Water Supply & Sanitation Working Notes

Note No. 6, October 2005

SANITATION AND HYGIENE AT THE WORLD BANK

AN ANALYSIS OF CURRENT ACTIVITIES

Pete Kolsky Eddy Perez Wouter Vandersypen Lene Odum Jensen





Contact details

Pete Kolsky, Senior Water and Sanitation Specialist, World Bank, (202) 473-5764, pkolsky@worldbank.org Eddy Perez, Senior Sanitation Consultant, World Bank, (202) 458-7434, eperez1@worldbank.org Wouter Vandersypen, Consultant, World Bank, (202) 473-4531, wvandersypen@worldbank.org Lene Odum Jensen, Consultant, World Bank, (202) 473-2554, ljensen@worldbank.org

Acknowledgments

This report was funded by the Bank-Netherlands Water Partnership, a facility that enhances World Bank operations to increase delivery of water supply and sanitation services to the poor (for more information see http://www.worldbank.org/watsan/bnwp). Earlier drafts of this document were constructively reviewed by Meike van Ginneken, Jonathan Halpern and Lee Sumter Travers, and their observations have contributed to a more focused document.



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Executive Summary

This report reviews the current World Bank portfolio in sanitation and hygiene.¹ The Bank's sanitation activities, ranging from latrine promotion to the construction of wastewater treatment plants, address a number of development objectives including improved health, greater human dignity, and a more sustainable environment. This report looks particularly closely at the degree to which the Bank's activities support the achievement of the Millennium Development Goal (MDG) target of halving the fraction of the world's population without access to basic sanitation by 2015, and the constraints to increasing support to that aim.

By current estimates over 2.6 billion people do not have access to basic sanitation and hygiene; this lack is a basic component of poverty, contributing as it does to 2 million child deaths a year, reduced school attendance, and a fundamental deprivation of human dignity. Meeting the MDG target will require a major increase in global investment to a level of at least US\$ 2 billion per year.

A review of the current portfolio (from FY00 to FY05 as of February 05) can be summarized as follows:

Current estimated sanitation lending (all sector boards and including wastewater treatment [WWT)])	US\$ 2.6 billion
Current estimated sanitation lending through the Water Supply and Sanitation (WSS) Sector Board (dedicated lending)	US\$ 1.7 billion
Sanitation-related lending as a percentage of total WSS Sector Board lending	35%
Estimated WWT component of sanitation-related lending through dedicated projects	US\$ 0.6 billion- US\$ 0.9 billion
Estimated lending on hygiene promotion through dedicated projects	Unknown
Relative investment within sanitation:	High Low Low Medium Medium
On-site Relative investments by settlement patterns: Urban formal Urban informal Small towns Rural Total number of beneficiaries with increased access to improved sanitation	High Low Medium Medium Unknown
Quality of data on size of sanitation lending through World Bank projects	Poor

¹ "Sanitation" is used in this report to refer to the infrastructure and service provision required for the safe management of human excreta, for example latrines, sewers, and wastewater treatment. "Hygiene" is used to refer to the set of behaviors related to safe management of excreta, such as washing hands with soap at appropriate times, the safe disposal of child feces, and so on.

Principal conclusions from the portfolio review are as follows:

- With a sanitation-related portfolio of US\$ 2.6 billion, the World Bank is the leading world player in external financing of sanitation work in the developing world.
- Most (67 percent) of the sanitation- and hygiene-related lending at the Bank is managed by the Water Supply and Sanitation Sector Board.
- Most of the dedicated sanitation portfolio is committed to "traditional" urban sewerage and wastewater treatment, which are not inherently well targeted to meet the needs of those without access to sanitation.
- Regional commitments in sanitation vary significantly, with the largest investments taking
 place in East Asia and Pacific and the Middle East and North Africa, consisting of
 International Bank for Reconstruction and Development (IBRD) funds spent on
 "traditional" urban sewerage and wastewater treatment. Investments are lowest in those
 regions arguably with the greatest needs, Africa and South Asia.
- The efforts of many Task Team Leaders (TTLs) to include sanitation and hygiene components that meet the needs of the poor are not well reflected in the Bank's formal monitoring system. Significant efforts, often using a variety of Trust Fund resources, are being made to reach the poor with sanitation and hygiene promotion activities. Such efforts are evident in Ethiopia, Indonesia, Tanzania, Ecuador, India, and Vietnam (to name a few).

Bank staff face both external and internal constraints in developing sanitation and hygiene projects to meet the needs of the poor.

External constraints

- There is limited demand for sanitation and hygiene support by the Bank from clients.
- Much of the investment needed by the poorest is small-scale and at the household level, where the Bank has less comparative advantage.
- Sanitation and hygiene seem to offer little attractive hope for short-run cost recovery.
- There is a traditional dominance of water supply over sanitation in the WSS sector.
- Clients have limited institutional capacity to program and manage large-scale sanitation and hygiene projects.
- There is confusion over appropriate institutional models and policies for sanitation.
- There is strong reluctance by clients to invest hard currency in hygiene behavior change.

Internal World Bank constraints

- In International Development Association (IDA) countries where sanitation coverage is the lowest, Bank TTLs must compete for IDA funds with other poverty alleviation sectors.
- Bank staff skills and experience in sanitation and hygiene for the poor are limited.
- Practical institutional difficulties frequently constrain Bank TTLs from operating across ministries and sectors in client countries.
- A narrow interpretation of environmental safeguards can actually limit sanitation investments for the poor.
- Limited project preparation budgets constrain TTLs from proper preparation of WSS projects' sanitation components.

The WSS Sector Board, with support from the Bank-Netherlands Water Partnership (BNWP), is already supporting significant efforts to upscale sanitation and hygiene investment at the Bank. To this end, a Sanitation, Hygiene and Wastewater Advisory Service has been established, to facilitate the planning and implementation of sanitation and hygiene projects or components. In addition to consultancy support, the Anchor is supporting documentation of best practice and the Sanitation and Hygiene Thematic Group, which offers opportunities for cross-sectoral

dialogue and learning, safe space reviews, and a limited opportunity to develop tools or guidance of use to TTLs.

As next steps, the paper recommends the following:

- Expansion of the Sanitation, Hygiene and Wastewater Advisory Service to provide more support services to Bank staff both within and outside the WSS sector
- The development of strategies on a regional basis to expand and improve the quality of Bank operations in sanitation and hygiene. These strategies should be developed by regional infrastructure staff, in close collaboration with other regional staff, and with the support of sanitation specialists in the Energy and Water Department. The strategies should reflect not only the sanitation MDG target, but also the broad variety of sanitation and hygiene issues that the Bank and its clients are addressing.
- Improved monitoring, evaluation, and accountability of Bank projects involving sanitation and hygiene to achieve a greater focus on the unserved, a clearer understanding of costs, and a clearer focus on hygiene promotion.

1 INTRODUCTION

1.1 Purpose and Objectives of This Document

In 2002, the governments of the world committed themselves to halving the fraction of the world's population without access to basic sanitation.² The purpose of this document is to describe, both for the Water Supply and Sanitation Sector Board and others (both inside and outside the Bank), the current work in sanitation and hygiene promotion³ at the Bank, and to indicate the way forward to increase the quantity and effectiveness of Bank investment in this area.

This report thus aims

- to describe the current World Bank portfolio of investment in sanitation and hygiene as a baseline for tracking purposes
- to review the constraints to increased work in sanitation and hygiene
- to identify some specific steps to step up the Bank's efforts to increase access to basic sanitation and hygiene services across the world

1.2 The Global MDG Sanitation Challenge

By current estimates, 2.6 billion people (40 percent of the current world population) do not have access to basic sanitation, with the greatest challenges in Africa and Asia (figure 1).

Sanitation and hygiene matter for fundamental reasons:

- Approximately 2 million people a year, most of them children, die from diarrheal disease, of which nearly 90 percent is estimated to be linked to poor sanitation, hygiene, and water supply.
- Poor sanitation contributes to many other diseases and parasitic infections, with a major impact on health and nutrition.
- Education suffers, particularly for girls, when sanitation is not available at schools.
- The shame, indignity, and nuisance of life without sanitation can be viewed as among the defining characteristics of severe poverty.

The specific links among inadequate sanitation, health, and poverty are cruel and direct:

- Those who do not have access to sanitation are almost invariably poor.
- Those who suffer the health consequences of poor sanitation and hygiene are usually poor, and least able to cope with the costs of illness.

The latest report on progress toward the WSS MDGs⁴ stresses that although the world is on target to meet the water supply target, it is far behind on sanitation. Only in urban areas are some regions on track to meeting the sanitation MDG. In rural areas there is either no significant change or progress is lagging. Table 1 below shows access to improved sanitation in the Bank's Regions.

² Formally, the United Nations adopted the Plan of Implementation of the 2002 World Summit on Sustainable Development in September 2002, which included what has become known as "the sanitation MDG target," namely, the commitment to halve the fraction of the population without access to basic sanitation by 2015.

³ As noted in footnote 1, "sanitation" is used in this report to refer to the infrastructure and service provision required for the safe management of human excreta, for example latrines, sewers, and wastewater treatment. "Hygiene" is used to refer to the set of behaviors related to safe management of excreta, such as washing hands with soap at appropriate times, the safe disposal of child feces, and so on.

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

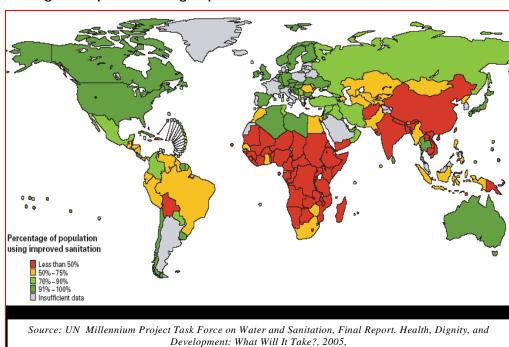


Figure 1 Percentage of Population Using Improved Sanitation

The WHO/UNICEF 2004 mid-term assessment concluded that if these trends hold, the world will miss the sanitation target by half a billion people. To meet the target (which means both meeting a backlog and keeping up with population growth) nearly 2 billion people must gain access to basic sanitation by 2015. This means 370,000 people must gain access to basic sanitation every day from now until 2015—a 90 percent increase on performance over the last 15 years.

Meeting the sanitation and other MDG targets requires a wide range of actions. These include policy reforms, capacity building, and the adoption of effective, appropriate, and in many cases innovative approaches to implementation. The sanitation MDG target also requires a massive scaling up of investments and sustainable service delivery. Given the need, the Bank must pursue reforms and investments in parallel, rather than sequentially. Figure 2 gives guidance on the specific kinds of investments that are needed.

What will it cost to meet the sanitation target by 2015? Global financing cost estimates range from US\$ 24 billion to US\$ 42 billion for sanitation for 2001–15, roughly implying a mean annual investment of US\$ 2.2 billion per year. These are gross estimates which can only indicate the order of magnitude of investment needs.

Table 1 Access to Improved Sanitation (Percentage of Households) in the Bank's Regions

	Sub- Saharan Africa	East Asia and the Pacific	Europe and Central Asia	Latin America and the Caribbean	Middle East and North Africa	South Asia
Rural	28%	51%	65%	64%	60%	40%
Urban	54%	80%	90%	85%	90%	72%
Total	37%	60%	79%	77%	77%	48%

Source: Based on analysis by Antonio Estache (Infrastructure Vice Presidency [INFVP]), data from 2002 (based on World Health Organization/United Nations Children's Fund [WHO/UNICEF] Joint Monitoring Programme).

⁵ "Health, Dignity, and Development: What Will It Take?" UN Millennium Project Task Force on Water and Sanitation, Final Report, 2005.

Figure 2 Sanitation-Related Activities Needing Finance to Meet All MDGs

- **Sanitation and Hygiene Promotion:**
 - Policy/institutional reform, capacity building, development of sanitation finance strategy
 - Promoting demand for sanitation
 - Promoting hygienic practices
 - Development of sanitation as a business
- Household, Institutional, and Community Sanitation for safe excreta and sullage disposal:
 - Design and construction of on-site sanitation
 - Design and construction of connection to sewer systems
 - Improved management of fecal sludge from on-site systems
 - Sanitation infrastructure for schools, clinics, and the like
- * Wastewater Management:
 - Design and construction of wastewater collection infrastructure (sewers)
 - Appropriate wastewater treatment and safe disposal/reuse of sludge (does not increase access but may be required for environmental protection objectives)

Source: "The Challenge of Financing Sanitation for Meeting the MDGs," Meera Mehta and Andreas Knapp, March 2004.

1.3 World Bank WSS Sector Board Mandate for Sanitation and Hygiene

Because of the above challenges, the WSS Sector Board has mandated efforts to increase investments in sanitation and hygiene, with better targeting of the poor. Sanitation and hygiene are substantial elements in the sector business strategy,6 and the Sector Board has authorized significant resources to support TTLs to increase the sanitation and hygiene components of our portfolio. The "push" on sanitation and hygiene is initially focused on those operations managed by the WSS Sector Board, because these make up most of the total sanitation portfolio. However, there is significant involvement in sanitation and hygiene by other sectors in the Bank (Urban Development, Environment, Rural Development and Health, among others) and there is a strong case for increasing their role to address the multisectoral challenges of the sector.

1.4 The Bank's Sanitation Portfolio and Its Relation to the MDG Target

This report is, in the spirit of the sanitation MDG target, focused on Bank operations that contribute directly to *access to basic sanitation and hygiene by the poor*. The report thus focuses on increasing investments in *household* access to sanitation, hygiene promotion, and on the sector reform needed to promote and enable these activities. This focus requires care in interpreting available data on sanitation-related investments that serve other objectives besides basic access.

As shown in chapter 2, the bulk of the Bank's sanitation-related investments have been in sewerage and wastewater treatment, with substantially less committed to more basic forms of sanitation. Sewerage is usually an improvement on existing sanitation, rather than a basic form of sanitation offered to those who have none; in these cases, it should not count toward the sanitation target. Similarly, wastewater treatment, while important for environmental reasons, does not have a direct impact on the MDG target for "basic sanitation."

Hygiene promotion is not an explicit indicator of the sanitation MDG target, nor is it explicitly identified with a "sector code" in the Bank investment system. There is, however, widespread consensus that

⁶ "Water Supply and Sanitation Business Strategy Fiscal 2003–2007," Water Supply and Sanitation Sector Board, World Bank, September 2003.

meeting the "hardware" sanitation MDG target without effective hygiene promotion will do little to reduce poverty, the fundamental purpose of the MDGs.

These points are clarified at the outset because a shift in focus from "traditional" sewerage and wastewater treatment to give greater attention to basic sanitation and hygiene promotion has profound implications for the types of investments, institutional arrangements, clients, partnerships, activities, and approaches required. This is not to say that "too much" investment has been made in traditional sewerage and wastewater treatment for environmental protection, but rather that more needs to be done at the level of basic access. Bank sector professionals are well aware of these issues, and that "more of the same" is not enough to meet the sanitation MDG target.

1.5 Structure of This Document

This introductory chapter has presented the purpose and scope of the document, and provided the broad background to the problems of sanitation and hygiene. Chapter 2 presents an analysis of the current WSS portfolio in sanitation and hygiene terms. Chapter 3 presents a brief review of both internal and external constraints to Bank activity in this sector. Chapter 4 outlines appropriate "next steps" to consider at the Bank in efforts to scale up sanitation and hygiene.

2 SANITATION AND HYGIENE INVESTMENTS AT THE WORLD BANK

2.1 Introduction

This chapter provides a snapshot of what the World Bank is doing to support client countries related to sanitation and hygiene. The chapter begins with an overview of *all* World Bank WSS investments. A significant fraction of these are managed outside the WSS Sector Board, and the review thus includes the sanitation investments by various Bank Sector Boards (Urban, Environment, Rural, Social, Health, and so on) as part of the overall framework of investment. The chapter then focuses on the 47 active projects that have been approved by the Water Supply and Sanitation Sector Board since FY00 that contain a sanitation component.

The analyses seek to indicate

- the order of magnitude of Bank lending for sanitation, both through IBRD and IDA windows
- the nature of sanitation investments in infrastructure hardware (on-site sanitation, sewers, wastewater treatment) and "software" (sector reform, institutional strengthening, financing strategies, hygiene promotion)
- the regional distribution of investments and how they relate to lack of sanitation access coverage
- the distribution of investment by settlement patterns (rural, small towns, slums, urban)
- the results indicators used to monitor the quality and impact of the sanitation investments

Together, these data will provide the Water Supply and Sanitation Sector Board with a baseline of how the Bank is contributing to the sanitation MDG target. This baseline can then be monitored over the next five years to see what progress is being made in increasing the Bank's investments in sanitation, and in the quality of those investments measured by how well the Bank is reaching the poor who do not have access to sustainable sanitation.

2.2 The Active World Bank Water Supply and Sanitation Portfolio

The current World Bank Water Supply and Sanitation portfolio includes projects approved between FY00 through FY05 as of February 2005. Since FY00 the Word Bank has

- committed more than US\$ 103 billion to IBRD/IDA lending in all sectors,⁷
- committed, through all Bank Sector Boards, approximately US\$ 8.3 billion to water supply and sanitation investments (see Table 2 below),
- committed, through all Bank sector boards, an estimated US\$ 2.6 billion⁸ to sanitation. This is 31
 percent of the total investment in water supply and sanitation investment cited above. Of this
 amount:
 - Approximately US\$ 1.7 billion of sanitation lending is supervised by the Water Supply and Sanitation Sector Board (hereafter referred to as "dedicated").
 - Approximately US\$ 839 million of sanitation lending is supervised by the Urban, Environment, Social, Health, or other sector boards (hereafter referred to as "non-dedicated").

The relative size of the estimated sanitation lending for all sector boards combined is graphically represented in figure 3.

2.3 Methodology

This analysis is based largely on the data available in the Business Warehouse (BWH), the World Bank Project Appraisal Documents (PADs), and other documents in the World Bank ImageBank. The analysis includes all active projects approved from FY00 through February 05. Moreover, it captures projects with sector codes assigned to Sanitation (WA); Sewerage (WS); and General Water, Sanitation, and Flood Protection (WZ) under the new coding system. Each sector code reflects a percentage of Bank financing for the project.

Table 2 IBRD/IDA Lending As of February 2005

Sector	Total WSS lending ^a (US\$ millions)	Estimated lending in sanitation ^a (US\$ millions)	Percentage of estimated sanitation lending compared to total WSS lending
Urban, environment, rural, social, health, and other	3,753	839	22%
Water supply and sanitation	4,574	1,739	38%
Total World Bank (all sector boards)	8,327	2,578	31%

a. This includes Water Supply (WC) as well as Sanitation (WA); Sewerage (WS); or General Water, Sanitation, and Flood Protection (WZ).

Source: World Bank

⁸ Given the ambiguities of the sector codes and lack of consistency in their applications, this number provides only an approximate indicator of sanitation investments. Based on a sample of Project Appraisal Documents (PADs) for all dedicated sector projects, a conservative estimate of 15 percent of the value of all projects coded with "Water, Sanitation and Flood Protection" (WZ) was used to estimate the value of the sanitation component for that code. Throughout this chapter, the following formula is used to compute estimated spending on sanitation: 100% WS (Sewerage) + 100% WA (Sanitation) + 15% of WZ (Water, Sanitation, and Flood Protection).

⁷ As of February 2005.

⁹ WA—Sanitation. Use this sector code for emptying and cleaning of cesspools and septic tanks; removal, whether via drains, sewers, or other means, of human waste products and their treatment and disposal; servicing of chemical toilets, dilution, screening and filtering, sedimentation, and chemical precipitation.

WS—Sewerage. Use this sector code for activated sludge treatment and other processes for disposal, as well as maintenance of sewers and drains.

WZ—General Water, Sanitation, and Flood Protection. Use this sector code only if no other Water and Sanitation code is appropriate or for activities that span more than five sectors. For example, if a project covers three sectors under Water and Sanitation, two sectors under Information and Communications, and two sectors under Health and Other Social Services, use the General Water and Sanitation sector code to reflect the three sectors.

Estimated lending for sanitation only, US\$ 2,578 million, 31%

Other WSS lending, US\$ 5,749 million, 69%

Figure 3 Current Total Bank Lending for WSS As of February 2005

It is important to note the difference between "dedicated" and "nondedicated" projects. For the purpose of this report, the term "dedicated projects" refers to projects that are mapped under the Water Supply and Sanitation Sector Board, while the nondedicated projects are managed by various other sector boards and are not under the scrutiny of the Water Supply and Sanitation Sector Board. Some of the sector boards managing projects with sanitation components are (in decreasing order of portfolio size) Urban Development; Environment; Rural Development; Social Protection; Transport; Public Sector Governance; Health, Nutrition, and Population; Poverty Reduction; Social Development; and Public Sector Development. This chapter's sections on "Analysis of Dedicated Projects" and "Targeting, Composition, and Monitoring of the Sanitation Components" are based on a detailed analysis of dedicated projects, approved by the Water Supply and Sanitation Sector Board. For 17 of these dedicated projects, the data collected in ImageBank, BWH, and elsewhere have been complemented, updated, and corrected by the TTL.

As noted in the Introduction, there is a basic issue of terminology that complicates interpretation of the Bank's activities in sanitation and hygiene. There is no separate code for hygiene promotion, although such activities are embedded in a number of those projects that include sanitation. We are thus unable to identify very clearly how much money is spent on hygiene promotion, but it is fair to assume that whatever funds are spent on this are included in the three codes used to describe sanitation investment. (See footnote 9)

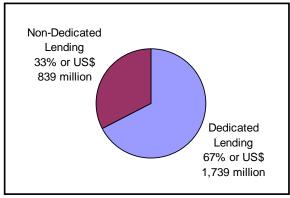
2.4 Analysis of Total Bank Lending (All Sectors) on Sanitation

From FY00 to FY05, lending to Water Supply and Sanitation components in all sectors amounted to US\$ 8,327 million. Of this amount, an estimated US\$ 2,578 million or 31 percent was allocated to sanitation (see table 2).

In this period, the Bank approved 190 projects that list sewerage or sanitation as key components (see footnote 8). Of these 190 projects, 47 projects (25%) were mapped under the WSS Sector Board. The estimated lending for sanitation through dedicated projects in this period was US\$ 1,739 million, which represents about 67 percent of the total lending on sanitation. This is reflected in figure 4.

Figure 5 breaks this further down by region. As a share of the estimated sanitation lending, relatively more is spent on sanitation through nondedicated lending in the Africa Region, the Latin America and the Caribbean Region, and the South Asia Region than in the other regions. In none of the regions, however, does nondedicated sanitation lending represent more than 50 percent of total sanitation lending.

Figure 4 Sanitation in WSS-Dedicated and Nondedicated Lending, FY00-FY05



2.5 Analysis of Nondedicated Projects

Estimated nondedicated sanitation commitment is broken down by sector board in figure 6. Urban Development, Environment, and Rural Development take up the largest shares with US\$ 351 million, US\$ 231 million, and US\$ 139 million, respectively. Note that there is strong overlap between staff reporting to the Sector Boards for Urban Development and Water Supply and Sanitation, and therefore strong alignment of their approaches to WSS. Other sector boards such as Health, Private Sector Development, Social Protection, and Transport also have projects that include sanitation lending. A total of US\$ 115 million is committed through these and other sector boards. Note that the WSS Sector Board has thus committed approximately five times as much as any other single sector board to sanitation-related investments.

Figure 5 Regional Dedicated versus Nondedicated Lending, FY00-FY05

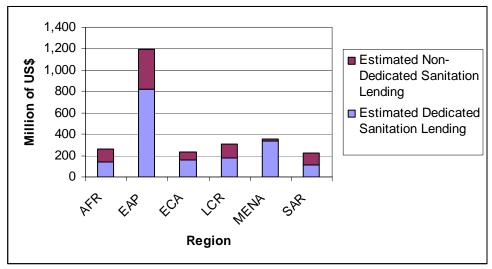
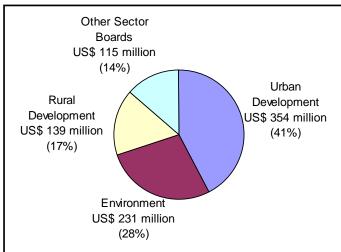


Figure 6 Estimated Active FY00-05 Nondedicated Sanitation Lending by Sector Board



Other Lending,

US\$ 2,835

million,

62%

Source: World Bank

in Total Dedicated WSS Lending

Figure 7 Share of Estimated Sanitation Lending

Sanitation

lending,

US\$ 1,739

million, 38%

Source: World Bank

2.6 Analysis of Dedicated Projects

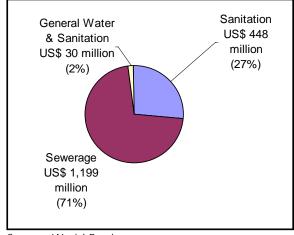
The WSS Sector Board has 78 projects that were approved since FY00 under supervision. They represent almost US\$ 5 billion worth of loans. 10 About 38 percent, or US\$ 1.7 billion, of WSS lending was allocated to sanitation lending (figure 7).

2.6.1 Breakdown by Sector Code

As noted, the total estimated value of the sanitation components in dedicated lending (WSS Sector Board) from FY00 to FY05 is US\$ 1,739 million.

Figure 8 shows how sewerage (WS) represents nearly three-quarters of the total financial commitment to sanitation, at a level of nearly US\$ 1.2 billion. Note that the Sewerage code includes both collection works (sewers) and wastewater treatment, which does not have a separate code. The other sector codes are WA for sanitation (taken to be on-site sanitation) and WZ for General Water, Sanitation, and Flood Protection.

Figure 8 Estimated Dedicated Sanitation Lending by Sector Code, FY00-FY05



¹⁰ As of February 2005.

1,200 1,200 Sanitation Commitment Number of unserved people (in millions) 1.000 1.000 (Millions of US\$) ■ Estimated Total 800 800 **Sanitation Commitment** 600 600 ■ Unserved Population 400 400 200 200 Λ EAP **ECA** LCR MENA SAR **AFR** Region

Figure 9 Estimated Sanitation Lending, FY00-FY05 and Unserved Population by Region

2.6.2 Breakdown by Region

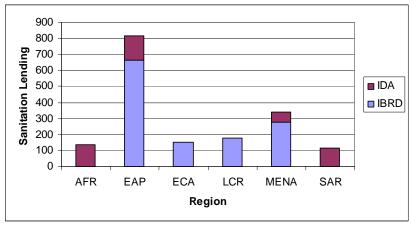
Figure 9 reflects both the estimated total sanitation commitments (left y-axis, in millions of US\$) and the number of people without access to improved sanitation (right y-axis, in millions of people) by region. There is not a close correlation across regions between the number of people without access and the amount of money committed to sanitation.

The average amount of dedicated sanitation lending per unserved person since FY00 is US\$ 0.56. The amount of money spent per person without access is highest in the Middle East and North Africa (MENA) and East Asia and the Pacific (EAP) with US\$ 1.43 and US\$ 0.71, respectively. The South Asia Region (SAR) spends less on sanitation per unserved person than any other region at US\$ 0.17 per unserved person.

2.6.3 Breakdown by IBRD versus IDA

Seventy-one percent of all dedicated sanitation lending is funded by IBRD for a total of US\$ 1,269 million, while 29 percent is funded by IDA for a total of US\$ 469 million. As in all other sectors, the data of this sample of dedicated projects show the major regional differences in use of IDA and IBRD facilities. Despite a global focus on sanitation needs in both Africa and South Asia, these regions are receiving the lowest levels of investment commitments.

Figure 10 IBRD/IDA Sanitation Lending by Region, FY00-FY05 (in Millions of US\$)



Sanitation
Only, 790,
45%

Sanitation
or WWT,
362, 21%

Figure 11 Wastewater Treatment in Dedicated Sanitation Commitments, FY00-FY05

The breakdown between IBRD and IDA lending is revealing, because it suggests that most of the Bank's investment in sanitation is in those countries prosperous enough to qualify for IBRD funding, while the problems of meeting the sanitation target are most acute in those countries eligible for IDA funding (in the Africa and South Asia Regions.)

2.6.4 Investments in Wastewater Treatment

Sanitation-related spending includes investments in latrines, septic systems, sewerage, and wastewater treatment. As mentioned in chapter 1, wastewater treatment (WWT) does not have a direct impact on the MDG sanitation access target. It is therefore useful to distinguish between wastewater treatment and other sanitation investment in considering the Bank's activities.

Unfortunately, there is no separate sector funding code for wastewater treatment, so a total cost was estimated from the cost tables in the PADs. In some cases it proved to be impossible to distinguish clearly between spending on on-site sanitation, sewerage, and wastewater treatment. This explains the relatively large portion (21 percent) of "WWT or Sanitation" in figure 11.

The data show that about 35 percent of total sanitation-related commitments in dedicated projects are allocated to wastewater treatment. Some 45 percent is allocated to on-site sanitation and sewerage. It is unclear how the remaining 21 percent was allocated between on-site sanitation, sewerage, and wastewater treatment. In other words, between US\$ 587 million and US\$ 949 million is spent on wastewater treatment in this sample of 47 projects. At least US\$ 790 million is spent on on-site sanitation and sewers.

There is also no separate code for hygiene promotion. Unlike wastewater treatment, however, it has not constituted a significant fraction of the budget in the projects reviewed, and it does not feature separately in the cost tables. Including a separate category for hygiene promotion in figure 11 was therefore impossible.

2.6.5 Breakdown by Region and Type of Sanitation Component

In the sample of projects reviewed, the large amounts of money committed to WWT in the East Asia and the Pacific Region and the Middle East and North Africa Region stand out in figure 12 (US\$ 236 and US\$ 235 million, respectively). Most spending on WWT is concentrated in these two regions. Collectively, these investments represent 26 percent of the WSS Sector Board lending in sanitation-related activities.

Sanitation Only
Sanitation or WWT

WWT

Region

Figure 12 Dedicated Sanitation Commitment by Type and Region, FY00-FY05

2.7 Targeting, Composition, and Monitoring of the Sanitation Components

This section provides a brief overview of some qualitative aspects of the dedicated portfolio.

These include

- the extent to which the projects in this sample target the poor
- the breakdown of investment in hardware versus software
- the quality of the sanitation indicators
- whether or not the specific beneficiaries from sanitation-related activities are predetermined and monitored

The readily available data are too crude to give detailed answers to each of these questions, but the analysis serves to indicate the scope of monitoring of sanitation investment.

2.7.1 Number of Beneficiaries and Cost per Beneficiary

Of the 47 projects reviewed in detail, 12 do not in any way indicate the number of project beneficiaries. Another 13 quote a number but without specifying whether they will benefit from the water supply component, the sanitation component, or both. The remaining 22 projects do list the number of people expected to benefit from the sanitation components.

These 22 projects reach 29 million beneficiaries. The number ranges from 50,000 in a Small Town Water Supply and Sanitation Project in Ghana to 2 million in the Tai Basin Urban Environment Project in China. Because in some projects these may include downstream beneficiaries of wastewater treatment, the number does not necessarily reflect "the population that gained access to basic sanitation," the type of beneficiary to be counted toward the sanitation MDG target.

The cost per beneficiary also varies widely: from US\$ 1.57 per beneficiary for the Rural Water Supply and Sanitation Project in Nepal to US\$ 915 per beneficiary in the Cartagena Water Supply, Sewerage, and Environmental Management Project in Colombia.

2.7.2 Rural and Urban Targeting

While in the South Asia and Africa regions almost all projects are in rural areas or small towns, in the East-Asia and Pacific region all but one project focus on urban areas. Box 1 below describes a case study on a Rural Water Supply and Sanitation project in Tanzania.

Box 1 Case Study: Rural Water Supply and Sanitation Project in Tanzania (TTL Alain R. Locussol, P047762)

The project development objective is to ensure access to improved and sustained water and sanitation services in **rural communities** in Tanzania. To this end, this project supports a decentralized and demandresponsive delivery mechanism and helps build the institutional foundation for implementing the national program both at the central and local government levels.

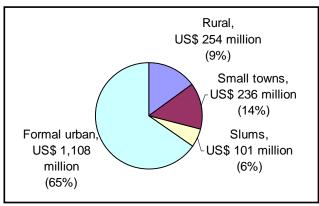
The project combines a tested set of components: 1) sector reform, 2) construction of infrastructure, and 3) institutional strengthening and design of a national program. It is also quite innovative, however, in its financial policies. For instance, different options will be tested for the financial policy for household latrines, including (a) a project subsidy to cover the slab and vent pipe, (b) implementation of a revolving loan fund, or (c) other innovative options that would evolve. Subsidies will be avoided—but if necessary, these will be small and targeted at creating a market (training and promotion) for the latrine artisan over a limited period.

A relatively large number of people, about 650,000, will benefit from improved WSS services. Women and children who typically spend long hours fetching water of doubtful quality would be the prime beneficiaries.

Figure 13 reflects the large amount of money committed to formal urban areas compared to slums, small towns, and rural areas.¹¹

Box 2 describes a case study on the Lima Water Rehabilitation and Management project.

Figure 13 Sanitation-Related Commitments by Settlement Pattern, FY00-FY05



Source: World Bank

Box 2 Case Study: The Lima Water Rehabilitation and Management Project (TTL Vivien Foster, P081834)

This operation is a good example of a project operating in urban slums. This was the Bank's first project for 10 years in Peru's water and sanitation sector and it took lessons from previous disappointments into account. The Bank's assistance with regulatory and institutional reform helps ensure sustainability—both the Government and the utility are committed to reform. Institutional reform is under way and has been advanced with private sector participation.

The project has the following main objectives: (a) rehabilitation of water supply and sanitation networks and of water wells; (b) promotion of water conservation through metering, as well as conjunctive use of groundwater and surface water; (c) expansion of services to the urban poor in the peri-urban slums of Lima; and (d) institutional support to improve the water utility's performance in terms of efficiency, service quality, and financial sustainability. Regarding components (a), (b), and (d), the project largely met or exceeded its original targets.

A supplemental credit aims to further component (c), expanding and improving services to 600,000 residents in the slums of Lima. It provides improved service to 300,000 and first-time service to a further 300,000. To accommodate the differing economic, topographical, and urban characteristics of the beneficiary communities, the project will offer a choice based on two levels of service differentiated by cost. In terms of sanitation, the communities will be offered a choice between ventilated dry pit latrines and appropriately designed sewerage networks.

¹¹ Owing to data limitations, the amounts are compiled very approximately. Commitments to sanitation were multiplied by the relative share of each area type per project. If a project operates in small towns as well as rural areas, 50 percent of the amount allocated to sanitation has been attributed to each area.

Table 3 Incidence of Different Types of Sanitation Technology

	Latrines	Septic tank systems	Sewerage	Wastewater treatment
Number of projects	19	5	29	22
Percentage (out of a total of 47 projects)	40%	11%	62%	47%

2.7.3 Sanitation-Related Hardware

Based on the descriptions in the PADs, 19 out of the 47 projects have a component to build or rehabilitate latrines but only 5 mention septic tank systems (table 3). In terms of networked sanitation, 29 have a component for sewerage and 22 have a component for wastewater treatment. These figures do not add up to 47 because many projects combine two or more of the different types of hardware.

2.7.4 Sanitation Software

In terms of "software," 20 out of the 47 projects (43 percent) have included hygiene promotion activities. As mentioned above, however, it is impossible to determine the amounts committed to these activities.

Box 3 illustrates a case study on the Maharashtra Rural Water Supply and Sanitation "Jalswarajya" Project.

2.7.5 Enabling Environment

Some 40 projects have a "capacity building" or "institutional strengthening" component (85 percent), though it is impossible to determine how much of these efforts are devoted explicitly to institutions with responsibilities in sanitation. As most projects include both water supply and sanitation, it is likely that the institutional strengthening is focused on those institutions dealing with water supply.

2.7.6 Use of Indicators

To measure the effect on reaching the MDG sanitation access targets, each project should have indicators that monitor the number of new and rehabilitated connections to the sewerage system, or the number of constructed and rehabilitated latrines or septic systems. An indicator measuring the

Box 3 Case Study: Maharashtra Rural Water Supply and Sanitation "Jalswarajya" Project (TTL Meena M. Munshi. P073369)

This project has focused to a significant degree on **hygiene promotion**. The main objectives are to (a) increase rural households' access to improved and sustainable drinking water supply and sanitation services; and (b) institutionalize the decentralization of Rural Water Supply and Sanitation service delivery to rural local governments and communities.

The project features a subcomponent devoted entirely to sanitation and hygiene promotion (US\$ 10 million). The objective of this subcomponent is to develop and implement a development communication strategy that will focus on promoting behavioral changes among all stakeholders toward improved sanitation and hygiene practices and empowering the rural poor in their interactions with partnering institutions. The sanitation and hygiene promotion would include supporting the government's new sanitation strategy of stopping open defecation and hygiene behavior change. The subcomponent will finance—among others—activities for promoting safe water supply and use, sanitation, and hygiene. This includes funds for communication and dissemination equipment; access to media; and production and distribution of display posters, folders, and pamphlets to households as well as wall writings and paintings, street plays, and other media events.

The awareness-raising activities will primarily focus on a core set of the most crucial health protection messages relating to the importance of (a) water disinfections and safe home storage, (b) hand washing after defecation and before preparing food, and (c) using latrines and toilets versus open-field defecation. Health Impact Monitoring will be undertaken to judge the project's effectiveness in improving health. The results of the monitoring will again be a powerful teaching tool to villagers in showing the impact of healthy practices.

percentage change in the number of people with access to improved sanitation is also appropriate if a baseline is established. Box 4 presents a case study on the Second Rural Water Supply and Sanitation Project in Nepal.

Of the 47 projects, 16 have such an indicator. Another 4 have an indicator that monitors access to improved sanitation and water supply, with no clear distinction between the two. The remaining 27 projects have no indicator specific to sanitation. Only 3 projects have established some sort of indicator that monitors the increased incidence of appropriate hygienic practices (figure 14).

Box 4 Case Study: The Second Rural Water Supply and Sanitation Project in Nepal (TTL Toshiaki Keicho, P071285)

This project is a good example of a project that has devoted adequate attention to establishing appropriate indicators specific to sanitation.

The primary objectives are to (a) improve rural water supply and sanitation sector institutional performance; and (b) support communities to form inclusive local water supply and sanitation user groups that can plan, implement, and operate drinking water and sanitation infrastructure that delivers sustainable health, hygiene, and productivity benefits to rural households. The indicators specific to sanitation and hygiene are as follows:

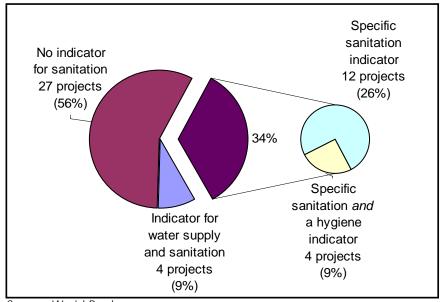
- The project measures the percentage increase in the number of households and population in project area with access to improved sanitation facilities.
- The percentage increase (from the baseline) in the number of individuals who practice hand washing with soap at critical junctures—before eating, after defecation, after cleaning children's bottoms, and before child feeding.

2.8 Summary of the Portfolio Review Findings

The main conclusions of the portfolio review are as follows:

- With a sanitation-related portfolio of US\$ 2.6 billion, the World Bank is the leading world player in external financing of sanitation work in the developing world.
- Most of the sanitation- and hygiene-related lending at the Bank is managed by the Water Supply and Sanitation Sector Board. The Board supervises a portfolio of US\$ 1.7 billion, or 67 percent of total sanitation- and hygiene-related lending. While nondedicated lending is significant (US\$ 839 million or 33 percent), it is split across several sector boards, the largest of which, Urban, has committed only a fifth of what is managed by the WSS Sector Board.

Figure 14 Use of Sanitation-Specific Project Monitoring Indicators, FY00-FY05



- Most of the dedicated sanitation portfolio is committed to "traditional" urban sewerage and wastewater treatment, which are not inherently well targeted to meet the needs of those without access to sanitation. Most of the spending on "traditional" projects uses IBRD funds, and is thus spent in relatively prosperous countries, where the issues of basic access to sanitation are generally less pressing. While there are people without access to sanitation in IBRD countries, much of the Bank's sanitation investment in these countries would not appear to be aimed at the MDG target of "providing access for those who have none," but rather at meeting client wastewater management needs and desires.
- Regional commitments in sanitation vary significantly, with the largest investments taking place
 in EAP and MENA, consisting of IBRD funds spent on "traditional" urban sewerage and
 wastewater treatment. Investments are lowest in those regions arguably with the greatest
 needs, Africa and South Asia. (The finding for Africa may be qualified somewhat by the inability
 of this review to reflect investments via PRSC (Poverty Reduction Support Credit) and other
 budgetary support mechanisms, but reflects the available data from the sector portfolio.)
- The efforts of many TTLs to include sanitation and hygiene components that meet the needs of the poor are not well reflected in the Bank's formal monitoring system. Significant efforts, often using a variety of Trust Fund resources, are being made to reach the poor with sanitation and hygiene promotion and development in Ethiopia, Indonesia, Tanzania, Ecuador, India, and Vietnam (to name a few).

Table 4 reflects the findings of the team from the available data:

Table 4 Snapshot of Portfolio Review Findings

Current estimated sanitation lending for all sector boards combined (includes WWT)	US\$ 2.6 billion
Current estimated sanitation-related lending through the WSS Sector Board (dedicated lending)	US\$ 1.7 billion
Sanitation lending as a percentage of total WSS Sector Board lending	35%
Estimated WWT component of sanitation lending through dedicated projects	US\$ 0.6 billion – US\$ 0.9 billion
Estimated lending on hygiene promotion through dedicated projects	Unknown
Relative investment within sanitation:	High Low Low Medium Medium Low
Relative investments by settlement patterns:	High Low Medium Medium Unknown
Quality of data on size of sanitation lending through World Bank projects	Poor

Source: Authors

3 CONSTRAINTS TO BANK ACTION IN SANITATION AND HYGIENE FOR THE POOR

Chapter 1 noted that an estimate of approximately US\$ 2 billion every year is required to meet the sanitation MDG target. Chapter 2 showed an approximate Bank investment in sanitation of US\$ 2.5 billion over five years, or approximately US\$ 0.5 billion dollars a year. Within the dedicated portfolio, at least one-third of this investment is for wastewater treatment, which does not have a direct impact on access by the poor to basic sanitation; furthermore, the investment appears lowest in the regions with the greatest needs. This chapter briefly reviews the constraints on Bank activity that explain why, despite the evident need, the Bank is not doing more. In what follows, it is helpful to distinguish between constraints external to the Bank system (over which the Bank has less control) and internal constraints that can limit effective sanitation and hygiene work.

3.1 External Constraints

- There is limited demand for sanitation and hygiene support by the Bank from clients. Countries seek financial support from the Bank for activities that contribute to overall economic growth, or alleviate poverty, or both. For the most part, sanitation and hygiene are seen neither as "priority productive investments that stimulate economic growth" (such as power plants) or as "effective investments for poverty reduction" (such as microcredit schemes) that enable the poor to generate wealth.
- Much of what is needed by the poorest is small-scale and at the household level. Bank loans
 tend to be most efficient, both for the client and for the Bank, when financing a relatively small
 number of large contracts. The most basic levels of sanitation, in rural areas and low-density
 peri-urban areas, are individual household responsibilities, viewed as falling within the private
 domain. Supporting many small investments rather than a few larger ones has profound
 institutional implications.
- Sanitation and hygiene seem to offer little attractive hope for short-run cost recovery. Most of the benefits are seen to accrue to the household, making the household the logical choice as investor—yet those households currently without sanitation are widely perceived as "unable" to pay its cost. By contrast, water supply credits and loans are relatively attractive to Ministries of Finance because they are identified with a revenue stream that can, in many cases, contribute to the repayment and maintenance of the infrastructure.
- Water supply has traditionally taken priority over sanitation. Sanitation has traditionally been allied with water supply, for both technical and historical reasons. This makes particular sense in the context of dense urban development, where extension of sewers logically mirrors water supply improvements. This linkage means, however, that those responsible for sanitation operate within the "water and sanitation" sector, where water supply dominates sanitation in terms of priority; this (again) generally reflects client and beneficiary demands and priorities. Unfortunately, the skills and institutions most effective in delivering urban water supply are not necessarily the same as those required to promote appropriate sanitation services for those currently without access to the network in urban areas, or to those living in rural areas.
- There is limited institutional capacity to program and manage large-scale sanitation and hygiene projects. Even if sanitation became the top priority of a large number of our clients, their capacity for its implementation is limited. Clients frequently have limited capacity to develop and manage large-scale investment in relatively well-defined "traditional" sectors such as urban water supply. Because of its lower perceived priority, the capacity to design and implement large-scale sanitation and hygiene programs is even scarcer, and needs substantial development in many places before scaling up is possible. This is particularly true where on-site sanitation must play a leading role.
- There is confusion over appropriate institutional models and policies for sanitation. As noted above, urban water utilities are often the logical institutions to manage a wastewater network, as many of the technical, logistic, and financial aspects are similar. However, most traditional urban water utilities are unfamiliar with the promotion of on-site sanitation and hygiene—which are essential, at least in the short term, to meet the needs of those without access to the

network in urban slums or rural areas. Ministries of Health are often the more appropriate leaders, yet are often hardly involved in WSS activities. The situation in the rural sector is somewhat better, as community development and participation are traditional elements of almost all investment in rural areas, and are a more natural fit with on-site sanitation.

Building effective partnerships among health departments, public works agencies, communities, and local authorities is complex, and often subsidiary in bureaucratic eyes to the more achievable and tangible goal of installing hardware. These institutional questions may become even more complex and problematic in the context of decentralization, although it can also be argued that decentralization facilitates intersectoral coordination.

• There is reluctance to invest hard currency in hygiene behavior change processes. In an age when politicians and bureaucrats are increasingly accountable for "results," there is a universal reluctance to "waste" credits or loans on software and behavior change, when the same money could acquire "real" physical assets. Behavior change is far less straightforward than toilet construction or water supply implementation, yet few can deny its importance to reach the overall goal of improved public health to reduce poverty. Unfortunately, promotion takes more time to yield sustainable results, while rapid construction is often favored because it produces tangible, but unsustainable, results quickly.

3.2 Internal World Bank Constraints

- In IDA countries where sanitation coverage is the lowest, Bank TTLs must compete for IDA funds with other poverty alleviation sectors. Because of their concessionary nature, the funds available for IDA lending are limited. The Poverty Reduction Strategy Paper (PRSP) process for setting development priorities has become, as intended, increasingly important in setting the Bank's lending priorities. This means that operations in sanitation and hygiene must compete openly with other development priorities for scarce IDA resources through the PRSP process. The sanitation and hygiene sector has not learned how to make its case in this framework in competition with other priorities. No matter how effective the Bank's advocacy, however, there are real limits to the IDA resources the Bank can commit to sanitation.
- Bank staff skills and experience in sanitation and hygiene are limited. The skills of Bank staff in the water supply and sanitation sector by and large reflect the mix demanded by clients, and thus focus on urban water supply and finance rather than sustainable sanitation and hygiene. The Bank's operations in sanitation have largely taken place in the context of urban utility or rural water schemes, which, as noted earlier, have been dominated by the water supply component, with sanitation an "add-on" of lower financial and political significance. Consequently, Bank staff skills and experience from these projects have focused on water, and staff have learned less in sanitation and hygiene.

Sanitation and hygiene are related subjects, but require separate skills. While the 2005 publication by the WSS and HPN (Health, Population, Nutrition) Anchors of the **Handwashing Handbook** is a landmark event, the skills for the effective inclusion of hygiene in projects are in even shorter supply than those for sanitation.

Outside the water and sanitation sector, the situation of skills and experience in the nondedicated sectors is potentially far more troubling. This is particularly true in multisectoral efforts such as social funds; where a variety of interventions are proposed, the level of technical supervision that can be offered is limited, and must therefore be less specialized.

• Practical institutional difficulties frequently constrain Bank TTLs from operating with multiple clients. Sanitation is about behavior as much as it is about hardware, and affects health and the environment as well as the economy. There are thus a number of perspectives and sectors that need to be considered outside the infrastructure family: health, social development, water resource management, and others. One challenge is simply that of bridging differences in perspectives, both within the Bank and with our clients.

A more serious challenge can arise from the way the Bank operates with clients; we often work with one ministry as "the client", which can make introducing components that involve other ministries difficult or impossible. Communications across the Bank matrix environment can also be challenging, and sharing knowledge between sectors operating in the same region and country is often less common than we would like to admit.

- Narrow interpretation of environmental safeguards can actually limit sanitation investments for the poor. The Bank requires environmental assessment of all projects, and reviews the assessment in its decisions about project design and approval. In particular, OP (Operational Policy) 4.01 states, "Before approv[al] the financial institution verifies ... that the subproject meets the environmental requirements of appropriate national and local authorities." This can introduce significant delays, and in some cases, questionable changes in design and increase in cost, to the detriment of achieving the basic MDG challenge. Such problems may arise in sewerage schemes where unrealistic quality standards require advanced wastewater treatment that cannot be realistically maintained; the consequences can then be excessive capital investment in wastewater treatment, reducing the funds available for basic sanitation. In other cases, on-site sanitation may be excluded on the grounds of the risk of groundwater contamination, even where the groundwater is not used for water supply. Appropriate environmental safeguards and informed environmental review are clearly needed, but the Bank needs to think through its policies to ensure that it offers clients coherent advice in project development.
- Limited project preparation budgets constrain TTLs from proper preparation of sanitation components of WSS projects. Limited budgets pose enough of a challenge for the preparation of "conventional" projects, where the needed investments and institutional arrangements are well understood from previous experience. The route to success in sanitation and hygiene is far less well understood by both Bank staff and clients, making them reluctant to expend limited project preparation resources on a "risky" quantity. Yet insufficient preparation has been a major constraint to the quality and scale of investments in sanitation and hygiene.

4 IMMEDIATE NEXT STEPS

The preceding chapters have outlined the state of sanitation at the Bank, and the constraints to its growth and targeting. This concluding chapter describes the next practical steps to undertake.

4.1 Expand the Sanitation Hygiene and Wastewater Advisory Service

The WSS Sector Board, with support from the BNWP, is already supporting significant efforts to upscale sanitation and hygiene investment at the Bank. To this end, a Sanitation Hygiene and Wastewater Advisory Service has been established, to facilitate the planning and implementation of sanitation and hygiene projects or components. In addition to consultancy support, the Anchor is supporting documentation of best practice and the Sanitation and Hygiene Thematic Group, which offers opportunities for cross-sectoral dialogue and learning, safe space reviews, and a limited opportunity to develop tools or guidance of use to TTLs. To date the Service has focused on activities related to projects overseen by the Water Supply and Sanitation Sector Board.

The Service has already received over US\$ 1.2 million worth of service requests, for which a budget of US\$ 300,000 was originally committed. The requests demonstrate a strong demand from TTLs to develop sanitation and hygiene approaches to meet the needs of the poor. The Service is currently providing consultancy advice in 18 countries, with activities ranging from the development of financial strategies for major sewerage investments in Nigeria to the preparation of a costed hygiene promotion strategy for both urban and rural areas in Vietnam.

To sustain and increase momentum from the existing demand for advisory services to upscale sanitation and hygiene, it is essential to expand the service from its current "one-year pilot" to a five-year initiative. In addition, the Service should explore how best to provide service to staff working in other networks outside WSS. Both Bank Budget and Trust Funds are being allocated in FY06 for this purpose.

4.2 Develop Global and Regional Guidance and Strategies for Sanitation and Hygiene

The Bank is involved in sanitation- and hygiene-related activities for a variety of reasons, including, but not limited to, pursuit of the sanitation MDG target. It is now appropriate to develop a coherent presentation of the Bank's goals, activities, and regional strategies in this work. Sanitation staff in the Anchor should support operations staff in the development of regional strategies to achieve region-appropriate objectives for access and other sanitation- and hygiene-related aims that are consistent with region and country-specific opportunities, needs, and constraints. These strategies should be characterized by their practical relevance to Bank investment and activity planning.

A key issue to address in each of these strategies is the definition of the comparative advantage of the Bank in promoting sanitation and hygiene, giving full attention to the comparative advantage of other institutions (such as WHO, UNICEF, regional development banks, and others). The Bank cannot presume to address these questions on its own, but it can seek to be part of a coherent effort in which each of the national, regional, and international partners maximizes the effectiveness of its contribution.

4.3 Develop Proactive Monitoring of Sanitation Activities

The Anchor needs to work with TTLs in developing better indicators for sanitation and hygiene that make sense in specific projects, but which can be broadly understood and compared. The Anchor also needs to undertake a proactive monitoring program that goes beyond the routinely reported data, to understand what is happening in sanitation across the sector. There is also a need to revisit the **definitions** of the sector codes, so that they are more consistent with the way that task managers will in fact use them. As it stands, for example, the WS code technically refers only to activated sludge and other waste treatment processes, and the *maintenance* of sewers and drains; in practice, many TTLs are logically using this for the *construction* of sewers.

This monitoring effort should reflect improvements in at least the following areas.

4.3.1 Better Indicators of the Beneficiaries

Few PADs include the number of people who will benefit specifically from the sanitation component. These can include

- the number of previously unserved beneficiaries that will have access to improved sanitation
- the number of beneficiaries of hygiene promotion campaigns (preferably with some indicator of changed behavior, determined through surveys)
- the number of people that benefit from the rehabilitation of sanitation facilities

The "number of people with better access to water and sanitation" is *not* a satisfactory indicator, because it does not permit assessment of the specific gains in either water or sanitation.

4.3.2 Better Cost Information

This analysis has shown that clear monitoring of costs via the existing system is virtually impossible for lack of data. At a minimum, it should be clear how much of the lending is committed to water supply versus sanitation. Ideally, within the sanitation component it should be clear how much is devoted to wastewater treatment, on-site sanitation, networked sanitation, hygiene promotion, and institutional strengthening specific to sanitation.

4.3.3 Hygiene Promotion

As widely understood in the sector, the construction of new hardware may have no impact on public health without the promotion of hygienic behavior. Most professionals agree "in principle" that projects with a sizable sanitation hardware component should include hygiene promotion activities, and many do. Hygiene promotion therefore needs to be actively monitored during project development and implementation.

Other Water Supply & Sanitation Working Notes

Water Supply & Sanitation Working Notes are published by the Water Supply and Sanitation Sector Board of the Infrastructure Network of the World Bank Group. Working Notes are available on-line: www.worldbank.org/watsan. Working Notes are lightly edited documents intended to elicit discussion on topical issues in the water supply and sanitation sector. They disseminate results of conceptual work by World Bank staff to peer professionals in the sector at an early stage, i.e. "works in progress". Comments should be emailed to the authors.

- No. 1 Models of Aggregation for Water and Sanitation Provision. ERM in association with Stephen Meyers Associates and Hydroconseil, and William D. Kingdom. January, 2005.
- No. 2 Assessment of Resource Flows in the Water Supply and Sanitation Sector: Ethiopia Case Study. Peter L. Watson, Joseph Gadek, Eyob Defere and Catherine Revels. January, 2005.
- No. 3 Pro-Poor Subsidies for Water Connections in West Africa: A Preliminary Study (full report). Donald T. Lauria, Omar S. Hopkins and Sylvie Debomy. January, 2005.
- No. 4 Pro-Poor Subsidies for Water Connections in West Africa: A Preliminary Study (executive summary). Sylvie Debomy, Donald T. Lauria and Omar S. Hopkins.
- No. 6 Sanitation and Hygiene at the World Bank: An Analysis of Current Activities
- No. 7 Financing Water Supply and Sanitation Investments: Estimating Revenue Requirements and Financial Sustainability

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