

AN EVALUATION OF WORLD BANK SUPPORT, 1997–2007

Water and Development

—OVERVIEW—

IEG Study Series



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Foreword

Only 1 percent of the world's fresh water is available for human use, and the amount of available water has been constant for millennia. Meanwhile the planet has added 6 billion people. A vastly uneven distribution of freshwater resources, combined with the effects of climate change, is aggravating already serious water-related problems.

Development patterns, increasing population pressure, and the demand for better livelihoods across the globe all contribute to a looming global water crisis. Addressing that crisis will require maintaining a sustainable relationship between water and development, one that balances current needs against the prospects for future generations.

The Bank's strategy for water, implemented in partnership with the borrowing countries, other lenders and donors, and other organizations both public and private, has made an important difference. However, the approach taken thus far has underemphasized some of the most difficult challenges, and this in turn has left some crucial needs unmet. Moreover, the Bank's involvement in water will face heightened challenges due to climate change, continued migration to coastal zones, and the declining quality of water resources available to most major cities and industry. These will require important adjustments to the approach followed. Growing water scarcity is a reality, which the Bank and its partners need to confront by



Photo courtesy of Curt Carmemark/World Bank.

Water has long been a major focal area for World Bank lending to developing countries. Almost a third of all Bank projects approved since 1997 have been water related. Water loan commitments grew 55 percent during the period from fiscal 1997 to the end of calendar 2007.

During those 11 years, project performance improved steadily against stated objectives, led by a notable improvement in Africa. Water also has been integrated into many other sectors. The Bank has contributed to improving access to clean water, especially in urban areas. On the institutional side, it has balanced investments in infrastructure with improvements in the institutions that manage and allocate water.

putting more emphasis on the challenging areas of groundwater conservation, pollution reduction, and effective demand management. New ways need to be found to help the most water-stressed countries make water sustainability a cornerstone of their development plans. The development community also needs to help countries shift more attention to sanitation.

Ever more powerful storms and rising sea levels threaten increasingly densely settled coasts. This situation calls for more strategic development planning and more effective reduction of disaster risk for low-lying coastal areas. Finally, the collection and use of data need to be enhanced in a number of areas. In all of these activities, strong partnerships and knowledge creation and sharing will continue to be essential.

Vinod Thomas

Director-General, Evaluation

Executive Summary

The amount of available water has been constant for millennia, but over time the planet has added 6 billion people. Water is essential to human life and enterprise, and the increasing strains on available water resources threaten the mission of institutions dedicated to economic development. The ultimate goal is to achieve a sustainable balance between the resources available and the societal requirement for water.

In this evaluation the Independent Evaluation Group (IEG) examines all the water-related projects financed by the World Bank between 1997 and 2007. Bank activities related to water are large, growing, and integrated. They include water resources management, water supply and sanitation, and activities related to agricultural water, industrial water, energy generation, and water in the environment.

Changes over the decade in the Bank's portfolio of water projects have been broadly positive. In 1997 only 47 countries borrowed for water, but by 2007 there were 79 borrowers, and lending for water had increased by over 50 percent. Water projects have had good success rates relative to their goals, and this performance improved in the latter half of the evaluation period—with a particularly notable 23-percentage-point improvement in Africa. Within the Bank, water-related activities have been supported by institutional changes, and there has been progress in integrating water into the work of other sectors.

At the same time, against emerging problems and pressures, crucial needs remain unmet. In the complex area of water resources management, it has often been easier to underemphasize the most difficult problems, such as fighting pollution or restoring the environment, compared with such tasks as purchasing equipment or building infrastructure. Limited success with full cost recovery for water services has caused the Bank to moderate its approach, but the question of who will pay for uncovered costs remains to be resolved.

With borrowers facing increasingly difficult challenges in water management, business as usual is not an option. The evaluation suggests that the Bank and its partners should find ways to support systematically the countries that face the greatest water stress. It recommends that more attention be given to critical concerns of groundwater conservation, pollution reduction, and coastal management and that the Bank work with clients to shift more attention to sanitation.

Demand management must be a theme of Bank support if the challenges of increasingly scarce water are to be tackled successfully, and the Bank and its borrowers need to take a clear stand on cost recovery. Finally, data collection and use need to be enhanced in a number of areas. In all of these activities, strong partnerships and knowledge creation and sharing will continue to be essential.

Only 3 percent of the world's water supply is fresh water, and two-thirds of that is locked in glacier ice or buried in deep underground aquifers, leaving only 1 percent readily available for human use. Water is not only limited but unevenly distributed. In more-arid regions, water shortages are always a threat. Moreover, the scientific consensus is that climate change will worsen these water-related challenges in the coming years. These changes are already disrupting rainfall patterns, feeding ever more powerful windstorms, and creating droughts of unprecedented severity and frequency. About 700 million people in 43 countries are under water stress.

Development patterns, increasing population pressure, and the demand for better livelihoods in many parts of the globe all contribute to a steadily deepening global water crisis. Development redirects, consumes, and pollutes water. It also causes changes in the state of natural water reservoirs—directly, by draining aquifers, and indirectly, by melting glaciers and the polar ice caps. Maintaining a sustainable relationship between water and development requires that current needs be balanced against the needs of future generations.

The development community has transformed and broadened its approach to water since the 1980s. As stresses on the quality and availability of water have increased, donors have begun to move toward more comprehensive approaches that seek to integrate water into development in other sectors.

Through both lending and grants, the World Bank (the International Development Association and the International Bank for Reconstruction and Development) has supported countries in many water-related sectors. This evaluation examines the full scope of that support over the period from 1997 to 2007. More than 30 background papers prepared for the evaluation have analyzed Bank lending by thematic area and by activity type. The evaluation is by definition retrospective, but it identifies changes that will be necessary

going forward, including those related to strengthening country-level institutions and increasing financial sustainability.

Water and the World Bank

The Bank's 1993 *Water Resources Management Policy Paper* (World Bank 1993) moved the institution away from its previous focus on infrastructure development for the water sector. The paper also shifted the Bank's planning process from one based on discrete investments within the sector to a multisectoral approach, embracing the concept of integrated water resources management (IWRM). IWRM promotes the coordinated development and management of water, land, and related resources in order to maximize economic and social welfare in an equitable manner, without compromising the sustainability of vital ecosystems. Under IWRM, each water-related activity in a project or program is considered carefully in light of other competing uses and its social, economic, and environmental consequences.

In 2003 the Bank adopted a new water resources strategy (World Bank 2003) that looked more closely at water management and the connections between resource use and service delivery. It also reintroduced infrastructure investments as an important aspect of Bank support in the sector. The 1993 and 2003 strategy papers are complementary, and together with the Bank's mandate to reduce poverty, they have helped inform issues of supply and to improve the performance of utilities and user associations. The 2003 strategy committed the institution to facing the most pressing challenges that were constraining the achievement of goals set in 1993.

The Water Portfolio

A large part of what the Bank finances has something to do with water: 31 percent of all Bank projects approved since 1997 are related to water. Between fiscal 1997 and 2007 the Bank approved or completed 1,864 projects with at least one water-related activity. Together, these projects represented Bank financing of about \$118.5 billion, of which \$54.3 billion was directed to water. The average loan was for \$67 million (exclusive of grants and nonlending activities). Water-related lending increased by 55 percent over the evaluation period (figure 1).

Many of the Bank's water-related activities are integrated into projects doing other things, such as developing water supply in an urban services project or drafting water policy within a larger environmental policy framework. The largest activity categories by number of projects are those dealing with wastewater treatment and irrigation. The largest amounts of money have gone to projects that involve irrigation and hydropower or dam activities (table 1).

The Bank engaged 142 countries in lending for water during the evaluation period. Of these, the top 10 accounted for 579 projects (31 percent) covering 56 percent of total Bank commitments for projects with water-related activities (nearly 5 percentage points more than those countries' share of Bank lending as a whole). China, the single largest borrower for water projects, accounted for 16 percent of water-related lending but only 7 percent of total Bank lending.

FIGURE 1.1 Water-Related Projects Approved and Funds Committed by Fiscal Year



Source: IEG water database.

Note: Total commitment amounts given for all projects. Years are fiscal years. The total number of projects approved was 1,317; the 1,864 projects covered in the evaluation include projects that closed during the evaluation period but were approved earlier.

TABLE 2.2 Water Projects by Focal Area

Subset and focal area	Number of projects ^a	Total commitment ^b (US\$ millions)
Water and land		
Irrigation	311	26,490
Groundwater ^c	229	20,508
Hydropower or dams	211	21,800
Floods	177	15,509
Droughts	110	9,960
Water supply and sanitation		
Urban water supply	229	15,522
Rural water supply	218	13,871
Wastewater treatment	312	13,460
Urban sanitation and sewerage	190	15,609
Rural sanitation and sewerage	108	5,894
Environment		
Watershed management	218	13,100
Rivers and lakes	174	14,780
Coastal zones	121	4,660
Inland waterways and ports	104	7,632
Fisheries	87	5,034

Source: IEG water database.

a. Includes both dedicated and nondedicated projects.

b. Total commitments refer to loan amounts for all projects that include the indicated activity.

c. Includes 89 projects focusing on aquifer conservation or protection.

Main Findings

Increased Lending, Integration, and Improving Project Performance

Water projects in the aggregate have good success rates when measured against objectives. IEG performance ratings show steady improvement in the sector's performance measured against project objectives. During the most recent five-year period, water was the most improved major sector by this criterion, with a particularly noteworthy 23-percentage-point improvement in the share of satisfactory projects undertaken by the Africa Region (figure 2). Within the portfolio, 77 percent of the 857 completed projects had an aggregate outcome rating of moderately satisfactory or better, slightly above the Bank-wide average of 75 percent. The trend continued in 2008, in which year water sector projects attained a 90 percent satisfactory rate.

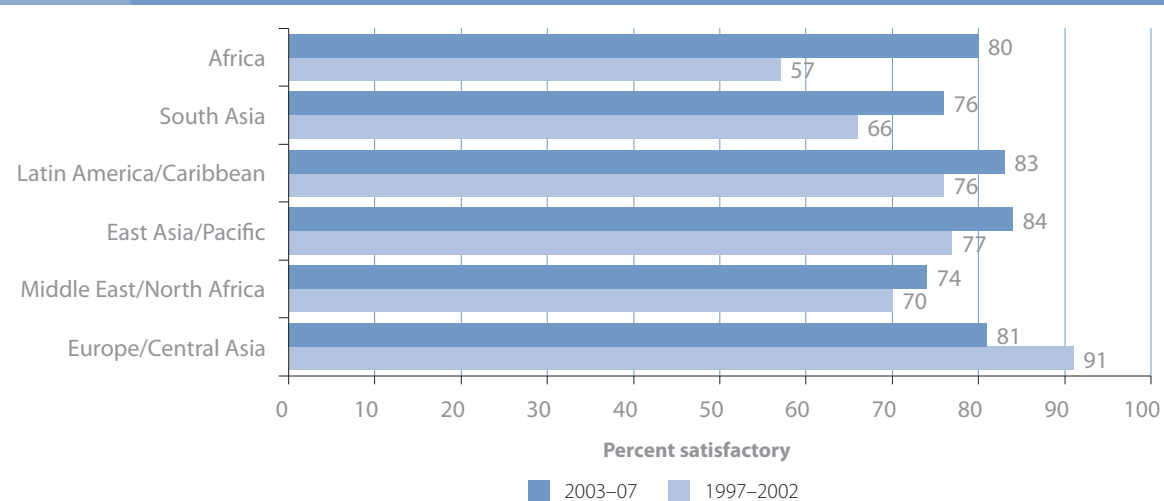
The focus of Bank activity within the water sector has shifted over time. The Bank has lent heavily for irrigation and water supply, and dams and hydropower have become more important in the last few years. But some activities that are of growing importance as water stress increases have become less prominent in the Bank's portfolio; notably, these include coastal zone management, pollution control, and to a lesser degree groundwater conservation.

Although the portfolio has performed well when measured against projects' stated objectives, the Bank and the borrowing countries have not yet sufficiently tackled several tough but vital issues, among them broadening access to sanitation, fighting pollution, restoring degraded aquatic environments, monitoring and data collection, and cost recovery. Where it has lent for hydrological and meteorological monitoring, the Bank has focused on providing technology for data collection and relatively less on gathering and interpreting information for which there is an identified demand. Such aggregate findings, however, mask Regional and country-specific variations and needs. For example, the East Asia and Pacific and Africa Regions have responded more actively than other Regions to the sanitation challenge. These issues are covered in greater detail below.

The integration of water practice across Bank sectors appears to be well under way. Integration of the Bank's water practice was an important goal of the 2003 water strategy, and during the period evaluated, the majority of water-focused projects were overseen by sector boards other than the Water Supply and Sanitation Sector Board.

The Bank increased its lending for water and the number of countries served during the period evaluated. Although the number of countries that borrow for water projects has

FIGURE 2 Outcomes of Water Projects by Region



Source: IEG data.

Note: Regions are ranked in descending order by percentage improved. The difference in outcome ratings between periods is statistically significant at the 95 percent confidence level only for Africa.

varied from year to year, 79 countries were served in 2007, compared with 47 in 1997.

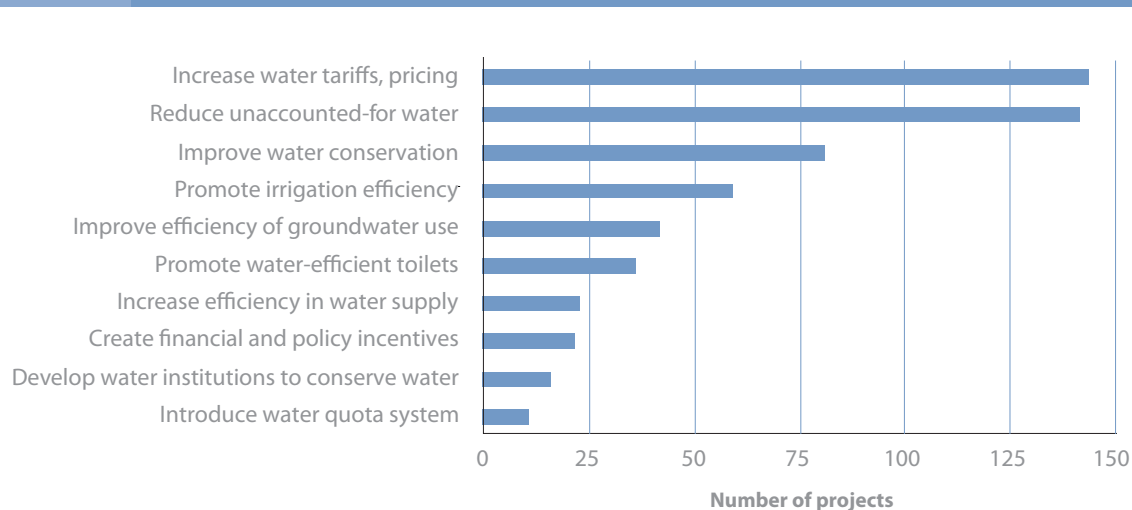
Water Resources Management

Effective demand management is one of several critical challenges worldwide in the face of increasing water scarcity. Demand for water can be affected by three broad sets of measures: pricing, quotas, and measures to improve water use efficiency (figure 3). About one-quarter of all water projects in the evaluation deal with some aspect of demand management.

Efforts to improve the efficiency of water use and limit demand in the agriculture sector, the largest consumer of

water, have had limited success. Efficiency-enhancing technologies alone do not necessarily reduce the use of water on farms, and efforts to manage demand by charging agricultural users for water have had limited success, partly because of the low price elasticity of that demand. Fixing and enforcing quotas for water use is a relatively recent approach and deserves careful evaluation after more projects featuring this approach have been completed. Cost recovery in Bank-supported projects has rarely been successful: only 15 percent of projects that attempted cost recovery achieved their goal. Those that have succeeded have generally improved the efficiency of water institutions at collect-

FIGURE 3 Water Demand Management Activities by Activity Type



Source: IEG water database.

DATA ON WATER AVAILABILITY HELP BUILD CONSENSUS

The 2001 Kosovo Pilot Water Supply Project (P070365) carried out a water availability study that became the basis for water allocations within the watershed. The primary competing users in the project area were domestic water users (households) and irrigators. The study provided a rational basis for water allocations based on technical criteria such as the agronomy of the irrigation needs, the demands for domestic water, and the environmental flow requirements.

Source: Project Implementation Completion Report.

ing fees. This limited success has caused the Bank to moderate its approach, but because it has yet to clearly identify alternative sources to finance the recovery shortfall, the sustainability of investments is threatened.

In the area of water supply, reducing unaccounted-for water (UfW) has been the main activity directed at improving water use efficiency. About half of projects that attempted to address UfW managed to reduce it by at least 1 percent.

Finding effective ways to improve water use efficiency and manage demand for water will be critical if the Bank wants to maintain a leading role in this area.

Integrated water resources management, the focus of two consecutive water strategies, has gained traction within the Bank but has made limited progress in most client countries. Within the Bank there has been considerable progress in integrating water into the work of other sectors and in consolidating institutional structures to carry out water-related activities. However, outside the Bank, even in countries where IWRM is now well integrated into the legal framework, it is known mainly in the water sector. The information necessary to inform decision making is not readily available, and, perhaps more important, the economic implications of water constraints are not widely appreciated. Meanwhile there are indications that the Bank is paying less attention to data collection—an essential prerequisite for successful IWRM implementation, because countries have less motivation to confront a situation with unknown parameters.

Where IWRM has been successful, it is most often in a particular location at a time of necessity. Some countries have made progress with water resources management after natural disasters. Such shocks often do not affect entire countries, however, nor are they a desirable route to IWRM. A fast-onset crisis that compromises the water supply of a major city—such as, in Brazil, the drought that put the survival of Fortaleza at risk—provokes dramatic action and increases the public appetite for reliable water data. The way to open the window of opportunity without waiting for a calamity is to support monitoring processes that deliver information to relevant public and private stakeholders. The example of Brazil shows that making water data pub-

licly available over the Internet helps increase stakeholder concern, which in turn helps to mobilize the political will necessary to confront entrenched water problems.

The number of projects dealing with groundwater issues has been declining, although within that problematic trend the portfolio has also witnessed a positive shift away from a focus on extraction. This shift is important given falling water levels in critical aquifers in many Bank borrowers (figure 4).

Within the groundwater portfolio, activities aiming to increase water supply were, as a group, the most successful, whereas activities related to reducing pressure on groundwater, and to conservation, generally proved more challenging. Yet such activities will need to become more prominent in the portfolio if the Bank is to effectively help the growing number of water-stressed countries address increasing groundwater scarcity. In the Republic of Yemen, for example, improved tube well technology and generous subsidies on diesel fuel have led to rapidly rising consumption of water for irrigation, and irrigation now extracts over 150 percent of the country's renewable water resources (box 2).

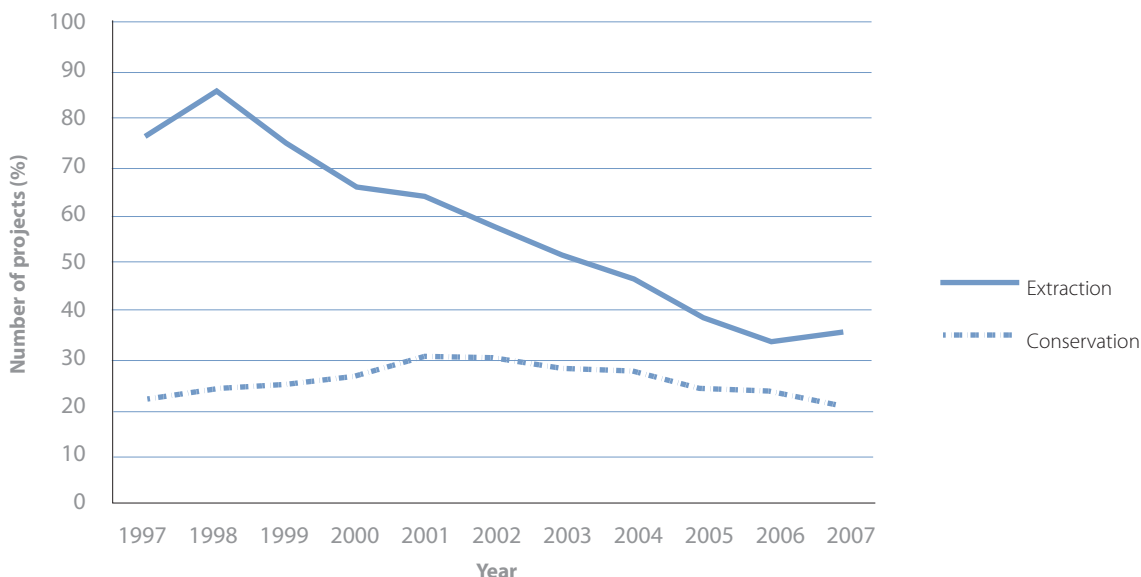
Watershed management projects that take a livelihood-focused approach perform better than those that do not. Projects combining livelihood interventions with environmental restoration enjoyed high success rates, but the effects on downstream communities (such as reduced flooding and improved water availability) and the social benefits in both upstream and downstream communities were often not measured. Hydrological monitoring (with or without remote sensing) and watershed modeling could help improve impact assessment and thus make it easier to estimate the cost-benefit ratio of such interventions.

Environment and Water

Environmental restoration has been underemphasized in the Bank's water portfolio, possibly because it's immediate and long-term financial importance is unclear. More attention to cost-benefit calculations could help the Bank and its clients evaluate trade-offs and get better results.

Most Bank water projects focus on infrastructure, even though in some cases environmental restoration is more strategically important. It is not always necessary to re-

FIGURE 4 Ongoing Groundwater Projects Focusing on Extraction and Conservation



Source: World Bank data.

store the water-related environment to a pristine state in order to obtain major social, economic, and environmental benefits and reduce vulnerability. Priority improvements to degraded environments, even when small, can have big impacts. A coastal wetlands protection project in Vietnam, for example, successfully balanced reforestation with livelihood needs (box 3). The project successfully reforested critical areas and led to a substantial reduction in coastal zone erosion.

Countries and donors will need to focus more on coastal management, because some 75 percent of the world's population will soon be living near the coast, putting them at heightened risk from the consequences of climate change. Approvals of Bank projects in this area have dwindled over time, and the reasons for this should be considered in the Mid-Cycle Implementation Progress Report.

Many projects contain funding for water quality management, but few countries measure water quality. The number of projects that actually measure water quality is declining. Evidence of improved water quality is rare, as are indications of the improved health of project beneficiaries. The data that are generated need better quality control. Water quality in the top five borrowing countries is declining, and fewer than half of projects that set out to monitor water quality were able to show any improvement.

Water Use and Service Delivery

The Bank has increasingly focused on water service delivery, but there has been a declining emphasis on monitoring economic returns, water quality, and health out-

comes. Only a third of wastewater treatment and sanitation projects calculated economic benefits.

Sanitation needs greater attention. Population growth in developing countries has been rapid, as has urbanization. An expansion of piped water services and increased household water use will accelerate demand for adequate sanitation. The evaluation recognizes that even if the Millennium Development Goals for clean water supply are achieved, 800 million people will still lack access to safe drinking water in 2015, but many more—1.8 billion—will still lack access to basic sanitation. Within sanitation projects, more emphasis is needed on household connections. Connection targets in projects are generally not met, and IEG has seen a number of treatment plants functioning below design capacity



Photo courtesy of Curt Camermark/World Bank

BOX 2

GROUNDWATER IS DEPLETING RAPIDLY IN THE REPUBLIC OF YEMEN

The Republic of Yemen has no significant perennial sources of surface water. Instead it relies almost exclusively on exploitation of groundwater. Water is taken from the shallow aquifers, which are rechargeable, and increasingly from deeper aquifers, which are generally considered not rechargeable, although some recharging has been accomplished with significant difficulty and expense. In large parts of the country, water from the shallow aquifers is extracted at well over the recharge rate from the country's limited rainfall. Thus, as water from these aquifers is exhausted, pumping relies on the deep (fossil) aquifers that are also depleting. As these aquifers cannot be readily recharged, pumping is essentially a mining operation. Groundwater tables are declining inexorably in many locations, sometimes at dramatic rates. In the Sana'a Basin, the groundwater table is falling by as much as 6 meters per year in the more populated areas, and rural and urban tube wells are constantly being deepened.

The rate of groundwater depletion has accelerated over the past three decades for several reasons. One has been the explosion in agricultural use resulting from the introduction and rapid spread of mechanized tube wells. Farmers, using shallow dug wells, had traditionally extracted water at about the rate of natural recharge from rainfall, but this changed when the tube well technology and pump-sets were introduced in the early 1970s. This enabled much higher levels of groundwater abstraction as well as pumping from the deep aquifers. Agricultural use of water increased by about 5 percent per year in the 1990s. In 1990 agricultural consumption (for irrigation) was 130 percent of the country's renewable water resources; it has since increased to 150 percent.

Source: IEG Republic of Yemen case study.

because households have not connected to the systems, in part because willingness to pay has been overestimated and facilities have been oversized. This report highlights the particular weakness of sanitation institutions, which will continue to constrain progress until their capacities improve.

Hydropower projects have performed well, and significant untapped potential remains for appropriate development, particularly in Africa. After a peak in the mid-1990s, dam construction in the developing world slowed.

The Bank has recently increased its financing for dam construction, in many cases for multipurpose dams that provide hydropower and often also support irrigation, flood protection, or industrial use. Almost a third (66) of the 211 Bank-financed dam and hydropower projects covered in the evaluation rightly focused on dam rehabilitation, because many dams have experienced gradual deterioration brought about by lack of maintenance, and a number have been shut down because of salinity, sedimentation, and other problems. A new hydropower development business

BOX 3

THE BENEFITS OF PARTIAL RESTORATION OF MANGROVE FORESTS IN VIETNAM

Mangrove forests support fisheries by providing breeding, feeding, and nursery grounds for commercially important fish and shellfish, and they lessen the impact of toxic substances on water and soil by serving as natural filters. They also serve as buffer zones against typhoon and flood damage to inhabited areas and limit the intrusion of salinity. But with the expansion of shrimp farming these forests are rarely left unmolested, and to the people living near them they are a source of no-cost wood products, food, and even roofing thatch and traditional medicines.

In Vietnam, coastal inhabitants' disregard of the need to preserve the area's mangroves led to their widespread eradication, with catastrophic environmental impacts. The Vietnam Coastal Wetlands Protection Project tried to balance environmental protection of the mangrove forests with the livelihood needs of people dependent on natural resources. The project was designed to restore wetland ecosystems. Staff highlighted the need to implement reforestation and forest protection while addressing the underlying social causes of encroachment. It was understood that better protection of these areas would inevitably increase coastal and marine productivity in areas close to shore where the smaller boats used by the poor could safely go. Improving the income status of the adjoining communities required a combination of extension, credit, and social support. Contractual measures were created to provide the incentives necessary to ensure that environmental protection would take place. In total, 370 million trees have been replanted along 460 kilometers of coast. By project closing, because of reforestation efforts, the coastal erosion area had been substantially reduced and new land had begun to accrete along the coast: erosion was reduced by as much as 40 percent, and the area of coastline accretion increased by 20 percent.

Source: IEG Vietnam case study.

HYDROPOWER AND MULTIPURPOSE PROJECTS

The Bank's 2003 water strategy notes that although the Bank has been important in attracting critical private sector investment in projects, there is growing concern that, "by disengaging from difficult, complex issues [that is, dams], the Bank is losing its credibility as a full-service investment and knowledge partner" (World Bank 2003a, p. 3). In response to this criticism, the Bank has been reengaging in hydropower.

The new hydropower development business plan includes rehabilitation of existing plants and the construction of small and run-of-river plants (plants that do not create a reservoir) and multipurpose plants with reservoirs. It supports feasibility studies for technically, economically, and environmentally satisfactory projects. The tendency is to move toward multipurpose projects that produce hydropower but also support irrigation, flood protection, or industrial use. In fiscal 2007 nine hydropower projects (five of which are "carbon-financed," that is, paid for in part by the sale of carbon emissions reductions; see International Monetary Fund and World Bank 2007) were approved for a total of \$748 million in new World Bank Group financing, including \$115 million in guarantees and \$66 million in carbon finance.

The Bank's water sector specialists see this "new" hydropower as demanding more sophisticated integration across disciplines, across water uses, across broader energy and water resources opportunities, across stakeholders (local and international), and across lending, reform, and capacity building. The new emphasis involves more projects that address both water supply and energy security.

Source: IMF and World Bank 2007.

plan, "Directions in Hydropower" (World Bank 2009), was completed in 2009 and supports feasibility studies so that projects will be technically, economically, and environmentally appropriate. Indeed, it will be vital to take on board the experience with hydropower projects, including their scale, socioeconomic, and environmental impacts.

Institutions and Water

Water services are delivered by public providers in most countries, although private sector participation has made some progress. Where international private firms have been successful at providing water services in urban areas, they have contributed significant investments to infrastructure, and in some cities they have managed to increase the efficiency of water utilities' operations. In some Bank-financed projects in rural areas, in contrast, the local private sector manages the operation of water systems but has invested little and shared little of the financial risk. Where governments want private involvement, a well-functioning, well-maintained regulatory system is necessary for its sustainable participation in utility operations. In many cases such a system has remained elusive, and this has limited private sector involvement.

Water projects operating in a decentralized environment have had difficulty meeting expectations, but when the budget and authority accorded to the lower level of government have matched the responsibility assigned to it, projects have had positive achievements. Half of projects that aimed to strengthen local capacity and two-fifths of projects that supported institutional reforms were successful. Other positive outcomes usually associated with decen-

tralization—increased accountability, ownership, empowerment, and social cohesion—were achieved in a minority of cases.

Support for institutional reform and capacity building has had limited success in the water sector. Institutional reform, institutional strengthening, and capacity building have been the activities most frequently funded by Bank water-related lending. Yet these interventions have often been less than fully effective, and weak institutions have often been responsible for project shortcomings.

The Bank has been actively engaged in addressing transboundary water issues. Priority has been given to projects serving waterways shared by a large number of countries. Here the Bank has been more successful in helping to address disputes than in strengthening transboundary institutions. Its work with borrowers on transboundary aquifers is in its early stages (box 5).

Strategic Issues

The Bank's complementary strategies for the water sector have been broadly appropriate. However, their application thus far has underemphasized some of the most difficult challenges set by the 2003 strategy, and this has left some needs unmet. The Bank's approach to water will face heightened challenges brought about by climate change, migration to coastal zones, and the declining quality of the water resources available to most major cities and industry in the coming decades. These will require some shifts in emphasis.

Water stress needs to be confronted systematically. At present there is no statistical relationship between Bank

THE NILE BASIN INITIATIVE

During the study period, a total of 19 projects involved the Nile Basin, including Lake Victoria. In 8 of these projects the Bank facilitated cooperation for environmental restoration or power deals between countries; in the other 11 the Bank notified other riparians of projects in the basin.

The Bank has been supporting the Nile Basin Initiative (NBI) since 1997, when the Nile Council of Ministers (Nile-COM) first requested support to coordinate donor involvement and establish a consultative group to raise financing for cooperative projects. The NBI was formally launched in February 1999 by the ministers of water affairs of the 10 countries that share the Nile Basin: Burundi, Democratic Republic of Congo, the Arab Republic of Egypt, Ethiopia, Eritrea, Kenya, Rwanda, Sudan, Tanzania, and Uganda. Together, these ministers make up the Nile-COM. The NBI is guided by the countries' shared vision "to achieve sustainable socio-economic development through the equitable utilization of, and benefit from, the common Nile basin water resources."

The basin-wide program is intended to build capacity and confidence. It also involves subbasin programs of investments to demonstrate the development results of cooperation. Despite regular meetings between riparians, tensions between them persist, such as between Uganda and Tanzania around water levels in Lake Victoria, which have been falling dramatically in recent years. Following two dry years (2004-05) when little hydropower could be produced, the Bank helped Uganda, through the 2006 Uganda Thermal Power Generation Project (P069208), to find alternative means to generate electricity in order to reduce friction between the riparians. In parallel, and although progress is slow, the Bank is helping countries to align their priorities with the regional perspective through the NBI.

Source: "The World Bank and NBI," go.worldbank.org/C25RHXSYG0, retrieved on November 11, 2009.

water-related lending to countries and the degree of water stress in those countries (figure 5). The issue for the Bank is how to find an entry point and help the most water-stressed countries put the pieces together so that water needs can become more central to their development strategy. This is not to say that the Bank should stop providing support to water-rich countries, nor is increasing lending to water-stressed countries the only or even necessarily the best solution. The failure to meet human needs for water and sanitation has its roots in political, economic, social, and environmental issues. These are becoming more entwined and cannot be solved unless a broader range of actors get involved.

The most water-stressed group consists of 45 countries (35 of them in Africa) that are not only water poor but also economically poor. Country Water Resource Assistance Strategies have helped to place water resource discussions more firmly in the context of economic development in the countries where they have been done. Including ministries of planning and finance in the dialogue is another critical step, as is expanding the calculation of economic benefits to increase countries' understanding of the economic importance of water.

Collaboration with other partners is particularly important, and it is likely to increase in importance as the Bank helps countries tackle water crises. This is true not only for water supply and sanitation but also for water resources management in national and transboundary basins. Many of the problems described in this report are far too big for the Bank to tackle on its own.

Successful implementation of the Bank's water resources sector strategy will require a great deal of data on water resources, and therefore data gathering must become a higher priority. Data on all aspects of water and on relevant socioeconomic conditions need to be more systematically collected and monitored. Data need to be used better within projects. For example, the collection and analysis of up-to-date groundwater data are more important now than ever and need to be taken on board more commonly than they have been.

Recommendations

- Work with clients and partners to ensure that critical water issues are adequately addressed.
 - Seek ways to support the countries that face the greatest water stress. The Mid-Cycle Implementation Progress Report should suggest a way to package tailored measures to help the Bank and other donors work with these clients to address the most urgent needs, which will be far more challenging as water supply becomes increasingly constrained in arid areas.
 - Ensure that projects pay adequate attention to conserving groundwater and ensuring that the quantity extracted is sustainable.
 - Find effective ways to help countries address coastal management issues.

- Help countries strengthen attention to sanitation.
- Strengthen the supply and use of data on water to better understand the linkages among water, economic development, and project achievement.
 - In project appraisal documents, routinely quantify the benefits of wastewater treatment, health improvements, and environmental restoration.
 - Support more frequent and more thorough water monitoring of all sorts in client countries, particularly the most vulnerable ones, and help ensure that countries treat monitoring data as a public good and make it broadly available.
 - In the design of water resources management projects that support hydrological and meteorological monitoring systems, pay close attention to stakeholder participation, maintenance, and the appropriate choice of monitoring equipment and facilities.
- Systematically analyze whether environmental restoration will be essential for water-related objectives to be met in a particular setting.
- Monitor demand management approaches to identify which aspects are working or not working, and build on these lessons of experience.
 - Clarify how to cover the cost of water service delivery in the absence of full cost recovery. To the extent that borrowers must cover the cost of water services out of general revenue, share the lessons of international experience with them so they can allocate costs most effectively.
 - Identify ways to more effectively use fees and tariffs to reduce water consumption.
 - Carefully monitor and evaluate the experience with quotas as a means to moderate agricultural water use.

Management welcomes this evaluation of World Bank support for water, covering the period 1997 through 2007, by the Independent Evaluation Group (IEG). This evaluation is timely against the backdrop of the 2003 Water Resources Sector Strategy Mid-Cycle Implementation Progress Report under preparation; it is also relevant in view of the large and increasing volume of water lending, which now represents 10 percent of the World Bank's portfolio.

IEG's comprehensive review shows that the World Bank has been engaged in International Development Association (IDA) and International Bank for Reconstruction and Development (IBRD) countries across the whole spectrum of water issues—from floods and droughts to rivers, lakes, wetlands, and groundwater aquifers; from access to hydro-power energy to the achievement of the water supply and sanitation Millennium Development Goals; from effective demand management to irrigation and drainage, and on to cooperation through water-sharing arrangements among riparian states. Notwithstanding the achievements in these areas noted by IEG, the challenges in the sector are still significant: poor governance, financial under-recovery, intermittent supplies, growing water scarcity, and deteriorating water quality are some of the issues that are tackled as part of the Bank's regular design of water projects. Water is a complex sector; it is political in nature, and it impacts on many vital sectors of the economy, including agriculture, energy and environment, and health.

Management welcomes the overall positive findings from the review. Among the important elements of this evaluation are (a) its emphasis on the centrality of water for the sustainable development agenda; (b) the assessment that the strategies outlined in the 2003 Bank Water Resources Sector Strategy and the 1993 Bank *Water Resource Management Policy Paper* have been broadly appropriate; (c) the recognition that achievements have been made under each of the objectives of these strategies; and (d) the need, as the strategies are further implemented, for the development community and client countries to heighten attention to certain areas, such as coastal management, groundwater, sanitation, and data collection.

That said, management is of the view that the IEG review might have gone further, in terms of widening the coverage of water-related activities beyond project financing and providing more specificity to its recommendations. Man-

agement would also like to clarify its position vis-à-vis cost recovery versus full cost recovery, where there may be differences with IEG. The comments below on the analysis of the review reflect this differing view.

Management's specific responses to IEG's recommendations, with which it generally agrees, are noted in the attached Management Action Record.

Management Comments

Evidence shows that achieving *full* cost recovery in water services delivery is an ultimate goal, which although desirable economically is difficult and rarely achieved in practice. Under-pricing of water supply services is widespread, even in upper-middle-income countries and high-income countries. Globally, estimates show that 39 percent of water utilities have average tariffs that are set too low to cover basic operation and maintenance (O&M) costs. A further 30 percent have tariffs that are set below the level required to make any contribution toward the recovery of capital costs. Even in high-income countries, only 50 percent of water utilities charge tariffs high enough to cover O&M costs and partial capital recovery. Some degree of general subsidy is thus the norm, even in high-income countries. In Bank client countries, low tariffs (that is, below full cost-recovery levels) ensure that water services are affordable to the population. While raising tariffs to recover a greater share of costs in order to mobilize private financing, or simply reducing the use of scarce fiscal resources by utilities, may be economically sound, political constituencies have often prevented tariffs from being increased. Some estimates suggest that water tariffs may have to increase by 90 percent in some developing countries to achieve full cost recovery. In the discussion about affordability, there is also a particular concern for the poor, who are disproportionately impacted by increased tariffs.

Cost Recovery in Bank Water Projects

Cost recovery continues to be central to the design of Bank water services projects. Through a series of projects, the Bank has supported government efforts to move water utilities through the continuum of cost recovery, starting with covering O&M costs. Other options to reduce the costs of services delivery are also considered in Bank projects, including the use of alternative technologies, differentiated service levels, and flexibility in standards.

Other Initiatives to Address the Sustainability of Water Service Delivery. The Bank is continuing to work on several fronts toward finding a sustainable solution to water services delivery, while increasing water coverage. The Bank has proactively examined ways to address the question of who will pay for uncovered costs. The water sector now features prominently in Public Expenditure Reviews, with a view to identifying ways to increase the effectiveness of overall public spending as well as water-specific public spending. More attention is also devoted to the transparency of water sector financing through a mix of user fees and subsidies. When requested, the Bank has also supported public-private partnerships in urban and rural water utilities, which have proved a valid option to turn around poorly performing water utilities and improve service quality and efficiency.¹ This approach fosters a virtuous circle whereby the utility improves its financial situation and gradually becomes able to finance a larger share of its investment needs. Experience shows that although concessions have worked in a few places, contractual arrangements that combine private operation with public financing of investment appear to be the most suitable option in many countries (Marin 2009). Finally, work is ongoing to assess the effectiveness of consumer subsidies in reaching and distributing resources to the poor; with evidence suggesting that connection subsidies may be a more effective way to target the poor than quantity-based subsidies (World Bank 2005).

Water Charges in Irrigation. Evidence shows that irrigation demand is inelastic until prices rise to several multiples of the cost of providing the services. In practice, it has proven politically difficult to increase bulk water and irrigation prices sufficiently to move to the elastic part of the demand curve. As the most immediate demand management option, the Bank has thus favored the setting of water rights for surface and groundwater.

Prioritization of Water Lending. Management notes that although IBRD countries may borrow more for water in absolute terms given their country sizes, IDA countries receive more lending for water in relative terms. When looking at the level of water stress in IDA and IBRD countries, management notes that water-stressed countries re-

ceive proportionately more financing for water than non-water-stressed countries—in water-stressed countries, water constitutes 14 percent of total IBRD and IDA lending; in non-water-stressed countries, water constitutes 9 percent of total IBRD and IDA lending.

Financing, Knowledge, and Reputation. Finally, management notes that project financing is only one way to address issues in the water sector. Several other mechanisms are used by the Bank to achieve its strategic vision of water for sustainable development. The Bank uses economic and sector work, policy dialogue, trust funds, and its reputation as an “honest broker” to engage client countries in complex water issues. For example, the World Bank Group has been engaged with McKinsey in looking at innovative tools to identify supply-side and demand-side measures that could constitute a more cost-effective approach to closing the water resource gap in countries and may even achieve budget savings in some components of the water sector. It is the combination of all these instruments that enables the Bank to provide assistance to countries that face the greatest water stress today and to address future water needs.

IEG Recommendations

Management welcomes and agrees with the IEG recommendations. These recommendations fit well with what the Bank is currently doing and can be accommodated within the framework of the existing water strategies, as the Water Resources Sector Strategy Mid-cycle Implementation Progress Report will show.

Note

1. Management notes that this evaluation covers the role of the private sector in the delivery of water supply and sanitation, in which the Bank has a role only to the extent that a public-private partnership is involved. Management notes that this evaluation does not address the specific role of IFC and MIGA, as the “Approach Paper: IEG Evaluation of Bank Group Support for Water” (IEG, January 28, 2008) indicated it would do.

Management Action Record

IEG Recommendation

Management Response

1. Work with clients and partners to ensure that critical water issues are adequately addressed.

- Seek ways to support those countries that face the greatest water stress. The mid-term strategy implementation review should suggest a way to package tailored measures to help the Bank and other donors work with these clients to address the most urgent needs, which will be far more challenging as water supply becomes increasingly constrained in arid areas.
- Ensure that projects pay adequate attention to conserving groundwater and ensuring that the quantity extracted is sustainable.
- Find effective ways to help countries address coastal management issues.
- Help countries strengthen attention to sanitation.

Ongoing/Agreed.

Management agrees with the recommendation, which is at the core of the *2003 Water Resources Sector Strategy*. The Bank has been responsive to government priorities on water in the most water-stressed countries and in those that will face problems in the future. Using a range of instruments (finance, knowledge, and reputation), the Bank has worked toward ensuring that its assistance adds value, especially vis-à-vis other development banks and donors.

The Water Resources Sector Strategy Mid-cycle Implementation Progress Report will highlight (i) how the World Bank has addressed client needs, differentiating by income group; (ii) the growing importance of addressing water issues at the river-basin level; (iii) areas of the 2003 strategy where the Bank has sequenced its approach, starting with studies, technical assistance, capacity building, and pilot projects to address complex issues, such as sustainable groundwater management and coastal management; and (iv) how the development community has been actively working toward meeting the sanitation MDG targets.

2. Strengthen the supply and use of data on water to better understand the linkages between water, economic development, and project achievement.

- In project appraisal documents, routinely quantify the benefits of wastewater treatment, health improvements, and environmental restoration.
- In project appraisal documents, routinely quantify the benefits of wastewater treatment, health improvements, and environmental restoration.
- Support more frequent and more thorough water monitoring of all sorts in client countries-particularly the most vulnerable ones, and help ensure that countries treat monitoring data as a public good and make it broadly available.
- In the design of WRM projects that support hydrological and meteorological monitoring systems, pay close attention to stakeholder participation, maintenance, and the appropriate choice of monitoring equipment and facilities.
- Systematically analyze if environmental restoration will be essential for water-related objectives to be met in a particular setting.

Ongoing/Agreed.

Management agrees with the recommendation, and the principle that more and better data would help to support efforts to improve the performance and accountability of the water sector, the results of Bank-financed water projects, and the impact of alternative water policies. Several global initiatives are under way (for example, IBNET, Hydrological Expert Facility), and efforts are ongoing as part of the standard evaluation analysis of projects to quantify the costs and benefits (and externalities). Better management and use of data will take place when the investment lending reforms are implemented.

More specifically:

- The Water Anchor will develop further core indicators for water projects (for example, sanitation/sewage, irrigation/drainage).
- Regions will pilot new approaches to take advantage of new sources of information (such as remote sensing), tackling these with existing data sources.
- Regions will scale up projects, building detailed information systems and benchmarking systems.
- The Water Anchor and Water Sanitation Program will conduct an impact evaluation of sanitation and hygiene interventions at scale in achieving health and income outcomes.
- As part of the development impact evaluation initiative, in collaboration with the Development Economics Department, the water sector will conduct further impact evaluations on health impacts of water and wastewater interventions.

The Water Resources Sector Strategy Mid-cycle Implementation Progress Report will outline how progress toward strengthening the supply and use of data will be monitored.

Management Action Record (continued)

IEG Recommendation

3. Monitor demand management approaches to identify the aspects that are working or not working and to build on these lessons of experience going forward.

- Clarify how to cover the cost of water service delivery in the absence of full cost recovery. To the extent that borrowers must cover the cost of water services out of general revenues, share the lessons of international experience with them so they can allocate partial costs most effectively.
- Identify ways to more effectively use fees and tariffs to reduce water consumption.
- Carefully monitor and evaluate the experience with quotas as a means to modulate agricultural water use.

Management Response

Ongoing/Agreed.

- Regions and the Water Anchor will examine financing of services delivery as part of Public Expenditure Reviews and other country-specific economic and sector work.
- The Water Anchor and Regions will conduct a study on lessons learned about government payment for water services.
- Regions will continue to explore fees, tariffs, and other options (metering, water rights, and the like) for demand management in Bank projects.
- Regions will pilot Evapo-transpiration (ET)-based rights and community-based approaches to water resource management.

A key priority of the Thematic Group on Water Resource Management, with the support of the Water Anchor, will be to document lessons learned on demand-management approaches.

Chairperson's Comments: Committee on Development Effectiveness (CODE)

On December 16, 2009, the Committee on Development Effectiveness (CODE) discussed the document entitled *Water and Development: World Bank Support, 1997–2007* prepared by the Independent Evaluation Group (IEG) and *the Draft Management Response*.

Summary

The Committee welcomed the timely report, which will serve as an input to management's Water Resources Sector Strategy Mid-Cycle Implementation Progress Report. It also positively noted the constructive discussion between IEG and management on this evaluation. Members noted the continued relevance of the Bank's 1993 *Water Resources Management Policy Paper* and the 2003 Water Resources Sector Strategy. They commended the turnaround in portfolio performance in the water sector and encouraged continued efforts, particularly to further enhance project sustainability and focus on projects in Sub-Saharan Africa.

One area eliciting comments from almost all speakers was the sensitive and challenging issue of pricing and full cost recovery of water services. In this regard, different views were expressed on the roles of the public and private sectors in the provision of water, the potential for a market-based approach, and the importance of ensuring affordable water to the poor. Moreover, the discussions touched on issues of subsidies and transfers mechanisms, the coverage of operations and maintenance (O&M) costs, and the experience of Organization for Economic Cooperation and Development countries in full cost recovery. In general, members supported the Bank's "pragmatic, but principled" approach to water pricing, outlined in the 2003 Water Resources Sector Strategy.

Members also intervened on specific topics such as the regulatory framework and institutions; the assistance to water-stressed countries/areas; the Bank's role in sanitation and groundwater management; links between water and climate change, and demography; and data collection and monitoring. The committee welcomed the comments from the Regional staff who shared their country- and regional-

level experiences. Some speakers expressed the view that the IEG evaluation could have been a World Bank Group review of water assistance. IEG noted that International Finance Corporation (IFC) investments in water have been small, only about 1 percent of IBRD/IDA lending. Others asked about aspects not covered in the evaluation report, such as the impact of the matrix management structure, the contribution of development policy lending, ongoing work related to innovative financing support, and key findings that were contained in the evaluation, but not explicitly referred to in the recommendations. Finally, comments and suggestions were made on the upcoming Water Resources Sector Strategy Mid-Cycle Implementation Progress Report of the Water Resources Sector Strategy.

Recommendations and Next Steps

Management is expected to present the Water Resources Sector Strategy Mid-Cycle Implementation Progress Report to the Committee in spring of 2010. Management confirmed that it will cover the World Bank Group water sector activities, even though the 2003 Water Resources Sector Strategy covered IBRD and IDA only. This IEG evaluation report and Management Response will be publicly disclosed.

Main Issues Discussed

Pricing and Cost Recovery. The Committee noted the complexities of water pricing and the political sensitivities around full cost recovery. In general, members supported the Bank's "principled, but pragmatic" approach in water pricing, though several speakers, mindful of the difficulties of a full market-based approach, indicated that the existence of price-cost gaps requires it to be fully quantified jointly with the fiscal resources needed to insure full cost recovery. They took note of management's clarifications on the definition of cost recovery and the difficulty of achieving full cost recovery even in high-income countries that have the political will to embrace this goal. Some members commented that this matter needs to be

considered as part of a comprehensive and coherent set of interventions, including consideration of social issues. IEG pointed out that less than one-fifth of water supply and sanitation projects that set out to recover costs either partially or fully have succeeded, and that it is important to clarify how to cover the costs of water service delivery in the absence of full cost recovery. Noting the importance of ensuring affordable access to water, especially for poor, a member cautioned about pursuing a market-based approach to water supply and sanitation and the continued important role of government. Some others, however, commented on the potential of the private sector to provide efficient services, if accompanied by appropriate legal frameworks and regulatory institutions. Some specific comments were made about how to cover O&M cost in the absence of sufficient revenue collection and fiscal space, and on the use of subsidies or direct transfer to provide affordable access to water for the poor, on the relatively low number of projects where economic rate of return is considered, and the potential of improving cost recovery by reducing unaccounted-for water usage.

Data. There was general agreement on the importance of data for project design and monitoring and evaluation in light of IEG's findings that few projects that plan to collect data actually follow through. One member raised a concern regarding balancing data sharing with national security concerns, emphasizing that data provision should not be a condition for a project. In this respect, the significant effort by the international water community to collect data, which could be utilized, was noted. Stressing the importance of measuring the outcomes, a suggestion was made to benchmark the impact of the Bank's operations against the

Millennium Development Goal and an indicator that would measure the efficiency in use of water resources.

Water-Stressed Countries. While supportive of IEG's findings on the need to adequately address critical water issues in water-stressed countries, a few members raised the issue of how these countries are defined and the complexity of this subject. IEG clarified that the Water Poverty Index was based on five components—resources, access, capacity, use, and environment. Others encouraged management to attend to the water supply and sanitation needs of the poor, while integrating institutional, financial, and social dimensions into the Bank's interventions.

Mid-Cycle Implementation Progress Report. Members made a number of requests for consideration in the Mid-Cycle Implementation Progress Report, including the Bank's role in strengthening institutions, knowledge sharing, use of development policy lending, safeguards issues, matrix management structure, and use of incentives. Management was encouraged to keep in mind the impact of climate change on water resources and their use, as well as the nexus between demography and water. Management said that it would review the World Bank Group operations, in response to interest expressed for a broader coverage to include private sector issues. Management briefly commented on the Bank's interventions in the water sector encompassing not only investment lending but also development policy loans and analytical work. Management spoke on the new Water Sector Board and the highly cross-sectoral nature of its intervention in the water sector.

Statement of the Advisory Panel

The members of the External Advisory Panel acknowledge the colossal amount of work achieved by the Independent Evaluation Group team in preparing this report on the World Bank's support to water and development. Thirty-one percent of all Bank projects approved since fiscal 1997 have at least one water activity, so that the portfolio examined by this evaluation consists of 1,864 projects financed between fiscal 1997 and the end of calendar 2007, for a total of over \$118 billion. That the evaluation team took on this range of activities and examined it through multiple lenses—25 separate Issues Papers were researched and written for this study—is a testament to their seriousness and thoroughness. The Advisory Panel appreciates the care with which this team sorted, analyzed, and reanalyzed the data gathered, and we urge Bank management to apply similar rigor in addressing the recommendations that come from this impressive work.

The basic message of this report is a message of urgency. Water is a limited resource on which life and development depend. As climate changes and population grows, business as usual is not an option. The social, economic, and political consequences of water shortages, exacerbated by distributional unevenness, are real, as are the effects of water-related hazards. Few institutions are as well positioned as the World Bank to assemble the resources and the partnerships required to address such global concerns.

It is important to recognize that World Bank water projects over all have recently shown improved success rates. However, there is no room for complacency, because, as the evaluation points out, much of the work has been concentrated on regions and on problems that are somewhat easier to deal with. As the report says, “The Bank and the countries have not yet sufficiently tackled several tough but vital issues, among them sanitation, fighting pollution, restoring degraded aquatic environments, monitoring and data collection, and cost recovery.”

One particularly difficult problem concerns the sustainability of investments over time; the use of inappropriate technologies, failure to secure institutional changes and establish clear postproject accountabilities, and lack of attention paid to cost recovery are just some of the reasons why sustainability may not be achieved. To ensure that investments yield long-term benefits in terms of economic and social development, it may well be that a project focus will

not suffice. Instead the Advisory Panel urges Bank management to develop a longer-term, more comprehensive, multisectoral and process-focused approach to its water support. The evaluation provides numerous examples from the Bank's own experience showing not only that such an approach is doable but that its results are more lasting and significant for more people than those of separate projects with shorter timelines. The Panel would also wish the Bank to take a more proactive approach to its lending and to assess whether some of the current lending trends will be appropriate in the future, given changing socioeconomic and environmental conditions; for example, the dwindling number of project approvals for coastal management work could be reviewed in the context of demographic and potential climate change.

As the report says, the ultimate goal is to balance the resources available with societal requirements. We underline this statement by noting that this goal is not just for some countries, but for all countries, and not just for some people, but for all people. This goal requires a long-term, strategic engagement of Bank management and Bank staff with counterparts in other agencies and around the world to address usage and wastage, retention and pollution, balancing today's needs with those of future generations.

A careful reading of the findings of this thorough report provides strong guidance for Bank management on how to develop and pursue such a strategic engagement.

Members of the Advisory Panel especially urge attention to the following findings and opportunities:

1. Integrated water resources management is an ongoing process, not an ad hoc program, and as such deserves constant reinforcement through technical and political requirements. Working with borrowers, Bank staff must assiduously advise and encourage an integrated, multisectoral analysis of water problems and the development of water solutions that recognize the relationships between water and the economic development and poverty reduction objectives of governments.
2. In spite of its comparative advantage, the Bank appears to have reduced the emphasis given to the economic analysis of water projects. Data collection is inadequate (especially as it deals with the social and developmental impacts of water efforts), monitoring is inconsistent,

and cost recovery systems are too often assumed rather than rigorously pursued. Concerns over the sustainability of projects, but even more important over the sustainability of access to water, require that such analysis be reinstated and followed closely.

3. Having urged more attention to cost recovery and the financial sustainability of projects, the Advisory Panel nonetheless urges the Bank to develop strategies that will bring poorer countries that face greater water crises into the lending portfolio. More-innovative funding packages, developed in conjunction with partners, need to be considered for the poorest countries facing the greatest water stress. As noted above, the unevenness of the distribution of water surpluses and shortages has

both economic consequences and political and social consequences. These cannot be ignored. A fuller focus on the developmental impacts of water—its shortages or its accessibility—would suggest greater attention to integrating water programs with other sectors in countries with the greatest water stress and the fewest resources for addressing this stress.

This IEG report has come at a critical time, and we are grateful for the opportunity to have worked with the IEG evaluation team in considering the implications of its findings. The report provides a strong, well-researched basis for the Bank's development of a more integrated, far-looking approach to one of the world's most urgent challenges.

Signed:

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Contents of the Complete Volume

Volume 1: Evaluation Report

Abbreviations

Acknowledgments

Foreword

Executive Summary

Management Response

Chairperson's Comments: Committee on Development Effectiveness (CODE)

Advisory Panel Statement

1. Water and the World Bank

Global Context

Water Milestones and the Bank's Commitments

Evolution of the World Bank's Strategic Approach to Water

Scope and Purpose of the Evaluation

2. The Bank's Water-Related Activities and Their Performance

Overview of the Water Portfolio

Trends in the Water Portfolio

Portfolio Performance: Ratings against Objectives

Integrating Water

Changes in Portfolio Focus

Prioritizing Water

Summary

3. Managing Water Resources

Watershed Management

Groundwater Management

River Basin Management

Hydrological and Meteorological Monitoring

Managing Efficiency of Use and Demand for Water

Summary

4. Water and Environment

Coping with Water Disasters

Water and Environmental Sustainability

Rivers, Lakes, Coastal Zones, and Wetlands

Summary

5. Water Use and Service Delivery

Irrigation

Water Supply and Sanitation

Multipurpose Dams and Hydropower

Summary

6. Water Management Institutions

The Context for Private Sector Participation in WSS

The Institutional Aspects of Water

Integrated Water Resources Management

Transboundary Water: Managing across National Frontiers

Summary

7. Conclusion, Findings, and Recommendations

Main Findings

Recommendations

Endnotes

Bibliography

Boxes

- 1.1 Bank Strategy and Integrated Water Resources Management
- 3.1 Improved Water Management Practices
- 3.2 A GEF Project That Works both Upstream and Downstream
- 3.3 Groundwater Is Depleting Rapidly in the Republic of Yemen
- 3.4 Artificial Recharge of the Souss Aquifer, Morocco
- 3.5 River Basin Management in Tanzania
- 3.6 Early Warning System Used for Monitoring Lake Sarez in Tajikistan
- 3.7 Sustainable Monitoring Is Difficult to Establish
- 3.8 Paying for Water Is Well Accepted in Tanzania
- 4.1 Nonstructural Flood Control Yields High Returns in the Yangtze Basin
- 4.2 Counterbalancing Cyclical Drought Events through Long-Term Monitoring and Early Action
- 4.3 Point and Nonpoint Source Pollution
- 4.4 How the Failure of Irrigation System Rehabilitation Led Chinese Farmers to Irrigate with Groundwater
- 4.5 The Benefits of Partial Restoration of Mangrove Forests in Vietnam
- 4.6 Successful Wetland Restoration Created a Replicable Model for Uzbekistan
- 5.1 Benchmarking Utility Performance
- 5.2 Gender and Water: Findings of the IEG Gender Evaluation
- 5.3 Some Reasons for Failure of Sewerage Works
- 5.4 Hydropower and Multipurpose Projects
- 6.1 Examples of Decentralization Projects in the Water Sector
- 6.2 Potential Benefits of Decentralization

- 6.3 Data on Water Availability Help Build Consensus
- 6.4 IWRM in Morocco
- 6.5 The Nile Basin Initiative
- 6.6 The Gulf of Aqaba Environmental Action Project
- 6.7 The Inland Waterways and Ports Project in the Mekong River Delta

Figures

- 2.1 Water-Related Projects Approved and Funds Committed by Fiscal Year
- 2.2 Size of the Average Loan in the Water Portfolio and Bank-wide
- 2.3 Projects with Water-Related Activities by Implementing Sector Board
- 2.4 Water Projects and Commitments by Region, 1997–2007
- 2.5 Outcomes of Water Projects by Focal Area and Subperiod
- 2.6 Outcomes of Water Projects by Region
- 2.7 WSS Projects by Region and Implementing Sector Board
- 2.8 Outcome, Sustainability, and Institutional Development Impact Ratings for Projects Supporting WSS
- 2.9 Outcome Ratings of Water Projects by Implementing Sector Board
- 2.10 Shares of Ongoing Projects Addressing Selected Themes
- 2.11 Ongoing Groundwater Projects and Dam and Hydropower Projects by Year
- 2.12 Water Poverty Indexes and World Bank Water Commitments by Country
- 3.1 Performance of Watershed Management Projects Using a Livelihood-Focused Approach
- 3.2 Ongoing Groundwater Projects Focusing on Extraction and Conservation
- 3.3 The 10 Most Successful Activities Dealing with Groundwater
- 3.4 The 10 Least Successful Activities Dealing with Groundwater
- 3.5 Selected Results of Work with River Basin Organizations in Bank-Financed Projects
- 3.6 Hydrometeorological Monitoring Systems by Level of Supervision
- 3.7 Water Demand Management Activities by Activity Type
- 3.8 Success Rates for Demand-Side Management Interventions in Agricultural Water Use
- 3.9 Completed Water-Efficiency Projects Reporting an Economic Rate of Return
- 4.1 Loan Commitments to Drought-Related Projects by Approval Year
- 4.2 Ongoing Environmental Flow Projects by Year
- 4.3 Ongoing Projects That Monitor Water Quality by Year
- 4.4 Projects Addressing Wetlands and Mangroves by Year
- 5.1 Bank Commitments for Water Supply, Sanitation, Wastewater Treatment, and Sewerage
- 5.2 Completed Project Activities for Urban Water Services
- 5.3 Share of Urban Water Projects Rated Satisfactory by Region

- 5.4 Share of the Rural Population with Access to an Improved Water Source by Country
- 5.5 Expected and Actual Beneficiaries of Sewerage Works
- 5.6 Water Supply Projects Reporting Economic Rates of Return
- 5.7 Projects Calculating Economic or Financial Rates of Return
- 6.1 Activities of Completed Decentralization Projects
- 6.2 Success of Decentralization by Decentralization Type
- 6.3 Transboundary Projects and Their Total Lending by Region

Tables

- 2.1 The Water Portfolio and Its Dedicated Projects
- 2.2 Water Projects by Focal Area
- 2.3 The Top 10 Borrowers for Water
- 2.4 The 10 Largest Water Projects
- 2.5 The 10 Largest IDA Water Projects
- 3.1 Water Efficiency Projects by Subsector
- 4.1 The Costs and Benefits of Selected Environmental Flow Assessments
- 5.1 The Top 10 Activities for Water Supply and Sanitation Projects
- 5.2 Countries with 100 Percent Satisfactory IEG Outcome Ratings for Urban Water Projects
- 6.1 Classification of the Success of Decentralization

Volume 2: Appendixes

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Abbreviations

Appendix A: Glossary	
Appendix B: Methodology	
Appendix C: Strategies	
Appendix D: Taxonomy of Water Activities in the Portfolio	
Appendix E: Highly Satisfactory and Highly Unsatisfactory Projects	
Appendix F: Water in Country Assistance Strategies	
Appendix G: Environmental Health	
Appendix H: Dams and Hydropower	
Appendix I: Experience with Private Sector Involvement in the WSS Sector	
Appendix J: Supplemental Data	

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Abbreviations

IBRD	International Bank for Reconstruction and Development
IDA	International Development Association
IEG	Independent Evaluation Group
IWRM	Integrated water resources management
MDG	Millennium Development Goals
O&M	Operation and maintenance
UfW	Unaccounted-for water

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