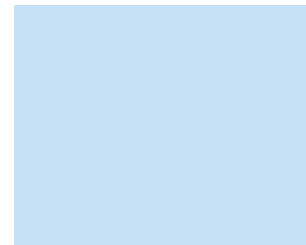
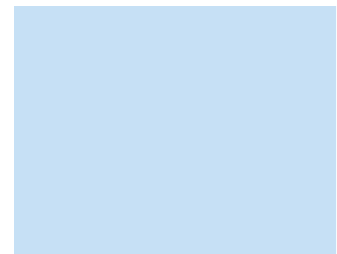
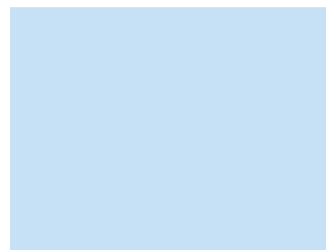
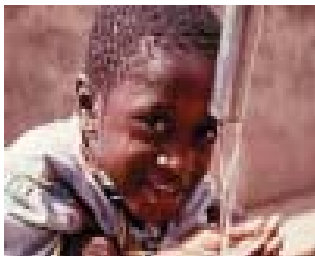
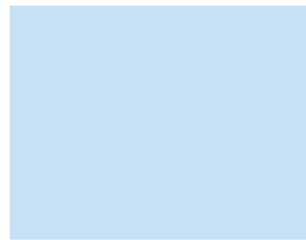




# USAID's Water Portfolio

*Promoting Clean Water and Efficient Use of Freshwater and Coastal Resources*

A Report to Congress  
Prepared by the USAID Water Team  
July 2003





*The USAID Water Team promotes integrated water and coastal resources management and supports environmentally sound, cross-sectoral approaches to managing, conserving, and sustainably using freshwater and coastal resources. These involve participatory processes that include women, the poor, and marginalized groups; prioritizing and planning for water demand; and strengthening institutional capacity in water resources management.*



# Promoting Clean Water and Efficient Use of Freshwater and Coastal Resources

## Overview

The World Water Council estimates that \$70-80 billion is currently invested each year to provide water services. The World Bank estimates that an additional \$60-80 billion per year over today's spending levels is needed to provide basic water supply and sanitation for the world's population. The Global Water Partnership calls for investments of an additional \$180 billion per year to achieve global water security in the broadest sense. The United Nations General Assembly has declared 2003 as the International Year of Freshwater to call attention to the critical water problems the world faces.

USAID contributes substantively to these needs with activities in over 66 countries<sup>1</sup> by providing international leadership in advancing an integrated approach to water resources management (Figure 1). Historically, USAID has directed significant resources towards various aspects of water management, reaching a total of at least \$11 billion over the last 30 years, and well over \$350 million annually in recent years. Through the Presidential Water for the Poor Initiative announced at the World Summit on Sustainable Development (WSSD) in Johannesburg in August, 2002, USAID will invest \$970 million over three years (2003-2005) to improve sustainable water resources management (Box 1). An additional \$630 million in private capital for water infrastructure is expected to be mobilized through development credit loan guarantees.

USAID plans to obligate \$460 million in currently available funds in FY 2003<sup>2</sup>. This report describes the valuable investments being made throughout the world to improve access to safe and adequate water supply and sanitation, improve irrigation technology and management, enhance natural ecosystem function and develop better institutional capacity for resource management.

## The Importance of Improved Water Resources Management for Sustainable Development

Although Earth is a water-rich planet, the amount of freshwater directly available for human use represents only 0.01% of all the moisture in the Earth's hydrological system. Further, this water is not evenly distributed in space or time, or necessarily located where the largest concentrations of people reside. Specific regions are plagued either with problems of freshwater scarcity and drought or oversupply and flooding. In fact, 450 million people in 31 countries already face serious shortages of freshwater. By the year 2025, 2.8 billion people in 48 countries (one third of the world's population) are expected to face severe and chronic water shortages. Exacerbating the problem, the planet's limited freshwater resources are often contaminated by human activity and

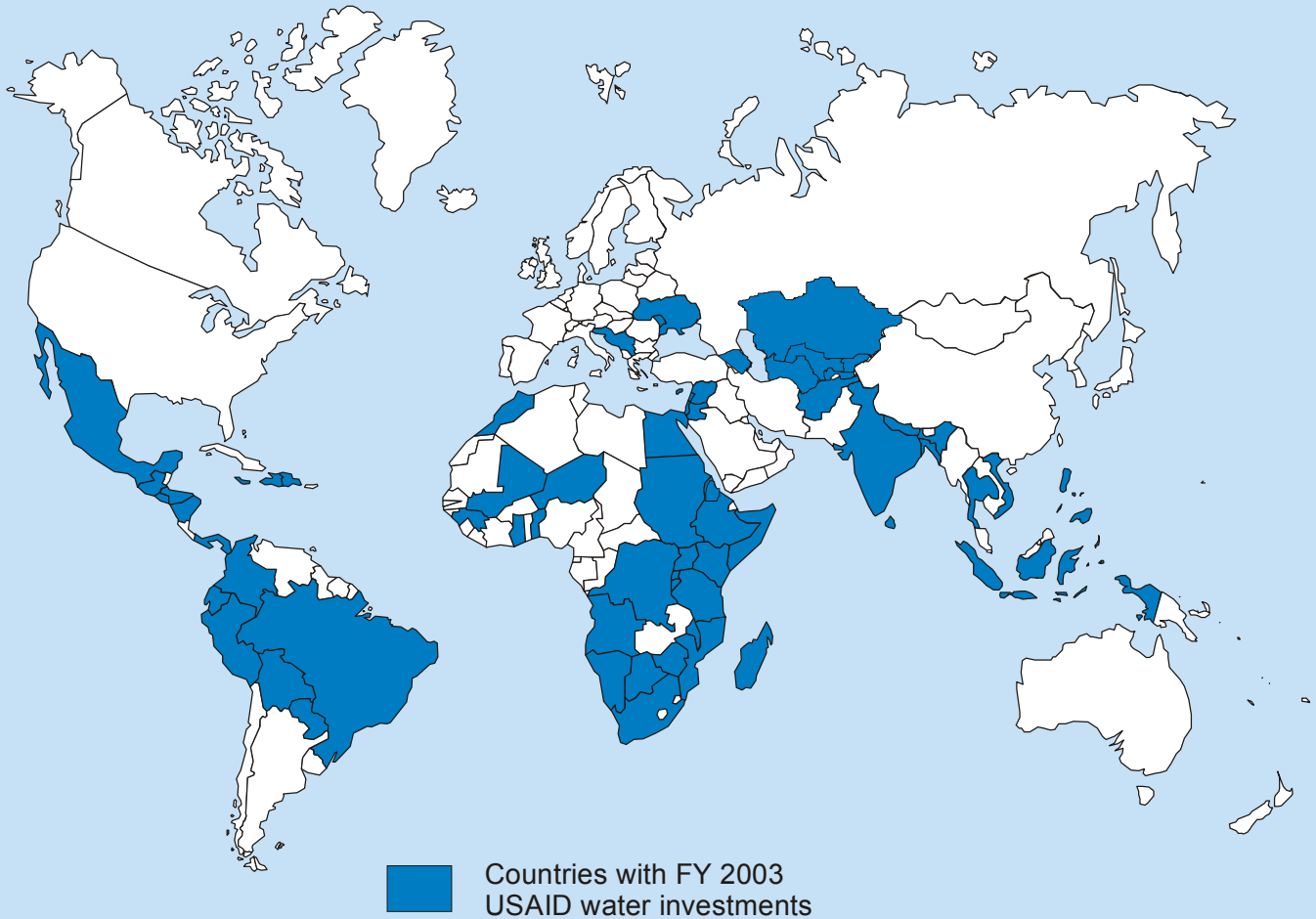


*Today, nearly one third of the world's population lives with chronic shortages of water that directly threaten human health, agriculture, and economic development.*

<sup>1</sup> The 66 countries are listed in Table 1. A further 15 African countries (Burkina Faso, Cameroon, Cape Verde, Chad, Cote d'Ivoire, The Gambia, Guinea-Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone, and Togo) may have water-related activities within broader regional programs.

<sup>2</sup> This includes \$286 million in FY 2003 funds and \$174 million in prior year carryover funds. Some of the FY 2003 funds may be carried over into FY 2004.

Figure 1. Map of USAID FY 2003 Water Obligations Worldwide (\$460 million total)



made unavailable for further use by people, or for the maintenance of healthy ecosystems. Furthermore, strategic groundwater resources are presently being pumped at unsustainable rates in many countries worldwide.

At the other extreme of water availability, countless people have been affected and billions of dollars worth of property damage have been caused by storms and flooding in recent years in the developing countries of the world. In 1998 alone, an estimated 32,000 people were killed worldwide and another 300 million were displaced from their homes because of severe weather events.

Finally, while freshwater is certainly of great concern, in fact most of the water on earth resides in the seas and oceans. These resources are also under threat, not from scarcity, but from the impact of a broad range of human activities. Coastal systems and the living resources found there are particularly vulnerable to



*More than 75 percent of future urban growth is expected to occur in over-crowded slums, thereby putting even more pressure on scarce clean water resources in poor areas.*

### Box 1. The Water for the Poor Presidential Initiative

The United States announced an initiative to improve sustainable management of water resources at the World Summit on Sustainable Development (WSSD) in Johannesburg in August, 2002. It will accelerate and expand international efforts to achieve the UN Millennium Development Goals and implement the Johannesburg Plan of Implementation including halving, by 2015, “the proportion of people who are unable to reach or afford safe drinking water,” and the “the proportion of people without access to basic sanitation.” Through USAID, the U.S. will invest \$970 million over three years (2003-2005). It is anticipated that an additional \$630 million in private capital will be mobilized by development credit guarantees, for a total amount of more than \$1.6 billion for water-related activities over three years.

Results to date have proven the effectiveness of the interventions undertaken by the initiative, and underscore the commitment of the United States in working with other government and non-governmental partners in three key areas:

- Access to clean water and sanitation services (\$510 million);
- Improved watershed management (\$400 million); and
- Increasing the productivity of water (\$60 million).

degradation from land-based activities, climate variability and change, and altered freshwater flows. More than half of the world’s population lives and works in the coastal zone.

## USAID’s Response to the Global Water Crisis

USAID understands the importance of water to all sectors of development. All goal areas of the Agency’s strategic framework are supported by a sound approach to water resources management, including: achieving broad-based economic growth, promoting sustainable agriculture, building sustainable democracies, developing human capacity, improving human health, protecting the environment and providing humanitarian assistance in response to natural or human caused disasters (Box 2).

USAID’s water resources management programs and activities are best described in terms of four broad activity areas: 1) **Water Supply, Sanitation, and Wastewater Management (WSSWM)**; 2) **Natural Resources Management**; 3) **Economic Growth and Food Security**; and 4) **Disaster Preparedness**. The largest proportion of funding is for the **Water Supply, Sanitation, and Wastewater Management** activity area (\$310 million), with 67% of all obligations planned (Figure 2). This is followed by **Natural Resources Management** (\$84 million), **Economic Growth and Food Security** (\$48 million), and **Disaster Preparedness** (\$17 million). Embedded within the four broad activity areas are thirteen specific sub-categories of activities that will be discussed throughout this report for different regions of the world (Table 1).

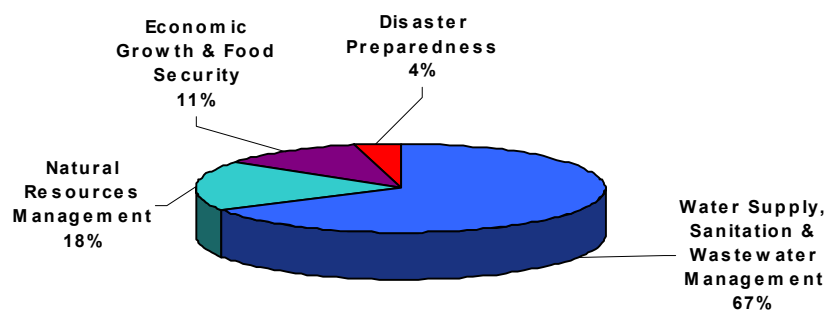


Figure 2. FY 2003 USAID Water Obligations by Sub-categories of Activities



## **Box 2. All Aspects of USAID's General Development Goals Are Enhanced by Integrated Water Resources Management Practices**

Water resources management plays a significant part in achieving all of the following USAID development goals.

### **Broad-based economic growth and agricultural development encouraged**

A large proportion of people in the poorest countries derive their livelihoods from agriculture, a sector that currently consumes more than 70% of available global water resources. Broad-based, equitable economic growth is the most effective means of bringing poor, disadvantaged and marginalized groups into the mainstream of an expanding economy. To meet this goal USAID encourages more rapid and enhanced agricultural development and food security, often involving improved irrigation or water conservation activities. In other areas of economic growth, including the industrial and service sectors, a reliable, high quality source of freshwater is required. Effective management of water pollution from these sources, and water use efficiency in these activities have direct and significant economic implications as well.

### **Democracy and good governance strengthened**

Broad-based participation and democratic processes are integral elements of sustainable development. They encourage individuals and societies to take responsibility for their own progress, ensure open and transparent access to and use of information, and foster citizen participation in the policy-making process. These approaches help ensure fairer uses of shared resources and more equitable access to water resources, taking into account the needs and concerns of local communities in the allocation and payment for water services (including those provided by aquatic ecosystems). To achieve the broad goals of democracy, USAID supports the development of more transparent and accountable government institutions and local level management of community services for water supply and sanitation, wastewater treatment facilities, and irrigation infrastructure. USAID also promotes equitable access to water resources and full participation in decision-making by both men and women.

### **Human capacity built through education and training**

The development of human capacity enables people to participate effectively in matters affecting their lives. Increasing human capacity through education, training and improved access to information is essential for sustained social and economic progress in all aspects of water resources management. In addition, expanded and improved capacity building in water supply and sanitation hygiene for girls and women contributes to improved family health and household economies, and the enhanced status of women. USAID also supports the application of research and technology derived from U.S. institutions to sustainable development programs, particularly in the areas of flood forecast technology, aquaculture, agriculture and irrigation. These often include a substantial training and capacity building component.

### **World population stabilized and human health protected**

Healthy families are essential to sustainable development. When people are nourished and free from the ravages of infectious diseases, they can contribute more fully to their own social and economic progress and to that of their nations. An estimated 3-4 million people die each year of water-related disease. Given that most of these cases could have been prevented by improved water supply, sanitation and hygiene, the importance of sustainable water resources management to USAID's health portfolio becomes clear. The improved health status of women and girls also plays a critical role in child survival, family welfare, economic productivity and population stabilization.

### **The world's environment protected for long-term sustainability**

Environmental degradation threatens human health, undermines long-term economic growth and impairs critical ecological systems upon which sustainable development depends. Addressing environmental issues in water resources management builds public/private sector partnerships; increases public awareness through education and training; crosses gender, cultural and class lines; stretches across the political spectrum; and strengthens civil societies. The loss of biodiversity, spread of pollutants, use of toxic chemicals, and the decline of fish stocks in the oceans can lead to instability and conflict, which may become serious and direct threats to global security interests. Therefore, careful management of water resources is essential if investments in development are to yield sustainable benefits.

### **Lives saved, suffering associated with natural or man-made disasters reduced, and conditions necessary for political and/or economic development re-established**

Crises, whether natural or man-made, destroy the resources individuals, families or nations might otherwise commit to social and economic progress. Natural disasters usually have their greatest impact on the poor, women and children. Adoption of adaptation measures such as hydrological and water quality monitoring, and sound planning and construction of water delivery facilities in disaster-prone areas can help save lives and property loss.

**Table 1. FY 2003 USAID Water Obligations Across Six Regions by Sub-categories of Activities  
(Reported in Millions of USD)**

Activities	Africa	Asia & Near East <sup>a</sup>	Egypt, Jordan & West Bank/ Gaza	Europe & Eurasia	Latin America & Caribbean	Central Programs	TOTAL
<b>Water Supply, Sanitation &amp; Wastewater Management</b>	<b>8.551</b>	<b>26.209</b>	<b>206.347</b>	<b>12.167</b>	<b>31.123</b>	<b>26.045</b>	<b>310.442</b>
Water Supply	5.434	11.012	180.920	7.819	14.444	17.301	<b>236.930</b>
Sanitation	2.767	4.750	7.714	1.925	12.576	8.682	<b>38.414</b>
Wastewater Management	0.350	7.891	17.713	2.343	2.336	0.062	<b>30.695</b>
Industrial Pollution Control	0.000	2.556	0.000	0.080	1.767	0.000	<b>4.403</b>
<b>Natural Resources Management</b>	<b>7.133</b>	<b>20.471</b>	<b>23.741</b>	<b>5.019</b>	<b>24.813</b>	<b>2.684</b>	<b>83.861</b>
IWRM & Watershed Protection	5.468	14.871	13.741	5.019	16.630	1.451	<b>57.180</b>
Coastal Zone Management	1.275	5.600	10.000	0.000	7.525	0.833	<b>25.233</b>
Freshwater Ecosystems Management	0.390	0.000	0.000	0.000	0.658	0.400	<b>1.448</b>
<b>Economic Growth &amp; Food Security</b>	<b>7.656</b>	<b>14.249</b>	<b>2.000</b>	<b>7.116</b>	<b>14.066</b>	<b>3.325</b>	<b>48.412</b>
Irrigation & Agriculture	7.471	9.249	2.000	5.260	11.655	0.500	<b>36.135</b>
Fisheries & Aquaculture	0.185	2.800	0.000	0.300	2.100	2.825	<b>8.210</b>
Hydropower (Small Scale)	0.000	2.200	0.000	1.556	0.311	0.000	<b>4.067</b>
<b>Disaster Preparedness</b>	<b>6.371</b>	<b>6.600</b>	<b>0.000</b>	<b>0.700</b>	<b>0.000</b>	<b>3.572</b>	<b>17.243</b>
Forecasting & Monitoring	3.502	0.200	0.000	0.700	0.000	3.572	<b>7.974</b>
Vulnerability Assessment	2.869	6.400	0.000	0.000	0.000	0.000	<b>9.269</b>
<b>TOTAL</b>	<b>29.711</b>	<b>67.529</b>	<b>232.088<sup>b</sup></b>	<b>25.002</b>	<b>70.002</b>	<b>35.626</b>	<b>459.958</b>

<sup>a</sup>Excludes Egypt, Jordan, and West Bank/Gaza

<sup>b</sup>Includes \$17 million for Egypt and \$157 million for West Bank/Gaza in prior year carryover funds to be obligated in FY 2003

**Water Supply, Sanitation, and Wastewater Management** activities address the need for clean, adequate water supplies for drinking and to maintain proper hygiene. This broad activity area also involves the handling, treatment and disposal of domestic and industrial wastes to prevent water-related diseases and protect water quality, thereby safeguarding human and ecological health. USAID plans to invest \$310 million in 50 countries for improved water supply, sanitation, and wastewater management; industrial pollution control; and desalination activities (see Table 2 in Section 1: **Water Supply, Sanitation and Wastewater Management**).

**Natural Resources Management** activities promote conservation and sustainable use of natural resources in coastal and freshwater habitats, thereby protecting the ecosystem services provided by ocean, coast, wetland, lake and riverine environments. **Natural Resources Management** also addresses a wide array of land use activities occurring within a watershed that may cause local impacts while also affecting downstream communities and ecosystems. This category likewise includes management of water resources across transboundary watersheds or coastlines, including assistance in the coordination of data collection and needs assessment among two or more countries. USAID plans to invest \$84 million in 45 countries for improved watershed, coastal zone, and freshwater ecosystem management from an integrated water resources management perspective (see Table 3 in Section 2: **Natural Resources Management**).



**Economic Growth and Food Security** activities include those activities in which humans engage to promote economic growth or food security, such as fisheries and aquaculture, hydropower development, irrigation, and other forms of agriculture. USAID

*USAID works with local authorities to implement the reforms necessary to enable viable public-private partnerships.*

plans to invest \$48 million in 29 countries for irrigation and livestock water supply, improved water-related agricultural practices, fisheries management, aquaculture and small scale hydropower development (see Table 4 in Section 3: **Economic Growth and Food Security**).

**Disaster Preparedness** activities are designed to help manage risks to human populations from natural disaster events such as storms, floods, and drought. Activities promote the hydrometeorological monitoring in and along vulnerable river basins and coastlines, and interventions help communities use the data to predict or avoid destruction and loss of life from extremes in water availability. USAID plans to invest \$17 million in 16 countries for hydrometeorological monitoring and forecasting as well as drought and flood vulnerability assessments (see Table 5 in Section 4: **Disaster Preparedness**).



*Rapid population growth along the Nile River intensifies competition for scarce water resources.*

## An Integrated Approach Across Four Broad Activity Areas

USAID explicitly attempts to build bridges across all activities through a practical form of integrated water resources management (IWRM) that encourages synergies to achieve more effective, efficient, and lasting outcomes in all water-related sectors of development (Box 3). No single use of water can be adequately addressed without simultaneously considering the full range of needs; water for drinking and sanitation, water for food, water for economic development and water for ecosystems all must be given sufficient

### Box 3. USAID's Integrated Water Resources Management Approach Is A Model for Global Water Security

In recent years, water management institutions around the world have embraced the fundamentally interconnected nature of hydrological resources by promoting **Integrated Water Resources Management (IWRM)** as an alternative to the dominant sector-by-sector, top-down management style of the past. The ways that IWRM can be translated into practice are evident in many of USAID's development programs and include the following:

**Management of water resources at the basin or watershed scale**, including the integration of land and water, upstream and downstream, groundwater, surface water and coastal resources.

**Integration of both supply-side and demand-side approaches**, including:

**Supply optimization**, including assessments of surface and groundwater supplies, water balances, wastewater reuse, and environmental impacts of distribution and use options;

**Demand management**, including cost-recovery policies, water use efficiency technologies, and decentralized water-management authority.

**An intersectoral approach to decision-making**, taking into account the needs of all water use sectors, including agricultural, domestic, industrial, and ecological, and reflecting the perspectives of a broad range of social actors – public, private and civil society.

**Improved and integrated policy, regulatory, and institutional frameworks**, such as the implementation of the polluter-pays principle, water quality norms and standards, and market-based regulatory mechanisms.

**Equitable access to water resources through participatory and transparent governance and management**, including support for effective water users' associations, involvement of marginalized groups, consideration of gender issues, and combining authority with responsibility for managing the water resource.



attention for water security to be achieved. IWRM fits with the USAID ethic of sustainable development, as it challenges us to find connections among multiple needs and approaches to more effectively meet the issues of economic growth, poverty, environment stewardship, and democracy and governance. An integrated approach enables USAID to be more strategic in how it manages its investments in the major areas of water resources management and in leveraging resources across development sectors.

## Diverse Regional Representation

The \$460 million in planned obligations for FY 2003 are divided amongst six geographical regions (Figure 3). Regions represented include 23 countries in Africa, 11 countries in Asia and the Near East, 14 countries in Europe and Eurasia, and 15 countries in Latin America and the Caribbean (Appendix). Since one half of the obligations will be invested in three countries alone in the Middle East Region (Egypt, Jordan, and West Bank/Gaza), this is reported as a separate regional group. Finally, some programs and activities that are global in scope or are multi-regional in nature are assigned as 'Central Programs', including, for example, the Global Health (GH) Bureau's Environmental Health Project (EHP), the Economic Growth, Agriculture and Trade (EGAT) Bureau's Water Team, the Disaster, Conflict and Humanitarian Assistance (DCHA) Bureau's disaster assistance programs, and the Development Credit Authority (DCA). The report attempts, however, to assign activities to specific regions and countries wherever possible. Regional trends will be discussed in more detail in the following sections. The remainder of this document presents further details on the regional distribution, general trends and specific interventions for each of the four activity areas: **Water Supply, Sanitation and Wastewater Management (WSSWM)**; **Natural Resources Management (NRM)**; **Economic Growth and Food Security**; and **Disaster Preparedness**.

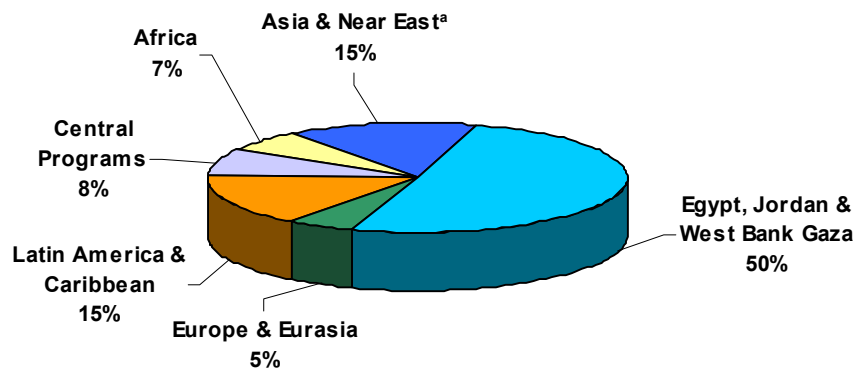


Figure 3. FY 2003 USAID Water Obligations Across Six Regions by Sub-categories of Activities  
 (<sup>a</sup>Excluding Egypt, Jordan and West Bank/Gaza)



# 1

## Water Supply, Sanitation, and Wastewater Management (\$310 million)

### Safeguarding Human Health

Successful management of freshwater resources is, among other things, a critical health issue. More than 1.2 billion people (one in every four people in the developing world) currently lack access to a safe water supply, and two in five have no access to improved sanitation (connection to a public sewer or septic system, or access to a pour-flush latrine, simple pit latrine, or ventilated improved pit latrine). Insufficient water quantity, poor water quality, inadequate sanitation, and poor personal hygiene practices are directly responsible for the vast majority of cases of diarrheal disease, which kill over 2 million children each year. In addition, water and wastewater management has an impact on insect vector populations, most notably mosquitoes. Malaria alone kills between 1 and 2.7 million people each year, with ninety percent of these deaths in sub-Saharan Africa, mainly among children. USAID investments reflect the urgent need to provide safe and affordable domestic water supply that is effectively integrated into overall water resources management, and the inclusion of sanitation and hygiene promotion to protect drinking water sources, the environment, and human health. The **WSSWM** activity area includes four categories of activities described below: *Water Supply*; *Sanitation*; *Wastewater Management*; and *Industrial Pollution Control*.

### Water Supply

*Water Supply* activities are designed to provide or improve access to and availability of clean drinking water to urban and rural populations. The *Water Supply* category includes the provision of water delivery systems, alleviation of sources of contamination through both large scale water treatment and small scale or household point of use treatment, and source protection through well improvement or rehabilitation (larger scale, basin-wide source water protection is captured by a separate sub-category, *IWRM and Watershed Protection*, described under **Natural Resources Management** below). *Water Supply* also addresses the need to improve the capacity of city governments and private sector entities to deliver potable water and supporting environmental infrastructure services in a sustainable, cost-effective, and water-efficient manner, and to develop related legal, regulatory processes. This category may involve the rehabilitation of wells and water delivery systems damaged by natural or man-made disasters, but does not include the emergency and temporary provision of potable water, water containers, and portable water treatment kits to internally displaced persons in refugee camps, as these are regarded as emergency assistance rather than sustainable development activities. **WSSWM** investments include \$237 million for drinking water supply projects in at least 46 countries<sup>2</sup> (Table 2).



*Increasing access to clean water enables women and children to spend time earning income rather than hauling water.*

<sup>2</sup> The number of countries reported for each sub-category in Table 2 may be underestimated, as some funding from regional projects has not been assigned to specific countries in this analysis.

**Table 2. FY 2003 USAID Obligations for Water Supply, Sanitation and Wastewater Management  
(Reported in Millions of USD)**

The *Water Supply, Sanitation and Wastewater Management* Activity Area includes *Water Supply*; *Sanitation*; *Wastewater Management*; and *Pollution Control*

Country or Operating Unit	Water Supply	Sanitation	Wastewater Management	Pollution Control	TOTAL
<b>Africa</b>					
DR Congo	1.292	0.795			<b>2.087</b>
Eritrea	1.245	1.045			<b>2.290</b>
Ethiopia	0.357	0.357			<b>0.714</b>
Ghana	0.475	0.147			<b>0.623</b>
Guinea	0.025				<b>0.025</b>
Malawi	0.410				<b>0.410</b>
Mali	0.254	0.094			<b>0.348</b>
Niger	0.072	0.072			<b>0.145</b>
Somalia	0.202	0.182			<b>0.384</b>
South Africa	0.350		0.350		<b>0.700</b>
Sudan	0.752	0.075			<b>0.827</b>
<b>Total - Africa</b>	<b>5.435</b>	<b>2.768</b>	<b>0.350</b>	<b>0.000</b>	<b>8.551</b>
<b>Asia and Near East<sup>a</sup></b>					
Afghanistan	0.200	0.100			<b>0.300</b>
Bangladesh	2.200	3.200			<b>5.400</b>
India	2.225		1.780	0.445	<b>4.450</b>
Indonesia	3.776	1.450			<b>5.226</b>
Lebanon			4.000		<b>4.000</b>
Morocco	0.400				<b>0.400</b>
Philippines	0.200		0.100	0.100	<b>0.300</b>
U.S.-Asia Environmental Partnership Program (India, Indonesia, Philippines, Sri Lanka, Thailand, and Vietnam)	2.011		2.011	2.011	<b>6.033</b>
<b>Total - Asia and Near East</b>	<b>11.012</b>	<b>4.750</b>	<b>7.891</b>	<b>2.556</b>	<b>26.209</b>
<b>Egypt, Jordan, and West Bank/Gaza</b>					
Egypt <sup>b</sup>	9.500	7.500			<b>17.000</b>
Jordan	19.500		14.000		<b>33.500</b>
West Bank/Gaza <sup>c</sup>	151.920	0.214	3.713		<b>155.847</b>
<b>Total - Egypt, Jordan, and West Bank/ Gaza</b>	<b>180.920</b>	<b>7.714</b>	<b>17.713</b>	<b>0.000</b>	<b>206.347</b>
<b>Europe and Eurasia</b>					
Armenia	1.200				<b>1.200</b>
Azerbaijan	0.938	0.938			<b>1.876</b>
Bosnia & Herzegovina	0.350				<b>0.350</b>
Croatia	0.983		0.983		<b>1.966</b>
Cyprus	0.155		0.360		<b>0.515</b>
Georgia	0.854	0.854			<b>1.708</b>
Kazakhstan	0.070			0.050	<b>0.120</b>
Kyrgyzstan	0.180				<b>0.180</b>
Macedonia	0.600				<b>0.600</b>
Moldova	0.325				<b>0.325</b>
Turkmenistan	0.230	0.133		0.030	<b>0.393</b>

Table 2 con't. FY 2003 USAID Obligations for Water Supply, Sanitation and Wastewater Management  
(Reported in Millions of USD)

Country or Operating Unit	Water Supply	Sanitation	Wastewater Management	Pollution Control	TOTAL
Ukraine	0.661		0.661		<b>1.322</b>
Uzbekistan	0.500				<b>0.500</b>
Eurasia Regional Programs (Armenia, Azaerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Turkmenistan, Ukraine, and Uzbekistan)	0.773		0.339		<b>1.112</b>
<b>Total - Europe and Eurasia</b>	<b>7.819</b>	<b>1.925</b>	<b>2.343</b>	<b>0.080</b>	<b>12.167</b>
<b>Latin America and Caribbean</b>					
Bolivia	1.658	1.449		0.300	<b>3.407</b>
Brazil			0.025		<b>0.025</b>
Colombia	1.750	3.175	0.300	0.250	<b>5.475</b>
Dominican Republic	0.951				<b>0.951</b>
Ecuador	1.250	1.250			<b>2.500</b>
El Salvador	2.430	1.328			<b>3.758</b>
Guatemala	0.300				<b>0.300</b>
Haiti	0.870				<b>0.870</b>
Honduras	1.628	1.628			<b>3.256</b>
Jamaica			1.156		<b>1.156</b>
Nicaragua		0.050			<b>0.050</b>
Paraguay	0.060	0.150			<b>0.210</b>
Peru	3.525	3.525		1.217	<b>8.267</b>
Caribbean Regional Programs (Dominican Republic, Haiti, and Jamaica)			0.833		<b>0.833</b>
Latin America Regional Programs (Bolivia, Brazil, Colombia, Ecuador, El Salvador, Honduras, Nicaragua, Paraguay, and Peru)	0.022	0.021	0.022		<b>0.065</b>
<b>Total - Latin America and Caribbean</b>	<b>14.444</b>	<b>12.576</b>	<b>2.336</b>	<b>1.767</b>	<b>31.123</b>
<b>Central Programs</b>					
Disaster, Conflict & Humanitarian Assistance (DCHA)/ Office of Disaster Assistance	16.513	8.257			<b>24.770</b>
Global Health/Environmental Health Project	0.400	0.400			<b>0.800</b>
Global Health/Point of Use Water Quality	0.300				<b>0.300</b>
Urban Programs	0.088	0.025	0.062		<b>0.175</b>
<b>Total - Central Programs</b>	<b>17.301</b>	<b>8.682</b>	<b>0.062</b>	<b>0.000</b>	<b>26.045</b>
<b>TOTAL - ALL REGIONS</b>	<b>236.930</b>	<b>38.414</b>	<b>30.695</b>	<b>4.403</b>	<b>310.442</b>

<sup>a</sup>Excludes Egypt, Jordan and West Bank/Gaza

<sup>b</sup>Includes \$17 million in prior year carryover funds to be obligated in FY 2003

<sup>c</sup>Includes \$148 million in prior year carryover funds to be obligated in FY 2003

*Water Supply* is the largest sub-category of activities in **WSSWM**, representing 76% of all investments in this activity area. *Water Supply* investments include \$130 million for a special category of water supply in West Bank/Gaza, desalination. Desalination activities support the transfer of technology, construction of facilities, and assessments of environmental impacts for the purification of saltwater for domestic or industrial purposes. Although currently involving only one recipient country, this is an area of great potential where USAID may see future increases in investment. The potential for desalination applications has been explored by USAID in the Central Asian Republics and Egypt in recent years.

## Sanitation

*Sanitation* activities are designed to provide or improve access to cost-effective options for domestic waste disposal systems for slum communities and rural settings. The *Sanitation* category includes the provision of household connections to wastewater conveyance systems, and the necessary institutional, policy, and regulatory reform measures needed to maintain such infrastructure. It also includes a strong hygiene improvement component with country-based initiatives to promote handwashing, safe disposal of excreta and safe water handling at the community and household levels. Investments in *Sanitation* are planned at \$38 million (12% of the total for the **WSSWM** activity area) in at least 24 countries (Table 2).



*Lack of access to sanitation is alarming, with 409 million slum residents unable to safely dispose of waste, which endangers their lives.*

## Wastewater Management

*Wastewater Management* includes the collection, conveyance, treatment and return to the environment of wastewater. Activities include regulatory and policy reform, construction, rehabilitation and management of these facilities. Investments in *Wastewater Management* are planned at \$31 million (10% of the total for the **WSSWM** activity area) in at least 16 countries (Table 2).



*The UN estimates that between 30 and 60 percent of all urban populations in developing country cities live in inner-city slums and squatter settlements.*

## Industrial Pollution Control

These activities aim to manage and reduce human and environment exposure to hazardous and toxic wastes in the aquatic environment, including their regulation, handling, transport, disposal, storage cleanup. The *Industrial Pollution Control* category includes water pollution abatement; ecotoxicity, pollution prevention; cleaner production technologies; total quality management; ground and surface water protection and cleanup; health and environmental risk assessment and priority setting; legal services for enforcement of spills and emergency management; and environmental regulation, permitting testing and monitoring. Investments for *Industrial Pollution Control* are planned at \$4 million (1% of the total for the **WSSWM** activity area) in at least 7 countries (Table 2).

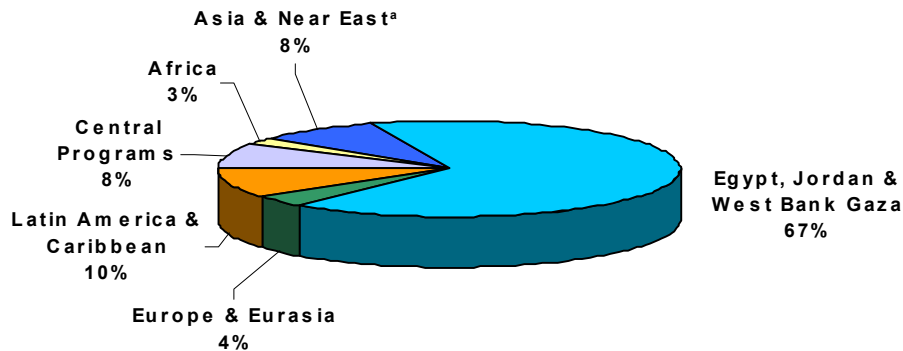


*Improved water supply and sanitation enhances child survival. □*

## Regional Distribution and General Trends in Water Supply, Sanitation, and Wastewater Management (WSSWM) Activities

Approximately two thirds of the \$460 million USAID plans to obligate to all water-related activities (\$310 million) represent the **WSSWM** activity area (see Figure 2 shown earlier). Of this amount, 66% is planned for Egypt, Jordan and West Bank/Gaza (Figure 4), with the remainder planned at \$9 million for 11 countries in Africa, \$26 million for 10 countries in Asia and the Near East, \$12 million for 13 countries



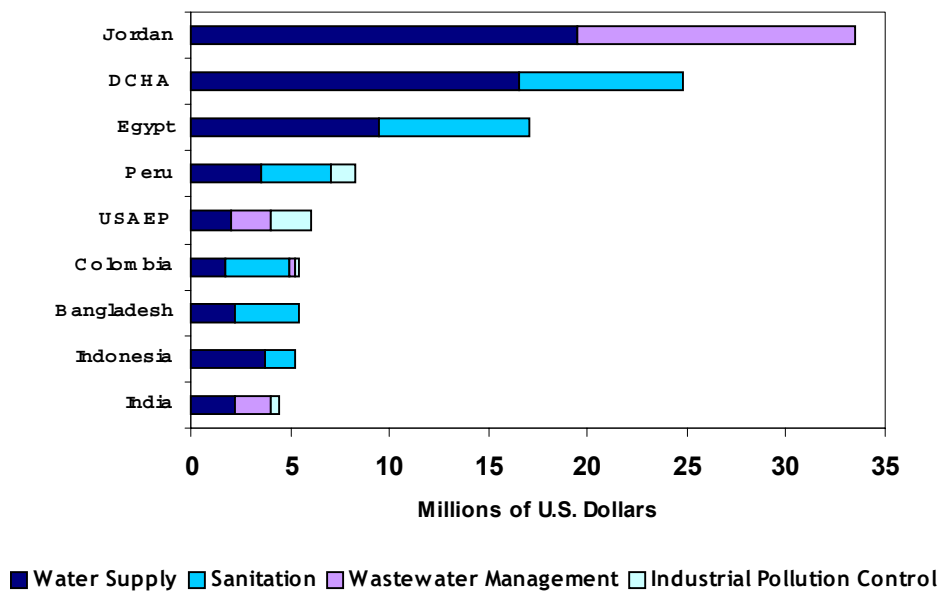


**Figure 4. FY 2003 USAID Water Obligations for Water Supply, Sanitation, and Wastewater Management by Region** (<sup>a</sup>Excludes Egypt, Jordan and West Bank/Gaza)

in Europe and Eurasia, \$31 million for 13 countries in Latin America and the Caribbean, and \$26 million for Central Programs.

At a planned investment of \$310 million, **WSSWM** activities represent the largest funding area in USAID's entire water portfolio. Major individual recipients of these investments are West Bank/Gaza, Jordan, the Disaster, Conflict and Humanitarian Assistance (DCHA) Bureau's Office of Disaster Assistance, Egypt, Peru, the US-Asia Environmental Partnership (US-AEP) Program, Colombia, Bangladesh, Indonesia, and India (Figure 5).

The high proportion of FY 2003 water obligations in the Middle East Region (67%) is not just a short-term anomaly, but reflects an historical trend of investing in large scale, capital-intensive infrastructure in the region. In fact, during the four years from 2000-2003,



**Figure 5. Top Recipients of USAID FY 2003 Obligations for Water Supply, Sanitation, and Wastewater Management<sup>a</sup>** (<sup>a</sup>By far the largest single recipient planned for FY 2003 is West Bank/Gaza, and at a funding level of \$155 million, the program greatly exceeds the scale relative to other top recipients, and is therefore not depicted.)

**WSSWM** obligations in these three countries averaged nearly one half (48%) of the entire USAID water portfolio. The sources of funding for these investments also departs from the pattern observed in most other USAID regions of the world. More than \$150 million of the FY 2003 obligations for West Bank/Gaza are unobligated Supplemental funds carried over from the Wye River Peace Agreement of 1999. Significant investments from Supplemental and Economic Support Fund (ESF) accounts also fund large scale water supply and wastewater treatment infrastructure projects in the Middle East which typically do not occur in most USAID programs around the world. Elsewhere, the more typical trend in direct **WSSWM** investments by USAID is that of an increasing emphasis on investments in “software”—i.e. the transfer of technology and technical assistance to strengthen institutions and build capacity of local and national governments to monitor, predict, and manage supply and demand for water resources and enhance equitable allocation to all sectors of development.

Indirectly, however, USAID investments and activities in technical capacity building and good governance and finance practices for the water sector catalyze alliances and partnerships capable of leveraging significant sums of money to fund large scale water delivery and wastewater treatment systems and small scale potable water supply and sanitation facilities alike. In fact, nearly all of the \$630 million estimated to be leveraged through the Water for the Poor Initiative over three years will benefit the water supply and sanitation sub-sector. In FY 2003 USAID plans to help mobilize at least \$80 million in local capital and put it to work in creditworthy but underserved markets in Egypt, Morocco and Bosnia by issuing partial loan guarantees to private lenders through the Development Credit Authority (DCA). Similar financial arrangements may be finalized before the end of FY 2003 to leverage an additional \$10 million in South Africa and \$35 million in India.



*Fulfillment of people’s water-related needs through infrastructure investment is important in the elimination of poverty and the promotion of healthy populations.*

A substantial proportion of the FY 2003 funding for the **WSSWM** activity area includes \$306 million to support clean water and sanitation activities proposed under the Water for the Poor Presidential Initiative. The investment for FY 2003 is well above the average annual targeted commitment of \$170 million proposed for this initiative.



*The West Africa Water Initiative will benefit over 400,000 people in Ghana, Mali, and Niger.*

## Illustrative USAID Programs in Water Supply, Sanitation, and Wastewater Management

In **Ghana, Mali, and Niger**, USAID is a partner in the **West Africa Water Initiative**, a new alliance of twelve international organizations announced at WSSD in 2002. USAID has provided a total of \$5 million in FY 2002-2003, complementing over \$36 million in resources from other partners. The partnership will invest in small-scale potable water supply and sanitation, hygiene, and sound water management for food production and economic development in poor rural and periurban communities. Over 400,000 people will benefit from improved access to water supply and sanitation and better water management through the initiative.

Through USAID’s **Development Credit Authority (DCA)**, USAID issues partial loan guarantees to private lenders to achieve economic development objectives. The DCA also helps identify both partners and opportunities for risk sharing arrangements in private sector-led finance, ranging from large-scale water initiatives in the formal sector to small-scale projects such as farmer cooperative well programs in the informal sector. The DCA credit enhancement has facilitated financing in many sectors, including water and sanitation.

In February 2003 the United States launched the **Community Water and Sanitation Facility** to expand water and sanitation services in slum communities. The Facility works towards the achievement of the Millennium Development Goal of significantly improving the lives of 100 million slum dwellers by 2020. The U.S. launched the Facility with seed funding of \$2 million within the context of the Cities Alliance, a donor coalition of 14 contributing members committed to the vision of “Cities Without Slums.”

In the **Central Asian Republics**, USAID has launched several activities in the water sector totaling over \$9 million in FY 2003. Of this, \$1 million will be invested to promote clean water supply and sanitation, including a large program on potable water in the



*Community residents in India show their water bill for the new private water hook-up they have in their home as a result of DCA financing through a USAID-supported water supply project.*

**India, Colombia, and Peru.** USAID provision of water supply, sanitation and source water protection activities totaling more than \$17 million in these countries are integral components of drug eradication efforts in highland communities.

**Gaza** is experiencing a serious water shortage, with the demand for potable water significantly exceeding available supply. At the same time, a lack of adequate sewerage facilities has resulted in contamination of groundwater resources from cesspits, septic tanks, and leaking sewage lagoons. Recent international experience with desalination plants has brought construction and operating costs down significantly, and desalination is now seen as a viable option both for meeting the area's rapidly growing demands for water and for mitigating the environmental problems associated with over-extraction of groundwater resources. USAID therefore plans to invest \$130 million to support a desalination activity, and \$26 million in other community water supply and sanitation projects.

USAID will invest nearly \$1 million in **South Africa** this year to continue support of a water and sanitation initiative targeted at urban poor areas. The objective of the initiative is to increase the quality and quantity of these services by increasing the investment in and improving the management of municipal water and sanitation services. The funding will support the development of independently monitored performance standards and credit enhancement through the DCA program.

Health sector activities in hygiene improvement also make an important contribution to water supply and sanitation activities. For example, in the **Dominican Republic**, the USAID-funded reconstruction of water systems and latrines after Hurricane Georges (1998) included a critical hygiene improvement component training NGOs and governmental agencies in the design and implementation of hygiene behavior change activities, continuing through FY 2003. This effort also provides technical assistance to the National Water Authority to ensure community participation in rural water and sanitation management, including integration of water interventions with community-based hygiene promotion activities.

Karakalpakstan region of Uzbekistan, an area hit hard by the Aral Sea Disaster. The project will bring water to over 500,000 people in the region through new wells, purifying equipment, and delivery systems.

In **India**, USAID will invest \$5 million in water supply, wastewater management, and pollution control interventions, part of which will support the Financial Institutions Reform and Expansion (FIRE) project and catalyze innovative financing for water partnerships. USAID's DCA has recently raised a total of \$6 million in private sector Indian rupees for six projects in the State of Tamil Nadu, including a \$403,000 project in the township of Valasaravakkam to lay underground water pipes from a safe drinking water source to serve 26,000 people.

In **Jordan**, USAID is supporting a \$20 million water supply improvement program during FY 2003. One component is assistance to the city of Amman in developing new water supply and distribution systems, which will improve household access to clean water for 580,000 residents.

Improvements in water supply and sanitation complement the effectiveness of other development assistance programs in **Bo-**



*Provision of water supply and sourcewater protection are integral components of drug eradication efforts in Bolivia, Colombia, and Peru.*



## 2 Natural Resources Management (\$84 million)

### Promoting Sound Water Resources Management to Sustain Watershed, Freshwater and Coastal Ecosystem Services

The freshwater and marine hydrological cycle serves vital ecological functions beyond the provision of fresh water as a commodity for human use. Habitats such as wetlands, forested watersheds, estuaries, riparian, and marine environments sustain biodiversity, moderate floods and droughts, filter contaminants, form the foundation of coastal and aquatic food chains, and provide other diverse ecosystem services. These systems are rapidly being disrupted and destroyed by unconstrained development and exploitation. Aquatic ecosystems are under the greatest threat of all ecosystems on the planet and coastal and marine environments are especially subject to severe impacts by dense human settlement.

Management efforts must focus on recognizing and sustaining aquatic ecosystem values and services as the foundation for further sustainable development. Opportunities to protect, restore and rehabilitate aquatic systems must be explored, while decisions must be based on sound science and meaningful analysis of costs and benefits. An IWRM approach involving multiple stakeholders will help ensure that aquatic biodiversity and its many values and services will have a voice in such decision-making.

More than half the world's population lives in about 300 river basins that are shared across international boundaries, and dozens of other nations share coastlines and coastal waters. Disputes among countries over limited freshwater supplies or marine resources already occur, and will likely increase in the future. Internal to individual nations, civil strife can be exacerbated by disputes over water resources, while effective management tools can also create many opportunities for cooperation in otherwise tense political environments. Through an IWRM approach, exploring creative ways to link program areas can greatly increase the effectiveness of these efforts and help develop collaborative solutions to complex interdisciplinary problems. The Natural Resources Management activity area includes three categories of activities described below: *IWRM and Watershed Protection*; *Coastal Zone Management*; and *Freshwater Ecosystems Management*.

### Integrated Water Resources Management (IWRM) and Watershed Protection

*IWRM and Watershed Protection* activities support the management of ground and surface water resources and their watersheds. The category includes broad-based, water-related policy development and institutional strengthening to help governments, civil society, and communities implement planning, financial, and regulatory instruments for equitable water resources allocation and management based on multi-stakeholder dialogue and input. The *IWRM and Watershed Protection* category also encompasses structures and strategies to conserve the quality and supply of water, slow runoff, and buffer storm flows; surveys dealing with water balances, water supply, aquatic life, and habitat protection; and transboundary water resources management focused on data sharing and common water protocol development in river basins shared by two or more countries. Some IWRM activities that have a targeted, sectoral focus, such as hydropower policy, finance reform for urban water service delivery, strengthening irrigation water user associations, or mariculture policy development, are included under other water-related categories. Hydrometeorological monitoring is included under the Disaster Preparedness activity area. *IWRM and Watershed Protection* investments include \$57 million (68% of the total for the **Natural Resources Management** activity area) for projects in 37 countries (Table 3).



*USAID helps conserve the diverse ecological services provided by aquatic habitats.*



**Table 3. FY 2003 USAID Water Obligations for Natural Resources Management by Country and Region  
(Reported in Millions of USD)**

The *Natural Resources Management* Activity Area includes *IWRM and Watershed Protection*, *Coastal Zone Management*, and *Freshwater Ecosystems Management*

Country or Operating Unit	IWRM & Watershed Protection	Coastal Zone Management	Freshwater Ecosystems Management	TOTAL
<b>Africa</b>				
Ethiopia	0.301			<b>0.301</b>
Ghana	1.220			<b>1.220</b>
Guinea	2.284			<b>2.284</b>
Kenya		0.425		<b>0.425</b>
Madagascar	0.300			<b>0.300</b>
Tanzania		0.850		<b>0.850</b>
REDSO/ESA <sup>a</sup> (Burundi, Rwanda, Tanzania & Uganda)			0.390	<b>0.390</b>
RCSA <sup>b</sup> (Angola, Botswana, Mozambique, Namibia, and Zimbabwe)	0.500			<b>0.500</b>
WARP <sup>c</sup> (Ghana)	0.438			<b>0.438</b>
Africa Regional Program (Ethiopia, Ghana, Guinea, Kenya, Madagascar, and Tanzania)	0.425			<b>0.425</b>
<b>Total - Africa</b>	<b>5.468</b>	<b>1.275</b>	<b>0.390</b>	<b>7.133</b>
<b>Asia and Near East<sup>d</sup></b>				
Bangladesh	2.700			<b>2.700</b>
India	3.900			<b>3.900</b>
Indonesia	2.326	2.400		<b>4.726</b>
Lebanon	1.000	0.200		<b>1.200</b>
Morocco	0.945			<b>0.945</b>
Philippines	1.500	3.000		<b>4.500</b>
Asia and Near East Regional Programs (Lebanon and Morocco)	2.500			<b>2.500</b>
<b>Total - Asia and Near East</b>	<b>14.871</b>	<b>5.600</b>	<b>0.000</b>	<b>20.471</b>
<b>Egypt, Jordan and West Bank/Gaza</b>				
Egypt	3.900	5.000		<b>8.900</b>
Jordan	5.350	0.500		<b>5.850</b>
West Bank/Gaza <sup>e</sup>	4.491	4.500		<b>8.991</b>
<b>Total - Egypt, Jordan and West Bank/Gaza</b>	<b>13.741</b>	<b>10.000</b>	<b>0.000</b>	<b>23.741</b>
<b>Europe and Eurasia</b>				
Armenia	1.395			<b>1.395</b>
Cyprus	0.927			<b>0.927</b>
Georgia	0.738			<b>0.738</b>
Kazakhstan	0.325			<b>0.325</b>
Kyrgyzstan	0.425			<b>0.425</b>
Tajikistan	0.233			<b>0.233</b>
Turkmenistan	0.080			<b>0.080</b>



**Table 3 con't. FY 2003 USAID Water Obligations for Natural Resources Management by Country and Region  
(Reported in Millions of USD)**

The *Natural Resources Management* Activity Area includes *IWRM and Watershed Protection, Coastal Zone Management, and Freshwater Ecosystems Management*

Country or Operating Unit	IWRM & Watershed Protection	Coastal Zone Management	Freshwater Ecosystems Management	TOTAL
<b>Europe and Eurasia con't.</b>				
Ukraine	0.046			<b>0.046</b>
Uzbekistan	0.350			<b>0.350</b>
Central Asia Regional Program (Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan)	0.500			<b>0.500</b>
<b>Total - Europe and Eurasia</b>	<b>5.019</b>			<b>5.019</b>
<b>Latin America and Caribbean</b>				
Bolivia	0.600			<b>0.600</b>
Brazil			0.100	<b>0.100</b>
Ecuador	0.806	3.667		<b>4.473</b>
El Salvador	2.337			<b>2.337</b>
Guatemala	0.075		0.225	<b>0.300</b>
Haiti	1.200			<b>1.200</b>
Honduras	1.238			<b>1.238</b>
Jamaica	1.156	1.156		<b>2.312</b>
Mexico	0.168	0.769		<b>0.937</b>
Panama	7.000			<b>7.000</b>
Paraguay			0.333	<b>0.333</b>
Peru	1.217			<b>1.217</b>
Caribbean Regional Program (Dominican Republic, Haiti, and Jamaica)	0.833	0.833		<b>1.666</b>
Central America Regional Program (Guatemala, Honduras, and Mexico)		0.400		<b>0.400</b>
Latin America Regional Program (Ecuador, Jamaica, Mexico, and Honduras)		0.700		<b>0.700</b>
<b>Total - Latin America and Caribbean</b>	<b>16.630</b>	<b>7.525</b>	<b>0.658</b>	<b>24.813</b>
<b>Central Programs</b>				
Economic Growth, Agriculture & Trade/ International Water Management Institute	0.250			<b>0.250</b>
Economic Growth, Agriculture & Trade/ Water Team	1.201	0.833	0.400	<b>2.434</b>
<b>Total - Central Programs</b>	<b>1.451</b>	<b>0.833</b>	<b>0.400</b>	<b>2.684</b>
<b>TOTAL - ALL REGIONS</b>	<b>57.180</b>	<b>25.233</b>	<b>1.448</b>	<b>83.861</b>

<sup>a</sup>Regional Economic Development Service for East and Southern Africa & Greater Horn of Africa Initiative

<sup>b</sup>Regional Center for Southern Africa

<sup>c</sup>Western Africa Regional Program

<sup>d</sup>Excludes Egypt, Jordan and West Bank/Gaza

<sup>e</sup>Includes nearly \$9 million in prior year carryover funds to be obligated in FY 2003



*Upstream pollution on the Ganges and Brahmaputra Rivers adversely affects water quality for downstream users, and requires shared decision-making by the riparian countries for pollution control in the Ganges-Brahmaputra*

**Natural Resources Management** activity area) for projects in 13 countries (Table 3), with no funding for programs obligated in the Europe and Eurasia Region.

## Coastal Zone Management

*Coastal Zone Management* activities are designed to improve the management or protection of coastal and marine environments and natural resources for sustainable utilization. The coastal zone comprises both land and water in the vicinity of the interface between land and sea. Coastal zones include resources management of land areas and land use near the coast, and marine nearshore resources within these areas, such as the intertidal zone, coral reefs and nearshore waters, and saline and brackish water marshes. The *Coastal Zone Management* category also includes coral reef conservation and activities that support environmental management and protection of coral reefs, and are specifically designed to improve sustainable utilization of the biological resources derived from these systems. *Coastal Zone Management* investments include \$25 million (30% of the total for the

## Freshwater Ecosystems Management

*Freshwater Ecosystems Management* activities are directed at environmental management and protection of freshwater wetland and aquatic habitats and are specifically designed to improve their management and protection. These investments include over \$1 million (only 2% of the total for the **Natural Resources Management** activity area) for 7 countries in Africa and Latin America (Table 3).

## Regional Distribution and General Trends in NRM Activities

Nearly one fifth of the \$460 million USAID plans to obligate to all water-related activities (\$84 million) represent **Natural Resources Management** activities (see Figure 2 shown earlier). Of this amount the largest proportion (30%) will include \$25 million for 13 countries in Latin America and the Caribbean, followed closely by \$24 million for Egypt, Jordan and West Bank/Gaza, \$20 million for 6 countries in Asia and the Near East, \$7 million for 14 countries in Africa, \$5 million for 9 countries in Europe and Eurasia, and \$3 million for Central Programs (Figure 6). Major recipients of these investments are West Bank/Gaza, Egypt, Panama, Jordan, Indonesia, the Philippines, Ecuador, India, and Bangladesh (Figure 7).

Funding for the **Natural Resources Management** activity area is included in the \$88 million planned to support watershed management activities proposed under the Water for the Poor Presidential Initiative. USAID will require additional obligations in FY 2004 and 2005 in order to help meet the three-year funding target of \$400 million for watershed management activities proposed under the Water for the Poor Initiative. This amount averages an annual commitment of \$133 million over three years (2003-2005), of which only 68% will be attributed to watershed management in the first year of the initiative.

## Illustrative USAID Programs in NRM

Through the Coastal Resources Management project, a partnership between USAID and the Coastal Resources Center of the University of Rhode Island, USAID invested over \$4 million in FY 2003 to promote the sustainable use of coastal resources in **Kenya, Tanzania, Indonesia and Mexico**. Interventions help strengthen the capacity of public and private institutions to manage coastal resources more effectively on a sustainable basis through integrated approaches to coastal planning and development. Technical assistance helps support improved governance processes, information dissemination on effective coastal management, and the development of effective techniques to address coastal management issues in diverse social, political and economic settings.



*Improved governance policies and practices at the national and local levels promote sustainable management of coastal waters to help protect fishing livelihoods for future generations in Indonesia.*

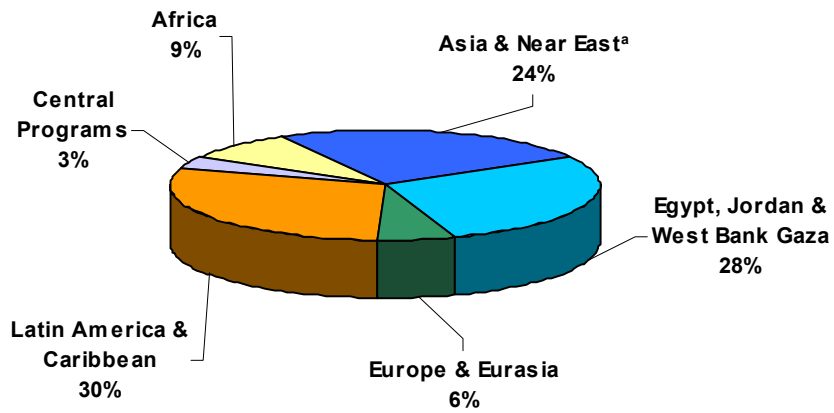


Figure 6. FY 2003 USAID Water Obligations for Natural Resources Management by Region  
 (<sup>a</sup>Excludes Egypt, Jordan and West Bank/Gaza)

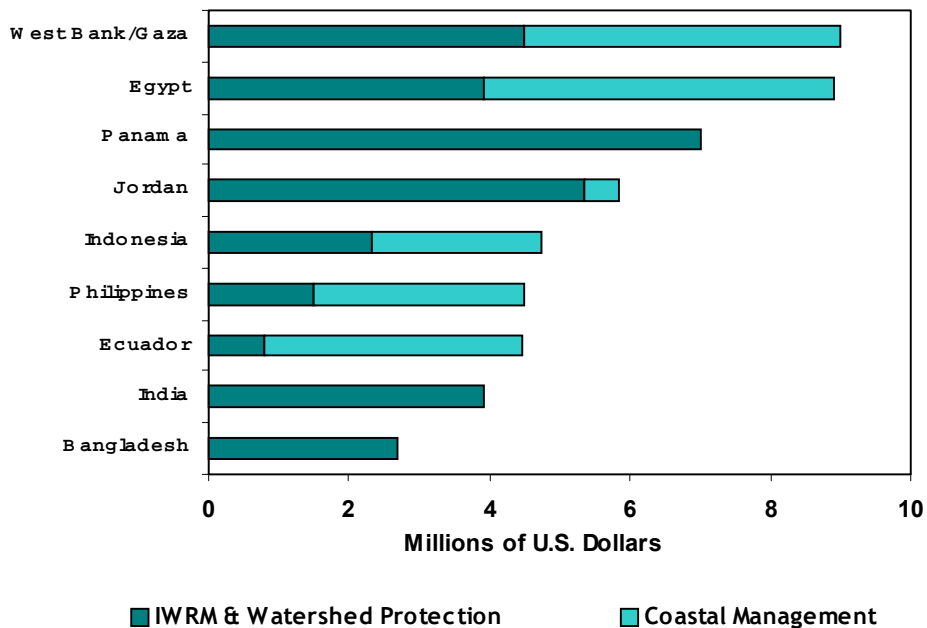


Figure 7. Top Recipients of FY 2003 USAID Water Obligations for Natural Resources Management



*Enhancing national policy on mariculture in Tanzania protects water quality while promoting food security.*



*In the Philippines, devolution of government authority empowers local community groups to take action through a water alliance.*

In **Panama**, USAID plans to obligate \$7 million in FY 2003 for sustainable watershed management and land use practices in the upper Panama Canal watershed. USAID has demonstrated through past performance that the promotion of best practices in environmental protection throughout the Panama Canal Watershed support effective long term operation of the Panama Canal itself. After all, efficient operation of the Panama Canal relies on the freshwater provided by rain across the 326,000-hectare watershed, as each ship passage requires 52 million gallons of freshwater to operate the passageway. The maintenance of adequate forest cover wherever possible, as well as water quality monitoring, will help ensure the availability of adequate volumes of water for canal operations by minimizing sedimentation and drainage of contaminants into the canal.

USAID will invest \$5 million in FY 2003 for watershed and coastal zone management activities in the **Philippines**. As part of this effort, USAID will work with local government units develop the Philippines Integrated Water Resources Alliance to help cities implement a model, basin-wide approach to water resources management. This public-private sector alliance will work to replicate efforts of selected cities in other local governments and their watershed and coastal areas.

In **Morocco**, USAID plans to obligate \$1 million in FY 2003, complementing a total investment of \$30 million over the past ten years, to promote improved water resources management in the Souss-Massa River Basin and other important basins throughout the country. These activities have resulted in improved decentralized management of water resources through the formation of operational basin water authorities.

In **Jamaica**, USAID will invest \$2 million in *IWRM* and *Coastal Zone Management* activities aimed at reducing the impact of contamination from agricultural run-off and nutrient-rich sewage flowing from informal settlements in the watershed and along rivers. This is accomplished through interventions for improved agricultural practices and watershed management, education and enforcement that complement an additional

\$2 million investment attributed to the *Wastewater Management* category discussed in Section 1. The project has resulted in the strengthened capacity of Jamaica's National Water Commission to effectively create public partnerships for wastewater treatment and involve the tourism industry in Environmental Management Systems.





# 3

## Economic Growth and Food Security (\$48 million)

### Putting Water to Work to Alleviate Food Crises and Poverty

Food production is completely dependent on predictable and high quality supplies of fresh or marine water. Approximately 80% of all freshwater consumed on the planet is devoted to agricultural production, often in irrigated systems that are inefficient and environmentally unsustainable. The growing global population will demand even greater agricultural productivity in the future. Creative solutions will be needed to address world food security without degrading or depleting terrestrial and/or aquatic ecosystems.

In all cases, water scarcity, overabundance and contamination disproportionately affect the poor, and the links between poverty and achieving a safe and adequate supply of water for human and ecosystem needs are significant. A dependable water supply is critical for every kind of economic development ranging from primary sector activities (agriculture, forestry and mining) to industrial production, energy generation or service sector development. Increasingly, different human activities are competing for limited water supplies that are critical to sustain human livelihood and economic productivity. The Economic Growth and Food Security activity area includes three categories of activities described below: *Irrigation and Agriculture*; *Fisheries and Aquaculture*; and *Small Scale Hydropower*.

### Irrigation and Agriculture

*Irrigation and Agriculture* activities are directed at supporting or providing irrigation facilities, or are designed to manage and conserve soil, water, and biological resources that are utilized for agricultural production. These interventions help increase the availability (through diversion and other means) and/or efficient use of ground water and surface water for agriculture. The category includes infrastructure and irrigation management, and interventions to conserve water quantity and protect water quality from agrochemicals and sediment deposition. *Irrigation and Agriculture* investments include \$36 million (75% of the total for the **Economic Growth and Food Security** activity area) for projects in 23 countries (Table 4).

### Fisheries and Aquaculture

*Fisheries and Aquaculture* activities include the capture and/or culture of aquatic animals (including fish, crustaceans and mollusks) and plants (including seaweed) in fresh, brackish and marine waters, primarily for use as human food. This category also includes activities related to the assessment, conservation and management of aquatic animals and plants harvested from oceans, rivers and lakes for use as human food, animal feeds, or for industrial purposes. Aquaculture activities include hatchery production for stocking aquaculture facilities as well as for the enhancement of natural stocks. *Fisheries and Aquaculture* investments include \$8 million (17% of the total for the **Economic Growth and Food Security** activity area) for projects in 6 countries (Table 4), with no funds obligated in Egypt, Jordan, or West Bank/Gaza.



*Support for environmentally sustainable irrigation will boost economic growth and alleviate hunger and poverty.*



**Table 4. FY 2003 USAID Water Obligations for Economic Growth and Food Security by Country and Region  
(Reported in Millions of USD)**

The *Economic Growth and Food Security* Activity Area includes *Irrigation and Agriculture*; *Fisheries and Aquaculture*; and *Hydropower (Small Scale)*

Country or Operating Unit	Irrigation & Agriculture	Fisheries & Aquaculture	Hydropower (Small Scale)	TOTAL
<b>Africa</b>				
Angola	0.350			<b>0.350</b>
Benin	0.154			<b>0.154</b>
Eritrea	1.700			<b>1.700</b>
Guinea	3.520			<b>3.520</b>
Madagascar		0.185		<b>0.185</b>
Somalia	0.182			<b>0.182</b>
Sudan	1.565			<b>1.565</b>
<b>Total - Africa</b>	<b>7.471</b>	<b>0.185</b>	<b>0.000</b>	<b>7.656</b>
<b>Asia and Near East<sup>a</sup></b>				
Afghanistan	7.621			<b>7.621</b>
Bangladesh		1.800		<b>1.800</b>
Morocco	0.600			<b>0.600</b>
Nepal	1.028		2.200	<b>3.228</b>
Philippines		1.000		<b>1.000</b>
<b>Total - Asia and Near East</b>	<b>9.249</b>	<b>2.800</b>	<b>2.200</b>	<b>14.249</b>
<b>Egypt, Jordan and West Bank/Gaza</b>				
Jordan	2.000			<b>2.000</b>
<b>Total - Egypt, Jordan and West Bank/Gaza</b>	<b>2.000</b>	<b>0.000</b>	<b>0.000</b>	<b>2.000</b>
<b>Europe and Eurasia</b>				
Armenia			0.200	<b>0.200</b>
Georgia			1.106	<b>1.106</b>
Kazakhstan	0.250	0.300		<b>0.550</b>
Kyrgyzstan	1.480		0.250	<b>1.730</b>
Tajikistan	1.230			<b>1.230</b>
Turkmenistan	0.100			<b>0.100</b>
Uzbekistan	1.900			<b>1.900</b>
Central Asia Regional Program (Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan)	0.300			<b>0.300</b>
<b>Total - Europe and Eurasia</b>	<b>5.260</b>	<b>0.300</b>	<b>1.556</b>	<b>7.116</b>
<b>Latin America and Caribbean</b>				
Bolivia	2.199			<b>2.199</b>
Brazil			0.125	<b>0.125</b>
Colombia	1.500	0.100		<b>1.600</b>
Ecuador	2.000	2.000		<b>4.000</b>
El Salvador	0.205			<b>0.205</b>
Haiti	1.840			<b>1.840</b>
Honduras	0.186		0.186	<b>0.372</b>

**Table 4 con't. FY 2003 USAID Water Obligations for Economic Growth and Food Security by Country and Region (Reported in Millions of USD)**  
 The *Economic Growth and Food Security* Activity Area includes *Irrigation and Agriculture; Fisheries and Aquaculture; and Hydropower (Small Scale)*

<b>Latin America and Caribbean con't.</b>				
Nicaragua	0.350			<b>0.350</b>
Peru	3.375			<b>3.375</b>
<b>Total - Latin America and Caribbean</b>	<b>11.655</b>	<b>2.100</b>	<b>0.311</b>	<b>14.066</b>
<b>Central Programs</b>				
Economic Growth, Agriculture & Trade/ International Water Management Institute	0.500			<b>0.500</b>
Economic Growth, Agriculture & Trade/ Pond Dynamics/Aquaculture Collaborative Research Support Program		2.150		<b>2.150</b>
Economic Growth, Agriculture & Trade/ WorldFish Center		0.675		<b>0.675</b>
<b>Total - Central Programs</b>	<b>0.500</b>	<b>2.825</b>	<b>0.000</b>	<b>3.325</b>
<b>TOTAL - ALL REGIONS</b>	<b>36.135</b>	<b>8.210</b>	<b>4.067</b>	<b>48.412</b>

<sup>a</sup>Excludes Egypt, Jordan and West Bank/Gaza

## Hydropower (Small Scale)

*Hydropower* activities are related to the planning, development and management of hydropower facilities. These investments include \$4 million (8% of the total for the *Economic Growth and Food Security* activity area) for projects in 6 countries (Table 4), with no funds obligated in the Africa Region or Egypt, Jordan, and West Bank/Gaza.

## Regional Distribution and General Trends in Economic Growth and Food Security Activities

Over one tenth of the \$460 million USAID plans to obligate in water-related activities (\$48 million) represent *Economic Growth and Food Security* activities (see Figure 2 shown earlier). Of this amount, the largest proportions (29% each) will include \$14 million for 9 countries in Latin America and the Caribbean and \$14 million for 5 countries in Asia and the Near East, followed by \$8 million for 7 countries in Africa, \$7 million for 7 countries in Europe and Eurasia, \$3 million for Central Programs, and \$2 million for Egypt, Jordan and West Bank/Gaza (Figure 8). Major recipients of these investments are Afghanistan, Ecuador, Guinea, Peru, Nepal, the Pond Dynamics/Aquaculture Collaborative Research Support Program (PD/A CRSP), Jordan, and Uzbekistan (Figure 9). Nepal is the only major recipient of funding for small scale *Hydropower* activities.

All \$48 million of planned funding in 2003 for the *Economic Growth and Food Security* activity area will be applicable to the water productivity category of the Water for the Poor Presidential Initiative. This planned investment for 2003 is well above the average annual targeted commitment of \$20 million proposed for this three-year initiative.

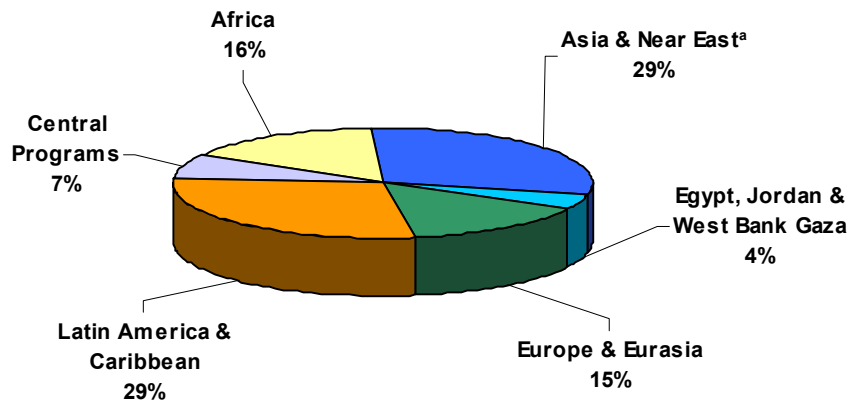


Figure 8. FY 2003 USAID Water Obligations for Economic Growth and Food Security by Region  
 (<sup>a</sup>Excludes Egypt, Jordan and West Bank/Gaza)

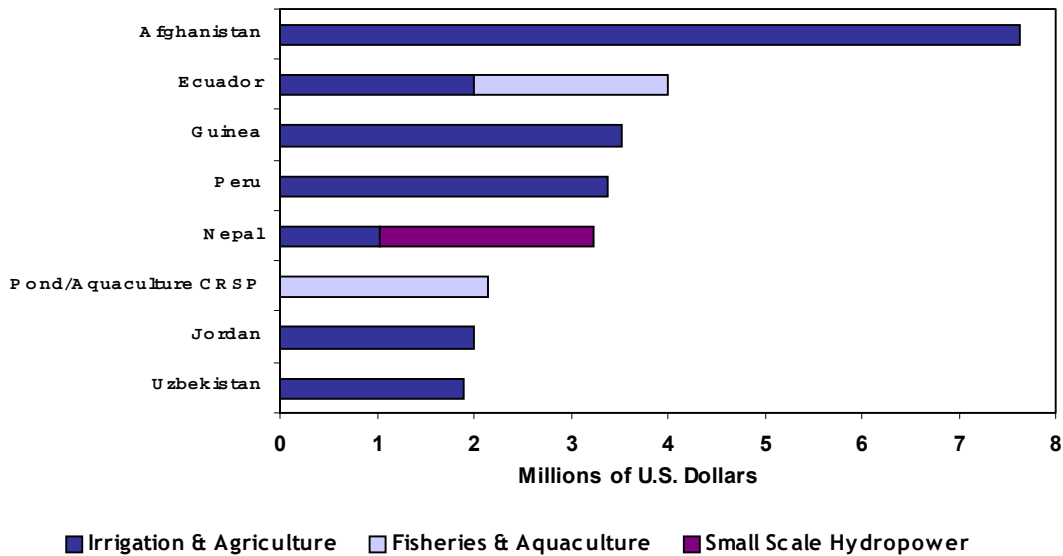


Figure 9. Top Recipients of FY 2003 USAID Water Obligations for Economic Growth and Food Security



## Illustrative USAID Programs in Economic Growth and Food Security

USAID plans to obligate \$8 million in **Afghanistan** to rehabilitate damaged and neglected irrigation canals and rural wells throughout the country. Activities are under way in 13 provinces throughout the country to repair irrigation infrastructure; strengthen the capacity of government agencies, farmers, and non-governmental organizations (NGOs) to manage their water resources; and provide technical assistance to government planners and policy makers. The effort will help local populations move toward self-sufficiency in income generation and food production.

*Approximately 80% of all freshwater consumed on the planet is devoted to agricultural production, often in irrigated systems.*

In **Bangladesh**, USAID will obligate a total of \$17 million for a variety of water resources management activities, of which \$2 million will support sustainable fisheries and aquaculture through the Management of Aquatic Ecosystems through Community Husbandry (MACH) project. The program supports a multidisciplinary, multi-sector participatory process of planning and monitoring to enhance the productivity of fisheries and farmlands, and sustainably manage water resources.

In **Colombia**, USAID will obligate \$2 million in irrigation and aquaculture activities to help farming communities adopt sustainable food production practices as an alternative means of income generation to help eliminate reliance on illicit coca production.

In **Nepal**, USAID will obligate \$2 million in 2003 to increase private sector participation in environmentally and socially sustainable hydropower development. The program represents USAID's largest investment in sustainable hydropower, and includes technical assistance and training to streamline legal and regulatory frameworks for private investment and strengthen Nepal's institutional capacity to address environmental and social impacts. Activities are complemented by USAID's South Asian Regional Initiative for Energy and is seeking to attract private sector investment in hydropower to meet domestic demand and boost export earnings.

USAID will obligate \$5 million in the **Central Asian Republics** to support irrigation and drainage structure rehabilitation in **Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan**. The funds also support the development of irrigation water user associations to promote participatory decision-making on water allocation issues.

In 2003 USAID will provide \$2 million to the **Pond Dynamics/Aquaculture Collaborative Research Support Program (PD/A CRSP)**, which brings together an interdisciplinary team of scientists from several U.S. universities and host country institutions to conduct research designed to meet four objectives: 1) optimize the efficiency of aquaculture systems; 2) minimize the negative environmental impacts of aquaculture; 3) explore the socioeconomic intricacies associated with aquaculture; and 4) develop economical and culturally appropriate aquaculture systems and strategies. The PD/A CRSP also conducts related training programs and outreach activities. The PD/A CRSP works in Thailand, Bangladesh, Nepal, Vietnam, Philippines, Mexico, Honduras, El Salvador, Guatemala, Panama, Nicaragua, Peru, Bolivia, Columbia, Ecuador, Brazil, Kenya, Ghana, Tanzania and South Africa.

USAID plans to obligate \$1 million to the **WorldFish Center**, formerly the International Center for Living Aquatic Resources Management (ICLARM), which is one of the international agricultural research centers supported by the Consultative Group for International Agricultural Research (CGIAR). The WorldFish Center conducts research on a wide range of fisheries and aquaculture related topics. The WorldFish Center, which is headquartered in Malaysia, works in many countries including Bangladesh, Philippines, Vietnam, Cambodia, Thailand, Egypt, Cameroon, Malawi, New Caledonia, China, Solomon Islands and in the British Virgin Islands.



*Strengthening water users' associations is an integral part of USAID's water programs, and promotes conflict resolution and shared management of common water resources.*





# 4

## Disaster Preparedness (\$17 million)

### Managing Risks and Disasters to Prevent Loss of Life and Destruction

Hurricanes, tornadoes, floods, and droughts cost many billions of dollars and many thousands of lives each year. The marine systems that cover three-quarters of the earth's surface are vital drivers of global climate, and water and the meteorological cycle have implications for the physical safety of millions of people who suffer from droughts and floods annually. Changes in land use such as urbanization or the clearing of forests can reduce water quality and threaten human populations by exacerbating seasonal flooding and drought; biodiversity is additionally threatened by sedimentation and altered stream flow. Global climate change will only increase the variability and unpredictability of weather patterns and extreme events. Losses can be mitigated by planning, sound development, monitoring and preparedness. The Disaster Preparedness activity area includes two categories of activities described below: *Forecasting and Monitoring*; and *Vulnerability Assessment*.

### Forecasting and Monitoring

*Forecasting and Monitoring* activities are related to the transfer of technology for hydrometeorological monitoring and assessment. This category provides countries with the capacity building needed to operate such systems, and the institutional strengthening required to support effective forecasting and warning systems in the event of floods and storms. *Forecasting and Monitoring* investments include \$8 million (46% of the total for the **Disaster Preparedness** activity area) in 16 countries (Table 5), with no funds obligated for the Latin America and Caribbean Region, or Egypt, Jordan, and West Bank/Gaza.

### Vulnerability Assessment

*Vulnerability Assessment* activities are conducted in arid, semi-arid, or flood-prone areas specifically designed to evaluate and respond to flooding or desertification and improve overall sustainability of livelihood systems of local inhabitants. This category includes support for ecologically based strategies for protection against variability in weather and information to help identify or predict populations at risk of inadequate food production or natural disasters such as droughts and floods. These activities do not, however, include emergency provision of medicinal and food aid, potable water, water containers, or fishing nets delivered in response to droughts, floods and storms. Emergency funds for the rehabilitation of irrigation, water and sanitation systems as a result of extreme events are included under the appropriate sub-categories of *Water Supply, Sanitation, Wastewater Treatment, or Irrigation*. *Vulnerability Assessment* investments include \$9 million (54% of the total for the **Disaster Preparedness** activity area) in 11 countries (Table 5), with no funds obligated for the Latin America and Caribbean Region, or Egypt, Jordan, and West Bank/Gaza.

### Regional Distribution and General Trends in Disaster Preparedness Activities

Less than one twentieth of the \$460 million USAID plans to obligate to all water-related activities (\$17 million) represent **Disaster Preparedness** activities (see Figure 2 shown earlier). Of this amount, the largest proportion (38%) will include \$7 million for Bangladesh in Asia and the Near East, followed by \$6 million for 10 countries in Africa, \$4 million for Central Programs, and \$1 million for the five Central Asian Republics in Europe and Eurasia (Figure 10).

Major recipients of these investments are Bangladesh, the Africa Regional Program, the Disaster, Conflict and Humanitarian Assistance (DCHA) Bureau's Office of Disaster Assistance, the Regional Economic Development Service for East and Southern Africa (REDSO/ESA, Ethiopia), the Western Africa Regional Program (WARP), Tajikistan, Kyrgyzstan, and Kazakhstan (Figure 11). **Disaster Preparedness** activities are not included in the Water for the Poor Initiative.

**Table 5. FY 2003 USAID Water Obligations for Disaster Preparedness by Country and Region  
(Reported in Millions of USD)**

The *Disaster Preparedness* Activity Area includes *Monitoring and Forecasting*; and *Vulnerability Assessment*

Country or Operating Unit	Monitoring & Forecasting	Vulnerability Assessment	TOTAL
<b>Africa</b>			
Ethiopia	0.357	0.357	<b>0.714</b>
Somalia	0.010	0.010	<b>0.020</b>
REDSO/ESA <sup>a</sup> (Ethiopia, Kenya, Somalia and Sudan)	0.488	0.488	<b>0.976</b>
WARP <sup>b</sup> (Benin, Ghana, Mali, Niger)	0.633		<b>0.633</b>
Africa Regional Program (AFR) (Benin, Ethiopia, Ghana, Guinea, Kenya, Mali, Niger, Somalia and Sudan)	2.014	2.014	<b>4.028</b>
<b>Total - Africa</b>	<b>3.502</b>	<b>2.869</b>	<b>6.371</b>
<b>Asia and Near East<sup>c</sup></b>			
Bangladesh	0.200	6.400	<b>6.600</b>
<b>Total - Asia and Near East</b>	<b>0.200</b>	<b>6.400</b>	<b>6.600</b>
<b>Egypt, Jordan and West Bank/Gaza</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>Europe and Eurasia</b>			
Kazakhstan	0.100		<b>0.100</b>
Kyrgyzstan	0.225		<b>0.225</b>
Tajikistan	0.250		<b>0.250</b>
Turkmenistan	0.050		<b>0.050</b>
Uzbekistan	0.075		<b>0.075</b>
<b>Total - Europe and Eurasia</b>	<b>0.700</b>	<b>0.000</b>	<b>0.700</b>
<b>Latin America and Caribbean</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>Central Programs</b>			
Disaster, Conflict & Humanitarian Assistance (DCHA)/ Office of Disaster Assistance	3.572		<b>3.572</b>
<b>Total - Central Programs</b>	<b>3.572</b>	<b>0.000</b>	<b>3.572</b>
<b>TOTAL - ALL REGIONS</b>	<b>7.974</b>	<b>9.269</b>	<b>17.243</b>

<sup>a</sup>Regional Economic Development Service for East and Southern Africa & Greater Horn of Africa Initiative

<sup>b</sup>Western Africa Regional Program

<sup>c</sup>Excludes Egypt, Jordan and West Bank/Gaza

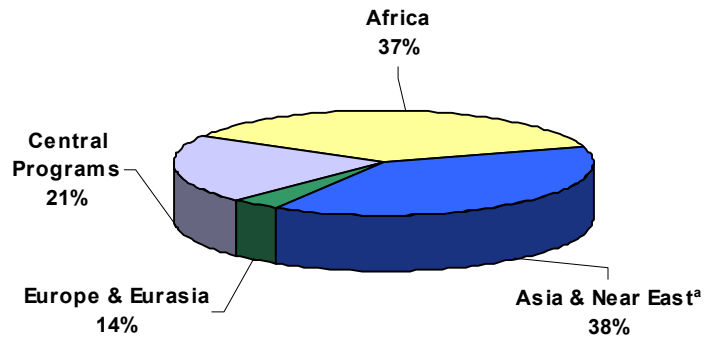


Figure 10. FY 2003 USAID Water Obligations for Disaster Preparedness by Region (Excludes Egypt, Jordan and West Bank/Gaza)

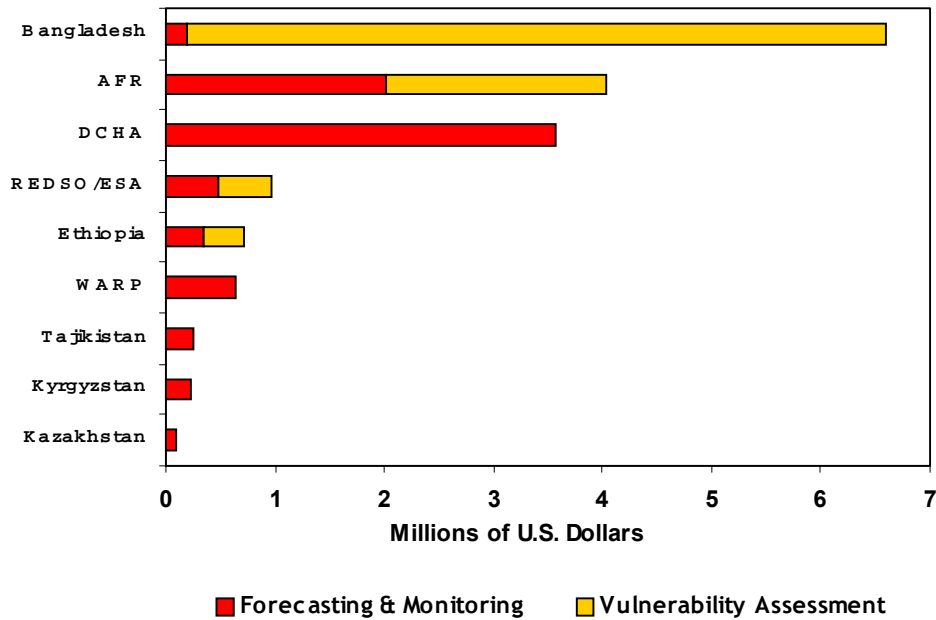


Figure 11. Top Recipients of FY 2003 USAID Water Obligations for Disaster Preparedness

## Illustrative USAID Programs in Disaster Preparedness

USAID plans to obligate \$6 million to support the **Famine Early Warning System Network (FEWS NET)**, an information system designed to help decision makers in many countries throughout Africa prevent famine in drought-prone countries. FEWS NET specialists in the U.S. and Africa assess remotely sensed data and ground-based meteorological, crop, and rangeland conditions for early indications of potential famine. Other factors affecting local food availability and access are also carefully evaluated to identify vulnerable population groups requiring assistance. These assessments are continually updated and disseminated to provide decision makers with the most timely and accurate information available. By helping anticipate potential famine conditions and lessen vulnerability, FEWS NET helps save lives, while also promoting a more efficient use of limited financial resources.

In **Bangladesh**, USAID plans to invest \$7 million to improve disaster preparedness in flood-prone communities through the development of response mechanisms and mitigation measures. Disaster contingency plans focus on the evaluation of water infrastructure systems to withstand flood events, and ensuring access to potable water during extreme disaster conditions. USAID's flood proofing program benefited nearly 152,200 people in 225 villages in 2002 by reducing property damage and increasing access to potable water during floods, thereby reducing the incidence of diarrhea.

USAID will invest \$1 million in the five **Central Asian Republics of Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan** through a joint venture with the National Oceanic and Atmospheric Administration (NOAA) to provide snow-monitoring and river-forecasting assistance to the Central Asian Hydrometeorological Services unit. Investments in the transfer of technology and technical capacity building will help water resources managers in the Amu Darya and Syr Darya River basins forecast river discharge from snow pack conditions, thereby facilitating collaborative allocation of water resources throughout the Aral Sea Basin.



*This automated meteorological data collection station was installed in Naryn, Kyrgyzstan with USAID support.*



**Appendix: FY 2003 USAID Water Obligations by Country and Region (Reported in Millions of USD)**

**Water Supply, Sanitation & Wastewater Management** Activity Area includes *Water Supply, Sanitation, Wastewater Management, and Industrial Pollution Control*; **Natural Resources Management** Activity Area includes *IWRM and Watershed Protection, Coastal Zone Management, and Freshwater Ecosystems Management*; **Economic Growth & Food Security** Activity Area includes *Irrigation and Agriculture, Fisheries and Aquaculture, and Small Scale Hydropower*; and **Disaster Preparedness** Activity Area includes *Monitoring and Forecasting, and Vulnerability Assessment*

Country or Operating Unit	Water Supply, Sanitation & Wastewater Mgt	Natural Resources Management	Economic Growth & Food Security	Disaster Preparedness	TOTAL
<b>Africa</b>					
Angola			0.350		<b>0.350</b>
Benin			0.154		<b>0.154</b>
DR Congo	2.087				<b>2.087</b>
Eritrea	2.290		1.700		<b>3.990</b>
Ethiopia	0.714	0.301		0.714	<b>1.729</b>
Ghana	0.622	1.220			<b>1.842</b>
Guinea	0.025	2.284	3.520		<b>5.829</b>
Kenya		0.425			<b>0.425</b>
Madagascar		0.300	0.185		<b>0.485</b>
Malawi	0.410				<b>0.410</b>
Mali	0.347				<b>0.347</b>
Niger	0.145				<b>0.145</b>
Somalia	0.384		0.182	0.020	<b>0.586</b>
South Africa	0.700				<b>0.700</b>
Sudan	0.827		1.565		<b>2.392</b>
Tanzania		0.850			<b>0.850</b>
REDSO/ESA <sup>a</sup> (Burundi, Rwanda, Tanzania & Uganda)		0.390		0.976	<b>1.366</b>
RCSA <sup>b</sup> (Angola, Botswana, Mozambique, Namibia, and Zimbabwe)		0.500			<b>0.500</b>
WARP <sup>c</sup> (Ghana)		0.438		0.633	<b>1.071</b>
Africa Regional Program (AFR) (Ethiopia, Ghana, Guinea, Kenya, Madagascar, and Tanzania)		0.425		4.028	<b>4.453</b>
<b>Total - Africa</b>	<b>8.551</b>	<b>7.133</b>	<b>7.656</b>	<b>6.371</b>	<b>29.711</b>
<b>Asia and Near East<sup>4</sup></b>					
Afghanistan	0.300		7.621		<b>7.921</b>
Bangladesh	5.400	2.700	1.800	6.600	<b>16.500</b>
India	4.450	3.900			<b>8.350</b>
Indonesia	5.226	4.726			<b>9.952</b>
Lebanon	4.000	1.200			<b>5.200</b>
Morocco	0.400	0.945	0.600		<b>1.945</b>
Nepal			3.228		<b>3.228</b>
Philippines	0.400	4.500	1.000		<b>5.900</b>
U.S.-Asia Environmental Partnership Program (India, Indonesia, Philippines, Sri Lanka, Thailand, and Vietnam)	6.033				<b>6.033</b>
Asia and Near East Regional Programs (Lebanon and Morocco)		2.500			<b>2.500</b>
<b>Total - Asia and Near East</b>	<b>26.209</b>	<b>20.471</b>	<b>14.249</b>	<b>6.600</b>	<b>67.529</b>

Appendix con't.: FY 2003 USAID Water Obligations by Country and Region (Reported in Millions of USD)

Country or Operating Unit	Water Supply, Sanitation & Wastewater Mgt	Natural Resources Management	Economic Growth & Food Security	Disaster Preparedness	TOTAL
<b>Egypt, Jordan and West Bank/Gaza</b>					
Egypt <sup>e</sup>	17.000	8.900			<b>25.900</b>
Jordan	33.500	5.850	2.000		<b>41.350</b>
West Bank/Gaza <sup>f</sup>	155.847	8.991			<b>164.838</b>
<b>Total - Egypt, Jordan and West Bank/Gaza</b>	<b>206.347</b>	<b>23.741</b>	<b>2.000</b>	<b>0.000</b>	<b>232.088</b>
<b>Europe and Eurasia</b>					
Armenia	1.200	1.395	0.200		<b>2.795</b>
Azerbaijan	1.876				<b>1.876</b>
Bosnia and Herzegovina	0.350				<b>0.350</b>
Croatia	1.966				<b>1.966</b>
Cyprus	0.515	0.927			<b>1.442</b>
Georgia	1.708	0.738	1.106		<b>3.552</b>
Kazakhstan	0.120	0.325	0.550	0.100	<b>1.095</b>
Kyrgyzstan	0.180	0.425	1.730	0.225	<b>2.560</b>
Macedonia	0.600				<b>0.600</b>
Moldova	0.325				<b>0.325</b>
Tajikistan		0.233	1.230	0.250	<b>1.713</b>
Turkmenistan	0.393	0.080	0.100	0.050	<b>0.623</b>
Ukraine	1.322	0.046			<b>1.368</b>
Uzbekistan	0.500	0.350	1.900	0.075	<b>2.825</b>
Central Asia Regional Program (Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan)		0.500	0.300		<b>0.800</b>
Eurasia Regional Program (Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Tajikistan, Turkmenistan, Ukraine and Uzbekistan)	1.112				<b>1.112</b>
<b>Total - Europe and Eurasia</b>	<b>12.167</b>	<b>5.019</b>	<b>7.116</b>	<b>0.700</b>	<b>25.002</b>
<b>Latin America and Caribbean</b>					
Bolivia	3.407	0.600	2.199		<b>6.206</b>
Brazil	0.025	0.100	0.125		<b>0.250</b>
Colombia	5.475		1.600		<b>7.075</b>
Dominican Republic	0.951				<b>0.951</b>
Ecuador	2.500	4.473	4.000		<b>10.973</b>
El Salvador	3.758	2.337	0.205		<b>6.300</b>
Guatemala	0.300	0.300			<b>0.600</b>
Haiti	0.870	1.200	1.840		<b>3.910</b>
Honduras	3.256	1.238	0.372		<b>4.866</b>
Jamaica	1.156	2.312			<b>3.468</b>
Mexico		0.937			<b>0.937</b>
Nicaragua	0.050		0.350		<b>0.400</b>
Panama		7.000			<b>7.000</b>
Paraguay	0.210	0.333			<b>0.513</b>
Peru	8.267	1.217	3.375		<b>12.859</b>
Caribbean Regional Program (Dominican Republic, Haiti, and Jamaica)	0.833	1.666			<b>2.499</b>

Appendix con't.: FY 2003 USAID Water Obligations by Country and Region (Reported in Millions of USD)

Country or Operating Unit	Water Supply, Sanitation & Wastewater Mgt	Natural Resources Management	Economic Growth & Food Security	Disaster Preparedness	TOTAL
<b>Latin America and Caribbean con't.</b>					
Central America Regional Program (El Salvador, Guatemala, Honduras, and Mexico)		0.400			<b>0.400</b>
Latin America Regional Program (Bolivia, Brazil, Colombia, Ecuador, El Salvador, Honduras, Nicaragua, Paraguay, and Peru)	0.065	0.700			<b>0.765</b>
<b>Total - Latin America and Caribbean</b>	<b>31.123</b>	<b>24.813</b>	<b>14.066</b>	<b>0.000</b>	<b>70.002</b>
<b>Central Programs</b>					
Disaster, Conflict & Humanitarian Assistance (DCHA)/ Office of Disaster Assistance	24.770			3.572	<b>28.342</b>
Economic Growth, Agriculture & Trade/ International Water Management Institute		0.250	0.500		<b>0.750</b>
Economic Growth, Agriculture & Trade/ PD/A CRSP <sup>e</sup>			2.150		<b>2.150</b>
Economic Growth, Agriculture & Trade/ WorldFish Center			0.675		<b>0.675</b>
Economic Growth, Agriculture & Trade/ Water Team		2.434			<b>2.434</b>
Global Health/Environmental Health Project	0.800				<b>0.800</b>
Global Health/Point of Use Water Quality	0.300				<b>0.300</b>
Urban Programs	0.175				<b>0.175</b>
<b>Total - Central Programs</b>	<b>26.045</b>	<b>2.684</b>	<b>3.325</b>	<b>3.572</b>	<b>35.626</b>
<b>TOTAL - ALL REGIONS</b>	<b>310.442</b>	<b>83.861</b>	<b>48.412</b>	<b>17.243</b>	<b>459.958</b>

<sup>a</sup>Regional Economic Development Service for East and Southern Africa & Greater Horn of Africa Initiative

<sup>b</sup>Regional Center for Southern Africa

<sup>c</sup>Western Africa Regional Program

<sup>d</sup>Excludes Egypt, Jordan and West Bank/Gaza

<sup>e</sup>Includes \$17 million in prior year carryover funds to be obligated in FY 2003

<sup>f</sup>Includes \$157 million in prior year carryover funds to be obligated in FY 2003

<sup>g</sup>Pond Dynamics/Aquaculture Collaborative Research Support Program