CONNECTING THE DROPS

Global Water Security & Sanitation Partnership

ANNUAL REPORT 2019

GWSP
GLOBAL WATER SECURITY & SANITATION PARTNERSHIP

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Launched in 2014, the World Bank Group's Water Global Practice brings together financing, knowledge, and implementation in one platform. By combining the Bank's global knowledge with country investments, this model generates more firepower for transformational solutions to help countries grow sustainably.

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ABOUT GWSP

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FOREWORD

New challenges and contexts require new approaches and ambitions. Being fit for the future means constantly questioning, learning, and adjusting. But none of this comes without risk. When we transitioned from the Water Partnership Program (WPP) and the Water and Sanitation Program (WSP) to the Global Water Security & Sanitation Partnership (GWSP) in 2017, we knew there would be risks. WPP and WSP were well established and highly regarded. The decision to launch GWSP was not taken lightly.

As you will see from this report, the risk has paid off. The stories captured here illustrate how that risk has brought real rewards. GWSP is generating knowledge and delivering solutions in some of the most challenging contexts on earth, including low-income countries or areas afflicted by fragility, conflict, and violence.

But knowledge on its own has limited impact. Perhaps GWSP's biggest strength is its ability to bring knowledge into implementation. The Partnership generates a lot of its knowledge through rigorous analytical work, but much of what you will read about in this report comes from the day-to-day lessons provided by its deep engagement at the country level through lending operations. As such, GWSP is integrated and well aligned within the World Bank structure and benefits from the feedback loop between operations and knowledge.

GWSP is about impact—good outcomes at both the global and the national level. This means ensuring current and future generations can benefit from universal access to water and sanitation, optimized water in agriculture, and improved resilience to shocks. All these outcomes must be achieved in ways that recognize and respond to the linkages between climate and water.

This also means building capacity and strengthening partnerships. Through its regular training, tailored learning materials, and extensive networks, GWSP is both a catalyst and convener. This is particularly essential in low-income countries and contexts of fragility, conflict, and violence.

The global water landscape is increasingly challenging. New problems emerge all too frequently. Just this year, the World Bank and GWSP book *Quality Unknown: The Invisible Water Crisis* revealed—with new detail and striking clarity—how deteriorating water quality threatens economic growth, harms public health, and imperils food security.

Yet there are many reasons to be hopeful. Water is moving up the policy agenda and new solutions are emerging just as frequently as problems. For example, in partnership with the World Resources Institute through the flagship report "Integrating Green and Gray—Creating Next-Generation Infrastructure," the World Bank and GWSP have shown how natural assets, such as mangroves and wetlands, can be harnessed to improve water security and climate resilience.

Pressure on water is rising and urgent action is needed. GWSP has risen to these challenges over the past year and is poised to play an even bigger role as the profile of the water crisis continues to rise. I have every confidence this vital Partnership will continue to deliver on its important mandate.

Jennifer Sara
Global Director
Water Global Practice, World Bank Group

A NOTE FROM THE PROGRAM MANAGER

As the Global Water Security & Sanitation Partnership (GWSP) concludes its second year of operation, the Sustainable Development Goals (SDGs) are also approaching an important milestone. The global community is now nearly one-third of the way through the SDG period, and without very significant policy changes, investments, and leadership, it is likely that many of the key deliverables in SDG 6 (the "Water SDG") will simply *not* be met.

What is occurring, however, is a growing appreciation of the global implications of not addressing the water challenges we face. Recently, greater media attention on events in Cape Town, Flint, and Chennai have starkly raised the profile of what urban living might be like without sustainable water supplies. In addition, recent floods, tsunamis, and typhoons in Africa, North America, and South Asia have highlighted the death and destruction water can cause, particularly among the poorest communities. And according to the US National Aeronautics and Space Administration (NASA), 18 of the 19 warmest years in the last 140 years have occurred in this century, causing devastating droughts across the globe and triggering health impacts that we now know can last generations. The critical question going forward is: Will this new awareness propel us to provide the leadership and resources to "ensure sustainable water and sanitation for all"?

GWSP brings a unique global value proposition to this conundrum. It is a major contributor to a growing body of evidence demonstrating how the current and pending water crises are affecting economies, health, jobs, and the environment. GWSP also supports analytical work highlighting how these very significant challenges can be addressed. This body of work, in turn, has a direct impact on the policy advice provided to clients, as well as on the design and implementation of World Bank lending operations. After two years, the Partnership has worked with more than 350 local and international partners to produce cutting-edge analysis, which is shared and used by both national and subnational clients, other development partners, nongovernmental organizations, academia, and the private sector. This analysis informs government policies in client countries, fosters partnerships, and builds capacity where it is needed most.

Yet GWSP is perhaps the only water-related think tank that goes beyond knowledge and directly supports implementation at scale. Once challenges are identified and analyzed, and the findings are shared with clients and the broader development community, GWSP provides the necessary resources through just-in-time technical assistance and long-term country engagements. Working with partners in some of the most challenging environments in the world, GWSP uses existing lending engagements as a channel for sharing this knowledge and advocating for policy change. GWSP is moving the knowledge generated on critical water-related issues directly into concrete, well-financed programs addressing these issues.

Of course, none of this work would be possible without the very significant contributions from our donors. This year we note the additional contributions from many of our existing partners and those new partners who have recently joined GWSP. Together we are forging a unique resource and we look forward to working closely with all our partners to address the mounting crises across the entire water sector.

Joel Kolker
Program Manager
Global Water Security & Sanitation Partnership

ABBREVIATIONS

BDP2100	Bangladesh Delta Plan 2100 (Bangladesh)
BOD	biochemical oxygen demand
CWIS	Citywide Inclusive Sanitation
DINEPA	National Water and Sanitation Directorate (Haiti)
DLI	disbursement-linked indicator
FCV	fragility, conflict, and violence
FSM	fecal sludge management
FY	fiscal year
GDP	gross domestic product
GHG	greenhouse gas
GP	Global Practice (World Bank Group)
GWSP	Global Water Security & Sanitation Partnership
ha	hectare
IDA	International Development Association (World Bank Group)
IWRM	integrated water resources management
KWSB	Karachi Water and Sanitation Board (Pakistan)
M&E	monitoring and evaluation
MTI	Macroeconomics, Trade & Investments (Global Practice, World Bank Group)
MW	megawatt
NGO	nongovernmental organization
NWSDB	National Water Supply and Drainage Board (Sri Lanka)
NRW	nonrevenue water
PPP	public-private partnership
SDG	Sustainable Development Goal
SDG 6	the "Water SDG"
UN	United Nations
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WASH	water supply, sanitation, and hygiene
WASH PD	WASH Poverty Diagnostic
WEF	Water Expertise Facility
WPP	Water Partnership Program
WRM	water resources management
WSP	Water and Sanitation Program

All dollar amounts are US dollars unless otherwise indicated.

EXECUTIVE SUMMARY

ABOUT THIS REPORT

The Global Water Security & Sanitation Partnership (GWSP) is an international partnership launched in 2017 to support countries around the world in meeting the targets related to water in the Sustainable Development Goals (SDGs), particularly those of Goal 6, which calls on the global community to "ensure availability and sustainable management of water and sanitation for all." Administered by and housed within the World Bank's Water Global Practice (Water GP), GWSP supports activities under five priority themes that are critical for meeting the SDGs: sustainability, inclusion, financing, institutions, and resilience.

This report covers the 12 months from July 2018 through June 2019 and describes GWSP's results and the impact it has made as it concludes its second year of operation.

In the context of this report, the term *water* refers to the full spectrum of subsectors, including water resource management; water supply, sanitation, and hygiene (WASH); water and agriculture; and dam safety and storage, as well as water and the economy. In effect, GWSP covers the entire water landscape. When describing specific activities or policies that impact these subsectors, those specific terms are used to describe GWSP's support.

GWSP builds on 40 years of experience through the earlier Water and Sanitation Program (WSP) and the Water Partnership Program (WPP). In selective instances, the report refers to work that may have begun under these earlier programs, but has continued under GWSP or through ongoing World Bank operations.

ADVANCING THE GLOBAL WATER AGENDA

GWSP acts as the Water GP's "think tank," providing client countries and other development partners with global knowledge, innovations, and country-level technical support while leveraging World Bank Group resources and financial instruments. This direct link between knowledge and implementation is GWSP's unique value proposition: Knowledge and technical assistance directly influence the design and implementation of client policies and programs, as well as water sector reforms and investments supported by the World Bank and its partners.

DELIVERING ON THE FIVE PRIORITY THEMES: BRIEF HIGHLIGHTS FROM FY19

Sustainability

GWSP focuses on two critical aspects of ensuring the long-term sustainability of water investments: the sustainable management of water resources and the building and maintenance of infrastructure assets. For example, the Partnership undertook a study in fiscal year 2019 (FY19) that assisted in the design of a $15 million World Bank project to improve water and sanitation services in Honiara, the capital of the rapidly urbanizing Solomon Islands, that will provide a model for similar engagements across the Pacific. In Malawi, GWSP supported the government of Malawi's efforts to establish a comprehensive watershed management program benefitting 446,000 people.

GWSP has also supported the development of multiple knowledge products and tools and conducted advocacy in the area of citywide inclusive sanitation (CWIS), supporting operations and country institutions in 19 countries across Africa; Central, East, and South Asia; and Latin America and the Caribbean, and influencing a lending portfolio in urban sanitation of almost $1.9 billion. In Mali, GWSP is improving the performance of existing irrigation schemes to provide sustainable livelihoods for thousands of small livestock owners.

Inclusion

In the last fiscal year GWSP supported knowledge and technical assistance aimed at enhancing inclusion in the water sector. In Ghana, the Partnership produced a

lessons-learned report on girls' educational engagement, examining the ways in which they are affected by water supply, sanitation, and hygiene (WASH) in schools, with a focus on menstrual hygiene management. As a result, the World Bank's $150 million Greater Accra Metropolitan Area Sanitation and Water Project now includes improved access to sanitation for girls in schools and education on menstrual hygiene management. In Laos, recommendations from GWSP supported analytical tools on nutrition-sensitive interventions across WASH and water have been instrumental in the design of a $25 million project benefitting children from ethnic minorities that are severely affected by stunting.

At the global level, GWSP produced a study examining the gender gap in water-related employment and promoting the inclusion of women in the water workforce; study findings have been applied to advance inclusive recruitment and training in water utilities around the world. For example, in Lebanon, the World Bank's Greater Beirut Water Supply project supports training for the water utility's female employees to build their technical competency and management skills, helping them advance their careers. Results tracked under this theme show that there has been a large increase in gender mainstreaming in World Bank operations in the water sector. In FY19, 81 percent of new lending operations included specific actions to address gender gaps.

Although GWSP's WASH Poverty Diagnostics (WPDs) were completed by FY19, the impact of the initiative continues and is expected to last well into the future, influencing development outcomes over many years. This report summarizes some of the major achievements, including increased knowledge for clients and other partners, as well as more than 500 million of World Bank lending approved in FY19 that was influenced by the analysis. For example, the WASH Poverty Diagnostic Initiative contributed to the prioritization of sanitation and led to a $150 million urban sanitation project in Mozambique which included a strategy to tackle malnutrition among the poorest. In Yemen, the WASH Poverty Diagnostic findings influenced the WASH component of an emergency health and nutrition project financed with $137 million of IDA funds.

Financing

GWSP is at the forefront of efforts to assist water service providers in improving their financial viability allowing them to access additional financing to close the gap in water infrastructure. In FY19 three quarters of the projects influenced by GWSP were aimed at improving the financial viability of the sector; many of these focused on leveraging private sector resources.

In Luanda, Angola, GWSP support for the Bita Water Supply Project enabled private sector financing of $900 million to bring new or restored 24/7 piped water service to almost one million residents, mainly in peri-urban areas. In Sri Lanka, GWSP assisted in the development of a hybrid public-private partnership (PPP) model for service delivery in the domestic sanitation market. This model is being incorporated into a new $80 million World Bank project on wastewater management. GWSP also supported global knowledge products to guide the preparation of more financially viable projects in climate change adaptation for transboundary river basins.

Institutions

Expanding access to and improving the quality of services can be achieved and sustained only if the institutional arrangements provide the right incentives and resources, and the organizations tasked with service delivery have the requisite capacity. In FY19 GWSP provided support through technical assistance and analytics aimed at improving institutions, building the capacity of client service providers, and advancing knowledge in this field.

In Senegal, GWSP strengthened service delivery by enhancing the capacity of the national agency in charge of overseeing rural water schemes to explore commercial approaches in the design of rural water connections. In Argentina, GWSP support assisted the government in undertaking a Public Expenditure Review to analyze how policy priorities are effectively implemented. Recommendations were made regarding how to improve the effectiveness and efficiency of public spending to create better incentives for achieving SDG 6 and water-related targets in other SDGs.

Resilience

Resilient water and sanitation services are better able to adapt to shocks and stresses, such as those caused by natural disasters and climate change. In FY19 GWSP provided support for technical assistance and knowledge activities aimed at building capacity, advancing cutting-edge knowledge, and enhancing the link with infrastructure investments.

GWSP is improving the capacity of countries to monitor and analyze water availability and quality through remote sensing technology. In Uruguay, for example, remote sensing was used to develop a water quality monitoring platform that improved the safety of the drinking water supply to the country's second largest metropolitan area. This technology has also been used to help smallholder farmers in India determine the appropriate amount of irrigated water to apply to their crops through a weekly text message advisory service.

In Somalia, GWSP helped inform a $42 million World Bank rural water supply project—the first large-scale World Bank rural development project in Somalia for more than 30 years. GWSP's assistance in the development of this project has already resulted in more than 40,000 people being reached with improved water sources. GWSP also helps the Water GP to play a leadership role in the rollout of the World Bank's new climate agenda, the Action Plan on Adaptation and Resilience, which includes doubling the Bank's 5-year investment on climate action to $200 billion, as well as making key contributions to the work of the Global Commission on Adaptation.

ADVANCING RESULTS

GWSP continues to be an agent of change in achieving measurable results on the ground. In FY19, GWSP invested in 133 discrete activities at the global, regional, and national levels, including knowledge, analytics and technical assistance activities in 43 countries. These activities were programmed under the five GWSP priority themes to achieve additionality, provide opportunities to test and scale up innovations, build country capacity where needed, influence client demand, and shape World Bank and other donor

lending operations. GWSP's strategic entry points include sharing cutting edge analytics and knowledge, fostering a long-term country engagement—or "boots on the ground"—and just-in-time support that enables the Partnership to optimize the use of resources and the flexibility to tailor assistance so it can most effectively respond to emerging country priorities or changing project conditions.

GWSP tracks the results of its portfolio by focusing on three main components, or blocks. The first tracks GWSP-funded knowledge and analytics and assesses the degree to which they influence policies and institutions in client countries (Block A). The second measures the degree to which new lending is influenced by the GWSP five priority themes and the actual results achieved by the lending portfolio (Block B). The final component examines the impacts of both lending and non-lending interventions in a set of priority countries (Block C).

In FY19 GWSP recorded results across all indicators and is on track to meet the results trajectory projected for the activities under the five themes. Most notably, GWSP's knowledge and analytics in FY19 influenced $13.7 billion in water lending operations, of which $4.8 billion consisted of lending operations beyond the Water GP. Of the lending influenced in FY19, $1.4 billion is in countries affected by fragility, conflict and violence. These results demonstrate GWSP's continued efforts in collaborations that cut across sectors and the ability to exert its influence beyond the Water GP.

Moreover, the FY19 results illustrate how GWSP's analytical work has shaped water lending operations. Eighty-two percent of the lending operations approved in FY19 integrated resilience in their design, and 81 percent of the lending operations were "gender tagged," meaning that the operations included measures to address the gender gaps identified. Specific FY19 outcomes from the 143 active lending operations in the water sector, including those led by the Water GP and beyond, include the following:

- 172 million people obtained access to improved sanitation
- 2.9 million farmers adopted improved agricultural technology (of which 0.6 million are women)
- Water risk mitigation measures established in areas where 5 million people dwell
- 0.7 million hectares of land improved with new or enhanced irrigation services

The final component of the Results Framework examines the impact of the combined lending and knowledge interventions in nine priority countries (Bangladesh, Benin, Bolivia, Egypt, Ethiopia, Haiti, Pakistan, Uganda, and Vietnam). These are countries where the Partnership invests strategically because they offer a prime opportunity to test innovative interventions and approaches, combined with World Bank lending investments, to shift the trajectory of country outcomes. As agreed by the parties in the Partnership, progress in Block C countries will be reported at mid-term (FY20) and end-term (FY22). Nevertheless, GWSP continues to monitor progress; the summaries in Chapter 3 on advancing results provide an update on progress made in several of these countries in FY19.

GENERATING AND SHARING KNOWLEDGE

GWSP works with partners to identify knowledge gaps, undertake rigorous analytical work, and conduct thorough review processes to ensure the quality of the work. An important part of GWSP's mandate is to make sure that the analytical and knowledge work is widely shared and directly reaches all key development partners, and the appropriate World Bank staff. The role of communications and knowledge management is thus critical. In FY19 GWSP enhanced its communications functions to make sure that knowledge was shared with the widest possible audience.

GWSP produced several flagship publications in FY19. The book *Quality Unknown: The Invisible Water Crisis* presents new evidence and data to highlight the dangers lying beneath water's surface and the effects of water quality on economic growth. "Integrating Green and Gray: Creating Next Generation Infrastructure" was coauthored with the World Resources Institute and explores the power of nature to help achieve water security and climate resilience. It highlights the potential impact that green infrastructure, such as mangroves and wetlands, can have in providing resilient water services. "Doing More with Less: Smarter Subsidies for Water Supply and Sanitation" reveals that poor design often undermines the objectives of subsidies, and they are often expensive, poorly targeted, nontransparent, and distortionary. The report provides guidance for better subsidy design. In FY20 and beyond GWSP will work to bring the main lessons from these analytical pieces to clients and partners, and into World Bank operations.

Of course, none of the results and impact in this report would be possible without the support of GWSP's donors and other partners. In FY19 GWSP received significant new funding from several existing donors and, given the rising profile of global water issues, other donors are exploring the possibility of joining the Partnership. As GWSP seeks to raise the profile of vital water issues and become the premier think tank to support SDG 6, the Partnership is expanding cooperation with existing and new partners.

CHAPTER 1

ADVANCING THE GLOBAL WATER AGENDA

PARTNERSHIPS AS A VITAL RESOURCE

Every continent is already affected by water scarcity[1] and a growing number of cities have nearly run dry.[2] High-, middle-, and low-income countries alike are being hit by more intense and frequent floods and storms, and the ability of governments to manage the impact has been severely strained. As countries seek to preserve their water resources, they will now also have to consider a set of variables that is broader, deeper, and longer lasting than was required in the past. Sustaining our water future in this rapidly evolving new reality requires us to reimagine and redefine the value of water for people, economies, and the environment. To maximize the impact of interventions, countries need now more than ever to ensure that their institutions and investments in the water sector are more resilient, sustainable, and inclusive, and their approaches more holistic. To achieve this, dialogue and collaboration among stakeholders across different sectors and geographic boundaries are essential. With its unique ability to produce analytical and knowledge work and then move the findings into implementation, the Global Water Security & Sanitation Partnership (GWSP) is in an exceptional position to foster and support these global relationships.

GWSP'S ROLE IN ACHIEVING THE SUSTAINABLE DEVELOPMENT GOALS

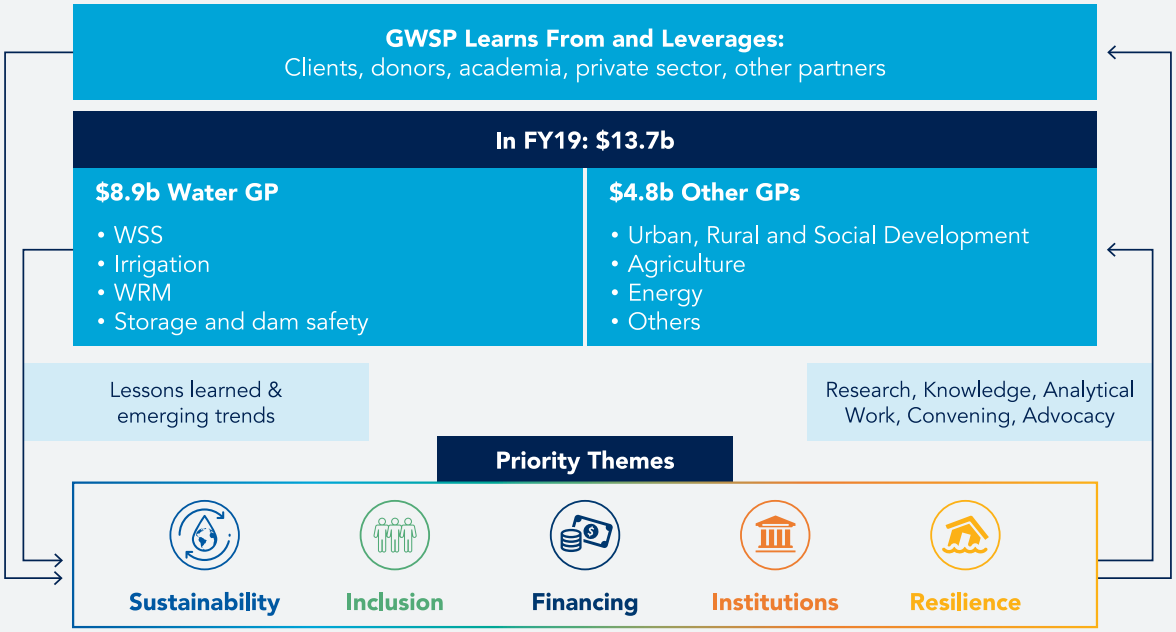
GWSP is an international partnership launched in 2017 to support countries around the world in meeting the targets related to water and sanitation in the Sustainable Development Goals (SDGs)—particularly those of Goal 6, to "ensure availability and sustainable management of water and sanitation for all."[3] Administered by the World Bank's Water Global Practice (Water GP), the Partnership supports activities under five priority themes, agreed alongside partners, that are critical for meeting the SDGs: Sustainability, Inclusion, Institutions, Financing, and Resilience. GWSP acts as the Water GP's "think tank," providing client countries and other development partners with global knowledge innovations and country-level technical support while leveraging World Bank Group resources and financial instruments. GWSP-funded knowledge and technical assistance influence the design and implementation of client policies and programs, as well as water sector investments and reforms carried out by governments with the support of the World Bank and other partners (see figure 1).

[1] UN Water. 2018. "Water Scarcity Factsheet" (https://www.unwater.org/app/uploads/2018/10/WaterFacts_water-scarcity_sep2018.pdf).

[2] Cities with more than 3 million people that faced severe shortages in 2018–19 include São Paulo, Brazil; Chennai, India; and Cape Town, South Africa.

[3] General Assembly resolution 70/1, Transforming our world: the 2030 Agenda for Sustainable Development, A/RES/70/1 (25 September 2015)". https://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E

FIGURE 1: Knowledge in Implementation – How GWSP Influences the World Bank Water Global Practice and Works with Partners



Aligning with the World Bank's Water Strategy

The World Bank's Water GP works with client country governments to help them design and deliver sustainable investments in water. In 2019 the Water GP published its first Strategic Action Plan for Water, recommitting to its role as an implementation arm of all water-related SDGs and global climate commitments. The strategy aligns the Water GP's investments across three interrelated pillars: Sustain Water Resources; Deliver Services (including water supply, sanitation, and irrigation services); and Build Resilience.

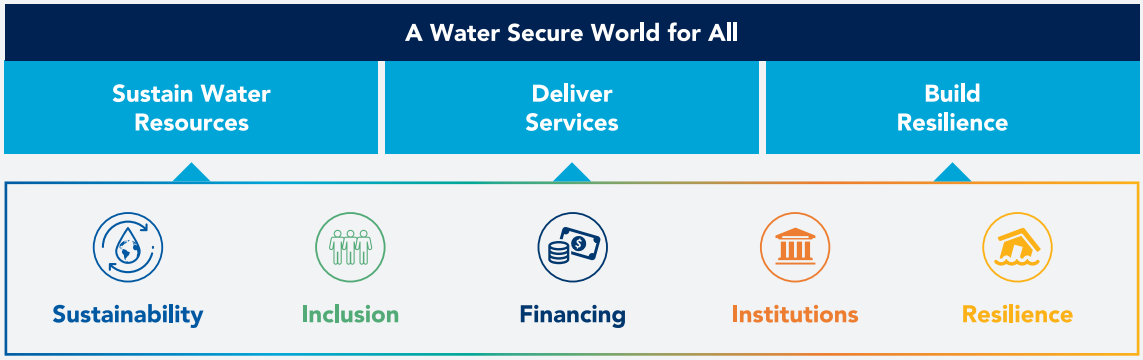
The Strategic Action Plan responds to the new global reality by advocating for a "circular economy" approach to development. A circular economy is one in which assets are used efficiently, renewables are leveraged, and where waste and pollution are "designed out" in ways that enable the reuse of resources and the regeneration of natural systems. This new way of thinking about water is changing the way the Water GP works with clients. A water strategy with a circular economy approach makes World Bank operational lending and GWSP-supported knowledge and analytical work much more holistic, addressing and strengthening the linkages between resources, services, and resilience in a more systematic way.

GWSP supports and complements the Water GP's Strategic Action Plan for Water by funding technical assistance, just-in-time support, and knowledge generation and dissemination in each of the three pillars and across GWSP's five priority themes (see figure 2). This approach increases the awareness, knowledge, and capacity of client government officials, partners, and World Bank colleagues in the design and implementation of institutional reforms and infrastructure investments in the water sector.

How GWSP Adds Value

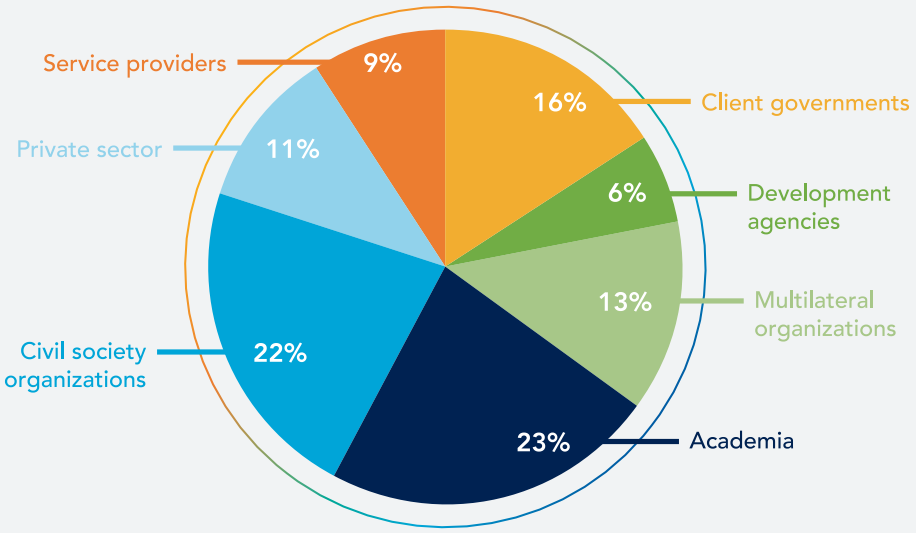
Through technical assistance and just-in-time support to World Bank operations, GWSP adds value in three ways to a significant portion of the Bank's lending portfolio. First, GWSP leverages its global platform to continually shape the debate on water, bringing the most relevant and timely evidence and solutions to the world stage. Second, the Partnership incorporates good water management practices across other

FIGURE 2: Strategic Alignment of the Water GP and GWSP



sectors to help clients achieve better results in priority areas such as health, disaster preparedness, and the environment. Third, GWSP complements the World Bank funding model by enhancing the scale, timing, and scope of country-based lending. Whether investing in new analytical work or building the evidence clients need to initiate reform, GWSP resources are continuously working to expand the impact of water lending programs toward achievement of the SDGs. Collaborating with partners is fundamental to this operating model. In fiscal year 2019 (FY19), GWSP-funded activities were implemented in collaboration with approximately 260 partners around the world. In its two years of operation, GWSP has worked with close to 360 partners around the world including academia, civil society organizations, development agencies, multilateral organizations, the private sector, recipient governments, service providers and World Bank Group (see figure 3).

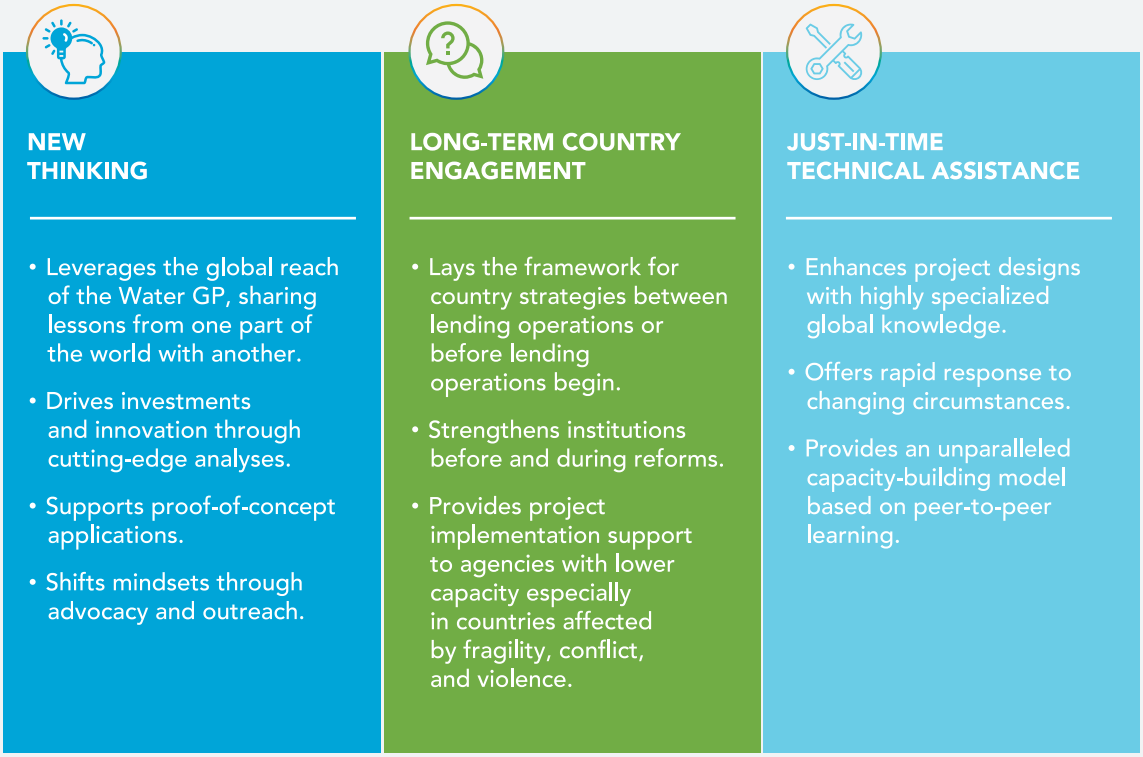
FIGURE 3: GWSP Collaborated with 356 Partners in FY18-19



GWSP's Entry Points

GWSP supports World Bank task teams and clients through three distinct entry points (see figure 4). First, GWSP supplements the Water GP's intellectual leadership, giving staff the time and space they need to collaborate with global experts, develop new concepts, and conduct frontier research. Second, the long-term country engagement model places staff in strategic geographic areas to continue client dialogue between or in advance of operations, and to provide long-term technical assistance. This entry point allows the GP to invest more resources in lower-capacity countries such as those affected by fragility, conflict, and violence (FCV), and leverages the project cycle as a tool for building capacity around planning, budgeting, or procurement. Finally, GWSP's just-in-time technical support modality, the Water Expertise Facility (WEF), provides rapid response to changing project conditions, or shifts a project's trajectory toward more sustainable results.

FIGURE 4: GWSP's Three Entry Points



Note: GP = Global Practice.

CHAPTER 2

DELIVERING ON THE FIVE PRIORITY THEMES

GWSP is a space for innovation. The Partnership gives clients the resources they need to properly assess and design holistic development interventions, and it gives partners and World Bank task teams the incentives they need to take smart risks that can lead to breakthroughs that improve services and enhance the sustainability of water. GWSP is the mechanism through which high-quality knowledge and analytics focus on the water sector's toughest challenges, and those findings are shared with the widest possible range of decision makers. In addition, World Bank water operations are made more inclusive, more resilient, and more financially and institutionally sustainable. This chapter highlights some of the results achieved this fiscal year and illustrates them with country-based examples. For the purposes of comparison, a five-year average has been calculated for each theme's portfolio results summary. However, it should be noted that results do not tend to be evenly distributed across the five-year period. In addition, it is important to note that approaches to engaging across the five thematic areas—sustainability, inclusion, institutions, financing, and resilience—are in the process of being established; many of the projects detailed in this chapter are still underway, and some of the final results have not yet emerged. While it is still too early to demonstrate the full extent of the impact of GWSP, these intermediate results suggest good progress to date.

SUSTAINABILITY

GWSP focuses on two critical aspects of ensuring long-term sustainability: the sustainable management of water resources so that they can continue to deliver benefits to future generations, and the building and maintenance of infrastructure assets. The examples that follow highlight GWSP's focus on sustainability, from urban water and sanitation in small island states, to irrigation in Mali, and to sustainable water providers serving refugee and host populations in Uganda.

By any global metric, water resources are not being used and managed sustainably. Already unsustainable water practices are being exacerbated by climate change. Unless urgent action is taken, water will become scarce in regions where it is currently abundant, such as Central Africa and East Asia, and scarcity will worsen in regions where water is already in short supply, such as the Middle East and the Sahel in Africa. Growth rates in these regions could decline by as much as 6 percent of

PORTFOLIO SHIFTS:

- 64% of knowledge and analytics activities support sustainability

PORTFOLIO INFLUENCE:

- 86% of new projects promote sustainable and efficient water use, higher than the FY22 target of 80%
- 100% of new rural WSS lending projects measure "functionality of water points," higher than the FY22 target of 80%

PORTFOLIO RESULTS:

- 4,000 megawatt (MW) hydropower generation capacity constructed/rehabilitated, higher than the average annual target of 1,500 MW
- 0.5 million hectares under sustainable land/water management practices, higher than the average annual target of 260,000 hectares

GDP by 2050 due to water-related impacts on agriculture, health, and incomes.[4] GWSP is helping clients better understand and document their current and future water security challenges through water security diagnostics, water quality diagnostics, and other analytical products. The Partnership works closely with clients and World Bank staff to galvanize multisectoral support for more sustainable water use. It does this by assembling stakeholders across sectors to identify water resource challenges and collectively formulate action to use their water resources more sustainably. GWSP is fostering a better understanding of new ways in which water can be sustainably managed and stored to achieve water security, including green and gray approaches to water management. By mainstreaming GWSP-generated knowledge into implementation through its water resources lending projects, the capacity of clients is being enhanced to monitor, model, and manage their own water resources, for more effective long-term management.

Expanding Services to Informal Peri-Urban Settlements in the Solomon Islands

Challenge: The population of the Solomon Islands is spread out over 300 islands. However, the country's capital Honiara is expanding and is likely to triple in population to 300,000 by 2050. Many of the new arrivals live in informal urban settlements.[5] While 90 percent of the urban population has access to basic water supply service, only 79 percent have access in the informal settlements, and the services there are vulnerable to interruptions and contamination, particularly during the rainy season. Both the availability and quality of water are likely to deteriorate with climate change.

Approach: The World Bank is helping the national utility, Solomon Water, prepare a strategy for the expansion of service delivery in informal settlements. GWSP funded a study, completed in FY19, to inform the utility of potential service delivery models for the expansion of water and sewerage services in these areas. The study examined the scale, characteristics, and development dynamics of the settlements and identified potential obstacles to the expansion of water and sewerage services. It reviewed international best practices in the expansion of water and sanitation services in urban informal settlements and proposed a menu of options for the utility to extend services to these areas, including specific recommendations about the appropriate level of service, the billing approach, and community mobilization methodology. These recommendations were adopted into the utility's expansion strategy, which balances the need to serve low-income areas with enhancing revenue to ensure future service sustainability.

[4] World Bank. 2016. "High and Dry: Climate Change, Water, and the Economy" (https://www.worldbank.org/en/topic/water/publication/high-and-dry-climate-change-water-and-the-economy).

[5] Solomon Water. 2017. "30-Year Strategic Plan." As quoted in World Bank, "Urban Water Supply and Sanitation Sector Project. Project Appraisal Document (P165872)," page 8 (http://documents.worldbank.org/curated/en/708481565847254748/pdf/Disclosable-Version-of-the-ISR-Urban-Water-Supply-and-Sanitation-Sector-Project-P165872-Sequence-No-01.pdf).

Additionality: The GWSP-funded strategy informed the World Bank's $15 million Urban Water Supply and Sanitation Sector Project, through which 40,000 more residents–many of whom live in informal areas–will receive access to water and sanitation services. But the work also impacts the region more broadly. The models developed in Honiara will serve as a reference for countries such as Papua New Guinea and Fiji that have not yet established how best to manage services to their growing populations of unserved urban dwellers. They will also contribute to establishing a proven service delivery model for peri-urban areas in the Pacific.

Investing for the Long Term Yields Resilience and Preparedness in Malawi

Challenge: The Lake Malawi-Shire River Hydrological system is Malawi's most important natural resource, accounting for 95 percent of the country's hydropower generation and providing irrigation for both small- and large-scale agriculture.[6] Fisheries are an important source of protein and supplemental rural income, and the system also provides opportunities for tourism and transport. It is also an important source of urban water supply, providing for 90 percent of the needs of the city of Blantyre.[7] The Shire is under tremendous pressure, however: Over the past 20 years extreme drought and flooding events caused loss of life and livelihoods, particularly in the lower Shire, and disrupted commerce and agriculture. Deforestation, soil erosion, and sedimentation are further threats to the sustainability of the ecosystem. To address these challenges, the government of Malawi requested assistance to establish a comprehensive watershed management program for the Shire River Basin.

Approach: Phase 1 of the $136 million Shire River Basin Management Program enabled the government of Malawi to tackle the river basin's problems holistically through improved river basin planning and management. Investments are planned for critical watersheds, improvement to the flood warning system, and upgrade of the Kamuzu Barrage. The first phase of the project, completed in FY18, established inter-sectoral development planning and coordination mechanisms while developing successful methods for

[6] World Bank. "Malawi: Shire River Basin Management Project (P117617). Project Information Document" (http://www.projects.worldbank.org/P117617/malawi-shire-river-basin-management-project?lang=en).
[7] Ibid.

protecting natural forests and wetlands to conserve biodiversity. GWSP and the Water Partnership Program (WPP) played a crucial foundational role by undertaking a strategic environmental assessment for the Shire Basin. This revealed high dependency of the entire economy on the river's ecosystem, and significant risks to society and the environment from low flow conditions. The Partnership also supported an assessment of Malawi's hydrological and meteorological (hydromet) hazard status, and a spatial analysis for watershed protection works.

In FY18 the World Bank approved a sister project, the $235 million Shire Valley Transformation Program, to increase agricultural productivity and the commercialization of smallholder farmers in the Shire Valley through irrigated agriculture and to improve the sustainable management and utilization of natural resources. This program builds on the knowledge base developed under the Shire River Basin Management Program and maximizes economic, social, and environmental benefits that can be sustainably built on the basin's water and natural resources. This program will benefit 95,000 people directly, and many more indirectly. GWSP and the WPP assisted in this program by designing a robust irrigated agribusiness model as one of its components.

Additionality: GWSP and WPP assistance focused heavily on improving capacity to manage water resources, and on participatory management activities. This directly influenced the Bank's investments in catchment and biodiversity rehabilitation, which took a livelihoods approach, involving residents and benefitting 446,000 people. Importantly, the World Bank program built the human and physical capacity needed for the government to be able to modify the operation of the Kamuzu Barrage to moderate the extreme flood peaks, including those experienced during Cyclone Idai in March 2019. With GWSP and WPP support, a total of 3,155 households in targeted flood-prone areas are now considered to be at a lower flood risk.

A unique contribution made by the Partnership was in mobilizing some of the world's foremost fish migration experts and engineers to identify optimal solutions for avoiding the spread of predator fish in the design of the main canal irrigation system, protecting fragile aquatic ecosystems in Lake Malawi.

Advancing the Urban Sanitation Agenda Through Citywide Inclusive Sanitation

Challenge: Globally, as of 2017, 15 percent of urban dwellers did not have access to basic sanitation and only 47 percent of had access to "safely managed sanitation," whereby their waste is managed across the full sanitation service chain, including containment, conveyance, treatment, and reuse/disposal.[8] At approximately $46 billion per year, urban sanitation accounts for 44 percent of the capital cost estimated to meet the SDG targets of providing basic water supply, sanitation, and hygiene (WASH) services globally. By 2050, the United Nations estimates that 68 percent of the global population will be urban, with the number of city dwellers increasing from 4.2 billion to 6.7 billion, and with much of this growth occurring in low-and lower-middle income countries.[9] This rapid growth creates new challenges for achieving, and maintaining, universal access to safely managed sanitation services in a sustainable manner.

Approach: Citywide Inclusive Sanitation (CWIS) aims to shift the paradigm of urban sanitation to focus on delivering sanitation as a service and providing access for all, especially the poor, by promoting a range of technical solutions across the sanitation service chain—

[8] UNICEF and WHO (United Nations Children's Fund and World Health Organization). 2019. *Progress on Household Drinking Water, Sanitation and Hygiene 2000–2017. Special Focus on Inequalities.*

[9] United Nations. *2018 Revision of World Urbanization Prospects.* As quoted in "68% of the World Population Projected to Live in Urban Areas by 2050," United Nations, May 2018 (https://www.un.org/development/desa/en/news/population/2018-revision-of-world-urbanization-prospects.html).

both on-site and sewered, centralized or decentralized solutions—while integrating the financial, institutional, regulatory, environmental, and social dimensions of urban sanitation service provision. CWIS approaches improve equitable sanitation access for those typically left behind and support environmental protection and innovative water resource planning through appropriate waste management and reuse.

Additionality: The World Bank and the Bill & Melinda Gates Foundation are two of the original cohort of development partners who initiated the Citywide Inclusive Sanitation Call to Action. In FY19 GWSP funds were significantly leveraged to advance the CWIS agenda through programmatic technical assistance and a large-scale knowledge management initiative. The initiative is designed to build awareness in government counterparts and World Bank teams regarding CWIS principles and approaches. These vital inputs are used, in parallel with created and curated materials, to assist governments, other development partners, and Bank teams in designing and implementing CWIS projects.

In FY19 GWSP supported the incorporation of CWIS principles and practices into the design and implementation of a $1.9 billion urban sanitation lending portfolio covering 35 countries, 19 of which are in Sub-Saharan Africa. In Ethiopia, a $500 million CWIS-aligned project that focuses on expanding access to urban sanitation services for 2.5 million people is also significantly strengthening the relevant institutions for sustained service delivery. In Bolivia, GWSP has been providing institutional support to different levels of government to help advance its urban sanitation agenda through CWIS strategic planning, including support to fecal sludge management (FSM), connecting the unconnected to existing sewer networks, and piloting the use of condominial or smart sewers, which incorporate innovative design for simpler construction and maintenance.

The Partnership also supported numerous advocacy efforts as well as the development and roll out of multiple knowledge products and resource material on key urban sanitation topics, including the CWIS Costing and Planning Tool; comprehensive design guidance for the preparation of FSM projects and components; a shared, communal, and public sanitation design and implementation guide; a global evaluation of container-based sanitation; and a guide on sanitation in cold regions.

Improving Sustainable Agriculture and Stability through Irrigation in Mali

Challenge: Agriculture is the backbone of Mali's economy, accounting for about 40 percent of the country's GDP and employing about 70 percent of its workforce. A disproportionate number of the poor rely on agriculture for subsistence. Irrigated crops play a critical role in national food security and in the diversification of food production and provide farmers with a stable source of revenue. However, only 30 percent of the estimated 2.2 million hectares of potentially irrigable land is under irrigation.[10] Moreover, much of the existing irrigation infrastructure is not well maintained and needs to be rehabilitated and better managed.

Approach: GWSP supported critical initial inputs into three irrigation project options to be financed by the International Development Association (IDA), the part of the World Bank that helps the world's poorest countries. The GWSP study, "Options for Improved Irrigation in Mali," was completed in FY19 and aimed at identifying ways to improve the performance of existing irrigation schemes. The study was based on a review of existing investment plans and feasibility studies and of previous investment projects; field visits to the irrigation perimeters and the institutions in charge of their development and management in the country; and detailed mapping of the project location to assess security risks.

Additionality: The GWSP-supported report has already had an impact, contributing to a renewed dialogue on water governance between the World Bank and the government of Mali. The options paper has introduced innovative concepts related to the improvement of irrigation water use and increased awareness among development partners of the critical water issues facing major irrigation areas in the country. For example, a pilot project to be financed by the Netherlands' Cooperation in Mali is based on the findings of the Options Paper.

[10] Food and Agriculture Organization of the United Nations. Adapting irrigation to climate change. Mali. Online: http://www.fao.org/in-action/aicca/country-activities/mali/background/en/

INCLUSION

Social inclusion is defined by the World Bank as "the process of improving the ability, opportunity, and dignity of people, disadvantaged on the basis of their identity, to take part in society."[11] Ensuring inclusive water investments requires making this vision a reality for people who have been disadvantaged in accessing water and sanitation services and benefiting from these services. It requires strong institutions that will hold state and service providers accountable.

Issues related to social inclusion vary across countries and regions; this is particularly true in the context of water and sanitation, where inclusion efforts can be affected by power relations, the political economy, and challenges of too little water, too much water, or too polluted water. Likewise, the disadvantaged are often discriminated against in the form of poor or limited sanitation services. A solid understanding of the social context—of who is excluded from water and sanitation services, and why—is a critical first step required to reach SDG 6 and deliver water services for all.

There is a need for solutions that can be adapted to individual contexts in the sector; "one size fits all" is rarely a good approach. However, utilities and water organizations are asking for global experiences and best practices so they can learn from each other.

While GWSP has been instrumental in helping clients design more inclusive policies and investments, implementation can be challenging, particularly in fragile contexts where inclusion may not be seen as a priority and planned actions and goals may go unattained even though inclusive processes are often central to addressing the underlying drivers of conflict.[12] Low capacity is also a challenge in some cases, and strong cultural norms or inertia can work against shifting towards more inclusive processes.

To address these difficulties, GWSP focuses on filling knowledge gaps at the global and local levels, documenting good practices and approaches, and providing cross-support to select investments.

In FY19 GWSP supported technical assistance and knowledge activities aimed at improving the inclusion features in the capacity of client countries, advancing applicable knowledge in this field to a wide range of stakeholders, and enhancing client services and Bank operations. The examples that follow illustrate how policies and investments can be made more inclusive by identifying and reaching the most vulnerable individuals, groups, or communities.

PORTFOLIO SHIFTS:

- 51% of knowledge and analytics support inclusion

PORTFOLIO INFLUENCE:

- 81% of FY19 World Bank projects (in the water sector) are gender tagged, meaning that specific actions to address identified gender gaps are tracked in the project's results framework), higher than the FY22 target of 55%
- 59% of FY19 World Bank projects (in the water sector) target poor, vulnerable, or underserved communities or areas, close to the FY22 target of 60%

PORTFOLIO RESULTS:

- 1 million female water users gained access to improved irrigation services, compared to 0.5 million in FY18

[11] World Bank. 2013. *Inclusion Matters: The Foundation for Shared Prosperity* (http://siteresources.worldbank.org/EXTSOCIALDEVELOPMENT/Resources/244362-1265299949041/6766328-1329943729735/8460924-1381272444276/InclusionMatters_AdvanceEdition.pdf).

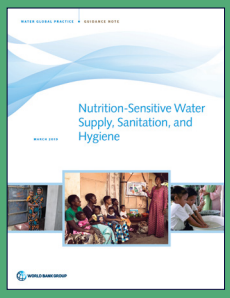
[12] United Nations; World Bank. *2018. Pathways for Peace : Inclusive Approaches to Preventing Violent Conflict.* https://openknowledge.worldbank.org/handle/10986/28337.

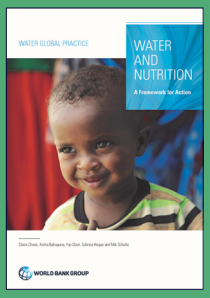
Addressing WASH and Nutrition in Lao PDR

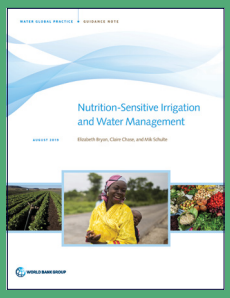
Challenge: In Lao PDR, levels of chronic malnutrition and stunting remain among the highest in the world. About 33 percent of children under five are estimated to be stunted, 21 percent are underweight, and 9 percent are wasted.[13] The poor, ethnic minority groups, and people in the upland areas of the country are disproportionately affected.

Improvements in WASH can have positive impacts on child nutritional status, with fewer episodes of diarrheal disease; reductions in helminth and protozoa infections; and a decrease in anemia. Better WASH can also lead to greater economic inclusion for marginalized communities, and in turn lead to improvements in nutrition. Time and cost savings associated with water close to home can translate into more household resources for nutrition inputs, and a reliable water supply is needed to grow food to feed families, secure livelihoods, and provide income for other nutrition inputs.

Approach: The $25 million Lao PDR Scaling up Water Supply, Sanitation, and Hygiene Project is an important pillar of the country's multisector convergence approach to address childhood malnutrition. It will provide access to improved WASH services to 192,000 people in rural areas by 2024. The project will be implemented in geographic areas where the incidence of child stunting is high and where other investments spanning health, nutrition, poverty reduction, and education will also take place. Innovative features of the program include a single community-driven and participatory approach to WASH services that incorporates child-focused hygiene behavior change.







Incorporating Nutrition-Sensitive Features into WASH, Irrigation, and Water Resource Management Interventions

In FY19, GWSP supported the development of three analytical tools to inform client dialogue on nutrition-sensitive interventions across WASH and water in the agriculture and water resources management subsectors: a Water and Nutrition Framework for Action; Guidance on Nutrition-Sensitive Water Supply, Sanitation, and Hygiene; and Guidance on Nutrition-Sensitive Irrigation and Water Management. Recommendations from these documents have been instrumental in the design of the Scaling up Water Supply, Sanitation, and Hygiene Project. These tools were developed and disseminated in collaboration with the World Bank's Agriculture and Health Global Practices, the International Food Policy and Research Institute, the United Nations System Standing Committee on Nutrition and Stockholm International Water Institute.

[13] World Bank. Scaling-up Water Supply, Sanitation and Hygiene Project. Lao People's Democratic Republic. Project Appraisal Document. February 2019. Online: http://documents.worldbank.org/curated/en/184911552874466320/pdf/LAO-PDR-PAD-02252019-636884568509975910.pdf. Definition of *wasted:* "There are 4 broad sub-forms of undernutrition: wasting, stunting, underweight, and deficiencies in vitamins and minerals. Low weight-for-height is known as wasting. It usually indicates recent and severe weight loss, because a person has not had enough food to eat and/or they have had an infectious disease, such as diarrhea, which has caused them to lose weight. A young child who is moderately or severely wasted has an increased risk of death, but treatment is possible." World Health Organization. Malnutrition. Online: https://www.who.int/features/qa/malnutrition/en/

Additionality: The guidance provided by GWSP on nutrition-sensitive water investments significantly influenced key components of project design, including communications contributing to social and behavioral changes, and mutually linked results monitoring and evaluation frameworks. It has also been instrumental in the design of $375 million in World Bank lending operations in the WASH sector in Cambodia and Ethiopia, and $535 million in the irrigation and water resources sector in Uganda and Tanzania; and has helped shape the narrative underlying the World Bank's Human Capital Project.

Increasing Gender Inclusivity in Ghana's Sanitation Sector

Challenge: While Ghana is on track to achieve the SDG target for water supply, the country is significantly off track on the sanitation target; household coverage at a basic level or above was less than 20 percent as of 2017. Sanitation is lacking in many schools and in 2016 it was estimated that nearly a third of schools in the country lacked acceptable toilets.[14] Lack of adequate, clean, and safe toilets has detrimental effects on the well-being of students and affects the safety of boys and girls. For girls, the inability to safely manage their menstruation needs is linked to higher absenteeism and dropout rates. When school sanitation infrastructure is inaccessible, it also poses major obstacles for students with disabilities, who end up being unable to attend school.

Approach: As part of GWSP's support to institutional reforms in the sanitation sector in Ghana, the Partnership produced a lessons-learned report on girls' educational engagement and examined the ways in which they are affected by WASH in schools, and menstrual hygiene management in particular. The report included specific recommendations for the Ministry of Education, and a workshop was held with local school stakeholders and the government of Ghana's School Health Education

[14] UNICEF and WHO (United Nations Children's Fund and World Health Organization). 2019. *Progress on Household Drinking Water, Sanitation and Hygiene 2000–2017. Special Focus on Inequalities.*

Program Unit on how to incorporate the lessons within their programs. Ten action plans arose from these workshops and are now being implemented.

Additionality: The GWSP-supported work influenced ongoing lending operations in Ghana, particularly the $150 million Greater Accra Metropolitan Area (GAMA) Sanitation and Water Project and the Ghana Output-Based Aid Sanitation Project. One of the key recommendations of the project is that World Bank water and sanitation projects include WASH in schools. Under the GAMA project, for instance, all WASH facilities include separate toilets for boys and girls, changing rooms for girls, and education on menstrual hygiene management in schools.

Engaging Women in the Water Workforce

The water sector is yet to fully recognize—or indeed to benefit from—women's contributions as water managers and providers. The gender gap in water-related employment needs to be closed if the world is to reach its commitments on water and sanitation for all, according to the GWSP-supported report, "Women in Water Utilities: Breaking Barriers," launched in FY19. The report revealed that less than one in five water workers are women: 32 percent of utilities sampled for the report have no female engineers, and 12 percent of utilities have no female managers.[15] Women in all regions face particular barriers to entering and thriving in a sector dominated by men. These include gender norms, a lack of role models, harassment, or lack of a women-friendly environment.

The sector is changing, however. The report shows that there is a slow increase in the share of female workers in water and sanitation utilities, and documents some of the many opportunities and approaches that service

[15] World Bank. 2019. "Women in Water Utilities: Breaking Barriers" (https://openknowledge.worldbank.org/handle/10986/32319).

providers are already tapping into to diversify their workforces and create a more inclusive workplace. It also provides a framework to guide utilities or agencies in improving gender equity.

Women face obstacles and bottlenecks at all career stages in water utilities; a number of recently launched programs supported by GWSP address these challenges. For example, GWSP's advocacy has ensured that Tanzania's Sustainable Rural Water Supply and Sanitation Program will allocate a larger percentage of subsidized student loans to female students. To ensure more inclusive recruitment, GWSP has supported the Dushanbe Water Supply and Wastewater Project to guide Tajikistan's Dushanbe Vodokanal Water and Sanitation Utility to launch outreach and recruitment programs at universities and technical schools.

To assist in the retention of qualified women in Pakistan, GWSP influence in the Karachi Water Sewerage and Services Improvement Project will support human resources training on gender equality and sexual harassment prevention at the Karachi Water and Sewerage Board. Finally, in Lebanon, inputs supported by GWSP ensured that the additional financing for the Greater Beirut Water Supply project supports trainings for female employees from Lebanon's Beirut and Mount Lebanon Water Establishment utility. Finally, to accelerate and maximize the translation of insights of this report into concrete action, GWSP is developing a client-facing platform on social inclusion in water utilities with an initial focus on gender equality in the workplace.

Taking Stock: WASH Poverty Diagnostics

Although the WASH Poverty Diagnostics (WPDs) were completed by 2018, the impact of the initiative continues and is expected to last well into the future, influencing development outcomes over many years.[16]

The online knowledge repository established by GWSP means the work is available and can be actively used well beyond its initial release.

Table 1 provides recent updates on select Poverty Diagnostics and highlights major achievements, including increased knowledge for clients and other partners, as well as the World Bank lending that was influenced by the analysis. This illustrates how highly regarded analytical work can significantly influence policy and implementation, continuing to advance the water agenda years after the analysis is completed.[17]

The WPD Initiative yielded additional benefits in FY19. The data and insights generated have supported the World Bank's Human Capital Project. The collaborative model spanning several World Bank Global Practices piloted by the initiative has been replicated in other parts of the World Bank Group. Moving forward, the WPD initiative is informing a new series of diagnostics, which will be rolled out in FY20, including new diagnostics on water security.

WASH
Poverty Diagnostic | SERIES

The GWSP-supported WASH Poverty Diagnostics continue to advance the water agenda years after analyses are completed by influencing policy and implementation.

[16] All WASH Poverty Diagnostic reports are available online (https://www.worldbank.org/en/topic/water/publication/wash-poverty-diagnostic).

[17] This summary does not capture all other resources leveraged by other development partners or government institutions. It also does not reflect the organizations and institutions, including government, donors, nongovernmental organizations (NGOs), academic and private sector partners, that have contributed to, utilized, and benefited from the analysis within the WPDs.

TABLE 1: Influence and Impact of Findings from WASH Poverty Diagnostics, Selected Countries and Economies

COUNTRY/ECONOMY	FINDINGS	INFLUENCE AND IMPACT
Bangladesh	41% of water categorized as "improved" is contaminated with *E. coli* at the source.	WPD analysis contributed to IDA lending through the Dhaka Sanitation Improvement Program of $165 million. A proposed $300 million lending project, Rural Water Supply and Sanitation for Human Capital Development, was also significantly influenced by WPD. The WPD also led to a related project, Investigating Nutrition Sensitive WASH in Bangladesh.
Haiti	Children in the bottom 20% of household income groups have 2.4 times the risk of contracting an enteric disease than children in the top 20%.	The WPD has contributed to IDA lending under the Sustainable Rural and Small Towns Water and Sanitation Project for rural communes by informing the planning and better targeting investments in rural areas. The WPD also led to the establishment of an advisory project prioritizing the strengthening of delegated management of distribution systems in small towns, in response to the weakness of government institutions highlighted by the study.
Ecuador	42% of people in the bottom 40% of the population lack access to improved sanitation, compared to only 17% of the top 60%.	The WPD initiative trained the Bureau of Statistics to collect water quality data in its national surveys, which it is continuing to do with its own resources. The WPD also influenced one of the components of a new World Bank loan, approved in March 2019, from the Social Protection GP that supports interventions in child nutrition.
Ethiopia	Wealthier households in urban areas are 4 times more likely to have piped water on premises than poorer households.	As a result of the WPD, a new operation financed with $300 million from IDA and $473 million from other partners has been designed to address some of the fundamental weaknesses in WASH interventions in small and medium cities and rural areas. Additional funding is expected from other development partners. The WPD has thus directly affected the design of what will potentially amount to $1 billion of investments in the sector over the coming six years.
Mozambique	Sanitation coverage has increased only 1 percent per year, on average, over the last 13 years, and is not keeping up with population growth.	The WPD contributed to the prioritization of sanitation and led to the $115 million urban sanitation project by the Bank. The WPD informed the design of the project, including a strategy to tackle malnutrition from a multisectoral perspective, and targeted interventions in the provinces with the highest risk for disease and for the bottom 40 percent of the population.
Nigeria	Access to piped water in urban areas declined from 32% in 1990 to 7% in 2015.	As a result of the WPD, the President declared a state of emergency in the water sector and made a request to the World Bank for $700 million investment in water and sanitation. The first phase, a $350 million operation, is under preparation with a focus on rural areas and small towns. The WPD also contributed to the establishment of the Clean Nigeria Campaign (to declare Nigeria Open Defecation Free). It follows the approach taken by India's Swachh Bharat movement, influenced by a recent visit by Nigerian officials to India.
Pakistan	Over 30% of drinking water was found to be contaminated with *E. coli* bacteria at source and over 50% to be contaminated at point of use.	The WPD's findings underpinned the design of a World Bank Rural Punjab Integrated Water and Sanitation Project, which aims to provide potable water and safe sanitation to thousands of villages of Punjab province. Evidence presented in the WPD showing linkages between sanitation, water quality, and stunting has also influenced the Multi Sectoral Action for Nutrition Program to reduce stunting through sanitation improvements, and the WASH component of the enhanced response to stunting in the province of Sindh.
Republic of Yemen	63% of top 20 % of household income groups has access to piped water, compared to 35% of the poorest.	The WPD helped to make the case for two rounds of IDA financing for water and sanitation under the Emergency Health and Nutrition Project in the Republic of Yemen—an initial $100 million for FY18, plus an additional $37 million in FY19. The WPD catalyzed other analytical work on private water tankers, the experience of the water utility of the City of Ibb as a water utility under conflict, and citywide inclusive sanitation in selected cities.
Tajikistan	One in four households in Tajikistan does not have access to sufficient quantities of water when needed.	The WPD provided analytical underpinnings for targeting and design decisions under the World Bank's first Rural Water and Sanitation Project in Tajikistan. The project, which was approved in FY19, targets the geographical areas with the poorest service conditions and highest poverty density, as identified in the poverty/WASH maps developed for the WPD.
Tanzania	Within the first year of construction, 40% of water points were reportedly not working.	WPD's findings contributed to the preparation of two lending operations by the World Bank, both with a focus on sustainability: the $350 million Tanzania Rural Water Supply and Sanitation Program, and the $200 million Investing in the Early Years Project.
West Bank and Gaza	Despite near universal access to piped water, access to uncontaminated improved sources of water averages only 10% in Gaza.	As a result of WPD, the Palestinian Water Authority requested the Bank's support in the design of a $2.5 million National Service Provider Improvement Program to improve the operational and financial performance of service providers.

FINANCING

Meeting the SDG targets related to water requires a substantial increase in financing. Two significant shifts are needed to achieve results. First, the financial viability of the water sector must be improved to ensure that services are delivered efficiently, public resources are appropriately utilized, and that affordable services can be provided for the poor. Second, leveraging commercial and nonstate sources of financing must be scaled up so that the sector can better target the available public funding. The examples highlighted below demonstrate how in FY19 GWSP was at the forefront of helping both water utilities and water resources management organizations tap into commercial finance. From supporting utilities to move up the financial sustainability ladder to developing bankable projects for fecal sludge management and climate change adaptation, GWSP's support is critical for changing the status quo in development finance.

On the surface, the challenge related to financing the water targets of the SDGs is simply to find the public and private financial resources to close the infrastructure gap. In reality, the challenge is not so much about money, but rather the sector's inability to attract it. Regardless of the type of water-related infrastructure, the financing challenge stems from a lack of technically and financially viable service providers and a clear, transparent, and robust policy, institutional, and regulatory environment that oversees the sector. Evidence shows that there are significant private resources that could be invested in water projects; the challenge is that there is neither a credible pipeline of viable investments nor creditworthy borrowers in many emerging markets.

To address this challenge, GWSP has adopted a three-pronged approach to: (1) undertake more robust analytical work to highlight the challenges and potential solutions; (2) create knowledge products to help governments to address these foundational issues; and (3) identify specific projects using GWSP analytical work and technical assistance to leverage and blend private finance through World Bank lending operations. Although this approach and the efforts documented in this chapter are significant and an important first step, it is clear that the financing challenge is beyond one institution or one set of actors to meet. Rather, a global effort to focus on these foundational issues is perhaps the only way that the infrastructure backlog to meet the SDG 6 goal will be addressed. It is equally clear that this will require a long-term effort.

PORTFOLIO SHIFTS:

- 32% of knowledge and analytics support finance

PORTFOLIO INFLUENCE:

- 74% projects support reforms/actions for improving financial viability, compared to the FY22 target of 85%
- 11% projects have explicit focus on leveraging private finance, compared to the FY22 target of 14%

PORTFOLIO RESULTS:

- 28 utilities have an improved working ratio, compared to the average annual target of 18

Helping Improve Water Services in Luanda through Commercial Finance

Challenge: The Angolan economy, transitioning from a dependence on oil wealth, is highly vulnerable to external shocks. With economic growth has come rapid urbanization, and the challenges it brings in service delivery, particularly in the water sector. Currently, just over a third of Luanda's 7 million people use network water through household connections. The balance receive water from public standpipes, from unregulated and costly private tanker truck services, from illegal connections, or from untreated river sources. Although Angola has abundant water, its infrastructure needs strengthening to achieve reliability, capacity, and resilience. It is estimated that the country's water sector investment needs amount to approximately $22 billion over the 2017 to 2022 period.[18]

Approach: The Partnership supported the use of GWSP commercial finance principles, public-private partnership (PPP) analytics, utility turnaround, and support for policies, institutions, and regulations to explore how best to address the challenges facing Angola's largest urban center. The effort entailed looking beyond infrastructure and bringing in international best practices on institutions, sustainability, financial viability, and service delivery. This entails reviewing existing plans, outreach to key stakeholders, and adjustments to ensure that the planned project reached the maximum number of beneficiaries while also achieving the broader development goals.

Additionality: GWSP provided inputs, along with other significant resources from the Public-Private Infrastructure Advisory Facility (PPIAF), to the Luanda Bita Water Supply Project, which was approved by the World Bank in July 2019. This project is improving access to water services in selected areas of the capital city of Luanda by mobilizing commercial financing for the government. The project is the World Bank's first partial credit guarantee in the water sector. Financing of a $500 million guarantee will help the government access $910 million in private commercial loans to meet the project costs. The first phase of the project includes investments in a water treatment plant, pipelines, and storage and distribution systems in the districts of Bita, Cabolombo, Mundial, and Ramiros in south Luanda. The Bita Project will initially bring new or improved piped water service to these fast-growing unserved urban and peri-urban belts, with 900,000 initial beneficiaries of new or restored 24/7 water service.

GWSP continues to support the project, which will increase the utility's capacity to serve up to 2 million people in the coming years as the density of connections increases. It is also expected to substantially improve living conditions by providing reliable potable water service to users, displacing and reducing unsafe and expensive tanker truck services, and thereby reducing water supply coping costs and enhancing public health. The project will also help scale up enterprise reform in the water sector by supporting performance improvements at EPAL, Angola's largest water utility, which is state owned.

Making Performance-Based Contracts More Accessible

Challenge: A World Bank study estimates that approximately 32 billion cubic meters of treated water each year are lost in pipes and meters, and that half of these losses occur in developing countries. The same study estimates that if the losses in developing countries could be halved, it would be enough to supply water to around 90 million people.[19] A key element of many water and sanitation infrastructure projects is to improve the service provider's efficiency in improving water loss reduction, reducing the amount of water that has been treated but lost in the system through leaks, nonperforming meters, and other issues. Reducing water loss lowers overall costs, enhances revenues and can reduce the need for new infrastructure. Traditional works contracts for water loss reduction have not proved effective because contractors are paid by unit rate for work done. GWSP has developed a new approach to

[18] World Bank. "Luanda Bita Water Supply Project (P163610). Project Appraisal Document" (http://documents.worldbank.org/curated/en/684321563588092995/pdf/Angola-Luanda-Bita-Water-Supply-Guarantee-Project.pdf).

[19] World Bank Group. Using Performance-Based Contracts to Reduce Non-Revenue Water. July 2016. Online: https://library.pppknowledgelab.org/PPIAF/documents/3531

contracting that creates better incentives. This is the first hybrid performance-based contract of its kind, tailored to reflect the uncertainties and poor state of underground assets, such as piped networks, in many countries.

Approach: GWSP supported the development of a standard procurement document and guidelines for performance-based contracts for water loss reduction. This standard documentation will enable clients and task teams to implement these contracts more efficiently, with fewer transaction costs. These tools are designed to be used along with tools that the Partnership and PPIAF developed on performance-based contracting for non-revenue water. Together, they equip clients with the tools to prepare and manage water loss reduction contracts.

Additionality: The GWSP-supported procurement document and tools have been used to develop water loss reduction contracts for Dar es Salaam under the World Bank's Second Tanzania Water Sector Support Project, and for Addis Ababa under the World Bank's Second Ethiopia Urban Water Supply and Sanitation Project. The contracts are intended to reduce water losses and improve efficiencies significantly, reducing the need to add additional sources and achieving greater operating efficiency. Clients in other countries, including Lebanon, Pakistan, and Vietnam, are also examining how they can apply the approach.

Enabling Public-Private Partnerships for Fecal Sludge Management in Sri Lanka

Challenge: In the past decade, Sri Lanka's population has grown by almost 1 million people, the economy has nearly doubled in size, and the inflow of tourists has quadrupled. A growing urban population presents significant challenges in achieving the SDG for safe sanitation: Only one third of the households in Greater Colombo and 12.6 percent of households in the entire

country are connected to piped sewerage.[20] Most of the remaining households use onsite sanitation systems such as septic tanks, but in many cases the septic tanks are not designed correctly, and untreated or undertreated overflow is discharged into the nearest canal. Systems for fecal sludge management (FSM) are needed to ensure onsite systems are emptied or desludged at regular intervals and the sludge is safely transported to properly designed treatment facilities. The National Water Supply and Drainage Board (NWSDB) is the institution in charge of sanitation in municipalities around Colombo, in other major cities, and in rural areas. Its traditional model was not proving effective in ensuring safe sanitation coverage for all households in urban areas. Expanding the conventional sewer network to all areas is costly, ranging from $3,000 to $10,000 per household, and the cost of connecting to networks is not affordable for poorer households.

Approach: GWSP's predecessor, the Water and Sanitation Program (WSP), supported the design of the Access to Sanitation Project, which was aimed at increasing the number of sewer connections and improving on-site sanitation services for low-income households, which were often located in low-lying areas prone to flooding. It introduced new approaches such as simplified sewers, Decentralized Wastewater Treatments Systems (DEWATS), and a hybrid PPP model for service delivery. The innovative PPP model consists of offering households on-site sanitation facilities improvement and annual desludging services for a five-year period. Competitively selected private operators install or improve household-level on-site sanitation systems and provide annual desludging and transportation of fecal sludge to designated treatment facilities operated by NWSDB. Households bear part of the cost, and the government pays the balance to the contractor as a subsidy.

Additionality: GWSP support to the Access to Sanitation Project was completed with financing from the Global Program for Results Based Approaches (GPRBA). The project has demonstrated the concept of a universal sanitation service that enables households to become legitimate customers of the utility, irrespective of whether services are provided by piped sewers or properly managed and serviced on-site systems. By the time the project was completed in FY19, more than 3,500 households had signed an agreement with the PPP operator and the NWSDB for annual desludging, and the project had also resulted in 5,000 households connecting to a sewer, a 50 percent increase in the number of connections in the NWSDB-managed areas of Greater Colombo. Building on this success, the government of Sri Lanka requested the Bank support a new project on wastewater management. This $80 million project is under design, incorporating key lessons from the Access to Sanitation Project.

Preparing Bankable Projects for Climate Change Adaptation in Transboundary Basins

Challenge: Globally, there are more than 280 transboundary river basins, which account for around 60 percent of the global freshwater flow and are shared by more than 150 countries. In addition, around 600 transboundary aquifers, providing water for two billion people, have been identified.[21] To deal with the complex and interlinked challenges posed by such shared resources, countries will need to improve their management of water resources and associated services. Transboundary cooperation is an effective way to manage shared resources to promote resilience to climate change and sustainable development. Demand for assistance to address these issues accounts for a rapidly growing proportion of the Water GP portfolio.

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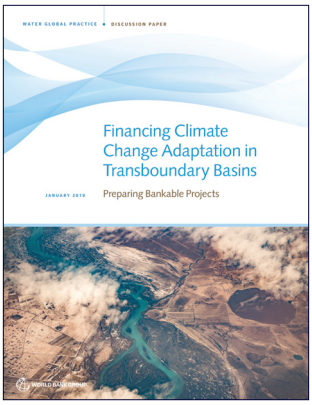
[20] UNICEF and WHO (United Nations Children's Fund and World Health Organization). 2019. *Progress on Household Drinking Water, Sanitation and Hygiene 2000–2017. Special Focus on Inequalities.*

[21] World Bank. 2019. "Financing Climate Change Adaptation in Transboundary Basins: Preparing Bankable Projects" (http://documents.worldbank.org/curated/en/172091548959875335/pdf/134236-WP-PUBLIC.pdf).



Approach: GWSP provided analytical support for the report "Financing Climate Change Adaptation in Transboundary Basins: Preparing Bankable Projects," which was finalized and published in collaboration with multiple partners and launched at the United Nations Climate Change Conference's Conference of the Parties in Katowice in December 2018. The report highlights the challenges and opportunities countries face in accessing financial resources for climate adaptation in transboundary river basins and explores the various financing mechanisms that are available. It serves as a guide to the climate financing landscape for adaptation financing, helping institutions find financial resources for cross-boundary collaboration in specific contexts, and for specific programs or projects, and enabling them to prepare bankable projects in the transboundary context. The report was disseminated widely through workshops, meetings, blogs, and social media. Dissemination targeted representatives of river basin organizations and the governments of riparian countries, as well as development practitioners.

Additionality: The report led to the development of pilot training sessions with the Niger Basin riparian countries, together with the Niger Basin Authority. This in turn prompted the development of the Niger Strategic Climate Change Adaptation Plan, elements of which have been picked up by various development organizations for preparation of investment financing, including the African Development Bank and the World Bank. The collaboration with a group of partners in the dissemination of this report has facilitated broad reach in knowledge sharing. For example, in November 2018, two training workshops were organized for national government officials, river basin organizations, and others involved in water management in the Lake Chad Basin in Africa and the Drin River Basin in southern and southeastern Europe. Water decision makers learned about the different ways to access financial resources for climate change adaptation, facilitating the design and implementation of future national and basin-level interventions. The distribution of the report through the International Network of Basin Organizations facilitates knowledge dissemination to all basin organizations across the world.

INSTITUTIONS

Expanding access to and improving the quality of services can be achieved and sustained only if country institutions are provided the right incentives to deliver. These incentives work when the sector framework properly aligns institutions, funding, policy, and regulation toward the same objectives, and the organizations tasked with service delivery have the requisite capacity. In FY19 GWSP provided support through technical assistance and analytics aimed at improving institutions, building the capacity of client countries, and advancing knowledge with clients and partners.

A number of challenges still face countries attempting to strengthen their institutions to provide more reliable water services. First, weak institutional frameworks impede the planning and implementation of service delivery. Second, there is a lack of clarity about roles and responsibilities at the national and subnational levels. Third, there are inadequate incentives for the institutions responsible for service delivery, in particular concerning financing policies. Finally, poor service provider performance results from inadequate corporate governance, and issues of efficiency and capacity.

GWSP's Policies, Institutions, and Regulation (PIR) Global Diagnostic Tool contributes to improving the overall sector performance, and the Utilities of the Future Global Diagnostic Tool contributes to improving the performance of water utilities.

PORTFOLIO SHIFTS:

- 66% of new knowledge and analytics support institutions

PORTFOLIO INFLUENCE:

- 100% of projects support reforms/actions that strengthen institutional capacity, higher than the FY22 target of 90%

PORTFOLIO RESULTS:

- 3,050 water user associations created or strengthened, compared to the average annual target of 4,000
- 21 institutions have water resources management monitoring systems, compared to the average annual target of 24

Strengthening Rural WSS Service Delivery and Regulatory Framework in Senegal

Challenge: Senegal faces many institutional and infrastructure challenges. From 2012 to 2015, WSP assisted the government of Senegal in strengthening the enabling environment for scaling up rural sanitation; supporting the reform of rural water sector; and encouraging domestic private sector participation in the sector. In 2016 a further program of technical assistance—Enhancing Service Delivery Models and Regulatory Frameworks in Water and Sanitation Services—was launched, with GWSP support, to assist the government of Senegal in consolidating sector reforms and strengthening service delivery and the regulatory framework. It is aligned with the new development vision for Senegal as set out in the government's Plan for an Emerging Senegal; one of the focus areas of this Plan is meeting basic social needs, which will require improving access to water and sanitation services. Small towns are a critical, but often overlooked, area with particular needs that need to be addressed in order to meet these goals.

Approach: To strengthen service delivery, GWSP assisted in the consolidation of rural water supply sector reform, supporting the Rural Boreholes Agency (*Office des Forages Ruraux* [OFOR]). OFOR oversees the management of assets, development of rural water services, delegation of the operational management of rural water systems to private operators, and

monitoring of their performance. GWSP supported OFOR in the design and implementation of new roles for borehole users associations as advocacy groups, and in the exploration of commercial finance approaches as part of the design of a framework for expanding connections in rural areas. As of today, four regional private sector contracts are in place that delegate management of rural utilities to the private sector, and four more are planned. GWSP support was critical to the operationalization of the National Rural Sanitation Strategy, strengthening OFOR's capacity to deliver on its mandate in Senegal's rural sanitation sector.

GWSP also helped the government of Senegal develop the National Sanitation Strategy for Small Towns, which was finalized in FY19. The strategy will help the government manage sanitation service delivery in 170 towns across the country; it includes a framework and strategy for delegated management for small towns, including fecal sludge treatment plants. GWSP is also supporting the Senegalese Directorate of Sanitation in the implementation of its action plan to accelerate access in the rural sanitation sector by testing innovative solutions in the areas of behavior change and demand promotion. This includes the rollout of a sanitation marketing strategy in rural areas and the design of a financial model to evaluate the feasibility of the construction of 12,750 latrines in a pilot zone by the private sector using a matching grant.

Additionality: GWSP-funded technical assistance informed $230 million in World Bank lending operations in the country, focused on rural and urban WSS and benefiting 820,000 people in urban areas by 2021 and five million people in rural areas and small towns by 2023.

Informing Sector Reforms in Argentina

Challenge: South America has 30 percent of the world's freshwater resources. But water availability at the regional level does not ensure water security at the local level: Argentina, for example, has among the highest levels of coverage at the national level, but provinces report access to formal water networks as low as 60 percent.[22] In general, the water and sanitation deficit in South America mainly affects rural areas, dispersed communities, informal urban settlements, and indigenous populations, which are generally the poorest segments of the population.

Approach: To assist the World Bank and the government of Argentina in understanding and addressing these issues, GWSP completed the Argentina Water and Sanitation Public Expenditure Review (WaPER), as well as the Argentina Water and Sanitation Governance Policy Note. These activities are a continuation of the Institutional and Regulatory Initiative and represents the first application of this initiative in a federal government system. The Argentina WaPER looks at how policy priorities are effectively implemented in practice, and formulates recommendations on how to improve the effectiveness and efficiency of public spending. The recommendations are having a significant impact at the country level. This unique use of Public Expenditure Review analysis follows the money to show whether policy objectives are linked to subnational fiscal transfers to support their implementation. The results shed light on gaps in the proper alignment of policies, institutions, and regulation in Argentina, and opportunities to improve sector performance through better alignment.

Additionality: The two GWSP-funded analytical pieces have informed the World Bank's $125 million Plan Belgrano Water Supply and Sanitation Services Development Additional Financing Project by providing analytical work and a Water and Sanitation Policy Note. These are major contributions to the future strategy for universal access in Argentina. The WaPER also feeds into the Water Security Assessment for Argentina knowledge product currently under development. This assessment centers on the water sector architecture and looks at the theme of governance, which closely ties in with the analysis conducted under the WaPER and discussed in the GWSP Governance Policy Note.

Integrating Reform and Finance for the Urban Water Supply and Sanitation Sector

Challenge: Despite some significant progress toward reaching universal access, a number of national and subnational service providers are still grappling with providing safe and affordable water supply and sanitation services to citizens. Unfortunately, with the added stress of urbanization and water variability, even countries with relatively high rates of access to water and sanitation services are finding it difficult to keep up with the needs of an ever-growing customer base.

Public utilities deliver water, and often sanitation, services in most large cities. Utilities in low- and middle-income countries, like other public entities, are often poor performers, as a result of their low levels of efficiency and poor financial health. Although these service providers have a mandate to deliver services in support of national water supply and sanitation targets, many often lack the expertise, resources, leadership, and incentives they need to reach their targets.

Despite these challenges, public water utilities often remain the best mechanism available to reach large areas of unserved populations with water and sanitation services. This is because many utilities are well-established entities with legal mandates and, when well-managed and operating in a transparent legal and regulatory framework, have the potential to attract commercial finance. Utilities can realize their full potential as professionalized organizations that meet the demands of their customers, as has happened in places as diverse as Brazil, Cambodia, and Uganda.

[22] World Bank. 2018. "Incentives for Improving Water Supply and Sanitation Service Delivery: A South American Perspective." Water Global Practice Knowledge Brief (http://documents.worldbank.org/curated/en/537641526369345145/pdf/126196-14-5-2018-12-2-53-WText.pdf).

Approach: In 2019 GWSP published "Reform and Finance for the Urban Water Supply and Sanitation Sector," a concise roadmap for practitioners working on water reform in urban settings. It brings together three of GWSP's unique global initiatives: Policy, Institutional, and Regulatory (PIR) Incentives, looking at the broader sector enabling environment; Water Utility Turnaround Framework (UTF), looking at utility-level reforms; and Maximizing Finance for Development (MFD) for the water sector, looking at shifting the financing paradigm to reach the SDGs. By integrating these three lines of work—sector reform, utility reform, and sector finance—the synopsis promotes a holistic approach to reform, encouraging clients to consider all factors in planning for reform, including those related to the broader enabling environment and those at the service provider level. GWSP also identified the need for a deeper dive on the issues of efficiency, pricing, and sustainability, which was addressed in the newly released global report on subsidies, "Doing More with Less: Smarter Subsidies for Water Supply and Sanitation." This will be complemented by an anticipated global report in FY20 looking at tariffs.

Critical for all three frameworks is the use of public funding and private finance to promote the advancement and progress of the urban water sector. Maximizing the use of public resources to crowd in private finance is a Bank-wide priority for meeting the SDGs. GWSP has supported clients to identify how they can better leverage private finance, including the use of PPPs, to expand access to services.

Additionality: GWSP has articulated a holistic approach, which is being implemented across a spectrum of partners. For example, the $40 million (Phase 1) Shimla Development Policy Loan in India is an example of how sector and utility level reforms are planned through medium-term milestone targets, which act as the basis for project disbursements. In Peru, the principles from all three frameworks are being applied at the national level to design national water institutional reforms, as well as in a pilot utility program in the city of Arequipa. Finally, requests for GWSP support for the Utility Turnaround efforts are at various stages of discussion or implementation in Angola, Belarus, Brazil, Burkina Faso, India, Kenya, Liberia, Paraguay, Tajikistan, Uzbekistan, and Vietnam.

RESILIENCE

Countries need to be more resilient than ever: resilient to changes in the water cycle caused by climate change, to water-related disasters, and to political and social factors. If water-related institutions are resilient, they are better able to adapt to shocks and stresses and continue delivering essential services to the population, even under duress. Building climate resilience requires developing tools and new approaches to water management in order to cope with variation beyond the historical hydrological record and save lives and livelihoods. In FY19 GWSP provided support to technical assistance and knowledge activities aimed at building capacity, advancing cutting edge knowledge, and enhancing the link with infrastructure investments.

Three ongoing challenges face governments in providing water services. First, water institutions, infrastructure, and allocations have historically been built around a stable climate. Yet climate change is fundamentally altering and intensifying the hydrological cycle, creating more floods and droughts, and increasing water scarcity and compromising environmental systems. The management of water resources must explicitly take this uncertainty into account under a new decision-making paradigm that puts a premium on robust but flexible and modular approaches, builds in redundancies, and prioritizes information to constantly monitor and respond to the changes. Second, watersheds, including wetlands, upland forests, and other crucial ecosystems, are under threat, compromising water security, increasing pollution, and raising the cost of water. Finally, fragility, conflict, and violence (FCV) presents a growing development challenge. Water and sanitation, much like shelter and food, are indispensable both during and in the aftermath of crises. Countries affected by FCV, and the donors seeking to assist them, struggle in providing these essential services due to a combination of lack of security, government capacity, and financial resources.

GWSP supports comprehensive analysis, in collaboration with other relevant Global Practices across the World Bank Group, to help clients improve their flood and drought policies, identify key flood and drought policy issues, and address these in a systematic manner. With GWSP support, efforts to actively promote the use of green infrastructure in Bank-financed projects are being expanded. Finally, GWSP is playing a major role in the development of the World Bank Group's FCV strategy, in the form of sections specifically related to water.

PORTFOLIO SHIFTS:

- 47% of knowledge and analytics support resilience

PORTFOLIO INFLUENCE:

- 82% of new lending projects are incorporating resilience in their design, higher than the FY22 target of 80%
- 52% of new lending commitments have climate change co-benefits, higher than the FY22 target of 50%

PORTFOLIO RESULTS:

- 5 million people live in areas newly covered by water risk mitigation measures, higher than the average annual target of 3.2 million
- 20 basins have new management plans, compared to the average annual target of 28

Achieving Better Water Resource Management through Remote Sensing Technology

Challenge: Many countries lack access to data to be able to monitor and understand the dynamics of their water resources challenges, including those relating to water quality and quantity. In light of climate change, this information is needed in larger quantities over broader areas and longer time periods than ever before. Ground-based (in situ) observation networks are fundamental, but in some cases provide infrequent or sparse information over small areas and at a high cost. Particularly in developing countries, such hydrometeorological networks have deteriorated over time, at present providing only limited information to those managing complex problems.

Developing countries need innovative ways to get more information in an accurate, timely, and usable format that builds on their existing infrastructure for monitoring water resources. Remote sensing data can be combined with in situ and meteorological observations and analyzed using automated analytical cloud-based services. Remote sensing applications are powerful, low-cost, and easily accessible techniques that, when calibrated with ground data, can offer greatly improved water quantity and quality monitoring and information for management.

Approach: Advances in technology are helping to close some of these information gaps. The wealth of remote sensing information being produced continuously and made freely available in near real-time, as well as advances in computing power, cloud storage, and connectivity, have opened numerous opportunities for keeping a better eye on global water resources.

The Global Initiative on Remote Sensing for Water Resources Management was launched in 2013, funded initially by WPP and then by GWSP. The initiative is aimed at increasing monitoring and analysis capacity with clients and in Bank projects by integrating remote sensing applications. A second phase of the support demonstrates the opportunities for operational uses of remote sensing technology by using it within ongoing Bank projects. A series of projects around the world illustrate the potential for the use of innovative remote sensing to improve water outcomes in a range of contexts, from irrigation for small farmers to urban populations in some of the world's largest cities.

Filling the Biggest Data Gap in Water Management

GWSP continues to support the OpenET digital platform and applications, which monitor evapotranspiration, a core driver of the Earth's water cycle, to help clients

- reduce costs for fertilizer and water,
- support sustainable supply chains,
- sustainably manage groundwater, and
- develop innovate water management programs

Additionality: In Uruguay, GWSP supported retrospective analysis and the development of a water quality monitoring platform in Laguna del Sauce to help increase the safety of the drinking water supply to the second largest metropolitan area in the country. An operational monitoring platform in Valle de Bravo, Mexico, measures changing water quality in the largest reservoir providing water to Mexico City in a watershed with mixed sanitation coverage, increased frequency of algal blooms, and important recreational and real estate values.

In the fragile and conflict context of the Lake Chad Basin, GWSP-supported, real-time remote sensing complements very scarce on-the-ground observations. Building on the continental-scale African Flood and Drought Monitor, the Lake Chad Flood and Drought Monitor provides real-time monitoring and capability, short-term and seasonal forecasts, and hydrologic predictions. To help smallholder farmers in India use the right amount of irrigation water at the right time, a weekly irrigation advisory service via text message to individual farmers has been implemented using state-of-the-art remote sensing and weather forecast data.

Helping to Champion the Global Climate Change Agenda

Challenge: In 2018 the World Bank Group announced a new Action Plan on Adaptation and Resilience (APAR), along with new climate targets for 2021 to 2025, which included doubling its five-year investment on climate action to $200 billion. GWSP supports the Water GP in playing a leadership role in the rollout of the new climate agenda, in which it is responsible for helping achieve many of the new climate targets. Understanding that "water is to adaptation what energy is to mitigation," GWSP helps clients leverage opportunities for building resilience through water investments. The World Bank currently requires all projects to be screened for climate and disaster risks. However, to fully incorporate climate change risks and other uncertainties into master planning and investments or projects, consistent and rigorous upfront analysis is needed to identify the right types and levels of investment for a climate-uncertain world. GWSP supports this effort by systematizing an approach to technical project design and implementation that considers the resilience dimensions and mitigation opportunities of a given investment.

Approach: Four processes are being applied to new projects: climate and disaster risk screening, greenhouse gas emissions accounting, applying the shadow price of carbon, and tracking climate co-benefits. GWSP has worked with clients and task teams on these processes and has a particular role to play in improving the extent to which climate change is a part of a given project, thus also contributing to the tracking of climate co-benefits. This ensures that projects are climate-informed, and clients can view the mitigation and adaptation benefits of the project during the preparation process, and leverage climate finance where possible.

Additionality: In FY16 the share of committed finance achieving climate co-benefits was only 18 percent. In FY18 the number reached 54 percent, touching 93 percent of all projects mapped to the Water GP. In FY19 52 percent of committed finance achieved co-benefits.

As part of its contribution to the tracking of climate co-benefits, GWSP provides guidance to clients and task teams to ensure that project designs are climate-informed. Recent project designs benefiting from GWSP support include a policy loan in Jordan, which was launched with the energy sector to encourage more efficient allocation and use of water, focusing on energy efficiency of the water sector and contributing to reductions of greenhouse gas emissions. In the Philippines, assistance was provided to improve flood management in selected areas of Metro Manila through new construction, the modernizing of existing pumping stations, and improvements to solid waste management. This project has both mitigation and adaptation co-benefits.

Another recently completed effort in Ho Chi Minh City, Vietnam, resulted in a 50 percent reduction of water leaks in a zone serving some 1 million people, saving about 100,000 cubic meters per day. The city intends to scale up the activities to other areas. Finally, in Baghdad, Iraq, GWSP supports the city in addressing its water security issues, exploring the potential use of new water sources away from the Tigris, such as groundwater, desalination, and recycled wastewater, anticipating the pressure that increased severity and frequency of drought and flood events would have on the river.

Harnessing the Power of Nature in Next Generation Infrastructure

Challenge: There is an urgent need not only to close the infrastructure gap through financing, but also to examine how it can be closed in a more environmentally sustainable manner. Nature has a key role to play. Taking advantage of the potential infrastructure

solutions that nature offers is a sustainable approach that can deliver a triple-win for the environment, economies, and communities.

Approach: In March 2019 the World Bank and the World Resources Institute (WRI) published "Integrating Green and Gray: Creating Next Generation Infrastructure. The report was co-funded by GWSP and the Global Facility for Disaster Reduction and Recovery." This report looks at how to integrate natural assets with traditional infrastructure.

The report provides examples of how "green" systems, such as forests, wetlands, and flood plains, can be integrated with "gray" infrastructure, or built systems, providing innovative ways to lower costs while reducing risks. Mangroves can protect against sea surge and typhoons, and wetlands can improve water quality, reducing the need for expensive built treatment systems. The report was launched by senior leadership of the World Bank and WRI, and was featured in the *New York Times*.

Additionality: With support from GWSP, the Water GP is already operationalizing the report's approach through specific projects. In the Mekong Delta, the government is moving toward complementing green infrastructure with rehabilitation of existing gray infrastructure to protect communities from coastal erosion and flooding, while providing opportunities to boost sustainable seafood operations. In Somalia, sand dams are being used as a temporary reservoir cover, protecting water underneath from evaporating. The sand dams are a low-cost alternative to deep-well drilling in a water-scarce region. The Bank is also supporting this approach in ongoing engagements in Madagascar, Panama, Senegal, and the Seychelles.

Improving Access to Water and Reducing Conflict in Somalia

Challenge: Somalia is establishing the foundations for a new political settlement after more than two decades of insecurity and humanitarian crises. Somalia's GDP per capita of $450 makes it the fifth poorest country in the world. Agriculture remains the backbone of the economy and accounts for about 75 percent of GDP—among the highest share in the world, with livestock making up a significant portion of this. Somalia is also highly vulnerable to natural disasters, having experienced at least 14 drought events since 1960.[23]

Approach: GWSP supported the implementation of the first government-managed rural water supply project in Somalia in over 20 years, the Water for

[23] World Bank. 2019. "Implementation Completion and Results Report (ICR) Document—Water for Agropastoral Livelihoods Pilot Project (P152024)" (http://documents.worldbank.org/curated/en/983411550249837741/pdf/Implementation-Completion-and-Results-Report-ICR-Document-Water-for-Agropastoral-Livelihoods-Pilot-Project-P152024.pdf).

Agro-Pastoral Livelihoods Pilot (WALP) Project. With support from the State and Peacebuilding Fund and GWSP, this effort financed the construction of low-cost infrastructure in Somalia and strengthened the capacity of government to locate suitable sites, procure and manage construction contracts, set up community management structures, and evaluate the results.

Under challenging circumstances, this pilot succeeded in constructing its targeted eight water points in Somaliland and Puntland, including seven dams and one traditional *berkad* reservoir. This infrastructure has already reached an estimated 42,000 people with improved water sources, against a target of 20,000. At least half of the beneficiaries are women, in a context where women are traditionally responsible for fetching water for the household and thus benefit significantly from water closer to home. The project also succeeded in improving the capacity of the government to implement small-scale water interventions via the participation of staff in knowledge exchange visits and oversight of the engineering design reviews, socioeconomic analysis, hydrological monitoring at dam sites, and monitoring and evaluation of service delivery models.

Additionality: The success of the GWSP-supported pilot project opened the way for a new and much larger project in Somalia. Based on the results described here, GWSP also supported the development of the World Bank Water for Agro-pastoral Productivity and Resilience Project, a $42 million project to develop water and agricultural services among agro-pastoralist communities in dry-land areas of Somalia. This is the first large-scale World Bank rural development project in more than 30 years supporting Somalia to develop and/or implement a water sector transition strategy. GWSP is assisting with institutional and capacity development at national, state, and community levels; the development of multiple use water sources across the country; and sustainable land management and livelihoods development around the water points developed.

GWSP supported the implementation of the first government-managed rural water supply project in Somalia in over 20 years, reaching an estimated 42,000 people with improved water sources.

CHAPTER 3

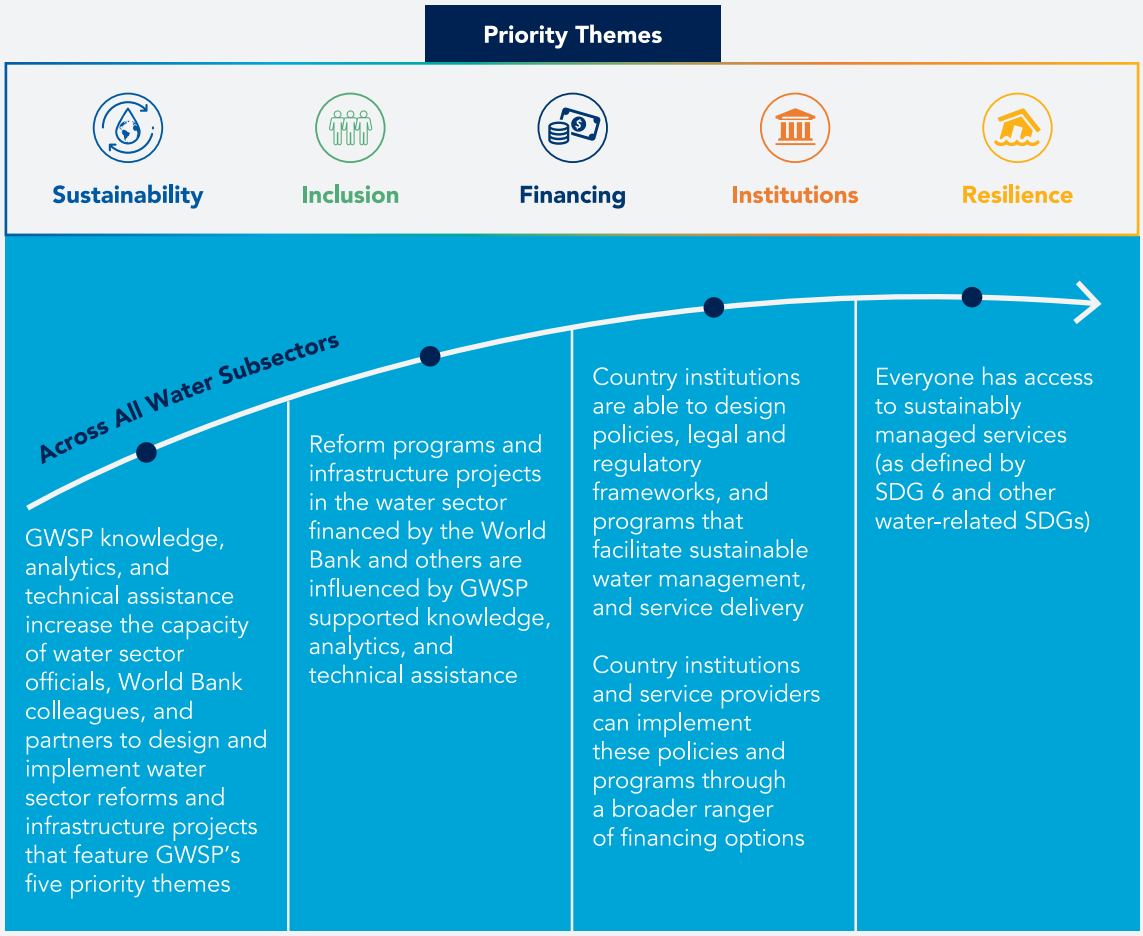
ADVANCING RESULTS

Monitoring results remains an integral part of GWSP's program management. The GWSP Results Framework was designed to track how the Partnership helps shift the World Bank's water portfolio and achieve measurable results on the ground. In particular, the Results Framework demonstrates the additionality of GWSP investments—the added value that could not be achieved with World Bank resources alone. In FY19 GWSP strengthened its results monitoring effort by improving the mechanisms for data collection, aggregation, and reporting across the priority themes. This chapter presents the results highlights for FY19. Financial results are presented in appendix A. The indicators, targets, and FY19 progress on the various components of the Results Framework (Blocks A, B, and C) including results for some of the priority countries and others, are presented in appendix B.

GWSP AS AN AGENT OF CHANGE IN WATER REFORMS AND INVESTMENTS

GWSP-supported analysis and knowledge undertaken in collaboration with clients and other key partners lead to reforms and improvements in the management and delivery of water services. The Partnership also supports the implementation and institutionalization of improvements through technical assistance for operations and engagements with World Bank staff. This process is illustrated in figure 5.

FIGURE 5: GWSP Knowledge into Implementation Brings about Results Across All Water Subsectors



THE GWSP RESULTS FRAMEWORK

GWSP's Results Framework allows tracking and reporting of results using standardized indicators across the five priority themes. Indicators are grouped into three components: the knowledge and technical assistance activities supported by GWSP (Block A), the active World Bank lending operations in the water sector impacted by GWSP-supported knowledge and technical assistance (Block B), and the influence and impact of knowledge and technical assistance on Water GP lending operations in nine priority countries (Block C) (see box 1).

KNOWLEDGE AND TECHNICAL ASSISTANCE SUPPORTED BY GWSP (BLOCK A)

This component includes the results that are directly achieved by the knowledge and technical assistance activities funded by GWSP. It comprises global, regional, and country analyses, as well as technical assistance provided to World Bank country counterparts. Monitoring under Block A also includes tracking the dollar amount of World Bank lending influenced by GWSP knowledge and technical assistance; that is, the approved and pipeline lending projects informed by active GWSP grants in a given fiscal year. Many of these activities are multiyear tasks and crosscutting in nature and therefore often contribute to results across several of the five GWSP priority themes. Results manifest in the short, medium, or long term; some technical assistance may address short-term institutional bottlenecks, while policy advice may take longer to show influence.

By the end of FY19, more than half of all the activities that were expected to contribute to results under each of the priority themes had already reported successful contributions. As can be seen from figure 6, progress against the expectations for results to be achieved by FY22 is good. Technical assistance and knowledge

BOX 1: The Three Components of GWSP's Results Framework

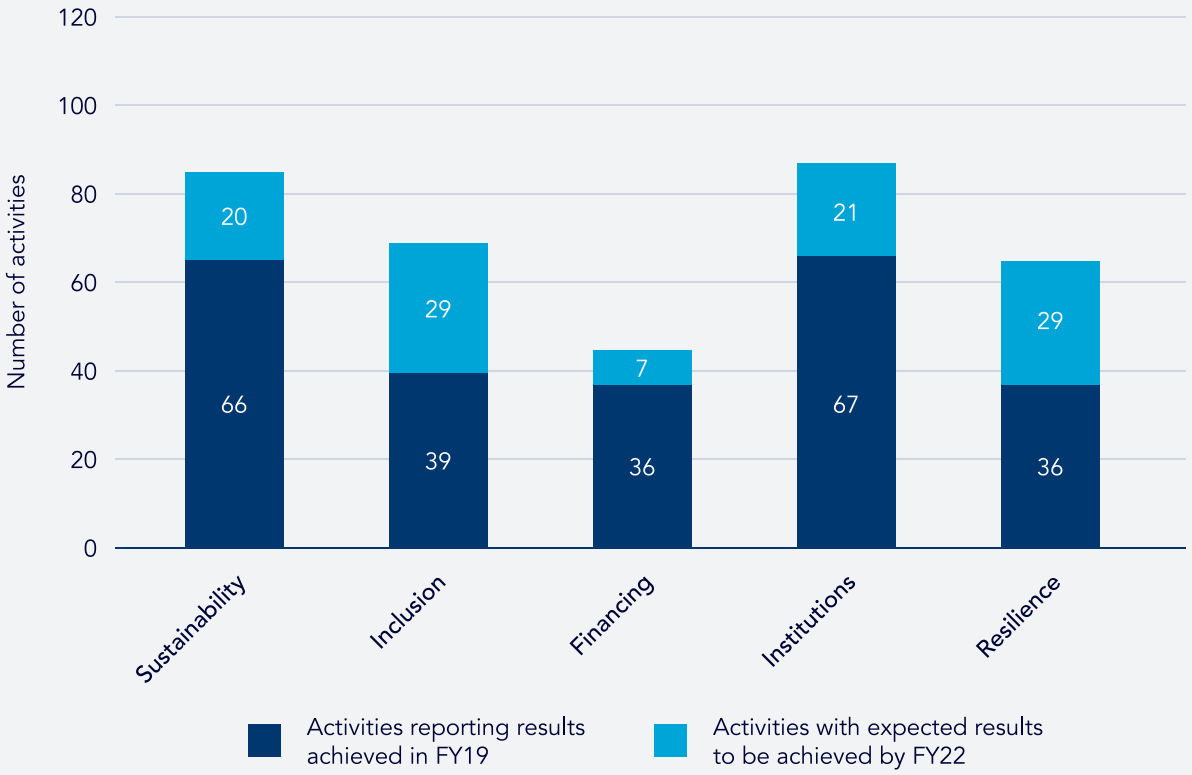
BLOCK	WHAT IS MEASURED
Block A	• Institutions/policies strengthened in support of the five priority themes. • Amount (in US dollars) of World Bank lending influenced by GWSP knowledge and technical assistance.
Block B	• Design features of World Bank's Water GP lending that address the five priority themes. • Access/availability of services and number of strengthened institutions across all water subsectors, reported by active World Bank lending portfolio in the water sector.
Block C	• Results from technical assistance and knowledge work, and lending operations in nine countries. (Bangladesh, Benin, Bolivia, Egypt, Ethiopia, Haiti, Pakistan, Uganda, Vietnam). • Baseline data reported in FY18, and results reported at mid-term (FY20) and end-term (FY22). Qualitative updates provided on an annual basis.

activities that are still being implemented will continue to have influence over the coming years. Activities supporting the priority themes of sustainability, institutions, and financing reported a higher level of successful contributions to the achievement of results.

Examples of results achieved under each theme in FY19 are included in box 2.

A detailed breakdown of the results achieved under this component is included in appendix B, table A.1.

FIGURE 6: Number of Activities in FY19 Contributing to Results under each Theme



BOX 2: Block A - Examples of Results Achieved in FY19, by Theme

SUSTAINABILITY: 21 countries (6 more countries than in FY18) across Sub-Saharan Africa, Asia, Latin America and the Caribbean, and Middle East and North Africa with water institutions supported to sustain water resources and build sustainable infrastructure assets

INCLUSION: 4 new countries (compared to FY18) with water-related institutions trained in gender, inclusion issues, or human resources practices related to diversity and inclusion (Ethiopia, Ghana, Madagascar, Mozambique)

FINANCING: 10 countries (3 more countries than in FY18) with institutions supported to improve their financial viability and creditworthiness (Bangladesh, China, Haiti, Indonesia, Kenya, Lebanon, Sri Lanka, Uganda, Vietnam, Zambia)

INSTITUTIONS: 19 countries (3 more countries than in FY18) across Sub-Saharan Africa, Asia, Latin America and the Caribbean, and the Middle East and North Africa with policies/strategies and/or regulatory frameworks informed to strengthen the institutional environment for improved water resource management and/or water services delivery

RESILIENCE: 9 countries (2 more countries than in FY18) with water-related institutions supported to build resilience in water resource management, or service delivery (Angola, Bangladesh, China, Kenya, Myanmar, Pakistan, Sri Lanka, Tanzania, Uganda)

GWSP Influence on World Bank Water Lending

GWSP's unique position within the World Bank's Water Global Practice enables the Partnership to influence, through knowledge and technical assistance, the design and implementation of water sector reforms and infrastructure projects financed by the World Bank Group. The Partnership monitors the results of this influence in two ways: first, by tracking inputs to mainstreaming the five themes in water lending operations; and second, via the results of ongoing lending operations, most of which were influenced by WSP, WPP, and GWSP-funded activities.

In FY19 GWSP influenced $13.7 billion of World Bank lending in the water sector,[24] including $4.8 billion led by other global practices, beyond the Water GP (see figure 7, panel a).[25] Nearly $11.2 billion worth of GWSP-influenced projects are in Sub-Saharan Africa and East and South Asia, the three regions with the greatest need for support to meet the SDGs. Of the lending influenced in FY19, $1.4 billion is in countries affected by fragility, conflict, and violence (FCV).

Lending influenced in FY19 is similar in terms of the regional breakdown (see figure 7, panel b), and nearly on par with, the FY18 results ($13.8 billion). It is important to note that more than half the activities in FY19 are continuing grants from FY18.[26] Thus, lending influenced by these was reported in FY18 and is not part of the FY19 figure. The $13.7 billion corresponds to lending projects that were reported only

[24] This number was calculated based on approved and pipeline lending projects that were informed by active grants in FY19 and that were not previously reported in FY18.

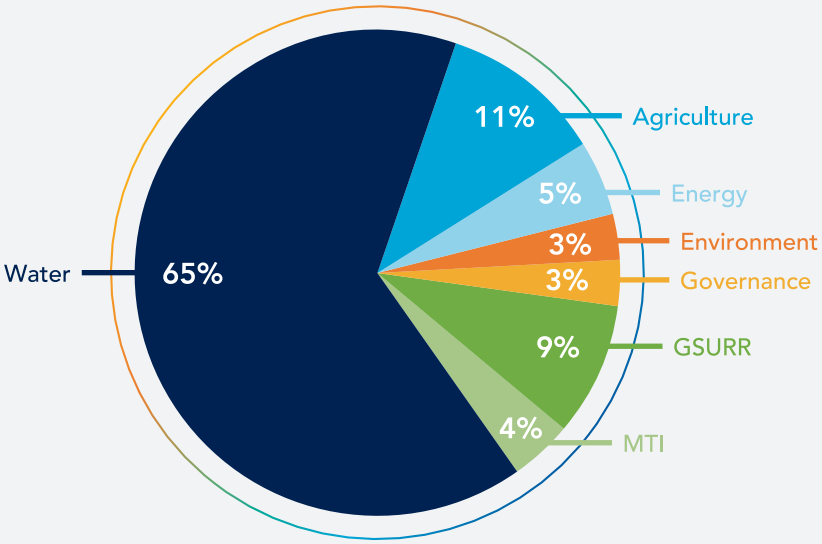
[25] GWSP influenced lending in Global Practices beyond water, including: Agriculture, Energy, Environment, and Macroeconomics, Trade & Investments (MTI). Within MTI, GWSP is influencing a $500 million development policy project in Uzbekistan led by the MTI Global Practice focused on sustaining market reforms (including reforms in the water sector).

[26] As detailed in appendix A, out of the 128 activities that received funding in FY19, 58 were newly approved activities and 70 were existing activities from FY18 that received additional funding. In addition to these 128, 5 GWSP-funded activities were active during FY19 but received no additional funding. For the purpose of results reporting, all 133 activities are considered and reported on.

in FY19. It is equally important to note that for the purpose of reporting, the influence of GWSP activities on a portion or percentage of the lending operations is not determined. If GWSP-supported knowledge was used in the design or implementation of a World Bank operation, the value of that operation is counted in its totality.

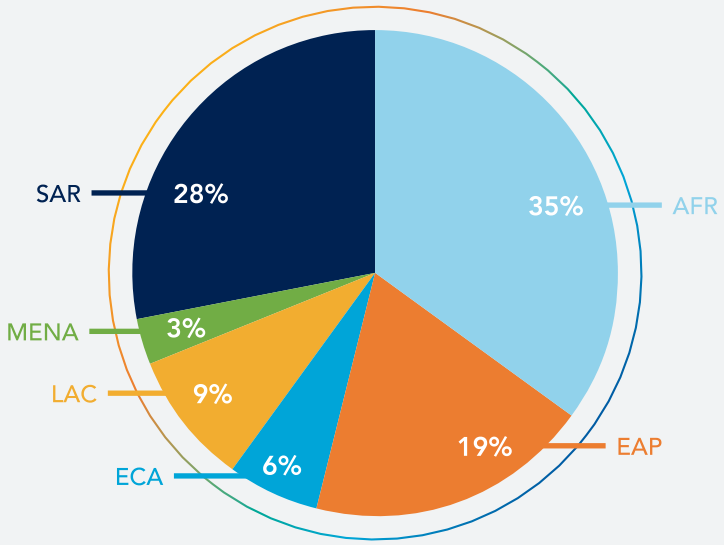
FIGURE 7: $13.7 Billion in World Bank Lending Was Influenced by GWSP in FY19: Breakdown by Global Practice and Region

a. Global Practice



Note: GSURR = Social Urban Rural and Resilience Global Practice; MTI = Macroeconomics, Trade & Investment Global Practice.

b. Region



Note: AFR = Sub-Saharan Africa; EAP = East Asia and Pacific; ECA = Europe and Central Asia; LAC = Latin America and the Caribbean; MENA = Middle East and North Africa; SAR = South Asia.

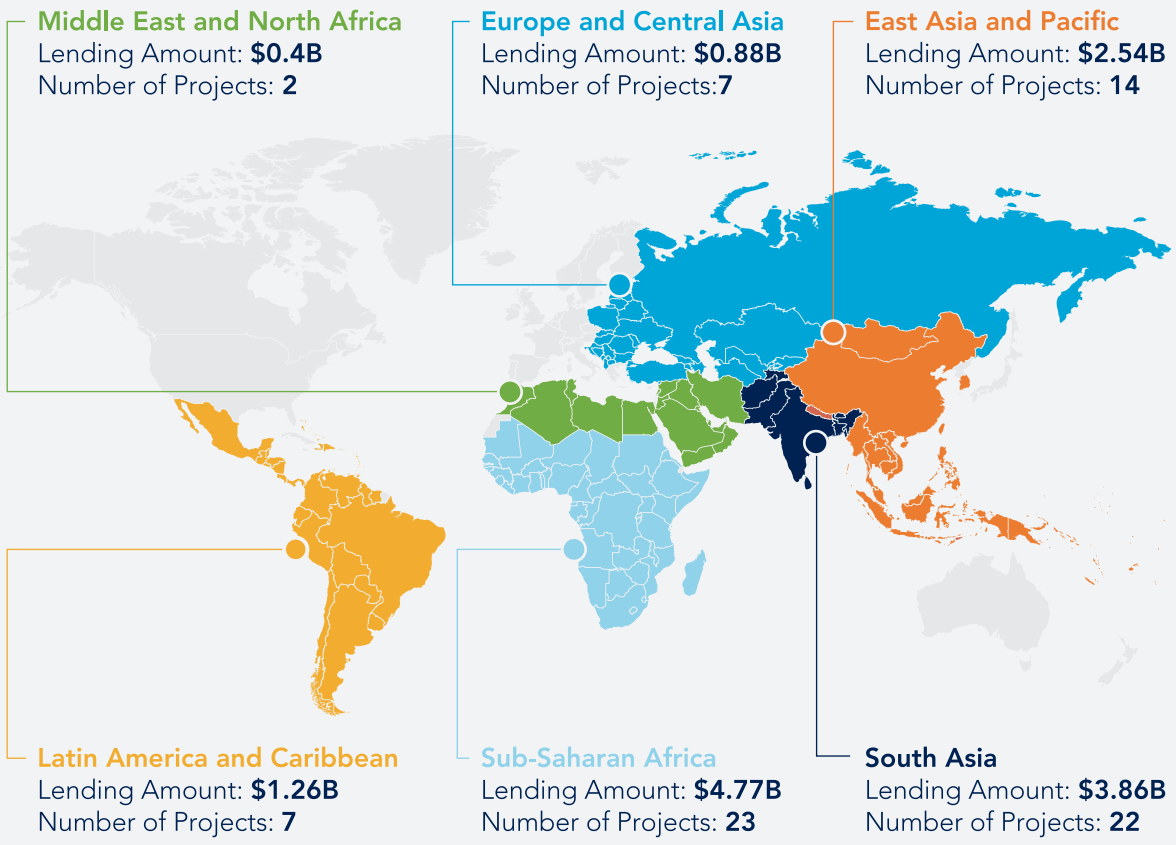
Figure 8 presents a regional breakdown of GWSP influence on World Bank water-related lending around the world in FY19.

SHIFTS IN LENDING PORTFOLIO AND OUTCOMES (BLOCK B)

In Block B, the Partnership's influence on the results of World Bank lending is reported on. This is done by first tracking inputs to mainstreaming the five themes in water lending operations, and second via the results of ongoing lending operations, most of which were influenced by WSP, WPP, and GWSP-funded activities.

Progress against select indicators is presented in box 3, illustrating the type of results achieved in FY19 under this component. A detailed breakdown of the results achieved under this block is included in appendix B.

FIGURE 8: GWSP Influence on Global World Bank Water-Related Lending in FY19 by Region



This map was produced by the Cartography Unit of the World Bank Group. The boundaries, colors, denominations and any other information show on this map do not imply, on the part of the World Bank Group, any judgment on the legal status of any territory, or any endorsement or acceptance of such boundaries.

Source: World Bank Cartography Unit using GWSP data.

BOX 3: Block B - Examples of Results Achieved, by Theme

NEWLY APPROVED PROJECTS

22 projects were approved by the World Bank Water GP in FY19.

SUSTAINABILITY: With GWSP's support, all four of the new lending projects in rural water and sanitation are designed to measure "functionality of water points," meaning that the sustainability of the infrastructure will be monitored.

INCLUSION: With GWSP's influence, 81 percent of projects were "gender tagged," meaning that they demonstrate a results chain by linking gender gaps identified in the analysis during the design phase to specific actions that are tracked in the Results Framework during implementation; 100 percent embedded at least one indicator of citizen engagement, with two-thirds of past projects reporting credible progress on these indicators.

FINANCING: GWSP support resulted in 14 out of 18 water supply and sanitation projects, including support for reforms or actions for improving financial viability.

INSTITUTIONS: GWSP assisted all projects to support reforms or actions that strengthen institutional capacity.

RESILIENCE: GWSP support resulted in 82 percent of projects incorporating resilience in the design of water-related activities, meaning that projects included measures to protect against increased variability and natural events impacting water.

ONGOING LENDING OPERATIONS

143 ongoing lending operations in the World Bank water portfolio reported the following results achieved in FY19 influenced by WSP-, WPP-, and GWSP-funded activities:

- 172 million people with access to improved sanitation
- 0.7 million hectares of land with new or improved irrigation services
- 2.9 million farmers adopted improved agricultural technology (of which 0.6 million are female)
- 5 million people in areas newly covered by water risk mitigation measures

GWSP INFLUENCE ON WATER GP LENDING OPERATIONS IN SELECTED PRIORITY COUNTRIES (BLOCK C)

This portion of the Results Framework examines the combined effect of lending with knowledge and technical assistance interventions at the country level, and the measured change in outcomes in nine priority countries: Bangladesh, Benin, Bolivia, Egypt, Ethiopia, Haiti, Pakistan, Uganda, and Vietnam. These are countries where the Partnership invests strategically as they offer an ideal opportunity to test innovative interventions and approaches, combined with World Bank lending investments, to shift the trajectory of country outcomes. Specific indicator matrixes have been agreed for each of the Block C countries and are discussed in detail in appendix B. As agreed to by the parties in the Partnership, progress against these indicators will be reported at mid-term (FY20) and end-term (FY22).

In support of this component of the Results Framework, in FY19 GWSP worked closely with World Bank country teams to strategically coordinate support. This support includes targeted and customized interventions that tackle particular sectoral challenges and could be most impactful at the country level. GWSP also began to work with the teams in preparation for the upcoming mid-term review to take place in FY20.

In anticipation of the mid-term review, a qualitative update of results achieved in Bangladesh, Haiti, Pakistan, and Vietnam in FY19 is included in the discussion that follows. A country update is also included for Mozambique, given the strategic involvement of the World Bank, with support from GWSP, after the cyclones of FY19.

COUNTRY UPDATES: THE POWER OF COMBINING KNOWLEDGE AND LENDING

As noted, GWSP's unique value proposition is that it links the analytical and knowledge supported by the Partnership with the World Bank Group's lending portfolio to support water investments. This combination of analytics plus lending for the World Bank—the development bank with a global mandate—is a potent combination that ultimately leads to better-informed impacts and results. But it is not a linear process and often consists of stops and starts, protracted debate about both the terms of the content and the policy reforms being advocated, and inevitable implementation delays. As a result, measuring the impact of this process has occurred only during selective periods in GWSP's initial life cycle, and the first comprehensive review will be provided in FY20. Nevertheless, some indicative results can be highlighted.

INFORMING WATER RESOURCE MANAGEMENT IN BANGLADESH

Addressing Water Management in the Context of Climate Change

Although the government of Bangladesh has succeeded in providing almost universal access to improved drinking water, only 55 percent of the population has access to water considered "free from contamination."[27] While the country has almost entirely eliminated open defecation, the quality of sanitation remains low, and there are unresolved equality issues, particularly related to gender. Only 23 percent of the poorest quintile of the population has access to basic sanitation, compared to 75 percent of the wealthiest 20 percent of the population.[28] Only 5 percent of the total population is connected to sewerage,[29] and comprehensive fecal sludge management is lacking. In addition, groundwater is threatened by saline intrusion and arsenic contamination, and remains a priority issue. Ultimately, the country's growth trajectory is highly dependent on how water is managed in the face of climate challenges, poverty, and population density.

Applying Adaptive Delta Management

The Bangladesh Delta Plan 2100 (BDP2100) identifies "adaptive delta management" as a key vehicle for Bangladesh to achieve upper-middle-income status and eliminate extreme poverty. BDP2100 offers a unique opportunity for the World Bank Group to partner with the government to pursue long-term, water-related, multisectoral policy and institutional reforms: The World Bank Group's financing and GWSP's convening power and global knowledge in complex multisectoral water issues are valuable assets available to the government in effectively implementing BDP2100. Based on current assessments, the WBG's medium- to long-term engagement in BDP2100 will likely involve policy/institutional reforms and investments in four areas: river systems improvement and management; a full-area sanitation convergence approach to human capital development, including health and poverty aspects;[30] sustainable urban water and sanitation by mobilizing finance for development and regional economic development through transboundary water management.

In FY19 GWSP helped inform the World Bank's cross-sectoral engagement in BDP2100. This support included financing for the Bangladesh Water Sector Public Expenditure Review, completed in September 2019; analyses of the national water balance to inform river basin investments; and the completion of a strategy note for the Bangladesh Water Platform (to align World Bank interventions in support of the government of Bangladesh Delta Plan 2100). GWSP also helped organize a critical workshop on hydro economic modeling for the government of Bangladesh and other stakeholders to assess investment options for building capacity to improve management of the Jamuna River. The workshop, held in July 2019, covered the creation of new economic zones through land reclamation, the creation of navigation channels, monsoon irrigation, and the combination of piloting river-training technology with river works such as revetments and dredging.

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[27] UNICEF and WHO (United Nations Children's Fund and World Health Organization). 2019. *Progress on Household Drinking Water, Sanitation and Hygiene 2000–2017. Special Focus on Inequalities.*

[28] Ibid.

[29] Ibid.

[30] The full area sanitation approach means covering, for a selected strategic area, both the urban and rural beneficiaries—poor and low-income households—and by extension, schools and hospitals.

ASSESSING GENDER INCLUSION IN HAITI'S WATER SUPPLY AND SANITATION SECTOR

Access to quality water and sanitation is a significant challenge in the rural areas and small towns of Haiti. A substantial number of existing water systems are not operational. Access to sanitation in rural areas and small towns is limited, and both urban and rural populations rely on individual on-site sanitation solutions. Haiti's National Water and Sanitation Directorate (DINEPA) has initiated reforms aimed at developing the water and sanitation sector and improving service levels.

Involving Women in Project Implementation

GWSP support has given the $70 million Sustainable Rural and Small Towns Water and Sanitation Project (EPARD) a significantly stronger gender component. The project is designed, in part, to reduce gaps in women's participation and representation in water and sanitation decision-making by involving women in project implementation activities. It specifies that women should be engaged in project orientation and consultations for each new investment, should be given equal training opportunities, and should play an active leadership role. The project addresses gender-based violence by engaging women in "security committees" to give them a voice in the safe positioning of water kiosks and public toilets with shower facilities. In schools, special attention is given to facilities for girls.

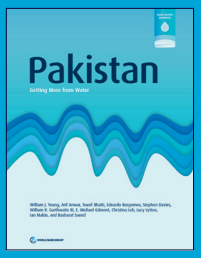
To reinforce these interventions, GWSP supported a gender audit of DINEPA's management and operations. Project indicators include ratings by female and youth beneficiaries in terms of their access to water and sanitation services. The audit found that while women are currently a primary entry point for hygiene-related behavior-change messaging and activities, men should also be engaged in strategies to increase paid water subscriptions, among other factors. Findings also established that schools should provide trainings to girls and boys on handwashing, and on reducing infections from unclean water. The audit helped DINEPA's directors and staff assess their capacity to address systemic issues of both gender and disability. As a result, DINEPA has agreed to adopt gender-disaggregated indicators to monitor and evaluate water and sanitation interventions in rural areas and small towns. A gender action plan is under development with DINEPA. The next activity will focus on implementing this plan.

PROMOTING INSTITUTIONAL REFORMS IN PAKISTAN

While Pakistan has achieved major gains in extending water and sanitation services to a rapidly growing population, it still faces many challenges, including intermittent water supply in urban areas, limited wastewater treatment, and inconsistent water quality, leading to outbreaks of water borne diseases. GWSP has supported the government of Pakistan to help tackle them.

Understanding Pakistan's Institutional Challenges

Water security is the overarching goal of water management, both in harnessing the benefits of water and in protecting the population, economies, and ecosystems from its potentially destructive impacts, from water borne diseases to droughts. The World Bank defines it as the "availability of an acceptable quantity and quality of water for health, livelihoods, ecosystems, and production, coupled with an acceptable level of water-related risks to people, environments, and economies."[31] Taking into account the complexity of the issue, GWSP developed a water security diagnostic framework that establishes a consistent and structured approach to identifying the most pressing unmitigated risks and unexploited opportunities, and helps identify the factors impairing water security.



The findings of the Pakistan Water Security Diagnostic were presented at an International Water Management Conference in Pakistan in October 2018, and at multiple dissemination workshops with key stakeholders in Islamabad and Karachi in early 2019. Water Security Diagnostics have also been completed in China and Vietnam, and several other countries are planned.

[31] David Grey and Claudia W. Sadoff. 2007. "Sink or Swim? Water Security for Growth and Development." *Water Policy* 9 (6): 545–71. As quoted in Claudia W. Sardoff and David Grey, "Water Security: An Adaptation Imperative," *Environment Matters 2007,* page 28 (http://siteresources.worldbank.org/INTENVMAT/64199955-1203372965627/21652259/Water_Security.pdf).

The GWSP-supported Pakistan Water Security Diagnostic, which relies on this framework, was completed in late 2018, covering the full geographic extent of Pakistan, with a focus on the Indus Basin. It considers important aspects of water management within and between the country's provinces and takes deep dives into rapidly growing urban centers to explore their most pressing water-related challenges. The Diagnostic analyzes the ways in which water security supports and constrains economic development in Pakistan. It describes the symptoms of water security considering the positive and negative outcomes from current water management, and diagnoses the relationships between different water security outcomes, actions, and capital.

Delivering Water and Sanitation Services to Karachi's Poor

As one of the largest cities in the Indian subcontinent, with 16 million municipal residents,[32] Karachi faces a number of water-related challenges. In FY19 GWSP funding provided critical support to improve water and sanitation services to the city. For example, the Partnership supported the development of a reform strategy for the Karachi Water and Sanitation Board (KWSB) focusing on service delivery, inclusion, and financial viability. This includes reforming financial and customer management, non-revenue water, and services to the poor. These inputs have resulted in the finalization of KWSB's priority investment plan, which will accompany institutional reforms to improve services and achieve inclusion, sustainability, and resilience objectives. It has also provided support to the government of the province of Sindh for concrete policy reform steps, which will enable and facilitate KWSB's reform and inclusion agenda.

In addition, GWSP has enabled a Water Resources Option Study for Karachi, which will provide the KWSB with strategic guidance on different approaches to augmenting water supply to meet future demand. The study will conclude in the first half of FY20. All this GWSP support has directly strengthened the World Bank's $40 million Karachi Water and Sewerage Services Improvement Project (KWSSIP), which is part of a larger investment aimed at improving access to safe water services in Karachi and increasing KWSB's financial and operational performance. That project will eventually extend access to uncontaminated drinking water to 2 million beneficiaries, specifically targeting the restoration of water supply and sewer services in selected informal settlements. Over time, it will also improve the financial sustainability of KWSB, and strengthen the institution to address key challenges, including customer accountability and climate change adaptation.

Modernizing Water Authorities in Punjab

Punjab's Water and Sanitation Authorities (WASAs) currently operate below their optimal level, in a complex institutional environment. Improving their performance and accountability starts with increasing their financial and managerial autonomy and investing in utility modernization and water and sanitation infrastructure. GWSP supported a WASA modernization and reform program to influence the design of improvement programs in Lahore and Faisalabad. The assistance focuses on three activities, all of which were completed in FY19. The first was the development of a vision document to modernize the WASAs. The second translated the vision into a sector note delineating the phased implementation of the modernization program. Finally, a concept note for operationalizing the first phase of the Modernization Program promotes institutional reforms and investment programs for selected WASAs by creating an enabling environment, professionalizing utilities, and promoting investments. These documents have influenced the design of potential support to be provided to the WASAs to improve their delivery of water and sanitation services, as well as their financial performance.

[32] Pakistan Bureau of Statistics, Government of Pakistan. As quoted in Peter D. Ellis, Jaafar Sadok Friaa, and Jon Kaw. 2018. *Transforming Karachi into a Livable and Competitive Megacity: A City Diagnostic and Transformation Strategy. Directions in Development.* World Bank.

STRENGTHENING SUSTAINABLE WATER AND SANITATION IN RURAL VIETNAM

Although important progress has been made in increasing access to water supply and sanitation in Vietnam, the obstacles to reaching SDG 6 remain considerable. In 2017 almost 20 percent of the urban population lacked access to piped water services through household connections, and only 22 percent of the rural population received this level of service. While 84 percent of the population had access to at least basic sanitation services, approximately 3 percent of the rural population still practiced open defecation.[33] The government of Vietnam recognizes the importance of an integrated approach to water resources management, and acknowledges that achieving SDG 6 will require, among other measures, empowering water institutions so they can better fulfill their mandates. The World Bank is supporting the government's water sector with an active lending portfolio of nearly $2 billion, covering urban and rural water and sanitation, irrigation, integrated water resource management, and dam safety.

GWSP is providing key complementary support in the areas of rural water and sanitation, integrated water resource management, and urban water. In FY 19 GWSP-provided support was linked to the $225 million Results-based Scaling Up Rural Sanitation and Water Supply Program. GWSP increased operational effectiveness and financial sustainability of rural water and sanitation service providers through the activities described below.

Sustainable Rural Water Schemes

The Partnership supported the development of a sector monitoring and evaluation system for rural water supply and sanitation, including water supply and sanitation facilities in schools. In addition, with GWSP support, an operations and maintenance guideline was developed and implemented in 134 water schemes operated under the community-based-management of 63 communes in 12 provinces. As a result of these engagements, about 55,000 water connections were established or rehabilitated in 2018. By the end of 2019, 60,000 more water connections are expected to meet the criteria for full functionality, including water quality and continuity.

[33] UNICEF and WHO (United Nations Children's Fund and World Health Organization). 2019. *Progress on Household Drinking Water, Sanitation and Hygiene 2000–2017. Special Focus on Inequalities.*

Scaling up Rural Sanitation Activities

GWSP supported all 21 provinces in planning and capacity building for sanitation in rural districts and communes. This support included mobilizing the private sector to provide better sanitation service by identifying small local enterprises and providing training to them in the production and sale of low-cost latrines. This effort is being supplemented with parallel actions by local governments and funding to develop and implement behavior-change communication plans that promote sanitation and hygiene practices to households and schools. GWSP also supports the achievement of Commune Wide Sanitation (CWS) status;[34] 161 communes reported achieving CWS status during the 2018 implementation period. Currently 146 more communes are expected to reach CWS status by December 2019. Preliminary verified results show that all of the functional water supply connection targets are being achieved, and more than 85 percent of the communes achieved all CWS criteria.

[34] The Project Appraisal Document states: "CWS requires: (a) 70 percent of households have an improved latrine which hygienically separates human feces from human contact; (b) 80 percent of households have dedicated (fixed) hand washing points, with soap (or soap substitute) and water available; and (c) all schools and health clinics have functional water supply, hygienic sanitation and hand washing facilities. CWS is therefore a proxy for a significant reduction in open defecation. The commune is the smallest unit of Government and supporting changes at this level builds a sustainable base for improved sanitation and hygiene in the long term." World Bank, "Vietnam: Results-based Scaling Up Rural Sanitation and Water Supply. Project Appraisal Document," 2015, page 10 (http://documents.worldbank.org/curated/en/283471468189258537/Vietnam-Results-Based-Scaling-up-Rural-Sanitation-and-Water-Supply-Program-Project).

SUPPORTING RESILIENT RECOVERY FROM THE MOZAMBIQUE CYCLONES

In March and April 2019, Mozambique was affected by two major cyclones that dramatically impacted the poorest provinces of the country. The first, Cyclone Idai, affected more than 1.5 million people. Total recovery and reconstruction costs are estimated at $2.9 billion. The second, Cyclone Kenneth, affected nearly 290,000 people in Cabo Delgado. Total reconstruction needs are estimated at $224 million. Cyclone Idai worsened the country's limited and highly inequitable access to water and sanitation, highlighting the need for more resilient institutions with the capacity to deliver services within the context of increased climate vulnerability.

To help Mozambique recover from the impacts of these events and increase its resilience to floods and cyclones, the World Bank mounted a comprehensive response package of more than $450 million that is being implemented collaboratively across nine Global Practices, following "build back better" principles. As part of the World Bank's response package, GWSP support focused on strengthening the institutional framework and the resilient capacity of national and local water sector institutions to manage water resources and deliver services. GWSP also helped the World Bank's Disaster Risk Management team design institutional support for the drainage infrastructure that was installed in Beira City after the cyclone. This infrastructure benefitted more than 250,000 people, including over 70,000 people living in informal settlements.

Supporting Institutional Resilience

GWSP provided technical assistance to the Administration of Water and Sanitation Infrastructure *(Administração de Infraestruturas de Água e Saneamento)* and the National Directorate of Water Supply and Sanitation in the design of the first comprehensive set of urban sanitation investments in three provincial capital cities. GWSP also supported five municipalities in building the capacity of their sanitation systems, with a focus on the service delivery structure at the city level. GWSP's technical assistance was also used to conduct financial analyses and design institutional interventions to improve the financial sustainability of the sanitation companies in these municipalities. This assistance was provided under the $115 million Mozambique Urban Sanitation Project, part of the World Bank's response package of urgent support to government efforts to improve public health by rehabilitating critical sanitation infrastructure and services. GWSP's activities have highlighted the need to provide appropriate and sustainable services to the peri-urban areas where the most vulnerable people live.


Nutrition counselling
Community Health Promoters
Flipbook

CHAPTER 4

GENERATING AND SHARING KNOWLEDGE

KNOWLEDGE INTO IMPLEMENTATION

As a global thought leader in water, GWSP is valued for its ability to generate and disseminate quality knowledge for a multitude of partners so that it may be practically applied to inform policies, projects, and investments. To achieve this, GWSP harnesses tools and practices that have a global reach and that innovate and facilitate a cross-pollination of ideas. The process to share this critical information is driven by a substantial knowledge management and communications effort within GWSP. Some of the key tools to enhance knowledge and communication are highlighted next.

Global Reach

To access the best knowledge available internally and leverage global lessons learned, GWSP has honed mechanisms that connect local or global challenges to a wide range of international professionals best positioned to address them. Specific implementation hurdles are discussed by specialists in "safe space" clinics, with a roster of experts curated by GWSP. Participants can also tap into vast databases of reports, lessons learned, and other analytical pieces to find the necessary experts and potential solutions best matched to specific queries or problems.

Innovation

Whereas the AskWater knowledge architecture helps GWSP tap internal resources, the Water Expertise Facility (WEF) is the outward-facing service, helping operational task teams connect with resources outside of the World Bank. The fast, iterative nature of the Facility allows GWSP to test technical approaches on a small scale, follow relevant experiences, and respond to unforeseen circumstances or opportunities arising in a specific location or on a global scale.

AskWater
askwater@worldbank.org

The AskWater helpdesk accesses a focused network of 250 subject matter experts in response to technical and operational questions and challenges.

WEF grants have, for example, supported the study of design options for water point insurance policies, remote-sensing applications throughout Latin America and Sudan, innovative methodologies for assessments for WASH behavior-change campaigns in Vietnam, and many other just-in-time interventions requiring the injection of fresh knowledge. In FY19 GWSP supported teams across 36 countries and a wide range of technical challenges through the WEF program.

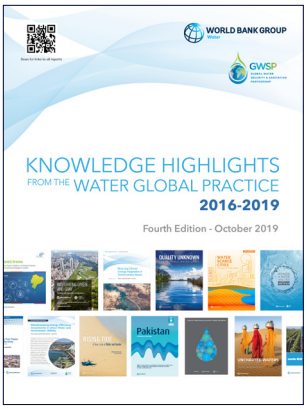
GWSP has developed relationships with innovative companies and tech incubators whose solutions are regularly shared with World Bank staff and clients in a range of knowledge exchanges, ranging from flagship presentations to country workshops. The Partnership has also supported a webinar series titled "The Next in Water: Utility of the Future," which presents the results of this concerted effort to match stubborn challenges with new and commensurate solutions.

Improving Watershed Management and Launching a Payment for Ecosystem Services Scheme in Sri Lanka

WEF supported the study of payment for ecosystem services in Sri Lanka, where the main challenge constraining dam safety and watershed management is lack of funding. One potential funding source is to invite users of the watershed to pay for the sustainability of the water supply and the operation and maintenance of dams. With WEF support through GWSP, a Payment for Ecosystem Services (PES) was created. Mini hydropower companies are paying a PES tariff to conserve the water catchment areas. Support is now being provided to institutionalize and expand these financing systems for ecosystem protection to other larger water users. This would facilitate a long-term financially sustainable model for the protection of Sri Lanka's most critical watersheds and river basins assets.

Cross-Pollinating Ideas through Learning and Dissemination

An extensive learning program, culminating in the annual Water Week, exposes World Bank staff, clients, and other development partners to relevant learning experiences from around the globe. With about 50 events taking place in FY19, nearly all included external experts, along with a series of selective field-based study tours catering to technical deep dives. GWSP helps facilitate and contributes to such global dialogue with realistic and practical solutions.

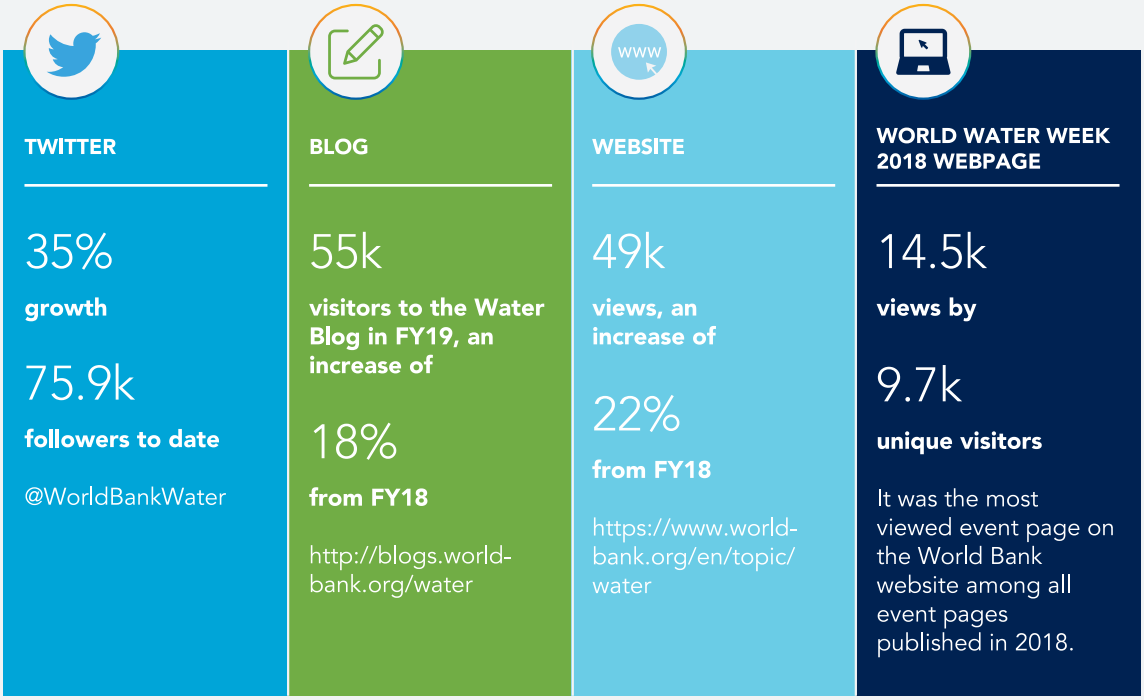


The knowledge created, distributed, or curated by the Water Global Practice finds its way into more than 50 major publications a year, some with partners such as the Bill & Melinda Gates Foundation, the United Nations, the World Resources Institute (WRI), and WaterAid. GWSP knowledge is disseminated via multiple institutional channels, notably the World Bank Open Knowledge Repository (https://openknowledge.worldbank.org) and the GWSP website (http://worldbank.org/gwsp), which features the regularly updated catalogue of Knowledge Highlights from the Water Global Practice and GWSP (2016–19). Brief descriptions of four of GWSP's flagship publications this year are included at the end of this chapter.

BREAKING THROUGH WITH INNOVATIVE EXTERNAL COMMUNICATIONS

The quality research and analytics produced by GWSP means that the Partnership has a leading voice in shaping the global debate on water and influences the policy environment and delivery mechanisms at the local, national, regional, and global level. The magnitude and scale of this influence is greatly expanded by the role that communication plays in raising the profile of this analysis. Essentially, communication brings the most relevant and timely evidence, presented in the most compelling ways, to help shape and drive the global water agenda. Communication builds key partnerships

FIGURE 9: GWSP Outreach by the Numbers



with stakeholders across multiple subsectors and forums. Communication can also help amplify key messages to the public by using a variety of tools and techniques ranging from securing media coverage to hosting events to producing brochures to utilizing Facebook, Twitter, Instagram, and other digital platforms—even augmented reality and virtual reality (VR). A successful communication strategy and delivery means GWSP's work is reaching key policy makers, implementors, practitioners, policy experts, and advocates, no matter where they are located or what communications channels they use.

In 2019 GWSP fully launched its distinctive visual identity, following consultations with external actors ranging from donors and clients to creative agencies. GWSP's podcast series, "WaterWorld," is available across multiple platforms. GWSP's blog series, "WaterFlows," features insights and opinions from GWSP's global network of experts. Tailored packages focused on the release of specific analytical reports and operational highlights means that GWSP's key messages reach a wider, more targeted audience across the globe.

GWSP's bimonthly newsletter, "GWSP Digest," brings the latest GWSP news and views to subscribers from government, think tanks, the private sector, civil society, and academia. In FY19 "GWSP Digest" readership more than quadrupled.

The first-ever GWSP Annual Report was launched in 2018.[35] An Augmented Reality version complemented the print report and allows readers to dig even deeper into GWSP's knowledge. Extensive social media outreach, supported by key corporate World Bank channels and partners, featured blogs by senior leadership, a podcast capturing GWSP highlights, and a feature story including quotes from GWSP staff working on vital water issues across the globe.

[35] "Waters' Edge: Rising to the Challenges of a Changing World" (https://www.worldbank.org/en/news/feature/2018/11/26/a-glimpse-from-the-waters-edge---a-year-of-delivery-from-the-global-water-security-sanitation-partnership).

In 2019 GWSP also arranged a major outreach effort for the publication of a book demonstrating the importance of water quality across a range of sectors and how its impacts cut across nearly all of the SDGs, *Quality Unknown: The Invisible Water Crisis.*[36]

VR is at the forefront of the latest wave of digital communications. GWSP has utilized VR to tell our stories in engaging ways. At the 2019 World Bank Water Week, attendees were able to more deeply immerse themselves in GWSP-supported operations thanks to this technology, with VR headsets transporting them directly to projects across the world.

The Cartoon Calendar is a much-loved fixture. This year was no different, with more than 40,000 copies disseminated and downloaded. The calendar inspired a video story on the World Bank's Instagram channel shared with its nearly half-a-million followers.

[36] *Quality Unknown: The Invisible Water Crisis* (https://www.worldbank.org/en/news/feature/2019/08/20/quality-unknown?cid=ECR_FB_worldbank_EN_EXT&fbclid=IwAR0uVsZcnlvnIL47Qm2pQhVjCYh5YiSxkJx24otnzLAgAvyyy9PhGumOMfE).

GWSP continues to be a key presence at major national, regional, and global forums, where ideas are debated, decisions made, and policies and practices shaped. For example, at the 2019 World Water Week in Stockholm, GWSP provided strategic interventions in around 40 sessions, including the launch of the report "Doing More with Less: Smarter Subsidies for Water Supply and Sanitation,"[37] which was complemented with a feature story, press release, blog, podcast, infographic, and social media campaign. Attendees who visited the World Bank and GWSP booth at SIWI also enjoyed the tailor-made virtual reality experience.

Communication efforts such as these maximize the impact of GWSP's work with an array of partners and decision makers. The impact of communications can shape policies, raise awareness, and inspire public action on frontier issues. Effective communication helps our knowledge and analytics work "go the last mile" and deliver information into the hands of the full breadth of GWSP's, constituents, from community workers to key policy makers. Looking ahead, GWSP will strive to match its top-level research and analysis work with first-rate communications.

Communications Impact of *Quality Unknown*

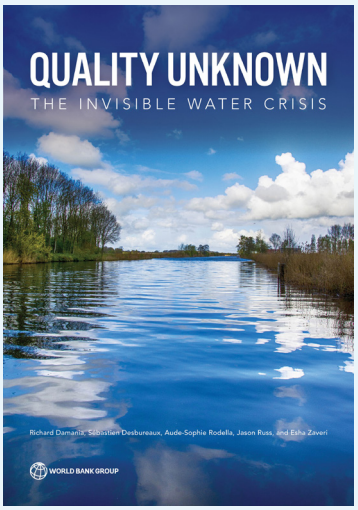
GWSP played a key role not only in producing *Quality Unknown: The Invisible Water Crisis,* but also by supporting the book launch, which secured media coverage in outlets including Agence France Presse, the BBC, Bloomberg, CNN Español, the *Daily Telegraph, Devex, Die Welt, El País, The Guardian, Le Figaro, Le Monde,* Thomson Reuters, and Xinhua News Agency.

The book itself and the accompanying press release, podcast, feature story, video, infographics, digital assets, and social media campaign all featured GWSP and its branding and were shared by the World Bank's corporate Twitter and Facebook accounts, and amplified by partners including the UN, WaterAid, and the World Wide Fund for Nature (WWF).

The findings were also presented to delegates at SIWI Water Week, alongside partners from the OECD, UNEP, and the Swedish Ministry for Foreign Affairs, and were shared as a blogpost by the lead author on the website of the Brookings Institution. The report continues to gain traction with decision makers and thought leaders.

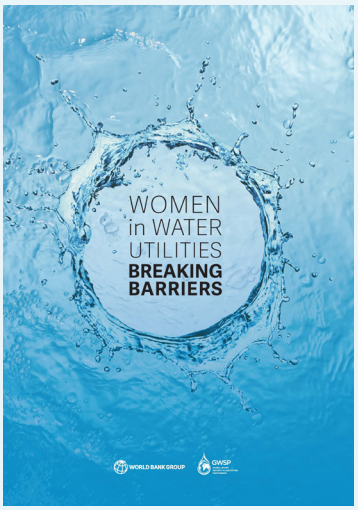
[37] "Doing More with Less" (https://www.worldbank.org/en/topic/water/publication/smarter-subsidies-for-water-supply-and-sanitation).

RECENT PUBLICATIONS FROM THE WATER GP, GWSP, AND PARTNERS



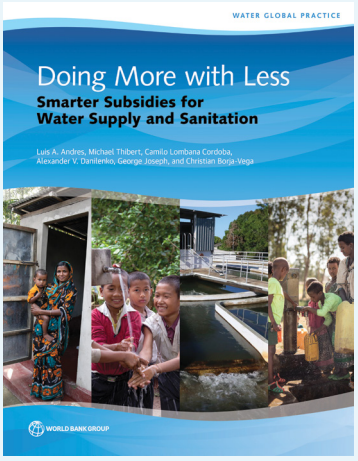
Quality Unknown: The Invisible Water Crisis

This flagship publication presents new evidence and data that call urgent attention to the hidden dangers lying beneath water's surface. *Quality Unknown* examines the effects of water quality on economic growth and finds that upstream pollution lowers growth in downstream regions. It reveals that some of the most prevalent contaminants in water, such as nitrates and salt, have impacts that are more serious than has been acknowledged. It also traces the damage to crop yields and the stark implications for food security in affected regions. The book calls for a paradigm shift that emphasizes safer, and often more cost-effective remedies that prevent pollution by combining smarter policies with newer technologies. The lead author blogged about the book's findings on the Brookings Institution's website to bring it to the attention of their readers.



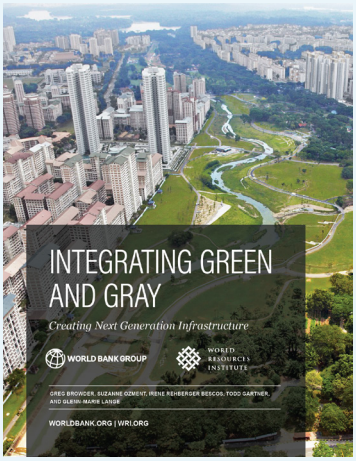
Women in Water Utilities: Breaking Barriers

Women are significantly underrepresented in the water workforce. Multiple barriers, ranging from social norms, to inadequate HR policies, to an unwelcoming work environment, pose challenges to female water professionals' entering, staying and advancing in the water sector. This study explores these barriers and provides utilities with practical approaches to advance their gender diversity. It was launched at SIWI World Water Week 2019.



Doing More with Less: Smarter Subsidies for Water Supply and Sanitation

While subsidies of water supply and sanitation (WSS) services are generally implemented in pursuit of worthwhile objectives, poor design often undermines these objectives, rendering subsidies pervasive, expensive, poorly targeted, nontransparent, and distortionary. This report explores how scarce public resources can be used most effectively to achieve universal delivery of WSS services. It was featured on the front page of the World Bank website with bespoke data visualization to illustrate its findings.



Integrating Green and Gray: Creating Next Generation Infrastructure

A new generation of infrastructure projects that harness the power of nature can help achieve development goals, including water security and climate resilience. This report from the World Bank and World Resources Institute is calling for green infrastructure, such as mangroves and wetlands, to play a bigger role in traditional infrastructure planning and produce lower cost and more resilient services. The report was launched at an event at the World Bank in partnership with the World Resources Institute.

Reform and Finance for the Urban Water Supply and Sanitation Sector

Since 2016 the World Bank has explored a wide range of country experiences in delivering better water supply and sanitation services. The analyses led to publication of three new global frameworks for designing water reforms: Policy, Institutional, and Regulatory Incentives, which looks at the broader sector enabling environment; Water Utility Turnaround Framework, which looks at utility-level reforms; and Maximizing Finance for Development, which looks at shifting the financing paradigm to reach the Sustainable Development Goals. The three frameworks—individually and as a compendium—set forth the key principles of a more holistic approach to reform that diverges from the traditional focus on infrastructure economics to a deeper understanding of the behavior of and between sector institutions and of the people within those institutions. In addition, this summary paper puts forth two reference tools—the maturity matrix for urban water reform and the maturity ladder for the urban water sector—which show how the three frameworks can be compiled to visualize improvements over time.

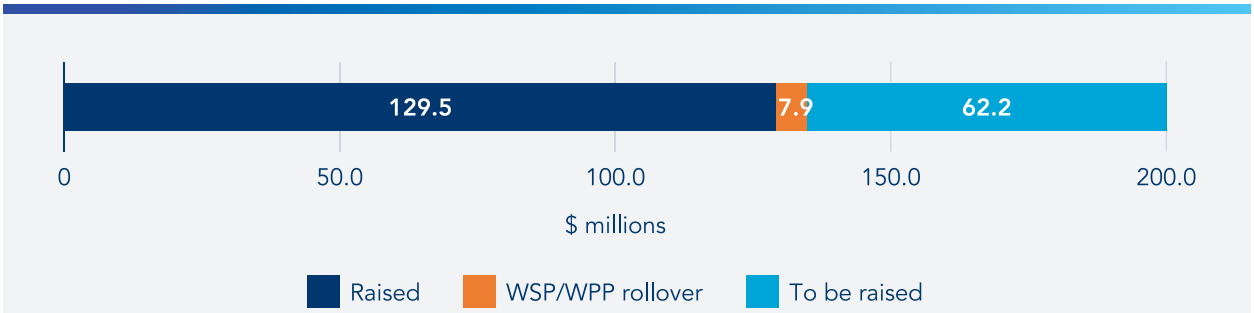
APPENDIX A. FINANCIAL UPDATE

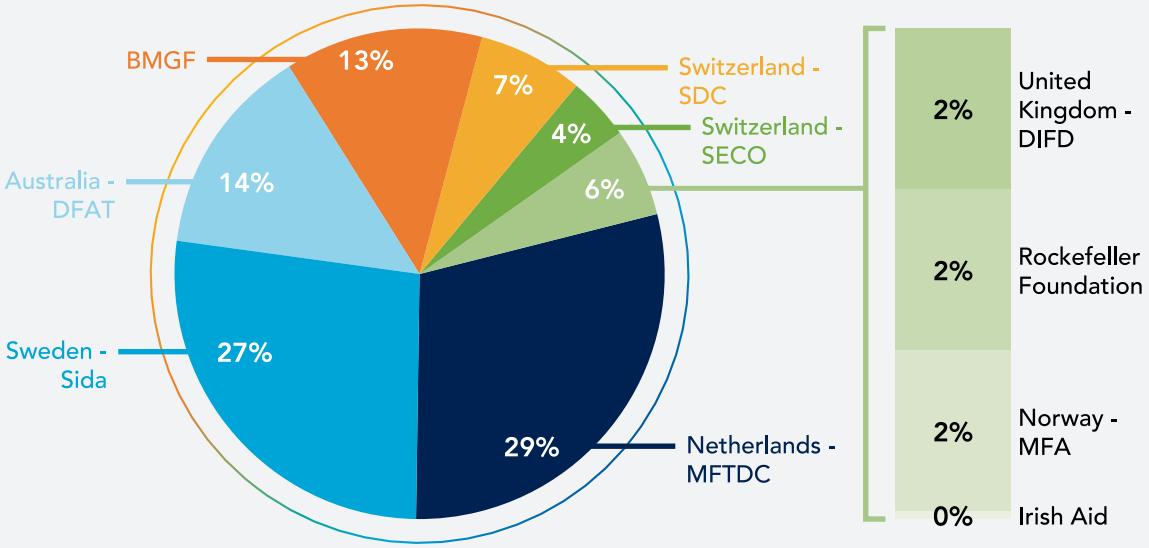
GWSP DONOR CONTRIBUTIONS

The GWSP MDTF was launched on July 1, 2017 to build a water-secure world for all, supporting client countries in their ambitions to reach SDG 6. GWSP was designed as a $200 million, five-year program. Over the course of the past year, GWSP has been actively engaged in fundraising efforts, extending the strong support from the core donors from bilateral agencies and selective philanthropic organizations. The Partnership has made considerable progress in fundraising and is cautiously optimistic that it will be able to meet the $200 million funding target required for the five-year partnership.

Moreover, as part of the administrative efforts, GWSP also approached a few existing donors that have not been able to financially contribute to the program with the view of continuing their membership or potentially exiting in line with the provisions in the Partnership's Charter.

As of June 30, 2019, GWSP had raised close to 70% of the anticipated contributions. Eight donors have contributed $129.47 million in new funding, complementing $7.93 million rolled over from WSP and WPP.



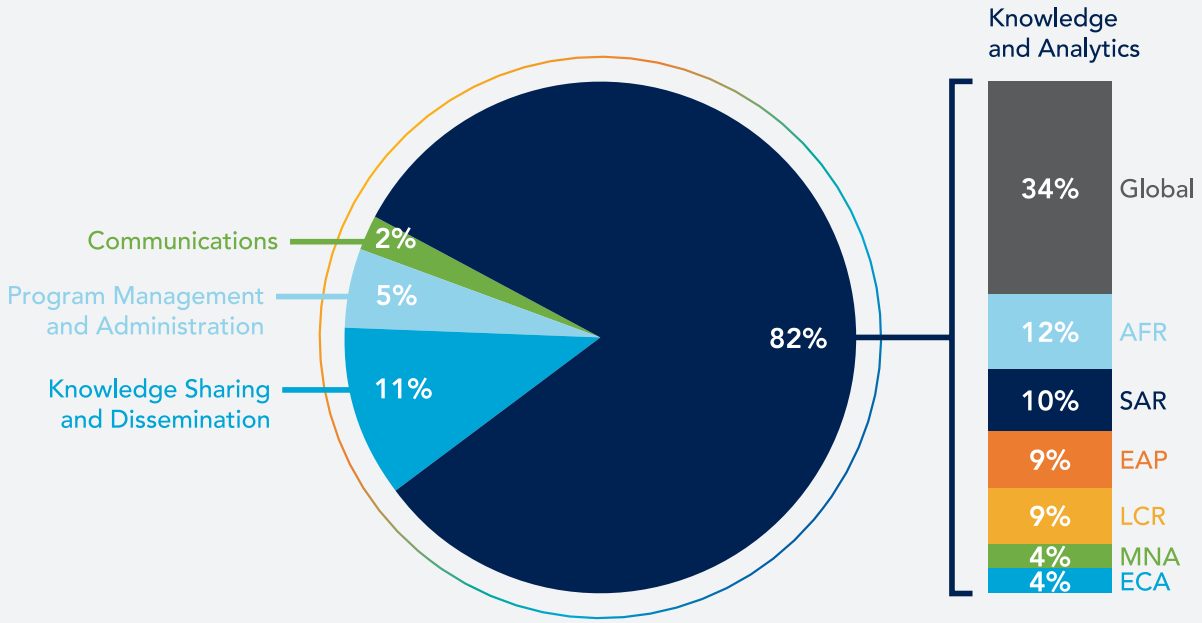


DONOR	US$ (MILLIONS)
Netherlands - Ministry for Foreign Trade and Development Cooperation (MFTDC)	39.34
Swedish International Development Cooperation Agency (Sida)	36.70
Australia-Department of Foreign Affairs and Trade (DFAT)	18.84
Bill & Melinda Gates Foundation (BMGF)	18.00
Swiss Agency for Development and Cooperation (SDC)	10.14
Swiss State Secretariat for Economic Affairs (SECO)	5.46
United Kingdom - Department for International Development (DFID)	3.52
Rockefeller Foundation	3.00
Norway - Ministry of Foreign Affairs (MFA)	2.37
Ireland - Ministry for Foreign Affairs / Irish Aid	0.02
Total Commitments	**137.39**

Note: Includes roll-over contributions from WSP and WPP.

FY19 ALLOCATIONS

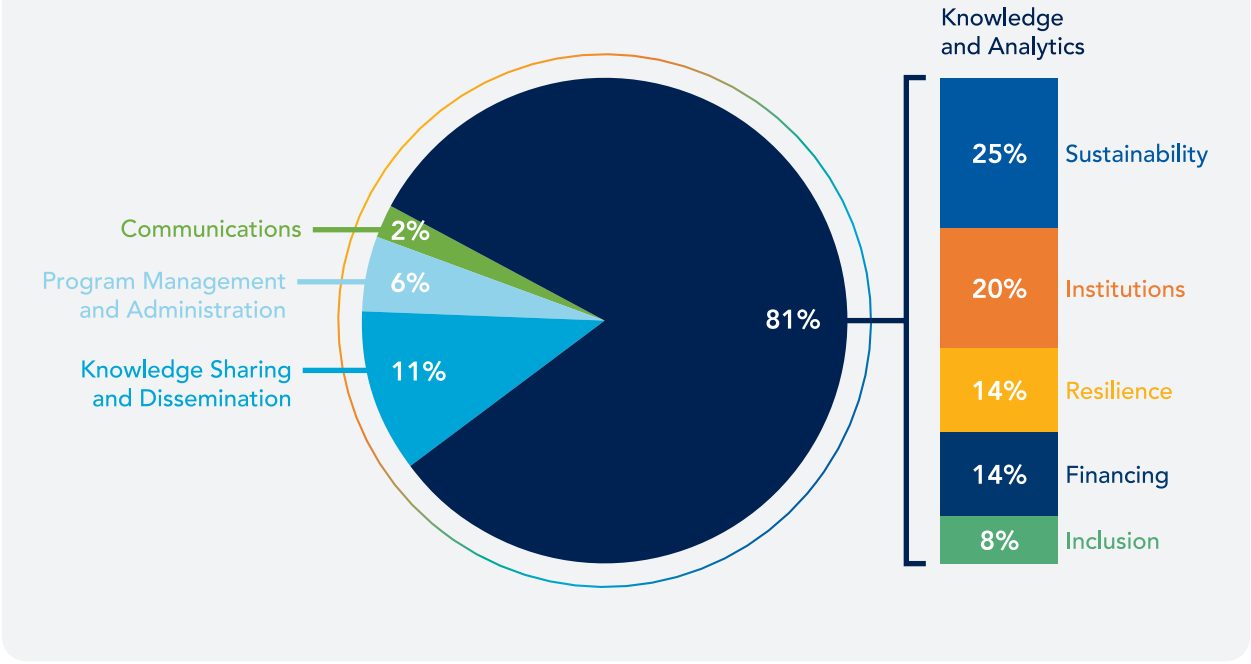
In FY19, GWSP allocated $27.61 million to work program activities. More than eighty percent (82%) of the allocation went to specific, multiyear, knowledge and analytics activities that are either global, regional, or country-based. The largest allocations went to global knowledge work, followed by knowledge and analytics for Africa. Through the end of FY19, GWSP funded a total of 128 knowledge and analytics activities in 44 countries and regions. Of the total 128 activities, 58 are newly approved activities and 70 are existing activities from FY18 that received additional funding. Each activity contributed to one primary priority theme[38] and in many instances to other secondary themes. Since the inception of GWSP through June 30, 2019, a total of $62.89 million has been allocated.



[38] Most GWSP-financed activities are cross-cutting in nature, reflecting their comprehensive approach. For clarity of reporting and to avoid double counting, activities are reported according to the leading theme associated with the respective activities.

FY19 DISBURSEMENT

GWSP activity disbursements reached $24.6 million in FY19, slightly above disbursements reported last fiscal year ($24.4 million). About 81 percent of disbursements supported the global and country-specific knowledge and analytics work. Management and administration disbursements comprised 6 percent of total disbursements.



APPENDIX B. RESULTS PROGRESS

BLOCK A: GWSP-FUNDED KNOWLEDGE AND ANALYTICS ACTIVITIES

Table A summarizes the results achieved as of June 30, 2019 reported by 133 ongoing GWSP funded activities in FY19.

Table A. Knowledge and Analytics Results Indicators

INDICATOR	% OF ONGOING ACTIVITIES IN FY19 WITH INDICATOR
Results to be achieved by FY22	
Reported results achieved in FY19	
Sustainability	
Policies/strategies/regulatory frameworks informed to strengthen: a) sustainable management of water resources and/or b) built infrastructure assets.	40 21
Tools and monitoring systems supported to strengthen: a) the sustainable management of water resources at the national, basin, and/or aquifer level and/or b) built infrastructure assets.	26 14
Water-related institutions supported to: a) sustain water resources and/or b) built infrastructure assets.	33 26
Knowledge products generated on sustainability.	33 25
Inclusion	
Policies/strategies generated or refined to enhance social inclusion in the management of water resources or service delivery.	27 15
Initiatives that develop approaches including integrated cross-sectoral approaches where relevant to address water, sanitation, and/or nutrition issues.	16 11
Water-related institutions trained in gender and/or inclusion issues and/or HR practices related to diversity and inclusion.	20 5
Knowledge products generated on inclusion.	21 17

Table continues next page

INDICATOR	% OF ONGOING ACTIVITIES IN FY19 WITH INDICATOR
Institutions	
Policies/strategies/regulatory frameworks informed to strengthen the institutional environment for improved water resource management and/or water services delivery.	40 22
FCV supported to develop and/or implement a water sector transition strategy.	5 2
Water-related institutions supported to strengthen capacity for managing water resources or service delivery.	41 30
Knowledge products generated on institutions.	23 18
Financing	
Policies/strategies/regulatory frameworks developed to improve financial viability.	21 12
Institutions supported to improve their financial viability and credit worthiness.	13 11
Knowledge products generated on financing.	17 14
Resilience	
Policies/strategies/regulatory frameworks developed or implemented to strengthen resilience of freshwater basins, and/or of the delivery of services for communities dependent on them.	26 8
Diagnostics conducted or implementation undertaken to promote principles of building freshwater resilience.	15 7
Water-related institutions supported to build resilience in water resource management or service delivery.	23 11
Knowledge products generated on resilience.	25 17

BLOCK B: WATER GP OUTCOMES

Table B1: Portfolio Influence Indicators

GWSP PRIORITY THEME		SUSTAINABILITY		INCLUSION			INSTITUTIONS	FINANCING[c]		RESILIENCE		
Indicator	Number of new projects approved	% of new projects that promote sustainable & efficient water use	% of new rural WSS lending projects that measure functionality of water points	% of new projects with gender in all 3 dimensions (analysis, action and results)[a]	% of new projects that are gender tagged	% new projects with other Social Inclusion aspects[b]	% projects that support reforms/ actions that strengthen institutional capacity	% projects that support reforms/ actions for improving financial viability	% projects with explicit focus on leveraging private finance	% projects incorporating resilience in design of water-related initiatives	Number of Fragile and Conflict-affected states supported with a resilience lens[d]	% of new WB lending commitments with climate-change co-benefits
RESULTS												
Baseline	**FY 15**	29	69	0	59	N/A	3	72	67	6	69	5	29
	FY 16	27	63	50	56	N/A	19	100	88	6	74	5	18
	FY 17	27	74	25	70	N/A	11	100	81	10	74	5	31
Progress	**FY 18**	28	75	60	100	50	50	100	77	14	75	2	54
	FY 19	22	86	100	100	81	59	100	74	11	82	4	52
Target FY22[e]	**FY 22**		80	80	90	55	60	90	85	14	80	15	50

Note: Portfolio influence indicators are calculated based on lending projects approved by the World Bank's Water Global Practice in the fiscal year under review.

[a] **Social Inclusion - Gender:** Projects that include gender in all 3 dimensions i.e. analysis, action and results framework. The IDA gender indicator has been revised under the IDA-18 to enhance the monitoring of the gender theme. The new indicator is "Percentage of IDA-supported projects that demonstrate a results chain by linking gender gaps identified in analysis to specific actions that are tracked in the results framework." As part of the corporate reporting, the Water GP will continue to monitor the old indicator during the transition period (FY17) and shift to the new indicator from FY18 onwards

[b] **Other Social Inclusion aspects**: Projects that target the poor, vulnerable or underserved communities or areas. Excludes Citizen Engagement which the Water GP is reporting on as part of corporate monitoring.

[c] **Financing**: Total % is estimated based on relevant projects only since this is not relevant for the Water Security and Integrated WRM/Dams theme.

[d] **Fragile & Conflict-affected States supported with a resilience lens**: This refers to number of fragile and conflict states supported over the next five years.

[e] **Total targets:** The total targets are estimated based on a weighted average of 45% operations in Water Supply & Sanitation; 45% operations in Water Security & Integrated WRM/Dams and 10% operations in Water for Agriculture

Table B.2. Sector Results Indicators

		BASELINE		PROGRESS	PROGRESS	INDICATIVE TARGETS	
		FY13-17	Yearly average	FY18	FY19	FY18-22	Yearly average
WATER SUPPLY AND SANITATION							
1.1	People with access to improved water sources	72 M	14 M	15.7 M of which female: 7.9 M	13.1 M of which female: 6.6 M	70 M	14 M
1.2	People with access to improved sanitation	30 M	6 M	11.5 M of which female: 5.7 M	172 M[a] of which female: 86 M	80 M	16 M
1.3	BOD pollution loads removed by treatment plants	15,000 tons/yr	3,000 ton/yr	8,300 tons/yr	12,900 tons/yr	25,000 tons/yr	5,000 tons/yr
1.4	People trained on hygiene behavior	11.7 M	2.3 M	4.3 M of which female: 2.1 M	3.2 M of which female: 1.7 M	13 M	2.6 M
1.5	Utilities with improved working ratio	85	17	27	28	90	18
WATER FOR AGRICULTURE							
2.1	Area with new/improved irrigation services	4.3 M ha	0.8 M ha	0.5 M ha	0.7 M ha	4 M ha	0.8 M ha
2.2	Farmers adopting improved agricultural technology	6 M	1.2 M	2 M of which female: 0.4M	2.9 M of which female: 0.6M	3.5 M	0.7 M
2.3	Water User Associations created/strengthened	17,900	3,580	4,900	3,050	20,000	4,000
2.4	Water users with improved irrigation services	5.6 M	1.1 M	1.8 M of which female: 0.5 M	2.2 M of which female: 1 M	5 M	1 M
WATER SECURITY AND INTEGRATED WRM							
3.1	People in areas covered by water risk mitigation measures (flooding/drought)	15.3	3 M	3.7 M	5 M	16 M	3.2 M
3.2	Basins with management plans/stakeholder engagement mechanisms	85	17	22	20	140	28
3.3	Institutions with WRM monitoring systems	110	22	30	21	120	24
3.4	Area under sustainable land/ water management practices	1.2 M ha	0.24 M ha	0.32 M ha	0.5 M ha	1.3 M ha	0.26 M ha
HYDROPOWER AND DAMS							
4.1	Hydropower generation capacity constructed/ rehabilitated	2,100 MW	420 MW	1,400 MW	4,000 MW	7,500 MW	1,500 MW

Note: Sector Results Indicators are calculated based on the World Bank's active lending portfolio in the water sector, in the fiscal year under review. This includes lending projects approved by the Water Global Practice and other Global Practices. BOD = biochemical oxygen demand; ha = hectares; M = million; MW = megawatt; WRM = water resource management.

[a] Please note that this year the India - Swachh Bharat Mission Support Performance for Results Operation (P153251, IBRD), which is reported on for the first time this fiscal year, is a significant contributor towards the sanitation results (~159 million) thus the striking number, far beyond the annual target.

BLOCK C. COUNTRY LEVEL BASELINES FOR NINE PRIORITY COUNTRIES

Table C.1 Bangladesh

BUSINESS LINE	OUTCOME INDICATOR	PROXY INDICATOR	BASELINE (JULY 2017)	TARGETS BY 2022
Key area 1: Urban Sanitation	Human resources and organization development	Number of sanitation directorate posts in project area filled with trained staff Number of staff trained as per approved staff training and development program	0 134	TBD 350 (2020)
Key area 2: Urban Sanitation	Accountability towards customers	Number of customers in project supported areas who know how to raise a grievance for poor service delivery	0	TBD
Key area 3: Urban Sanitation	Monitoring and evaluation	Number of pourashavas in project supported area adopting an interactive M&E system for reporting and informed decision making	0	TBD
Key area 4: Urban Water	Operational effectiveness	Water Utility maturity level (score 1–5)	2	3 (2020)
Key area 5: Urban Water	Inclusion-focused monitoring and evaluation	Number of M&E systems supported by the project that can produce disaggregated data (by gender and income)	0	TBD
Key area 6: Rural Sanitation	Leveraged funding from private financial sector	Level of private sector investment ($) into safely managed sanitation facilities influenced by WB interventions	0	TBD

Note: M&E = monitoring and evaluation; TBD = to be determined; WB = World Bank.

Table C.2 Benin

BUSINESS LINE	OUTCOME INDICATOR	PROXY INDICATOR	BASELINE (JULY 2017)	TARGETS BY 2022
Key area 1: Rural Water	Policy/legal framework	AQUA-VIE DLIs for sector reforms: DLI 3a: framework agreements with municipalities DLI 3b: ongoing service performance monitoring DLI4: performance-based regional contracts	Services provided at municipal level; weak service performance monitoring	DLI 3a: all framework agreements signed DLI 3b: publication by ANAEPMR of biannual service monitoring reports DLI 4: all contracts signed
Key area 2: Rural Water	Accountability toward customers	Percentage of grievances registered related to delivery of program that are addressed	0	80%
Key area 3: Rural Water	Inclusive management and service delivery	Number of women professionals in project areas trained in rural water supply and management-related areas	0	To be determined
Key area 4: Rural Water	Financial sustainability of service providers: sustainable revenue sources	Tariff policy for rural water supply services being applied	0	1
Key area 5: Rural Sanitation	Investment planning and delivery	National investment plan for rural sanitation prepared, including clear strategy for implementation	0	1
Key area 6: Rural Sanitation	Leveraged funding from private financial sector	Level of private sector investment ($) into safely managed sanitation facilities influenced by World Bank interventions	0	TBD

Note: DLI = disbursement-linked indicator; ANAEPMR is the Benin rural water utility.

Table C.3 Bolivia

BUSINESS LINE	OUTCOME INDICATOR	PROXY INDICATOR	BASELINE (JULY 2017)	TARGETS BY 2022
Key area 1: Urban Sanitation	Policy/legal framework	National strategy for wastewater management, including decentralized sanitation, approved and implemented	0	1
Key area 2: Urban Sanitation	Targeted planning and investment	Number of (selected) cities covered by the project that have implemented city wide urban sanitation planning processes including FSM	0	1 large and 3 intermediate cities
Key area 3: Rural Water	Targeted planning and investment	Number of targeted communities with improved water sources	0	216
Key area 4: Rural Water	Inclusion-focused monitoring and evaluation	Number of municipalities covered by the project that are collecting basic information on their communal piped water systems	0	36
Key area 5: Rural Water	Resilient investments	Number of improved water sources resulting from the project intervention	0	10200
Key area 6: IWRM	Sector planning and system design	Number of Basin Plans including climate change considerations based on sector specific guide	0	3

Note: FSM = fecal sludge management; IWRM = integrated water resources management.

Table C.4 Egypt

BUSINESS LINE	OUTCOME INDICATOR	PROXY INDICATOR	BASELINE (JULY 2017)	TARGETS BY 2022
Key area 1: Rural Sanitation	Regulation	SRSSP AF: DLI 7: Strengthen capacity of the EWRA	No	Yes
Key area 2: Rural Sanitation	Monitoring and evaluation			
Key area 3: Rural Sanitation	Management autonomy and leadership	SRSSP: DLI 3: Design and implementation of the APA system for the water service providers and water service providers' achievement of the required APA threshold scores in accordance with the Program Operations Manual	No	Yes
Key area 4: Rural Sanitation	Human Resource and organization development			
Key area 5: Rural Sanitation	Accountability towards customers			
Key area 6: Rural Sanitation	Inclusive management and service delivery	SRSSP: DLI 1: Establishment and functioning of new household connections to working sanitation systems in villages and satellites of which at least 10% of the connections are in satellite.	10,000	167,000
Key area 7: Rural Sanitation	Financial sustainability of service providers	SRSSP: DLI 4: Preparation and approval of a new national tariff structure for water and sanitation services by MHUUC to allow for sustainable cost recovery.	No	Yes

Note: AF = additional financing; APA = annual performance assessment; DLI = disbursement-linked indicator; EWRA = Egyptian Water Regulation Agency; MHUUC = Ministry of Housing, Utilities and Urban Communities; SRSSP = Sustainable Rural Sanitation Services Program.

Table C.5 Ethiopia

BUSINESS LINE	OUTCOME INDICATOR	PROXY INDICATOR	BASELINE (JULY 2017)	TARGETS BY 2022
Key area 1: Urban Sanitation	Investment planning and delivery	Number of cities that have prepared and implemented an integrated urban sanitation plan under the project	0	23 (including Addis)
Key area 2: Urban Water and Sanitation	Operational effectiveness	a) Participating utilities that have established / are using NRW data management system b) Improved wastewater collection, transport, and disposal capacity under the project (in M^3 per day)	0 0	23 (including Addis) 130,000 (including Addis)
Key area 3: Rural Water	Operational effectiveness	Percentage of improved water supply schemes that are nonfunctional in the program woredas	25%	10%
Key area 4: Rural Water and Sanitation	Targeted planning and investment	% of woredas with prepared and approved RWSS programs and established WWTS	50%	70%
Key area 5: Rural Sanitation	1.5. Human resources and organization development	People trained to improve hygiene behavior/sanitation	0	976,200 (by end of 2019)

Note: NRW = nonrevenue water; RWSS = Rural Water Supply and Sanitation; WWT = wastewater treatment system.

Table C.6 Haiti

BUSINESS LINE	OUTCOME INDICATOR	PROXY INDICATOR	BASELINE (JULY 2017)	TARGETS BY 2022
Key area 1: Rural Water and Sanitation	Monitoring and evaluation	Sector monitoring is enriched by suite of instruments enabling comprehensive expenditure tracking, as well as technical and financial performance monitoring.	No	Yes
Key area 2: Rural Water	Human resources and organization development	Number of POs in the South and Centre that adopt simplified technical, commercial, and financial management instruments	0	25
Key area 3: Rural Water and Sanitation	Investment planning and delivery	DINEPA takes ownership of the program budgeting tool (BPO) and uses it to coordinate the sector and harmonize monitoring practices across donors. The sector review takes place every year and uses the BPO to review sector achievements	No	Yes
Key area 4: Rural Water	Targeted planning and investment	DINEPA adopts a gender-based strategy for the provision of rural water supply	No	Yes
Key area 5: Rural Water and Sanitation	Financial sustainability of enabling institutions at national and local levels	DINEPA increases its cost recovery by 15% per year	Not tracked	Yes
Key area 6: Rural Water	Financial sustainability of service providers: sustainable revenue sources	25 POs increase their financial viability	Not tracked	Yes
Key area 7: Rural Sanitation	Sector planning and system design	DINEPA's capacity to operationalize its National Sanitation Strategy is strengthened	Not tracked	Yes

Note: DINEPA = Direction Nationale de l'Eau Potable et de l'Assoinissement (Haiti's national water and sanitation agency).

Table C.7 Pakistan

BUSINESS LINE	OUTCOME INDICATOR	PROXY INDICATOR	BASELINE (JULY 2017)	TARGETS BY 2022
Key area 1: Rural Water	Monitoring and evaluation	Percentage of rural water systems in project area that are covered by MIS database	0	70%
Key area 2: Rural Water	Inclusive management and service delivery (by actors influenced by WB)	Percentage of CBOs providing rural water systems and supported by GWP project that have structured participation from women and the poor	0	50%
Key area 3: Rural Water	Financial sustainability of service providers: sustainable revenue sources	Percentage of communities engaging with GWP project where billing and metering system is in place for rural water systems	0	50%
Key area 4: Urban Water	Management autonomy & leadership	Number of policy and legislative changes that confirm the managerial and fiscal independence of urban water utilities	0	2 Government of Sindh issues notifications; a Sector Note and Concept Note
Key area 5: Urban Water	Targeted planning and investment (by actors influenced by WB	Number of ongoing investments by KWSSIP in katchi abadis (informal settlements) that have been informed by GWP assessments	0	1
Key area 6: IWRM	Monitoring and evaluation	Percentage of key sites across the Indus System and supported by project, covered by real-time monitoring and data analysis/sharing system	0	100%
Key area 7: IWRM	Policy, legal and regulatory frameworks for sustainable water resource management	Number of provincial IWRM policy framework established in provinces supported by WGP; Groundwater Management Act in place in Punjab;	0 0	2 (KP and Sindh provinces) 1
Key area 8: IWRM	Financial sustainability of service providers: sustainable revenue sources	Percentage of O&M costs covered by tariffs collected in project-supported areas with improved level services	0	40%
Key area 9: IWRM	Sector planning and system design	Water resource planning in Sindh established and incorporates resilience to climate change and population growth	TBD	50%

Note: CBOs = community-based organizations; ; GWP = Global Water Partnership; IWRM = integrated water resources management; KP = Khyber Pakhtunkhwa; KWSSIP = Karachi Water and Sewerage Services Improvement Project; MIS = management information system; O&M = operations and maintenance; PAD = project/program appraisal document (World Bank); TBD = to be determined; WGP = Western Greater Peshawar.

Table C.8 Uganda

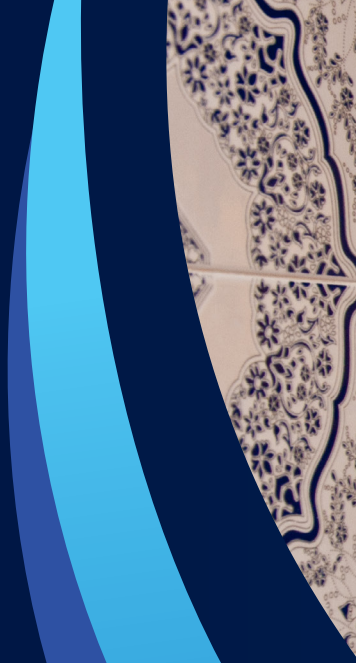
BUSINESS LINE	OUTCOME INDICATOR	PROXY INDICATOR	BASELINE (JULY 2017)	TARGETS BY 2022
Key area 1: Urban Water	Accountability towards customers	% of customers satisfied with services delivered	0	60%
Key area 2: Urban Water	Operational effectiveness	No of service areas that reduce NRW to 20% under the project	3	6
Key area 3: Urban Sanitation	Investment planning and delivery	New sewerage connections	0	200
Key area 4: Rural Water	Operational effectiveness	Selected service providers that achieve more than 80% in collection efficiency under the project	3	4
Key area 5: Rural Sanitation	Targeted planning and investment	Number of women provided with access to improved sanitation services	0	90,000
Key area 6: IWRM	Investment planning and delivery	Number of agreed catchment and source protection plans developed	5	10

Note: IWRM = integrated water resources management; NRW = nonrevenue water

Table C.9 Vietnam

BUSINESS LINE	OUTCOME INDICATOR	PROXY INDICATOR	BASELINE (JULY 2017)	TARGETS BY 2022
Key area 1: Rural Water	Policy/legal framework	A decree on O&M of rural water systems issued, regulating rural water services, has been adopted and is being implemented	0	1
Key area 2: Rural Water	Operational effectiveness	Number of households with access to sustainable water supply systems	0	105,000
Key area 3: Rural Water	Financial sustainability of service providers: sustainable revenue sources			
Key area 4: Rural Sanitation	Leveraged funding from service users (households, community groups, industrial, public administrations and other users)	Number of communes achieving commune-wide sanitation in the participating provinces	0	630 (TBC)
Key area 5: WRM	Policy, legal, and regulatory frameworks for sustainable water resource management	An action plan for implementation of strategic elements of national policies related to water security (i.e., water law and law on hydraulic works) is in place	0	1
Key area 7: WRM	Leveraged funding from private financial sector	Level of investment ($) leveraged from the private sector for the construction and/or operations of bulk water supply production and/or distribution systems in up to six provinces in the Mekong Delta region	0	TBD
Key area 6: Urban Sanitation	Financial sustainability of service providers: sustainable revenue sources	Percentage of total operating cost of wastewater management in Ho Chi Minh City generated through revenue from service users	37%	50%

Note: TBC = to be confirmed; TBD = to be determined.



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