmental and biodiversity projects in 2010 including:

- **The Sustainable Landscapes, Ocean and Coastal Activities, and Tropical Forests project**, which addressed the protection of high-altitude humid grasslands and cloud forests through a watershed management project. Watersheds are critical for water supplies of several of Ecuador's largest cities, most of the country's electric power generation, and large areas of irrigated agriculture. These critical needs are all threatened by decreased precipitation and increased evapotranspiration predicted with global warming, so optimizing the management of water resources is critical.
- **The Protecting Water Resources to Conserve Biodiversity project**, which completed its first year as principal partner of the Quito Water Fund after the assistance of an international NGO phased out. The project improved the management of 82,010 hectares of key watersheds. The watershed protected area in the upper watershed enables normal rainwater infiltration and ground water recharge that provides clear waterflow to the people down stream. In FY 2010, the project trained 799 people and park guards on natural resources management and expanded environmental education to 6,600 children. The project also supported a battery disposal campaign involving 56 schools that collected 11,000 batteries, thus preventing drinking water from potential contamination. Ten income-generation projects helped 1,351 people improve their livelihoods and reduce environmentally damaging practices such as grazing cattle in fragile high-altitude grasslands. The fund also signed a memorandum of understanding with Ecuador's National Water Secretariat to study water governance in the Guayllabamba watershed. The Secretariat's



JAMES HUTCHINS/ME&A

USAID-assisted programs in Ecuador play an important role in managing watersheds that provide critical water supplies to many of the country's largest cities.

findings will be an important input into a new national water policy.

- **The Sustainable Forests and Coasts project**, which made a noteworthy impact on improving local environmental conservation and livelihoods. In its first year of implementation, the project placed 271,391 hectares of terrestrial and coastal-marine areas under improved management and trained nearly 1,300 stakeholders (415 of them women) in natural resources management. Nearly 3,000 people derived economic benefits from the project. In other parts of the project not dealing with water, the project also supported land titling that helped coastal families increase their property values by 170 percent. In addition, the project initiated a socioeconomic and environmental vulnerability analysis and adaptation measures for El Salado mangrove, which included a map and hydrodynamic model to simulate the possible effects of sea level rise on nearby Guayaquil, Ecuador's largest city.

USAID/Ecuador also supported W/WRM activities to protect and improve water supplies in Quito, Zamora, Tungurahua, Paute, and Loja. Financial support for non-destructive productive activities and improved management practices (e.g., participatory planning, environmental education, park guards) reduced threats to biodiversity

and helped improve the quantity and quality of drinking water; and four new endowments were established to support water resources management through integrated planning.

Biodiversity Strategy and Action Plan in Mara River Basin in Kenya and Tanzania

One goal of the Transboundary Water for Biodiversity and Human Health in the Mara River Basin Project in Kenya and Tanzania is to improve water resources management in ways that reduce and mitigate threats to biodiversity in the Mara River Basin and Mara-Serengeti Ecoregion. The Mara-Serengeti ecosystem is one of Earth's biodiversity treasures, and the survival of its biodiversity hinges on transnational flows of water that sustain species by providing unique riverine habitats.

In 2010, the project conducted a biodiversity threats survey to identify biodiversity hot spots in the basin, threats to the biodiversity, and actions needed to conserve it. The survey was condensed into a biodiversity strategy and action plan (BSAP), and the project also carried out a survey of water quality and quantity needed to maintain biodiversity in the basin through the environmental flows assessment (EFA) methodology.

The major threats to biodiversity identified in the analysis were the diminishing water quality and quantity flowing in the Mara River; land use practices encroaching on protected wildlife parks, increased siltation in the lower Mara River; and poor management of the river's upper catchment.

The EFA established an environmental flows prescription model that can be incorporated into water management plans. The model can feed into the operational plans of national and regional institutions and inform a transboundary dialogue on shared management of the basin's water resources. The BSAP identified three key habitats within the Mara River Basin: the upper forest catchment, protected wildlife parks, and the aquatic and riverine ecosystem. The BSAP has made recommendations for sustainable protection of biodiversity and natural resources management for each habitat.

The Lake Victoria Basin Commission of the East African Community and the Regional Economic Community adopted the BSAP and EFA to inform interventions in the basin that are currently funded by USAID/East Africa. This has led to a higher level of stakeholder engagement and dialogue to pursue a transboundary agreement on integrated river basin management. In the long term, the project hopes to achieve a transboundary management framework.

New Regional W/WRM Program in Southern Africa

The new USAID Southern Africa Regional Environmental Program (SAREP) was launched in June 2010 as a successor project to the Integrated River Basin Management project that ended in 2009. SAREP will work with the Southern Africa Development Community and the Permanent Okavango River Basin Water Commission (OKACOM) to implement strategies that integrate biodiversity protection, increase access to water supply and sanitation, and focus on global climate change. It will also work to ensure that transboundary water resources management sustains various needs for water, including human consumption and use. Activities will be implemented within the watershed of the Okavango River Basin, which encompasses land areas in Angola, Botswana, and Namibia. For communities surrounding



CHRIS SCHAAN/USAID

USAID's new Southern Africa Environmental Program will include water resources management in the Okavango River Basin, shown here as the river passes through Angola.

the Okavango River; the program provides easier access to clean water and reduces contamination, opening the door to better farming techniques and new employment opportunities while ensuring better environmental management. In anticipation of water-and-sanitation-specific projects to begin in 2011, SAREP assisted the OKACOM technical committee in 2010 in finalizing national action plans for national-level integrated W/WRM interventions in the basin.

Egypt's Integrated Water Resources Management Program

USAID continued to support Egypt's Integrated Water Resources Management (IWRM) Program in partnership with the Ministry of Water Resources and Irrigation (MWRI). IWRM II, which began in 2009, aims to improve water use efficiency and water quality by decentralizing water management activities and actions to the district and user levels. With support from USAID, IWRM II is expanding throughout the entire East Nile Delta to include an additional eight irrigation directorates in seven governorates. Through the program, MWRI has established eight integrated water management directorates,

45 integrated water management districts (IWMDs), and 621 branch canal water users associations (BCWUAs) covering 1,200 branch canals. The coverage area of the districts and BCWUAs amounts to 27 percent of Egypt's land and reaches more than 12.5 million farmers and other water users, 900,000 of them directly through the BCWUAs. The program works closely with all levels of the integrated water management system to provide technical assistance and capacity building support. Under the decentralized system, farmers' participation in management has increased, and an irrigated area of more than 800,000 hectares has been brought under improved water management. IWRM II also continued to make progress in improving gender representation, with women making up 25 percent of IWMDs section heads, 10 percent of BCWUA board members, and 15 percent of participants in training courses.

Water Governance Benchmarking in Middle East and North Africa

As part of its Blue Revolution Initiative, USAID's Office of Middle East Programs supported the Regional Water Governance Benchmarking project as part of an effort to develop a means of understanding and measuring water governance and a system for regularly assessing water governance performance. From 2008 to 2010, the project built a strategic framework and established indicators and benchmarks to guide and monitor national progress on improving water governance in the Middle East and North Africa. Six countries (Egypt, Jordan, Morocco, Turkey, Oman, and Yemen) that face water governance tasks participated in the project. All these countries face difficult water governance tasks in such areas as assigning water responsibilities among ministries and departments; dividing water between cities, agriculture, and the environment; planning to meet future water needs; commissioning new water infrastructure; and introducing licensing systems for water wells.

The strategic framework developed by the project examines policies and laws, functional performance, and decision processes. It covers such water governance functions as:

- Organizing and building capacity in the water sector

MINA LUKA/USAID



This canal was partially covered thanks to an activity of Egypt's Integrated Water Resources Management Program. Covering it has reduced the amount of garbage and sewage entering the canal.

- Planning strategically
- Allocating water
- Developing and managing water resources
- Regulating water resources and services

The framework also incorporates transparency, participation, accountability, integrity, rule of law, and responsiveness as process elements of effective conduct of these water governance functions.

At a two-day workshop in Amman, Jordan, the participants performed strengths-and-weaknesses analyses of water governance in their respective countries. In noting key governance challenges being faced, participants from Morocco, Oman, and Jordan cited groundwater regulation, while participants from Egypt, Turkey, and Jordan cited the challenge of decentralizing surface water management, including transferring responsibilities to private utilities and irrigators' associations. As strengths of national water governance, participants commonly mentioned the existence of updated policies and laws, clearly defined roles and organizational responsibilities, and the existence of good hydrological data. Weaknesses included difficulty in keeping experienced technical staff in relatively low-paying public sector jobs, difficulty in implementing laws and policies, lack of transparency in decision-making, and difficulty in regulating groundwater withdrawals and water quality. The water governance framework developed by the project proved useful and effective in analyzing national water governance.

ECO-Asia Helps Southeast Asian Countries Address Mekong River Issues

The Mekong River originates in China and traverses five Southeast Asian countries – Burma, Laos, Thailand, Cambodia, and Vietnam. Its course through these countries poses various transboundary issues, which USAID's ECO-Asia program helps the region address on a collaborative basis. In 2010, in collaboration with the Asian Development Bank, Mekong River Commission, and World Wide Fund for Nature, ECO-Asia supported the de-

velopment of a tool for assessing the impact of multiple hydropower schemes on the environment and affected communities in the Mekong River Basin. By providing guiding principles and performance criteria to improve the environmental aspects of proposed hydropower projects in the early stages of planning, the Rapid Basin-wide Hydropower Sustainability Assessment Tool (RSAT) aims to benefit the governments, dam developers, and affected communities of the Lower Mekong countries. The first of its kind, the tool enables practitioners and dialogue partners to rapidly assess basin-wide considerations for hydropower sustainability. RSAT is designed for use at a desktop level and can assess the sustainability of a single hydropower project and its relationship to a sub-basin or of an existing or proposed cascade of dams or multiple dams within a sub-basin. It is designed for a wide range of users including governments, hydropower developers, development banks, and river basin commissions. It also enables project developers and dialogue partners to evaluate transboundary impacts.

ECO-Asia also facilitated collaboration on the transboundary management of aquatic resources shared by Laos and Cambodia, with a memorandum of understanding signed in September by the Minister of



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Three boys fish from a boat on the Mekong River near Luang Prabang, Laos. The river is an essential resource for transportation, food, and trade for countless communities along its course from China, through Southeast Asia, to the South China Sea.

Agriculture, Forestry, and Fisheries of Cambodia and the Minister of Agriculture and Forestry of Laos. The memorandum formed a basis for establishing and convening the Transboundary Committee on Aquatic Resources at the Stung Treng-Champassak wetland along the Mekong River. The committee will promote sustainable fisheries and help protect the Irrawaddy dolphin.

Program Assists Coral Triangle Countries with Marine and Coastal Resources Management

In 2009, USAID initiated its U.S. Coral Triangle Initiative Support Program to assist the Coral Triangle Initiative On Coral Reefs, Fisheries, and Food Security (CTI) undertaken by the six “Coral Triangle” (CT6) countries of Indonesia, Malaysia, Papua New Guinea, the Philippines, the Solomon Islands, and Timor Leste. USAID’s CTI Support Program is helping CTI improve the management of biologically and economically important coastal and marine resources and ecosystems, which in turn will improve food security, livelihoods, biodiversity conservation, and climate change resilience across the region. In 2010, the program supported and engaged in a variety of activities throughout the CT6 and beyond, as seen in the examples below:

- Representatives from more than 20 coastal districts across Southeast Sulawesi, Indonesia, participated in a symposium on coastal and marine resources management and drafted “the Wakatobi Commitment,” a groundbreaking proposal that promotes coastal resources management as a basic municipal service. The symposium was inspired by the participation of the Regent of Wakatobi in the CTI Support Program’s Regional Exchange.
- Community leaders from 20 villages in or near the proposed Tun Mustapha Marine Park in Sabah, Malaysia, completed a program to strengthen marine wildlife protection, specifically for sea turtles. The proposed marine park covers roughly one million hectares. It is an important habitat for marine turtles and coral reefs but is threatened by overfishing, destructive fishing, and uncontrolled coastal development. The training was organized by the World Wide Fund for Nature’s



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The Philippines possess one of the richest levels of biodiversity in the world. Coastal waters support more than 450 coral and 2,500 fish species, but many are threatened by the growing human population.

Malaysia office and the Sabah Wildlife Department and supported by USAID’s U.S. Coral Triangle Support Partnership (CTSP), a mechanism of the CTI Support Program.

- With the assistance of CTSP and the Philippines Department of Environment and Natural Resources, the Governments of the Philippines, Indonesia, and Malaysia launched three action plans at the East Asian Seas Congress in Manila. These plans will strengthen the management of marine protected areas (MPAs), improve sustainable fisheries, and protect threatened species across the vast Sulu-Sulawesi Marine Ecoregion. The ecoregion covers 950,000 square kilometers of open sea, straddles Philippine, Indonesian, and

Malaysian territories, and is considered the apex of the Coral Triangle region.

- In Timor Leste, CTSP conducted a multimedia outreach campaign to launch a village mobilization program throughout Nino Konia Santana National Park to raise awareness and increase engagement on marine resources issues. CTSP worked with the national ministries of agriculture and environment and provincial and local district officers to reach more than 900 people in six villages. These activities supported the CTI Support Program's strategic plan to establish an MPA at the park and make it a model for the Timor-Leste national coastal zone management program. The park encompasses 68,000 hectares of land and 55,600 hectares of sea, including extensive coral reefs and one of the largest remaining intact examples of tropical lowland and coastal monsoon rainforest in the region.
- At the first CTI Business Summit in Manila, the CTI Support Program facilitated agreements with the private sector, helping delegates from all CT6 governments engage representatives from business and industry to identify partnership opportunities and prepare private sector engagement action plans. Four agreements were signed to develop partnerships for sustainable marine and coastal resources, including commitments to improve sustainable fisheries.
- With the assistance of the CTI Support Program, the municipal government in Calatagan, Philippines, established a mangrove nursery to support conservation efforts in the Verde Island Passage. The passage is a narrow corridor of coral-filled waters with one of the highest concentrations of marine species in the world, and healthy mangrove forests will support its marine ecosystem.
- The CTI Support Program facilitated and organized a forum in Phuket, Thailand, with the objective of creating a regionwide MPA system in the Coral Triangle region. During the meeting, government representatives, technical experts and other stakeholders developed lessons learned from existing MPAs in CTI countries



CYDNEY GUMANN/ME&A

Mangrove seedlings help stop coastal erosion, anchor soils, buffer storm surges, and provide habitat for countless wetland species of plants and animals.

to develop strategies on how national systems can be linked within a regional network to ensure protection of the most critical marine ecosystems across the Coral Triangle. Representatives designed national MPA networks and drafted the objectives of a regionwide MPA network.

- The CTI Support Program facilitated and funded the participation of government officials, university faculty, and professionals from CTI countries in a three-week course on coastal adaptation to climate change at the University of Rhode Island. Participants gained knowledge, skills, and tools for assessing the vulnerability of coastal communities to climate change and identifying adaptation options. The participants also received training in developing strategies to address coastal impacts of climate change. Another group of officials, faculty, and professionals completed a three-week course on fisheries management leadership and how to integrate livelihood, sustainability, aquaculture, tourism, and coastal development in fisheries management.
- Through the CTSP, the CTI Support Program and the Department of Fisheries in Sabah, Malaysia, implemented a buyback and release program to increase the area's rare species populations by rescuing stocks of rare fish species held by local traders. As of July,



Wayag Sayang, a marine protected area in northern Raja Ampat, New Guinea. USAID provides support to the countries within the Coral Triangle.

a low-income area where marine resources are at risk from unregulated fishing practices and lack of marine law enforcement.

the program had rescued 862 rare humphead wrasse, which were tagged for monitoring and released in several undisclosed MPAs throughout Sabah.

- Sixty members of the Philippine Coast Guard and Philippine National Police learned rescue techniques for saving stranded marine wildlife at a two-day training program organized by the CTI Support Program. The training focused on identifying marine mammals, turtles, and sharks and managing and reporting rescue responses.
- In collaboration with the Palawan, Philippines, Council for Sustainable Development, Western Philippine University, and the Environmental Legal Assistance Center, CTSP supported a workshop to develop a plan on ecosystem-based fisheries management plan with a specific focus on controlling the growing live reef fish trade in the area. More than 100 fishermen, live reef fish traders, and local government officials participated and identified several priority actions, including the establishment of MPAs, a regulatory system for fishers and traders, and municipal water boundaries and zones. They also discussed illegal fishing practices, poaching, and overlapping municipal waters between neighboring towns that confuse fishermen. The workshop took place in Palawan's Araceli municipality,

Illustrative USAID Activities in FY 2010 in Water Productivity and Food Security

Global FISH Alliance Reforms Honduran Lobster Fishery

In 2010, a USAID-supported program in Honduras continued to help revive the country's declining spiny lobster fishery, which faced a growing crisis from declining stocks caused by overfishing, habitat degradation from destructive fishing practices, and removal of critical fish habitats such as mangrove forests and coral reefs. After generations of harvesting lobsters for food and export, coastal communities faced the harsh realities of growing poverty and food insecurity resulting from the loss of a productive fishery.

To reverse this decline, the Spiny Lobster Initiative (SLI), created in 2009 under the USAID-sponsored Global FISH Alliance (G-FISH) worked with multiple stakeholders from governmental, private, social, and environmental sectors to make remarkable progress in its first year to improve fishery management. Taking an ecosystem-based management approach to restore habitat and rebuild lobster stocks, SLI used the "systemwide collaborative action for livelihoods and the environment" methodology to encourage public participation and build collaborative partnerships across the entire fishery value chain. Connecting stakeholders from fishers, divers, and trappers to inspectors, processors, and importers, SLI fostered dialogue on common goals and actions to create systemwide changes that will sustain the spiny lobster population.

Participants included the Honduran Navy, Merchant Marines, Fisheries Directorate, the Honduran Hotel and Restaurant Association, and other private sector partners, including Darden Restaurants, the world's largest full-service restaurant company. These partners identified needs such as closer coordination and communication to ensure compliance with fishing regulations, increased responsible serving and consumption of lobsters in restaurants, and a forum to discuss marketing



USAID

Rejuvenating Honduras' spiny lobster fisheries also means new work for makers of lobster traps.

strategies and best management practices. As a result, SLI hosted a technical symposium at which more than 200 stakeholders from Honduras and Nicaragua promoted best practices such as certification, access to new markets, restoration and management of critical habitats, rights-based management, and economic alternatives for displaced lobster divers.

A new Honduran government in 2010 made fisheries reform a top priority. SLI organized the Government's first meeting with the fisheries sector and helped the Government set a vision for fisheries reform that keeps fishers working. As a result, the fisheries sector is poised for major reform, with stakeholders agreeing on the need for good management, best practices, marine zoning, and ecological reserves to restore the stocks and protect the rich biodiversity of Honduran coastal waters.

Water and Food Security in Rural Chad

A five-year food security project in east and north-central Chad addressed food security and agricultural and health issues in rural communities with revenues generated from the sale of FFP food aid. The project addressed risk factors associated with rain-fed agriculture by improving the use of water resources through impoundment and diversion of runoff from intermittent water courses, by digging garden wells for vegetable

production during the off season, and by improving agricultural technologies such as animal traction, improved seeds, mixed cropping, organic fertilizer, contour plowing, and postharvest storage.

The program, which also includes a health component, will benefit 99,000 individuals on rural farms in regions that are among the poorest, least food secure in the country. The rain-fed cereals harvest, even in good years, does not cover consumption needs for an entire year, causing households to fill the gap with off-season small-scale vegetable gardening, recessional sorghum farming, livestock, seasonal migration, and recourse to wild survival foods. Water is a key constraint in the project zone, and the project included activities to increase both water quantity and quality. Food production increases were obtained through water harvesting and the installation of garden wells. Three midsize “check dams” were undergoing rehabilitation and when completed will significantly increase the availability of cultivable land for growing sorghum and off-season vegetables. During FY 2010, small-scale dam, pond, and dike construction reclaimed 122 hectares of land for agricultural use. Other project outputs during the year included:

- Nearly 12,000 farmers trained in seed production, compost making, and farming techniques
- More than 700 hectares of land improved with the construction of mud dikes and small water retention structures
- Seven wells dug for vegetable gardening
- More than 1,900 demonstration plots established and making use of improved seed and mixed-cropping techniques
- Assistance to 420 producers associations, water user associations, trade and business associations, and community-based organizations
- Literacy training for nearly 1,700 women

In the health sector, the project increased access to clean drinking water by installing borehole wells and by training on water purification (chlorination and boiling) and water hygiene behaviors. During FY 2010, more than 463,300 liters of drinking water were disinfected as a result of project activities.

Sustaining the Philippines’ Fisheries

USAID’s seven-year Fisheries Improved for Sustainable Harvest (FISH) project in the Philippines concluded in 2010. In four strategic fishing grounds – the Danajon Bank in Bohol, the Calamianes Islands in Palawan, the northern coastal bays of Surigao del Sur, and the area



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A fisherman in the Philippines returns home with an empty net. USAID assistance to the FISH program included mechanisms and tools for protecting and increasing the Philippines’ fish stocks and harvests.

around Bongao, Tawi-Tawi – the project helped fishers by assessing industry challenges and recommending good fisheries management practices. The four project sites are also important biodiversity conservation areas, and the project provided creative and innovative ways to harmonize biodiversity conservation with increased fisheries production.

Fisheries play a key role in the social and economic life of the Philippines, providing employment to approximately one million people, essential nutrition, and tourism enterprise opportunities for a rapidly expanding, predominantly coastal population. FISH sought to reverse declines in the fisheries sector, evidenced by depletion of fish stocks and degradation of habitats resulting from overfishing, destructive and illegal fishing, use of high-volume, nondiscriminatory commercial fishing methods, and a lack of national and local fisheries management policies and plans. Unchecked, these trends increased the risk of biodiversity and economic losses, food insecurity, increased conflict over dwindling supplies of fish, deepening poverty, and a deteriorated quality of life for the fishing communities.

FISH worked in 29 municipalities and cities in the four target ecosystems to institute a fisheries management system comprised of fishing effort restrictions, registration and licensing, and law enforcement in MPAs. A comprehensive coastal and fisheries management program that sets out strategies for managing municipal waters was adopted by 17 local government units. Thirty existing MPAs were strengthened and 18 new MPAs covering about 1,000 hectares of reefs were established. Restrictions were enforced on key species and controls placed on the use of compressors in fishing and beach seines. A multilevel integrated law enforcement program was established to promote compliance, with intensive training and workshops attended by 4,000 participants. The production of 147 information, education, and communication materials also facilitated the adoption of good fisheries management measures. These “growth, control, and maintenance” fishery management mechanisms contributed to increases in fish stocks.

FISH was a joint USAID undertaking with the Philippines's Departments of Agriculture and Interior and Local Government and was implemented in partnership with national government agencies, local government units, NGOs, and other assisting organizations.

Ensuring Sustainable Hydropower Development in Georgia

With over 26,000 rivers, Georgia has estimated hydropower potential of 32 terawatt-hours (TWh) per year, up to 80 percent of which remains to be harnessed. Small and medium size hydropower plants based on run-of-river diversion designs are among the most viable alternatives to quickly tap Georgia's tremendous hydropower potential and help offset winter imports of electricity and gas. The nation's growth in hydropower, nevertheless, rests on the country's ability to holistically protect its vital natural resources. Meanwhile demand for water continues to grow. USAID/Georgia's Hydropower Investment Promotion Project (HIPP) is helping the Government of Georgia to facilitate greater private investment in small and medium-sized hydropower projects while at the same time working to ensure that projects conserve the natural environment and take into account long term climate impacts. The goal of the program is to increase private investment in the sector by 400 megawatts.

USAID/Georgia also recently launched a new Integrated Natural Resources Management in Watersheds program (2010-2014) to develop and implement a scalable model for watershed planning and management in the country that brings tangible benefits to communities and contributes to the sustainable development of Georgia's economy. Lessons learned from the program will serve as the basis for national and local reforms and actions in natural resource management protection and sectors that compete for water resources such as energy, agriculture, and potable water supply among others. Four sub-watersheds will be selected and watershed management planning/pilot projects will demonstrate the importance of geographically based management planning.

Illustrative USAID Activities in FY 2010 in Water-Related Disaster Risk Reduction

Partnership in Central America Ensures Safe Drinking Water during Disasters

USAID's 4th Sector Health program launched a partnership in Central America with the Procter & Gamble Company's Children's Safe Drinking Water Program to make POU water treatment supplies available during and after disasters or emergencies. Safe drinking water is an immediate priority after most such events. If normal water supplies are interrupted, responders encourage affected populations to boil or disinfect water; but this is often difficult or impossible under the immediate circumstances. POU water treatment products greatly simplify the process of ensuring safe drinking water; thereby reducing the incidence of disease and death during emergency situations.

Under the partnership, three countries – Guatemala, Honduras, and Nicaragua – were selected to receive supplies of Procter & Gamble's PUR water purification product for positioning and stockpiling with national and municipal disaster management authorities in disaster-prone communities. The project targets regions in the countries that are most susceptible to rapid-onset disasters, such as hurricanes, floods, and landslides, and gives priority to vulnerable populations. To increase access to PUR during disasters and emergencies, 4th Sector Health is helping authorities develop distribution plans. The partnership will also increase local awareness of the importance of clean and safe drinking water during emergencies, and 4th Sector Health is also training local partners in the proper use of PUR.

Office of U.S. Foreign Disaster Assistance Support for Water-Related Disaster Risk Reduction

USAID/OFDA works closely with communities, national and local governments, international and regional organizations, and NGOs to identify, manage, and strengthen capacity at all levels to increase resilience to climate-, weather-, and water-induced disasters. Hydrometeoro-



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These farm fields in West Bengal, India were ruined by a cyclone.

logical DRR activities have strong links to management of natural resources, including water; and seek to build resilience to enable countries and communities to prepare for and cope with serious events when they occur. In 2010, USAID/OFDA continued to implement ongoing water-related DRR programs in a number of countries and subregions, primarily in Asia and Africa.

Floods were the major focus of programs in Asia:

- **Program for Hydrometeorological Risk Mitigation in Asian Cities (PROMISE):** This program builds upon pilot projects developed by the Asian Disaster Preparedness Center to promote disaster preparedness in six rapidly growing urban areas that have been significantly impacted by hydrometeorological disasters: Chittagong, Bangladesh; Hyderabad, Pakistan; Daguapan City, the Philippines; Kalutara, Sri Lanka; Danang, Vietnam; and Jakarta, Indonesia. In FY 2010, PROMISE expanded to include Jamalpur, Bangladesh. PROMISE activities and outputs in FY 2010 included mitigation workshops, hazard mapping, vulnerability assessments, community-based early warning mechanisms, land-use planning training, capacity building, city-level disaster management information systems, public awareness and advocacy campaigns, and assistance to make houses more resistant to disaster.

- **Asia Flood Network (AFN):** AFN aims to strengthen the capacity of regional and national hydrometeorological institutions in climate, weather, and hydrological forecasting while involving communities at risk in reducing their vulnerability to hydrometeorological hazards. Activities in FY 2010 focused on Cambodia, China, Laos, Thailand, and Vietnam in the Mekong River Basin, and Bangladesh, Bhutan, India, Nepal, and Pakistan in the Ganges-Brahmaputra-Megna (GBM) Basin. The Mekong River Commission, the International Center for Integrated Mountain Development, and country representatives in the Mekong and GBM basins also received training on applying satellite-based rainfall estimates to floods and droughts, on flash flood guidance, and on disseminating information to vulnerable populations in remote areas.
- **Flash Flood Risk Reduction:** In the Hindu Kush-Himalaya region, which includes parts of China, India, Nepal, and Pakistan, flooding threatens lives and constrains socioeconomic development. To strengthen local and national capacity to reduce the risk of flash floods, USAID/OFDA and partners implemented activities to increase understanding of the physical and socioeconomic dimensions of flash floods in target areas, enhance and encourage transboundary coordination, and share lessons learned.
- **Emergency Flood Preparedness in Bangladesh:** A team of international NGOs formed the Emergency Working Group of Cooperative Sponsors to improve emergency response to floods in Bangladesh and reduce the incidence of disease-related health problems, particularly waterborne diseases. In FY 2010, USAID/OFDA assisted with maintaining mobile water purification units, water ambulances, zodiac boats, and a mobile health unit and positioning these assets in the most vulnerable areas of Bangladesh.

In Africa, in addition to floods, drought mitigation was a focus as well:

- **Drought Mitigation in Swaziland:** A community-based drought mitigation program in Shiselweni and Lubombo districts continued to strengthen food security through rooftop water harvesting systems at 14 primary schools and conservation agriculture, a practice that promotes soil and water conservation and reduces losses during drought. The program has trained nearly 700 farmers in conservation agriculture.
- **Drought Mitigation in Malawi:** This program is extending drought mitigation approaches developed under the preceding Rehabilitation through Irrigation and Production Extension program to three additional districts. It prioritized the districts according to suitability for small-scale irrigation, need for conservation agriculture to prevent top soil loss, and number of localized crop failures resulting from drought and flooding.
- **Water for Irrigation and Life Advancement:** To reduce drought disaster risk and bolster food security in southern Malawi, this program is building small-scale gravity-based irrigation systems that will improve winter crop prospects and boost household food stores.
- **Integrated Water Management and Crop Diversification in Southern Zambia:** This project focused on improving food security for smallholder farmers in two drought-prone districts in southern Zambia. The project built local resilience by promoting sustainable water management techniques and technologies, crop diversification, and the use of drip irrigation and treadle pumps.
- **Lesotho Irrigation Project II (LIP II):** LIP II focuses on gravity-fed irrigation of field crops and homestead gardens. The project established new irrigation schemes to complement other agriculture and food security projects and expanded and enhanced current LIP sites to improve community access to water for irrigation.
- **Multi-Use Water Source Development in Southern Madagascar:** This project promotes drought mitigation measures through multi-use water source development for both agriculture and consumption. It also has conducted intensive community education on basic hygiene practices and home vegetable gardening supported by small-scale irrigation systems.

Flood risk reduction programs in Africa focused on Mozambique and other countries in the Zambezi River Basin:

- **Flood Early Warning System in Mozambique:** USAID/OFDA continued to assist the Integrated Information Network for Decision-Making, a flood early warning system implemented by the USAID-funded Famine Early Warning Systems Network. The system improves early warnings in advance of cyclones and flooding and helps improve disaster management and contingency planning in Mozambique's Limpopo River Basin. Project activities include flood risk mapping, community flood education, planning and preparedness, and establishment of communications capabilities in highly vulnerable remote locations.
- **Zambezi River Basin Initiative:** With USAID/OFDA support, this initiative works to reduce flood vulnerability in the seven countries encompassing the Zambezi River Basin – Angola, Botswana, Malawi, Mozambique, Namibia, Zambia, and Zimbabwe. It promotes conservation-based farming techniques, soil conservation, water-harvesting techniques, and reforestation to help vulnerable communities adapt to climate-related threats.
- **Zambezi River Flood Early Warning and Mitigation:** This program supports efforts to assess flood early warning capacity in riparian countries and formulate a consensus strategy. Focusing on basinwide cooperation and an integrated approach to flood early warning, the activity addressed technical, institutional, and capacity building issues related to developing flood preparedness and early warning systems.
- **The River Value Program:** In order to utilize opportunities created by flooding in areas near the mouth of the Zambezi River, this program in Mozambique has worked with local disaster risk management committees to increase production of staple post-flood crops and cash crops, increase access to clean water, and promote hygiene and sanitation.

In addition to the above flood risk reduction programs in Asia and Africa, USAID/OFDA supported a multiregional program in flash flood guidance and early warning:

- **Global Flash Flood Guidance and Early Warning:** USAID/OFDA and its U.S. Government and international partners continued to develop global infrastructure, protocols, and procedures that will lessen the impacts of flash floods. Regional technical applications were implemented in the Mekong River Basin, Southern Africa, the Black Sea region, and the Middle East.

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Results and Financial Tables

Table 6: FY 2010 Number of People with Improved Access to Drinking Water Supply and Sanitation Facilities, and Liters of Drinking Water Disinfected with Point-of-Use (POU) Treatment Products by Country and Operating Unit*

	Number of People with Improved Access to Drinking Water Supply	Number of People with Improved Access to Sanitation Facilities	Liters of Disinfected Drinking Water by POU Treatment
GRAND TOTAL	2,844,484	2,889,105	11,981,200,173
Africa	1,346,057	2,054,859	10,025,963,293
Benin			111,594,100
Burkina Faso	3,900		
Burundi	51,023	242,243	
Chad			531,076
Democratic Republic of the Congo	233,580	123,284	58,244,850
Ethiopia	56,200	28,200	
Kenya	351,782	64,105	1,864,156,640
Liberia			42,503,907
Madagascar			2,553,553,500
Malawi			969,796,000
Mali			56,107,800
Mozambique	30,000	18,000	
Nigeria	33,550	30,400	
Rwanda			1,950,000,000
Senegal	10,200	2,680	29,917,000
Somalia	50,068	24,536	
Sudan	432,277	4,128	189,558,420
Tanzania	61,942	4,364	
Zambia			2,200,000,000
USAID Africa Regional (AFR)	18,846	1,460,519	
USAID East Africa Regional	12,689	3,494	
USAID West Africa Regional		48,906	
Asia	1,278,431	555,389	198,930,140
Afghanistan	48,300	25,074	170,000,000
Bangladesh	198,299	284,770	
Cambodia			28,930,140
India	258,786		
Indonesia	194,651	17,355	
Pakistan	47,000		
Philippines	181,022	120,607	
Timor Leste	18,943	10,249	
USAID Regional Development Mission-Asia (RDM/A)	331,430	97,334	
Middle East	33,572	191,998	
Egypt		148,000	
Jordan	2,872	30,798	
Lebanon		12,000	
West Bank and Gaza	30,700	1,200	
Central Programs			1,747,447,125
USAID Global Health (GH)			1,747,447,125
Latin America & the Caribbean	181,828	84,873	8,859,615
Ecuador	11,303	2,462	
Haiti	170,525	82,411	
Nicaragua			8,859,615
Europe & Eurasia	4,596	1,986	
Armenia	4,596		
Georgia		1,986	

* FY 2010 budget data represent best estimates from USAID analysis of information as of December 2010.

NOTE: A dash (-) within a cell represents that activities were being operated within that category, but funds for the activities had been allocated during a previous fiscal year. Cells that contain no data represent that there was no activity taking place for that particular category during FY 2010.

Table 7: Allocations from Foreign Assistance Accounts to Meet the 2010 Statutory Requirement on Water Supply and Sanitation Projects by Operating Unit and Funding Account*
(Millions of Dollars)

	DA	GHCS/ USAID	ESF	AEECA	Total
GRAND TOTAL **	128.473	34.913	171.304	4.970	339.660
Africa	88.000	16.670	32.000		136.670
Angola	3.000				3.000
Benin		0.500			0.500
Democratic Republic of the Congo		1.500	5.000		6.500
Ethiopia	7.500	1.500			9.000
Ghana	5.000	1.000			6.000
Kenya	7.500	1.500			9.000
Liberia		0.150	11.000		11.150
Madagascar	5.000	0.720			5.720
Malawi		0.300			0.300
Mali	2.000	0.500			2.500
Mozambique	3.000	1.250			4.250
Nigeria	3.500	0.150			3.650
Rwanda	2.000	0.950			2.950
Senegal	5.000	0.500			5.500
Somalia		0.500			0.500
Sudan		4.500	16.000		20.500
Tanzania	5.000				5.000
Uganda	6.500	0.250			6.750
Zambia	5.000	0.900			5.900
USAID Africa Regional (AFR)	4.000				4.000
USAID East Africa Regional	3.000				3.000
USAID Southern Africa Regional	3.000				3.000
USAID West Africa Regional	8.000				8.000
USAID Office of Development Partners (ODP) - Development Grants Program (DGP) - Africa Allocation	10.000				10.000
Asia	14.500	10.370	49.486	1.500	75.856
Afghanistan		2.500	27.156		29.656
Bangladesh	1.000	1.500			2.500
Cambodia		1.350			1.350
India	1.250	1.000			2.250
Indonesia		0.150	9.823		9.973
Pakistan		3.500	12.507		16.007
Philippines	1.250	0.339			1.589
Tajikistan		0.031		1.500	1.531
Timor Leste	2.000				2.000
Asia Middle East Regional	2.000				2.000
USAID Regional Development Mission-Asia (RDM/A)	7.000				7.000
Middle East	1.500	0.300	77.118		78.918
Jordan			27.118		27.118
Lebanon			10.000		10.000
West Bank and Gaza			40.000		40.000
Yemen	0.500	0.300			0.800
USAID Office of Middle East Programs (OMEPP)	1.000				1.000

Table 7 (continued): Allocations from Foreign Assistance Accounts to Meet the 2010 Statutory Requirement on Water Supply and Sanitation Projects by Operating Unit and Funding Account*
(Millions of Dollars)

	DA	GHCS/ USAID	ESF	AEECA	Total
GRAND TOTAL**	128.473	34.913	171.304	4.970	339.660
Central Programs	16.920	5.200			22.120
Global Health - Core		5.200			5.200
USAID Economic Growth, Agriculture, and Trade (EGAT)	8.920				8.920
USAID Office of Development Partners (ODP) - Development Grants Program (DGP) - Non-Africa Worldwide Unallocated	8.000				8.000
Latin America & the Caribbean	7.553	2.373	10.700		20.626
Bolivia	2.200				2.200
Colombia			0.700		0.700
Ecuador	3.000				3.000
Guatemala		0.250			0.250
Haiti		0.500	10.000		10.500
Nicaragua	2.353	0.353			2.706
Peru		1.270			1.270
Europe & Eurasia				3.470	3.470
Armenia				0.800	0.800
Georgia				0.500	0.500
Kosovo				2.000	2.000
Russia				0.170	0.170
Other			2.000		2.000
Bureau of Oceans and International Environment and Scientific Affairs (OES) - U.S. Department of State			2.000		2.000

* FY 2010 budget data represent best estimates from USAID analysis of information as of December 2010.

** Grand total represents the \$339.660 million FY 2010 water earmark.

NOTE: A dash (-) within a cell represents that activities were being operated within that category, but funds for the activities had been allocated during a previous fiscal year. Cells that contain no data represent that there was no activity taking place for that particular category during FY 2010.

ACRONYMS: DA = Development Assistance; GHCS/USAID = Global Health Child Survival/USAID; ESF = Economic Support Fund; AEECA = Assistance for Europe, Eurasia, and Central Asia

**Table 8: FY 2010 USAID Budget Allocations for Water Supply,
Sanitation, & Hygiene Activities by Operating Unit***
(Millions of Dollars)

	Water Supply & Sanitation **	IDA Water Supply & Sanitation	FFP Water Supply & Sanitation ***	Grand Total
GRAND TOTAL	387.462	116.688	16.257	520.407
Africa	135.513	43.686	11.857	191.056
Angola	3.000			3.000
Benin	0.550			0.500
Burkina Faso		0.201	2.000	2.201
Burundi	0.358			0.358
Chad		2.341	1.755	4.096
Democratic Republic of the Congo	6.738	3.415	4.000	14.153
Ethiopia	9.000	2.000	-	11.000
Ghana	6.381		-	6.381
Guinea	0.200			0.200
Kenya	9.000	2.523	-	11.523
Liberia	11.000		1.500	12.500
Madagascar	5.730		-	5.730
Malawi	0.205	0.213	0.403	0.821
Mali	2.000		1.200	3.200
Mozambique	3.050			3.050
Niger		0.266	0.381	0.647
Nigeria	3.650			3.650
Rwanda	3.020			3.020
Senegal	5.500	0.339	-	5.839
Sierra Leone			0.618	0.618
Somalia	0.500	7.351		7.851
South Africa		0.015		0.015
Sudan	20.500	17.339		37.839
Tanzania	2.281			2.281
Uganda	6.850			6.850
Zambia	6.000			6.000
Zimbabwe	2.000	7.683		9.683
USAID Africa Regional (AFR)	4.000			4.000
USAID East Africa Regional	3.000			3.000
USAID Southern Africa Regional	3.000			3.000
USAID West Africa Regional	8.000			8.000
USAID Office of Development Partners (ODP) - Africa Unallocated	10.000			10.000
Asia	141.200	31.556	4.400	177.156
Afghanistan	29.781	1.051		30.832
Bangladesh	2.500		4.400	6.900
Cambodia	0.850			0.850
India	2.250			2.250
Indonesia	10.323	0.328	-	10.651
Kyrgyz Republic	-	0.373		0.373
Laos	-	0.300		0.300
Nepal	0.102			0.102
Pakistan****	82.015	25.867		107.882
Philippines	1.589	0.840		2.429
Sri Lanka		1.810		1.810
Tajikistan	1.665	0.987		2.652
Timor Leste	2.000			2.000
Asia Middle East Regional	1.925			1.925
USAID Regional Development Mission-Asia (RDM/A)	6.200			6.200
Middle East	77.093	12.393		89.486
Iraq		9.603		9.603
Jordan	27.118			27.118
Lebanon	9.400			9.400

**Table 8 (continued): FY 2010 USAID Budget Allocations for Water Supply,
Sanitation, & Hygiene Activities by Operating Unit***
(Millions of Dollars)

	Water Supply & Sanitation **	IDA Water Supply & Sanitation	FFP Water Supply & Sanitation ***	Grand Total
GRAND TOTAL	387.462	116.688	16.257	520.407
West Bank and Gaza	40.000			40.000
Yemen	0.500	2.790		3.290
Asia Middle East Regional	0.075			0.075
Latin America & the Caribbean	9.480	29.053	-	38.533
Bolivia	2.750		-	2.750
Chile		0.399		0.399
Ecuador	3.000			3.000
El Salvador	-	0.151		0.151
Guatemala	0.372	0.353	-	0.725
Haiti	-	28.150		28.150
Nicaragua	2.488		-	2.488
Peru	0.870			0.870
Central Programs	19.921			19.921
USAID Economic Growth, Agriculture, and Trade (EGAT)	6.137			6.137
USAID Global Health (GH)	5.784			5.784
USAID Office of Development Partners (ODP) - non-Africa Unallocated	8.000			8.000
Europe & Eurasia	2.005			2.005
Armenia	0.800			0.800
Georgia	0.135			0.135
Russia	0.070			0.070
Ukraine	1.000			1.000
Other	2.250			2.250
Middle East Multilaterals (MEM)	0.250			0.250
Bureau of Oceans and International Environment and Scientific Affairs (OES) - U.S. Department of State	2.000			2.000

* FY 2010 budget data represent best estimates from USAID analysis of information as of March & April 2011 and OFDA information as of April 2011.

** All of these activities meet the 2010 statutory requirements.

*** FFP funds are part of the Food for Peace Title II program (FFP) and cannot be counted toward the 2010 statutory requirement.

FFP - WSSH: Africa's FFP - Household WSSH of \$10.857 million is included in FFP - WSSH and not in regular Household WSSH in this table.

**** Enacted supplemental appropriations included Pakistan \$65 million in ESF account.

NOTE: A dash (-) within a cell represents that activities were being operated within that category, but funds for the activities had been allocated during a previous fiscal year. Cells that contain no data represent that there was no activity taking place for that particular category during FY 2010.

Water Supply, Sanitation, & Hygiene funding includes the following accounts: Development Assistance (DA), Global Health Child Survival/USAID (GHCS/USAID), Economic Support Fund (ESF), Assistance for Europe, Eurasia and Central Asia (AEECA), and International Disaster Assistance (IDA).

**Table 9: FY 2010 USAID Budget Allocations for all USAID Water Sector Activities
(Household WSSH; Water Supply, Sanitation, and Hygiene; Watershed/
Water Resources Management; Water Productivity; Disaster Risk Reduction)*
(Millions of Dollars)**

	Household WSSH**	Water Supply, Sanitation, & Hygiene	Total WSSH	Watershed/ Water Resources Management	Water Productivity	Disaster Risk Reduction	Grand Total
GRAND TOTAL	47.760	472.647	520.407	47.195	53.113	21.458	642.173
Africa	27.755	163.301	191.056	6.098	5.986	4.673	207.813
Angola		3.000	3.000				3.000
Benin	0.550		0.550				0.550
Burkina Faso	1.000	1.201	2.201	-	-		2.201
Burundi	0.108	0.250	0.358	-			0.358
Chad	1.755	2.341	4.096		2.275		6.371
Democratic Republic of the Congo	5.738	8.415	14.153				14.153
Ethiopia	1.500	9.500	11.000	-	-		11.000
Ghana	1.221	5.160	6.381	1.680	0.842		8.903
Guinea	0.200		0.200				0.200
Kenya	1.500	10.023	11.523	-	-	0.486	12.009
Liberia	1.500	11.000	12.500	-	-		12.500
Madagascar	0.730	5.000	5.730	-		1.584	7.314
Malawi	0.608	0.213	0.821	2.168			2.989
Mali	1.200	2.000	3.200	-	-		3.200
Mozambique	1.250	1.800	3.050	-	1.200		4.250
Niger	0.381	0.266	0.647				0.647
Nigeria	0.150	3.500	3.650				3.650
Rwanda	1.020	2.000	3.020	1.200			4.220
Senegal	0.500	5.339	5.839		-	0.127	5.966
Sierra Leone	0.618		0.618				0.618
Somalia	0.376	7.475	7.851				7.851
South Africa		0.015	0.015				0.015
Sudan	4.500	33.339	37.839	-	-		37.839
Tanzania		2.281	2.281	1.050	1.669		5.000
Uganda	0.350	6.500	6.850				6.850
Zambia	1.000	5.000	6.000		-		6.000
Zimbabwe		9.683	9.683				9.683
USAID Africa Regional (AFR)	-	4.000	4.000			-	4.000
USAID East Africa Regional		3.000	3.000				3.000
USAID Southern Africa Regional		3.000	3.000	-		2.476	5.476
USAID West Africa Regional	-	8.000	8.000	-	-		8.000
USAID Office of Development Partners (ODP) - Africa Unallocated		10.000	10.000				10.000
Asia	10.491	166.665	177.156	27.207	38.930	11.491	254.784
Afghanistan	2.625	28.207	30.832	4.000	15.000	2.521	52.353
Bangladesh	1.500	5.400	6.900	-		3.900	10.800
Burma						0.234	0.234
Cambodia	0.850	-	0.850		-		0.850
China						1.558	1.558
India	0.910	1.340	2.250			0.199	2.449
Indonesia	0.500	10.151	10.651	6.550		0.621	17.822
Kyrgyz Republic	-	0.373	0.373	-	0.330	-	0.703
Laos		0.300	0.300				0.300
Nepal	0.102		0.102				0.102
Pacific Islands						0.750	0.750
Pakistan***	3.500	104.382	107.882	-	23.500	-	131.382
Philippines	0.339	2.090	2.429	1.857	-		4.286
Samoa						0.008	0.008
Sri Lanka		1.810	1.810				1.810
Tajikistan	0.165	2.487	2.652		-		2.652
Timor Leste		2.000	2.000	-			2.000
Asia Middle East Regional		1.925	1.925	-	-		1.925
Central Asia Regional					0.100		0.100
USAID East Asia and Pacific Regional						0.500	0.500
USAID Regional Development Mission-Asia (RDM/A)		6.200	6.200	14.800			21.000
USAID South Asia Regional						1.200	1.200
Middle East	0.500	88.986	89.486	2.607	0.780	-	92.873
Iraq		9.603	9.603				9.603
Jordan		27.118	27.118	-	-	-	27.118
Lebanon		9.400	9.400	0.320	0.280		10.000
Morocco				1.000	-	-	1.000
West Bank and Gaza		40.000	40.000				40.000
Yemen	0.500	2.790	3.290	0.787			4.077
Asia Middle East Regional		0.075	0.075				0.075
USAID Office of Middle East Programs (OMEPP)		-	-	0.500	0.500		1.000

**Table 9 (continued): FY 2010 USAID Budget Allocations for all USAID Water Sector Activities
(Household WSSH; Water Supply, Sanitation, and Hygiene; Watershed/
Water Resources Management; Water Productivity; Disaster Risk Reduction)*
(Millions of Dollars)**

	Household WSSH**	Water Supply, Sanitation, & Hygiene	Total WSSH	Watershed/ Water Resources Management	Water Productivity	Disaster Risk Reduction	Grand Total
GRAND TOTAL	47.760	472.647	520.407	47.195	53.113	21.458	642.173
Latin America & the Caribbean	3.230	35.303	38.533	1.700	0.500	0.948	41.681
Bolivia	0.700	2.050	2.750	0.650			3.400
Chile		0.399	0.399				0.399
Ecuador	-	3.000	3.000	1.050		0.100	4.150
El Salvador	-	0.151	0.151				0.151
Guatemala	0.372	0.353	0.725	-	-		0.725
Haiti	-	28.150	28.150	-	-	0.589	28.739
Nicaragua	1.288	1.200	2.488		0.500		2.988
Peru	0.870	-	0.870				0.870
USAID Caribbean Regional				-		0.175	0.175
USAID Latin America and Caribbean Regional (LAC)				-		0.084	0.084
Central Programs	5.784	14.137	19.921	7.868	4.442	3.846	36.077
USAID Democracy, Conflict, and Humanitarian Assistance (DCHA)						3.846	3.846
USAID Economic Growth, Agriculture, and Trade (EGAT)		6.137	6.137	7.868	4.442	-	18.447
USAID Global Health (GH)	5.784		5.784				5.784
USAID Office of Development Partners (ODP) - non-Africa Unallocated		8.000	8.000				8.000
Europe & Eurasia		2.005	2.005	0.465	2.000		4.470
Armenia		0.800	0.800		-		0.800
Georgia		0.135	0.135	0.365	-		0.500
Kosovo		-	-		2.000		2.000
Russia		0.070	0.070	0.100			0.170
Ukraine		1.000	1.000				1.000
Other	2.250	2.250	2.250	1.250	0.475	0.500	4.475
Middle East Multilaterals (MEM)		0.250	0.250	0.100	0.475		0.825
State East Asia and Pacific Regional		-	-			0.500	0.500
Bureau of Oceans and International Environment and Scientific Affairs (OES) - U.S. Department of State		2.000	2.000	0.600			2.600
Bureau of South and Central Asia Regional (SCA) - U.S. Department of State				0.550			0.550

* FY 2010 budget data represent best estimates from USAID analysis of information as of March & April 2011 and OFDA information as of April 2011.

** Household WSSH's \$49.320 million includes \$38.464 million regular Household WSSH and \$10.857 million in FFP - WSSH

*** Enacted supplemental appropriations included Pakistan \$65 million in ESF account.

NOTE: A dash (-) within a cell represents that activities were being operated within that category, but funds for the activities had been allocated during a previous fiscal year. Cells that contain no data represent that there was no activity taking place for that particular category during FY 2010.

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Acronyms and Abbreviations

AEECA	Assistance for Europe, Eurasia, and Central Asia
AFN	Asia Flood Network
AFR	Africa Regional
BCWUA	Branch Canal Water Users Association
BSAP	Biodiversity Strategy and Action Plan
CBO	Community-Based Organization
CLTS	Community-Led Total Sanitation
CT6	Six Coral Triangle Countries
CTI	Coral Triangle Initiative
CTSP	Coral Triangle Support Partnership
DA	Development Assistance
DCHA	Democracy, Conflict, and Humanitarian Assistance
DGP	Development Grants Program
DRR	Disaster Risk Reduction
DWASH	District Water Supply, Sanitation and Hygiene Services Project
ECO-Asia	Environmental Cooperation-Asia
EFA	Environmental Flows Assessment
EGAT	Economic Growth, Agriculture, and Trade
ESF	Economic Support Fund
EWAS	Emergency Water and Sanitation and Other Infrastructure Program
FACTS	Foreign Assistance Coordination and Tracking System
FFP	Food for Peace
FISH	Fisheries Improved for Sustainable Harvest
FY	Fiscal Year
GBM	Ganges-Brahmaputra-Megna
G-FISH	Global FISH Alliance
GH	Global Health
GHCS	Global Health and Child Survival
HIP	Hygiene Improvement Project
HIPP	Hydropower Investment Promotion Project

IDA	International Disaster Assistance
IDARA	Instituting Water Demand Management in Jordan
INP	Infrastructure Needs Program
iWASH	Integrated Water, Sanitation, and Hygiene
IWMD	Integrated Water Management District
IWRM	Integrated Water Resources Management
JMP	Joint Monitoring Program
LAC	Latin America and the Caribbean
LIP	Lesotho Irrigation Project
MDG	Millennium Development Goal
MEM	Middle East Multilaterals
MPA	Marine Protected Area
MUS	Multiple-Use Services
MWRI	Ministry of Water Resources and Irrigation
NGO	Non-governmental Organization
OD	Open Defecation
ODF	Open Defecation Free
ODP	Office of Development Partners
OES	Bureau of Oceans and International Environmental and Scientific Affairs
OFDA	Office of U.S. Foreign Disaster Assistance
OKACOM	Okavango River Basin Water Commission
OMEPA	Office of Middle East Programs
PEPAM	Programme d'Eau Potable et d'Assainissement du Millénaire
P.L.	Public Law
POU	Point of Use
POUZN	Point-of-Use Water Disinfection and Zinc Treatment
PROMISE	Program for Hydrometeorological Risk Mitigation in Asian Cities
PVO	Private Voluntary Organization
PWRF	Philippine Revolving Water Fund
RDM/A	Regional Development Mission-Asia
RSAT	Rapid Basin-wide Hydropower Sustainability Assessment Tool

SAREP	Southern Africa Regional Environmental Program
SCA	Bureau of South and Central Asia
SLI	Spiny Lobster Initiative
SWSS	Sustainable Water Supply and Sanitation
TSDWP	Tajikistan Safe Drinking Water Project
TWh	Terawatt-hour
UN-HABITAT	United Nations Human Settlements Programme
UNICEF	United Nations Children's Fund
U.S.	United States
USAID	United States Agency for International Development
WADA	Water and Development Alliance
WASH	Water, Sanitation, and Hygiene
WASHE	Water, Sanitation, and Hygiene Education
WaterSHED	Water, Sanitation, and Hygiene Enterprise Development
WDM	Water Demand Management
WHO	World Health Organization
WP	Water Productivity
WRI	Water Resources and Infrastructure
WRM	Water Resources Management
WSSH	Water Supply, Sanitation, and Hygiene
W/WRM	Watershed/Water Resources Management

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