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2021 ANNUAL REPORT

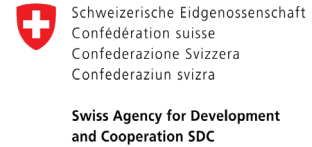
GLOBAL WATER SECURITY & SANITATION PARTNERSHIP

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ABOUT THE WATER GLOBAL PRACTICE

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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GLOBAL WATER SECURITY & SANITATION PARTNERSHIP

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ABBREVIATIONS

CWIS	CITYWIDE INCLUSIVE SANITATION
FCV	FRAGILITY, CONFLICT, AND VIOLENCE
FLID	FARMER-LED IRRIGATION DEVELOPMENT
FY	FISCAL YEAR
GDP	GROSS DOMESTIC PRODUCT
GFDRR	GLOBAL FACILITY FOR DISASTER REDUCTION AND RECOVERY
GP	GLOBAL PRACTICE
GWSP	GLOBAL WATER SECURITY & SANITATION PARTNERSHIP
IBNET	INTERNATIONAL BENCHMARKING NETWORK FOR WATER AND SANITATION UTILITIES
IDA	INTERNATIONAL DEVELOPMENT ASSOCIATION
PIR	POLICY, INSTITUTIONAL, AND REGULATORY
SDG	SUSTAINABLE DEVELOPMENT GOAL
UNICEF	UNITED NATIONS CHILDREN'S FUND
UOF	UTILITY OF THE FUTURE
WASH	WATER SUPPLY, SANITATION, AND HYGIENE
WEF	WATER EXPERTISE FACILITY
WHO	WORLD HEALTH ORGANIZATION
WOW	WATER ONLINE WEEK
WPP	WATER PARTNERSHIP PROGRAM
WSP	WATER AND SANITATION PROGRAM
WSS	WATER SUPPLY AND SANITATION



FOREWORD

This past year we were once again challenged to respond to multiple crises. The economic decline brought by the COVID-19 pandemic saw poverty rates rise for the first time in 20 years. This was accompanied by the growing climate crisis, potentially pushing millions more into poverty. As the pandemic wears on, widespread health and education disruptions and job losses are having long-lasting impacts on human capital. Low-income countries have been hit particularly hard by the impacts of the COVID-19 pandemic, and the climate crisis compounds the effects, resulting in increased food insecurity and migration. Water is a vital element in tackling both these issues and must be integrated in long-term solutions.

The World Bank Group has mounted the largest crisis response in its history to help developing countries strengthen their response to the COVID-19 pandemic. To help build the foundation for a strong and durable recovery, the Bank put in place a framework for supporting green, resilient, and inclusive development that addresses both the devastation wrought by COVID-19 and the longer-term challenge of climate change. The organization has also issued an ambitious Climate Change Action Plan that aims to increase climate finance to reduce emissions, strengthen climate change adaptation, and align financial flows with the goals of the Paris Agreement. These efforts will help put countries on a path to achieving the United Nations' Sustainable Development Goals.

Delivering a water-secure world for all is central to each of these endeavors; water is the great connector. The staff of the World Bank's Water Global Practice have worked across sectors to support our clients in delivering water for people, water for

production, and water for the planet. As you will read in this year's annual report, the Global Water Security & Sanitation Partnership (GWSP) is pivotal to our response in the water sector. GWSP has been a lynchpin in laying the groundwork, shaping the Bank's policy dialogue with country counterparts, delivering our policy advice and enhancing our investments, as well as amplifying our voice on the global stage.

In the past year, GWSP was able to demonstrate the value of continuity, consistency, patience, and persistence. Despite the very real impact of the pandemic, work continued and even intensified as we found ways to overcome constraints, work closely with clients, and build on the work of previous years.

I am particularly proud of the work GWSP is supporting related to inclusion, which is influencing the global agenda for gender equality in the water workplace and leading to better management. As a result, many clients made inclusion more central to their work than ever in order to improve both policy and service delivery. Furthermore, our work in contexts affected by fragility, conflict, and violence continues to grow: this past year a third of GWSP's expenditure was in such contexts. This report outlines some of that experience, from country-wide engagement on innovative approaches in both water and sanitation in the Dominican Republic, to a timely study of water resilience in Kiribati, to the building of much-needed capacity in Somalia. Our work on water and the circular economy, water storage, and the improvement of water services is exciting and cutting edge and will shape our efforts in the coming years.

I am thankful for the partnerships that GWSP helps us foster at national, regional, and global levels, and for the partners that join forces with us. I am also extremely grateful to the donors who support our work, shape our agenda, and who contribute their expertise and insights. Finally, I want to commend the staff who have worked so hard to bring about these achievements, especially staff in country offices. They rose to the challenge, working tirelessly throughout the pandemic, remaining laser-focused on our clients' needs and challenges.



Jennifer Sara, Global Director, Water Global Practice, World Bank Group



A NOTE FROM THE PROGRAM MANAGER

In the 12 months between July 2020 and June 2021, as the global response to the COVID-19 pandemic moved from a sprint to a marathon, the role of water in climate change became more apparent, and the issues facing the water sector became more profound. Given these very real difficulties, one may have expected the Global Water Security & Sanitation Partnership (GWSP) to report less progress in fiscal year 2021 than in previous years. But, as the reader will see throughout this report, this has been a year of extraordinary effort, some real progress and even achievements, despite the very real problems.

The analytical work that is core to GWSP's agenda has continued, with over 40 new analytical pieces produced over the course of the year. This has directly resulted in key policy makers having better data, better policy options, and better capacity to deal with the breadth of water challenges. As we enter the fifth year of the Partnership, its model of bringing cutting-edge analytics to key decision-makers, while also being embedded in World Bank lending operations, has been validated. As the recently completed independent midterm evaluation found, "GWSP enables knowledge mobilization and engaged 'knowledge-based advocacy' globally, regionally, and nationally."

The world faces a triple crisis: the lack of progress toward the Sustainable Development Goals, the tragedy of the COVID-19 pandemic, and the threat of climate change. This report describes the work that GWSP has undertaken during the past fiscal year to tackle each one of these as it relates to the water sector. We have learned critically important lessons over the course of this year. For example, the efforts GWSP is making to enhance integration across all the water subsectors—water supply and sanitation, water resources management, and water in agriculture—must be intensified. Cross-connections must also be made with other sectors that depend on water and influence its use. The links between climate change, health, food production, urbanization, migration, and disasters have all been major headlines this year, and GWSP's

technical analysis has supported the Water Global Practice to be at the forefront of the global response.

This year saw major analytical work supporting a host of technical issues addressing water and migration, floods and droughts, inclusion, sanitation, transboundary issues, health, tariffs, and water reuse and the circular economy. The Partnership not only continued but intensified its efforts in fragile states, and promoted inclusion, financing, and climate change resilience. Focus also was enhanced on the challenges surrounding quality data by revitalizing the International Benchmarking Network for Water and Sanitation Utilities (known as IBNET) and continuing to build up the new online data hub, the [World Bank Water Data Portal](#).

Much of the analytical and policy work GWSP has supported in the past is now bearing fruit. This is seen in the current portfolio of the Water Global Practice, which in June 2021 had 143 active projects valued at almost \$25 billion. This upward trend is set to continue in FY22, with some 40 new projects with a potential overall value of well over \$5 billion.

It also gives me great pleasure to recognize that GWSP is more than meeting its goals in terms of fundraising and disbursements. Financial contributions over the past four years have helped the Partnership achieve its goal of raising \$200 million to support the knowledge-into-implementation agenda. Furthermore, in 2021 disbursements rose by 27 percent over the previous year, despite the very real constraints presented by the pandemic.

It is important to recognize the donors that have made this possible. These partners, who make up our Program Council, were intimately involved in the creation of GWSP and its transition from the Water and Sanitation Program and the Water Partnership Program. They have continued to guide the direction of our analytical work and were also actively engaged throughout the recently completed midterm evaluation. We are extremely appreciative of all their inputs. That the evaluation found this to be an “innovative, strategically-oriented and well-designed partnership” is a testament to their engagement and commitment.

Finally, I would like to acknowledge the commitment of our clients, who work at the national and subnational level to improve the lives of their citizens. I would also like to recognize the efforts of the entire staff of the World Bank’s Water Global Practice, who worked tirelessly over the past difficult year, collaborating closely with clients. The achievements highlighted in this report are a direct result of their efforts.



Joel Kolker, Program Manager, GWSP





ABOUT GWSP

The Global Water Security & Sanitation Partnership was launched in 2017 as an international partnership to support countries to meet the targets related to water and sanitation under the Sustainable Development Goals, particularly those of Goal 6.

GWSP is a multidonor trust fund administered by the World Bank's Water Global Practice (GP) and supported by the Australian Department of Foreign Affairs and Trade, Austria's Federal Ministry of Finance, the Bill & Melinda Gates Foundation, Denmark's Ministry of Foreign Affairs, the Netherlands' Ministry of Foreign Affairs, the Swedish International Development Cooperation Agency, Switzerland's State Secretariat for Economic Affairs, the Swiss Agency for Development and Cooperation, and the US Agency for International Development.

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 also 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. GWSP expands the global knowledge base through its broad dissemination of knowledge and analytics. Dissemination includes, among other things, making experts available for hundreds of speaking engagements and active participation in water-related conferences and meetings around the globe.

The analytical and knowledge work produced by GWSP is open source and available globally to all

development partners. While a strong emphasis is placed on quality analytics and delivery through policy dialogues with client governments and World Bank lending operations, it is equally important that the material finds a wide, global audience.

INFLUENCE ON WORLD BANK LENDING

GWSP’s unique position within the Water GP enables it to influence, through knowledge and technical assistance, the design and implementation of water sector reforms and infrastructure projects financed by the World Bank Group. In fiscal year 2021 alone, GWSP provided critical knowledge and analytical support to teams that delivered \$14.2 billion in World Bank lending. GWSP also supports partners at global, regional, national, and subnational levels.

GWSP ENTRY POINTS

GWSP supports World Bank task teams and clients through three distinct entry points:

1 KNOWLEDGE MOBILIZATION

- ◆ Leverages the global reach of the Water GP, sharing lessons from one part of the world with another.
- ◆ Drives investments and innovation through cutting-edge analyses.
- ◆ Supports proof-of-concept applications.
- ◆ Shifts mindsets through advocacy and outreach.

2 JUST-IN-TIME TECHNICAL ASSISTANCE

- ◆ Enhances project designs with highly specialized global knowledge.
- ◆ Offers rapid response to changing circumstances.
- ◆ Provides an unparalleled capacity-building model based on peer-to-peer learning.

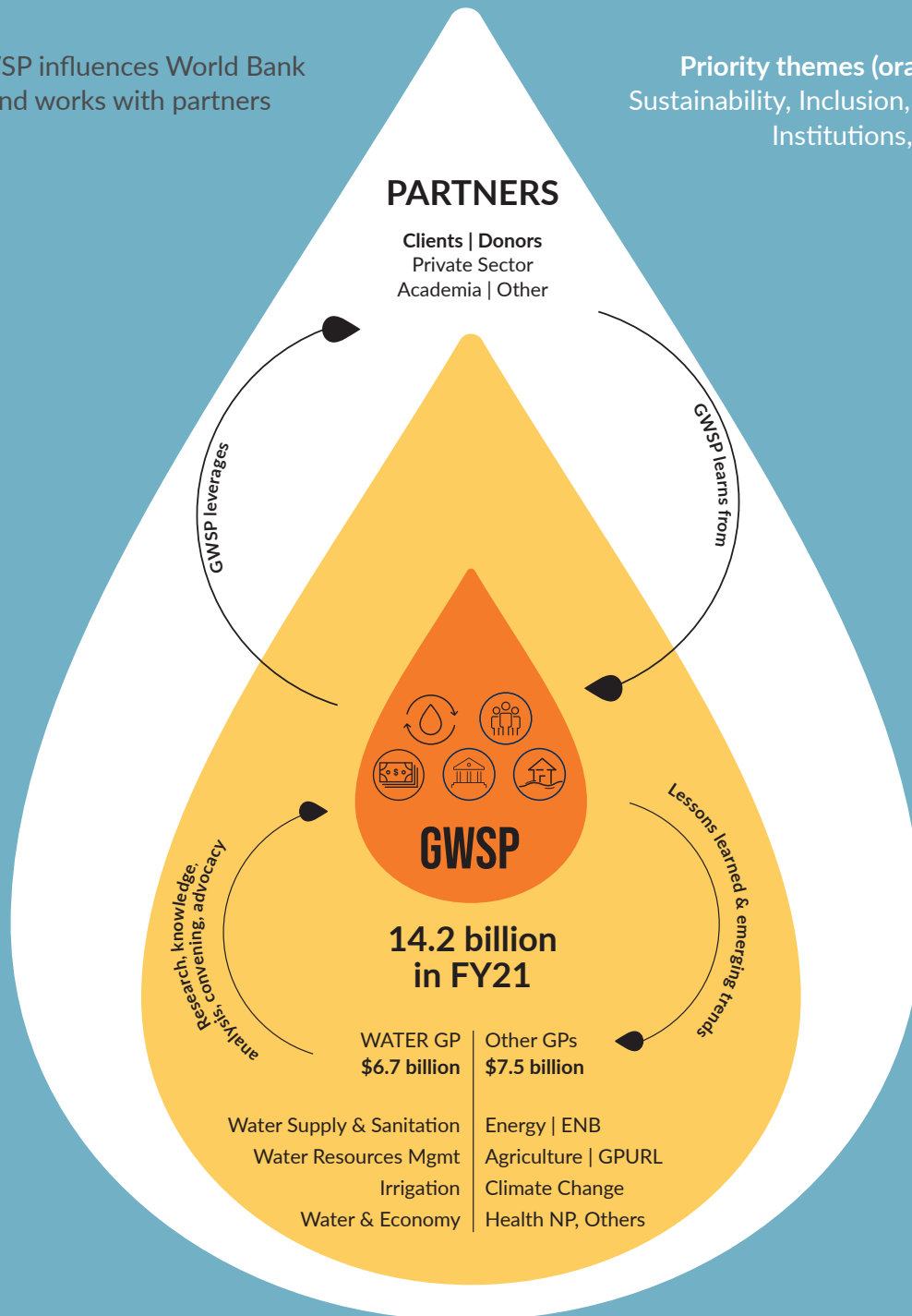
3 LONG-TERM COUNTRY ENGAGEMENT

- ◆ Lays the framework for country strategies between lending operations or before lending operations begin.
- ◆ Strengthens institutions before and during reforms.
- ◆ Provides project implementation support to agencies with lower capacity, especially in fragile and conflict-affected situations.

KNOWLEDGE INTO IMPLEMENTATION

How GWSP influences World Bank lending and works with partners

Priority themes (orange drop):
Sustainability, Inclusion, Financing, Institutions, Resilience



Note: GP = Global Practice; GPURL = Urban, Disaster Risk Management, Resilience and Land; Health NP = Health, Nutrition and Population; ENB = Environment, Natural Resources, Blue Economy.





EXECUTIVE SUMMARY

The Global Water Security and Sanitation Partnership (GWSP) continued to move forward and evolve over the fiscal year running from July 2020 to June 2021 (FY21), despite a complex set of challenges. With GWSP support, connections were made across sectors to provide an integrated and holistic set of solutions, in which building resilience to climate change and other shocks and stressors is fundamental.

Addressing the COVID-19 pandemic has now shifted from a sprint to a marathon, and the negative impacts of climate change continue to grow. Progress toward achievement of the Sustainable Development Goals (SDGs) by 2030 slowed in the past year. Water is a critical shared element across this triple crisis as governments seek to achieve the SDGs, battle the pandemic, and tackle the effects of climate change. Not only is water an essential element of climate change adaptation and mitigation efforts, but it also plays a vital role in preventing the spread of infectious diseases such as COVID-19. Water is inextricably linked to agriculture, energy, industry, education, gender equality, the environment, and, ultimately, the overall economy. It is key to achieving not only SDG 6, focused on water and sanitation, but nearly all the SDGs.

In the face of the triple crisis, and despite the logistical challenges imposed by the pandemic, GWSP has been unflinching in its support, providing key analytical inputs to countries to improve national policy and enhance investment, and advancing the global dialogue on water.

In line with previous years, results in the annual report are presented by three business lines (water supply and sanitation, water resources management, and water in agriculture) as well as by the five themes that GWSP addresses: inclusion, resilience, finance, institutions, and sustainability.

GWSP'S WATER SUPPLY AND SANITATION ACTIVITIES

GWSP supported increased access to resilient and inclusive water supply and sanitation services. In the past year:

- GWSP helped governments achieve foundational shifts in policy, institutions, and regulation that enable improved service delivery, for example in the Dominican Republic, Argentina, and Togo.
- GWSP supported utility reform at scale, and assisted utilities to become future-focused and perform better, even under crisis conditions, for instance in Moldova, Mexico, and India.
- GWSP fostered innovative, nationwide sanitation solutions in Kiribati and Mozambique and better management approaches in rural water supply in several countries, including Tanzania.

GWSP'S ACTIVITIES IN WATER RESOURCES MANAGEMENT

GWSP efforts in FY21 focused on improving water resources management by addressing the two critical elements of water security:

- (1) ensuring an acceptable quantity and quality of water is available for health, livelihoods, ecosystems, and production; and
- (2) reducing water-related risks to people, the environment, and economies. In the past year:

- GWSP supported water sector diagnostics and water platforms that helped governments outline sectoral priorities with a clear evidence-based narrative, for example in Bangladesh, Niger, and Indonesia.
- GWSP helped advance risk-management approaches to dam safety in the face of aging infrastructure, such as in India.

- GWSP facilitated engagements in trans-boundary water—with special attention to contexts marked by fragility, conflict, and violence—to improve water security and resource management, for instance in the Middle East.
- Ensuring **water, sanitation, and hygiene in all health care facilities** is critical in fighting the COVID-19 pandemic, and GWSP supported the development of an Operational Toolkit for WASH in Health Care Facilities to facilitate policy dialogues with clients and potential lending operations.

GWSP'S ACTIVITIES TO SUPPORT WATER IN AGRICULTURE

GWSP support focused on improving agricultural management that results in climate change mitigation, boosts farmers' incomes, and improves water productivity, water quality, health, and biodiversity. To that effect, this past year:

- GWSP assisted reforms within irrigation agencies to improve and modernize service delivery to water users, for instance in Cameroon and India.
- GWSP supported national governments to improve agricultural management through improved data analytics, such as in Somalia.
- GWSP promoted initiatives for climate adaptation and mitigation, such as scaling up farmer-led irrigation to empower farmers to adapt to major climate risks in Sub-Saharan Africa and promoting better rice management techniques to reduce greenhouse gas emissions in China and Southeast Asia.
- Ongoing work in the **Citywide Inclusive Sanitation (CWIS)** initiative included capacity-building support in numerous countries, which continued despite pandemic restrictions. Extensive support was provided to ongoing health efforts in Yemen, the Government of Nigeria was assisted to identify priority sanitation activities, and detailed reviews were undertaken of the sanitation situation in communities surrounding the African Great Lakes. The CWIS web hub was launched in FY21 and makes CWIS knowledge, tools and resources, and good practices available to government counterparts, development partners, academia, sanitation professionals, and other stakeholders.
- GWSP's work in **situations affected by fragility, conflict, and violence (FCV)** is an area of growing focus, and in the past year a third of GWSP's support was focused on FCV-affected situations and countries.
- GWSP's work in **inclusion** included the introduction of several new initiatives, including efforts to increase hand hygiene among the poorest and most marginalized in order to reduce the spread of COVID-19. The GWSP-supported advisory work not only deepened approaches to inclusion, but also facilitated the scaling up of these issues in policy dialogues and capacity building, and for the first time, 100 percent of projects

SPECIAL FOCUS

This year's report provides a strategic overview of key issues in the water sector that GWSP has made extensive efforts to address, with notable results.

addressed both gender and citizen engagement at the design and approval stages.

- GWSP continued to provide significant support to efforts to integrate **climate change** into policy dialogue with clients and the World Bank's water sector operations. All of the Water Global Practice (GP) lending approved in FY21 contributed to climate change mitigation and/or adaptation.

KNOWLEDGE PRODUCTS

GWSP supported the release of several major publications this year, based on analytical work funded by the Partnership.

For instance, the "[Ebb and Flow](#)" report examines the link between water and migration, and implications for economic development. A report titled "[An EPIC Response: Innovative Governance for Flood and Drought Risk Management](#)" provides a new approach to managing the large and growing risks associated with extreme hydro-climatic events. It sets out a vision of how national governments can deal with these challenges through innovative governance, and offers a practical and detailed guide to help governments improve their flood and drought management systems. The publication "[Utility of the Future: Taking Water and Sanitation Utilities Beyond the Next Level](#)" outlines an approach to planning and sequencing reforms to provide services in a sustainable manner, and presents a methodology to conduct a diagnostic assessment of a utility and translate the results into a prioritized and sequenced action plan. "[Connecting the Unconnected: Approaches for Getting Households to Connect to Sewerage Networks](#)" documents the experiences of programs around the world that connect households to sewerage networks.

REPORTING ON RESULTS

The GWSP Results Framework tracks the results of Partnership support to assist client countries as they build their water sector institutions and deliver services, to achieve measurable results on the ground, and to enhance the impact of the World Bank's water portfolio. Despite challenges and delays resulting from the ongoing COVID-19 pandemic, staff doubled down on their support to clients and as a result GWSP delivered strong results in FY21:

- **GWSP informed \$14.2 billion in newly reported lending projects**, compared to \$13 billion in FY20, and \$37.8 billion in lending in total when previously reported projects are included. The increase in newly reported projects influenced is in large part due to GWSP's support of the World Bank's Global COVID-19 Multiphase Programmatic Approach.
- The Water GP teams continued to engage in cross-sector projects with other GPs. In FY21 **GWSP informed approximately \$1.67 billion of lending in the Education GP and nearly \$1 billion in the Urban, Disaster Risk Management, Resilience and Land GP.**
- Among the new lending projects in FY21, GWSP influenced **nine projects linked to eight countries affected by fragility, conflict, and violence, with commitments of close to \$950 million.**

In addition to results above, there were significant achievements under each GWSP theme:

- **Inclusion:** In FY21, 100 percent of projects were gender tagged, meaning they demonstrated a results chain by linking gender gaps identified in the design phase to specific

actions tracked in the Results Framework during implementation. In addition, 85 percent of new projects have other social inclusion aspects, such as targeting the poor, vulnerable, or underserved communities or areas.

- **Resilience:** 100 percent of new projects incorporated resilience in the design of water-related activities, an increase of 22 percent from FY20.
- **Financing:** In FY21, 69 percent of projects supported reforms/actions improving financial viability (representing \$2.15 billion of investment). However, this was lower than last year (by 19 percentage points) as the year saw reverse private capital outflows from emerging markets—the largest since the 2008 global financial crisis, which has discouraged a focus on opportunities for contributing to private capital mobilization.
- **Institutions:** All the new Water GP lending operations of FY21 focused on strengthening institutional capacity through establishing new institutions or enabling existing ones to deliver services sustainably.
- **Sustainability:** In FY21, all 13 Water GP lending operations promoted sustainable and efficient water use, and the indicator for functionality of rural water points increased from 67 percent in FY20 to 80 percent.

EVALUATION OF GWSP

During FY21, the GWSP Program Council and the Water GP commissioned an independent [midterm evaluation](#) of GWSP. The evaluation was positive and provided a strong endorsement of GWSP’s design, governance, and impact, stating: “GWSP is a strategically- and

well-designed, much valued, highly effective and well-managed Multi Donor Trust Fund.” The process provided useful recommendations centered on maintaining the knowledge-into-implementation model; increasing cross-sectoral collaboration; enhancing country-level knowledge creation, dissemination, and capacity; amplifying work on climate and inclusion; and leveraging partnerships.

GOING FORWARD

Going forward, GWSP will continue to support client countries and their efforts to address the triple crisis in a holistic and integrated way across GWSP’s themes and the Water GP’s business lines. GWSP will also support the Water GP to enhance collaboration with external partners and stakeholders, as well as other GPs and World Bank–hosted trust funds. Innovative ways will continue to be explored to pilot and scale solutions, produce cutting-edge knowledge and research to better inform clients and project design, share global best practices, and provide just-in-time support. In the coming year GWSP will focus on country and regional water security diagnostic studies and platforms to promote sustainable management and use of water resources, expand the use of multipurpose storage, and support a resilience- and risk-based approach to agricultural water management to mitigate climate-related impacts on agriculture and water.

Finally, GWSP remains indebted to the donors who support GWSP’s work and help to shape its agenda, and to the staff who have worked so hard to bring about these achievements during this very difficult period.







CHAPTER 1

CRISIS AND OPPORTUNITY

The fiscal year running from July 2020 to June 2021 (FY21) was filled with unprecedented challenges. Hard-earned development gains were reversed, and progress toward achieving the Sustainable Development Goals (SDGs) was slowed. For the first time in 20 years, the global rate of extreme poverty rose. The COVID-19 pandemic shifted from a crisis to a longer-term development challenge, and the impacts of climate change continued to deepen.

1.1 THE TRIPLE CRISIS

Water is a critical shared element across this triple crisis as governments seek to achieve the SDGs, battle the pandemic, and tackle the effects of climate change. Not only is water an essential element of climate change adaptation and mitigation efforts, it plays a vital role in preventing the spread of infectious diseases such as COVID-19. As well as being an essential determinant of good health, water is also inextricably linked to agriculture, energy, industry, education, gender equality, the environment, and ultimately the overall economy. It is key to achieving not only SDG 6, dedicated to water and sanitation, but all of the SDGs.

In the face of this triple crisis, and despite the logistical challenges imposed by the pandemic, the Global Water Security & Sanitation Partnership (GWSP) has been unflinching in its support in FY21, providing key analytical inputs to countries to improve national policy and enhance investment, and advancing the global dialogue on water.

GWSP has been integral in advancing the SDG 6 agenda. By leading analytical work aligned with its five priority themes—sustainability, inclusion, institutions, financing, and resilience—GWSP has made crucial contributions toward increasing access to improved water and sanitation around the world and achieving the SDG 6 targets.

GWSP has contributed to the fight against the pandemic by supporting unparalleled collaboration between the World Bank Water and Health global practices (GPs). Several GWSP-financed activities have pivoted to address clients' most immediate pandemic-related needs, resulting in eight projects in FY21 with commitments to improve WASH services and specifically

influencing the design and implementation of \$1.7 billion of investments targeted at tackling COVID-19.

GWSP is supporting climate change mitigation and adaptation goals, working across the World Bank to support clients in this regard by focusing on the nexus of water and health, food, energy, and the environment. GWSP has continued its support to integrate climate change in policy dialogue with clients, and in FY21 all Water GP lending operations included dedicated financing for climate change mitigation and adaptation.

The pandemic highlighted the critical need for water to not only prevent the spread of the disease, but also to revitalize economies, employment opportunities, health outcomes, and the environment. However, according to the Joint Monitoring Programme for Water Supply, Sanitation and Hygiene (JMP), managed by the World Health Organization (WHO) and United Nations Children's Fund (UNICEF), despite progress, 2 billion people lacked safely managed drinking water and 3.6 billion lacked safely managed sanitation in 2020.¹ The JMP estimates that achieving universal coverage by 2030, as called for under SDG 6, would require quadrupling the current rates of progress in safely managed drinking water services, safely managed sanitation services, and basic hygiene services. In addition, 62 percent of countries are not on track to meet integrated water resources management targets, and the current rate of progress must

1 [WHO \(World Health Organization\) and UNICEF \(United Nations Children's Fund\). 2021. Progress on Household Drinking Water, Sanitation and Hygiene 2000–2020: Five Years into the SDGs. Geneva: WHO and UNICEF.](#)

double to achieve global targets by 2030.² The COVID-19 pandemic has hindered progress toward these water-related targets.

Challenges in the water sector are further exacerbated by climate change, which has resulted in increasing global temperatures, changes in precipitation patterns, and extreme weather events leading to excessive flooding and droughts, and threatening water and food security, health, and the environment. The World Bank's [2021-2025 Climate Change Action Plan \(CCAP\)](#) aims to increase climate finance to reduce emissions, strengthen climate change adaptation, and align financial flows with the goals of the Paris Agreement. A core component of the CCAP will focus on key systems that generate over 90 percent of global greenhouse gas emissions—energy, agriculture, food, water and land, cities, transport, and manufacturing—all of which also face significant adaptation challenges. Water has a key role to play across these systems and must be central

to the climate change response. GWSP has helped the Water GP to engage in the CCAP by supporting analytical work to improve the resilience of water investments, funding staff time to contribute to all of the Country Climate and Development Reports prepared to date, and providing technical advisory services to align projects with the CCAP by making them “climate and water smart.”

High-level support for water on the global stage has remained strong, and GWSP, fully integrated and embedded in the Water GP, has been in a unique position to support the GP to engage. The 2021 Climate Adaptation Summit featured an anchor event on water, supported by the Water GP, that highlighted water's central role in addressing key climate challenges. The SDG 6 Global Acceleration Framework has been established by key stakeholders to increase the pace and scale of results, and has been embraced by the Water GP. These high-level initiatives and events are opportunities to help mobilize political leadership to tackle water and climate challenges; promote comprehensive, inclusive, and collaborative management of water resources; and provide innovative solutions for improved access to clean water and sanitation.

2 [UNEP. 2021. “Progress on Integrated Water Resources Management. Tracking SDG 6 Series: Global Indicator 6.5.1 Updates and Acceleration Needs.”](#)



1.2 PLANNING FOR A GREEN, RESILIENT, & INCLUSIVE RECOVERY

Addressing the triple crisis requires an integrated approach. GWSP is well positioned to provide holistic solutions, working across sectors, that enable countries to confront obstacles on their path to meeting the SDG 6 targets. It is not sufficient to simply recover from the pandemic; the World Bank aims to support client countries to build back stronger and greener. GWSP, in collaboration with the Water GP, other GPs, and key partners, is committed to working with its clients to deliver on this vital and ambitious agenda.

A country's growth and development depend on how it invests in its key assets—human, physical, natural, and social capital. These assets have been severely affected by the pandemic, all are vulnerable to climate change, and they are all interconnected. They call for green, resilient, and inclusive development (GRID), a concept that derives from growing recognition of the interconnectedness of people, the planet, and the economy. The GRID approach shows that achieving sustainable and broad-based economic growth is possible without harming the climate, degrading the environment, or leaving hundreds of millions in poverty. It is therefore central to the World Bank's response to the pandemic as it promotes economic progress

that complements protection of the environment and social inclusion.

Of course, integrated, longer-horizon GRID strategies are needed to repair the structural damage caused by the pandemic, accelerate climate change mitigation and adaptation, and underpin a strong and durable recovery.³ The World Bank has developed a practical diagnostic tool to assist in operationalizing GRID, known as the Resilience, Inclusion, Sustainability, and Efficiency (RISE) framework. RISE can help inform countries where opportunities exist to support investments that deliver on multiple goals and help enable the transition toward green, resilient, sustainable development. The framework is designed to help clients and country teams decide where to focus attention for investments and policy reforms, backed by solid evidence. The GWSP agenda and work program is fully supportive of the GRID agenda and the RISE framework; in fact, the Partnership made important inputs into the development of both efforts.

3 <https://thedocs.worldbank.org/en/doc/9385bfef-1c330ed6ed972dd9e70d0fb7-0200022021/original/DC2021-0004-Green-Resilient-final.pdf>



Not only is water an essential element of climate change adaptation and mitigation efforts, it plays a vital role in preventing the spread of infectious diseases such as COVID-19.





1.3 GROWTH OF GWSP'S SUPPORT IN FY21

Despite the logistical challenges arising from the pandemic, GWSP-supported analytical and knowledge work continued to grow over the year. Total GWSP disbursements increased by nearly 27 percent compared to the previous fiscal year (refer to [Appendix A: Financial Update](#) for more details). As a result, GWSP-supported analytical and just-in-time support activities and knowledge products are expected to support a significantly increased FY22 operational lending pipeline for the Water GP.

In FY21, GWSP supported 127 knowledge and analytical activities that influenced \$14.2 billion

in lending operations (newly reported projects only) across the World Bank. These activities have informed project design and implementation to improve water access, service delivery, and resource management.

The COVID Financial Impact Assessment Tool for Water and Sanitation Providers and the Operational Toolkit for WASH in Health Care Facilities have informed and supported emergency response measures. GWSP collaboration led to the inclusion of water and sanitation components in 29 percent of the Health GP's pandemic response projects, and hygiene promotion in 69 percent.

1.4 MIDTERM EVALUATION OF GWSP

As part of the World Bank’s fiduciary responsibility, in coordination with the GWSP Council, the Water GP commissioned an independent midterm evaluation of GWSP in FY21. The evaluation was formative, with key recommendations to be incorporated to refine and improve GWSP’s design, governance, and impact. The evaluation examined whether GWSP is on track to advance the Water GP’s Strategic Action Plan pillars and the realization of SDG 6. The evaluation also assessed whether the recommendations from the summative evaluations of earlier water-related trust funds—the Water and Sanitation Program and the Water Partnership Program—have informed the Partnership.

Overall, the evaluation was positive and provided a strong endorsement of GWSP’s design, governance, and impact. Specifically, the evaluation stated that

GWSP is a strategically and well designed, much valued, highly effective and well managed Multi Donor Trust Fund. The knowledge into implementation approach has been conceived and designed to support the work of the Water GP and the wider global community committed to supporting countries in realizing their “Water Writ Large” SDG and broader priorities. GWSP provides valued resource both systematically and responsively, which has allowed it to progress in its focus and support, along a cumulative trajectory from SDG 6, through climate change and in response to the COVID 19 global pandemic. Guided by five, well defined, thematic priorities, GWSP’s work has been pro-poor, while advancing gender and inclusion considerations.

The evaluators considered GWSP to be well supported by a committed Program Council, with a suitable results framework and reporting.

The evaluation also provided useful recommendations to further enhance GWSP’s design and approach to increase impact. These recommendations centered on (1) maintaining and enhancing the knowledge-into-implementation model; (2) increasing cross-sectoral collaboration; (3) building on country-level knowledge creation, dissemination, and capacity; (4) amplifying work on climate and inclusion; and (5) leveraging partnerships. The Water GP is supportive of the evaluation’s findings and recommendations and is committed to taking the necessary actions to further refine and strengthen GWSP in consultation with the Program Council.



1.5 PARTNERSHIPS

Partnerships are essential to achieving the Water GP's vision. GWSP support has enabled collaboration with leading organizations in analytical and knowledge work, ensuring the final products benefit from varied perspectives. Partnerships have also allowed the dissemination of findings and knowledge across the water sector and beyond. Since its inception, GWSP has supported collaboration with over 345 institutions ranging from academia, civil society, governments, and the private sector to service providers and development agencies.

GWSP fosters collaboration at the global, regional, and country levels. At the global level, GWSP works with organizations to build knowledge worldwide and communicate key findings and messages. For instance, the Water

GP and GWSP have been long-time partners of UNICEF. In FY21, the Water GP worked with UNICEF on the global initiative [Hand Hygiene for All](#), launched as a response to the pandemic. GWSP also supports engagement with UNICEF in settings affected by fragility, conflict, and violence to link humanitarian aid to longer-term development and policy reform.

At the regional level, GWSP works with partners to gather information and share findings on key regional issues such as sanitation in Africa, transboundary water in the Middle East and North Africa, and river basins in Africa and Asia. This year, the Water GP and GWSP partnered with the African Ministers' Council on Water (AMCOW) in the development of the [African Sanitation Policy Guidelines](#), which will assist African governments to develop sanitation policies and strategies.

At a more local level, GWSP collaborated with the organization Safe Water Enterprises to share innovations, exchange knowledge, and boost the impact of market-based water supply services in numerous communities in six countries. The GWSP-supported [COVID Financial Impact Assessment Tool for Water and Sanitation Providers](#) was adapted to apply to handpump and piped water models to determine how entrepreneurial water service providers can further enhance service delivery in light of the pandemic. GWSP assisted the Safe Water Enterprises Community of Practice, made up of nine nongovernmental organizations, in establishing a set of tools and frameworks to inform future response strategies.



1.6 WAY FORWARD

FY21 demonstrated that despite notable progress, major obstacles must still be overcome to realize the Water GP's vision of a water-secure world for all. Significant efforts are required to scale up efforts in the water sector, specifically toward achieving the water-related SDGs, curbing the impact of the COVID-19 pandemic, and addressing the effects of climate change.

One key lesson from the past fiscal year is the need to better integrate the work undertaken under GWSP's themes and the Water GP's business lines—water supply and sanitation, water resources management, and water in agriculture. An integrated approach, working together to achieve better outcomes for people, the economy and the environment, will foster cross-collaboration and coordination. Both existing and new mechanisms can be mobilized, including water security diagnostics,

water accounting tools, and farmer-led irrigation development, in addition to the host of tools related to the Policy, Institutional, and Regulation; Utility of the Future; and Citywide Inclusive Sanitation initiatives.

The GWSP Program Council has extended the Partnership to 2030. Going forward, with GWSP support, the Water GP will continue to collaborate closely with external partners and stakeholders, as well as other GPs and World Bank-hosted trust funds. GWSP and the Water GP continue to seek innovative ways to pilot and scale solutions, to produce cutting-edge knowledge and research to better inform clients and project design, and to share global best practices. GWSP will continue to ensure these lessons are embedded in lending that provides long-term solutions to the water challenges facing the world today.

1.7 THIS YEAR'S ANNUAL REPORT

As in past reports, this year's report includes accounts of GWSP's support to activities at the global, regional, and country levels. These appear in "Chapter 3: Knowledge into Action."

In addition, a new chapter provides an in-depth look at issues that GWSP has been particularly active in addressing. "Chapter 2: A Detailed Look at Key Issues" focuses this year on inclusion, urban sanitation, WASH in health care facili-

ties, climate change, and GWSP's work in areas affected by fragility, conflict, and violence.

Like previous years, the report includes a chapter on results—"Chapter 4: Advancing Results"—and concludes with a chapter on GWSP's support to knowledge products and dissemination, "Chapter 5: Knowledge to Go Further." A financial update and details on results progress, including the updated results framework, are found in the appendices.







CHAPTER 2

A DETAILED LOOK AT KEY ISSUES

This chapter shines a light on some of the areas in which GWSP has made particular efforts and achieved notable results this past year, based on the needs of our clients at the national and subnational level. These are pressing issues, either because of their relevance to addressing the triple crisis of slow progress toward Sustainable Development Goal 6, climate change, and the COVID-19 pandemic, or because they support the World Bank's mission to combat poverty.

The chapter starts with an issue that is critical in fighting the COVID-19 pandemic: ensuring water supply, sanitation, and hygiene (WASH) in all health care facilities (HCFs). In addressing this challenge, GWSP built on its strong partnership with the World Health Organization (WHO) and the United Nations Children’s Fund (UNICEF), as well as internal coordination with various global practices (GPs) within the World Bank.

Also strongly related to health and hygiene is the ongoing work of the Citywide Inclusive Sanitation (CWIS) initiative, along with GWSP’s support to an intervention that links sanitation and the pandemic—that of disease surveillance through wastewater monitoring. A section on GWSP’s work in settings affected by fragility,

conflict, and violence (FCV) follows. This is an area of increasing focus for GWSP, and in the past year a third of GWSP’s support was for FCV-affected settings.

Last year’s annual report put special focus on GWSP’s work on inclusion. In 2021, the Partnership followed up on that work and introduced several new initiatives. These included efforts to increase hand hygiene among the poorest and most marginalized in order to reduce the spread of COVID-19. The chapter closes with a look at perhaps the most challenging and pressing issue of them all—the link between water and climate change—and the role GWSP has played in bringing water to the forefront of the global response.

2.1 WASH IN HEALTH CARE FACILITIES

WASH services are essential to providing safe and quality care and preventing infection in HCFs. However, these vital services are often missing, especially in low- and middle-income countries, a fact that the COVID-19 pandemic brought into stark relief. According to the most recent global estimates from WHO and UNICEF, in 2020 one in four HCFs lacked basic water services, and 1 in 10 had no sanitation services. Furthermore, in one-third of HCFs, health care workers did not have access to hand hygiene facilities at points of care, exposing them and their patients to the risk of infection.

The World Bank has invested in WASH in HCF activities in the past, but these investments were primarily focused on installation of water infrastructure. The COVID-19 pandemic brought new focus to the need to strengthen the overall systems that ensure all aspects of safely managed WASH are consistently available in HCFs. The

pandemic highlighted a need to achieve near-term objectives for infection prevention and control (IPC), that, as part of the emergency response, prevents patients from acquiring infections when they seek care for COVID-19 in HCFs. It also made clear the need to reach longer-term goals to ensure that HCFs are welcoming and safe for those seeking health care, particularly women, children, and adolescents.

As a result of the fast-track financing available through the World Bank’s COVID-19 response, the number of projects supporting WASH in HCFs doubled over the past year, increasing from 29 to 58 operations. This in turn has led to the need for deeper understanding among practitioners, clients, and World Bank staff of the mechanisms and approaches that can provide sustainable improvement of WASH infrastructure and services in health care settings. With support from GWSP, collaboration with



the Health, Nutrition, and Population Global Practice and the Global Financing Facility for Women, Children and Adolescents (GFF) Trust Fund was greatly enhanced to develop an Operational Toolkit for WASH in Health Care Facilities, designed to improve the quality and quantity of investments.

GWSP support is now being used, along with support from the GFF, to scale up the use of the Toolkit in policy dialogues with clients and in potential lending operations. For example, in Zambia the Toolkit will support the GFF co-financed COVID-19 Emergency Response and Health Systems Preparedness Project with initial assessments of WASH service levels in participating HCFs. The information collected through the assessments will be used to develop detailed procurement plans for the project, covering related WASH improvements. In Uganda, the Toolkit will be used to strengthen the technical design and construction management of water supply systems in maternity centers financed under the Uganda Reproductive, Maternal and Child Health Services Improvement Project, and to assess opportunities to align the incentive structure for health facilities participating in results-based financing schemes to improve the provision of WASH services.

Key lessons from the first six months of the Toolkit's implementation include:

- Sustainably improving WASH in HCFs is not only, or even primarily, an infrastructure problem. Teams need to think beyond engineering designs and contracting documents to consider the enabling environment for WASH in HCFs, finding solutions that ensure quality of construction, facilitate operations and maintenance, encourage investment in behavior change to improve effective use, and support adequate monitoring and evaluation.

BOX 2.1

THE OPERATIONAL TOOLKIT FOR WASH IN HEALTH CARE FACILITIES

The Operational Toolkit for WASH in Health Care Facilities contains nine modules, covering all aspects of implementation, including:

- Initial needs assessment,
- Development of service-level standards,
- Management models for operation and maintenance,
- Strengthening of the enabling environment,
- Inputs to infrastructure construction, and
- Support for advocacy and behavior change to ensure sustainability and effective use of WASH services in health care facilities.

It also incorporates guidance specific to conducting the climate vulnerability assessments needed for the design of climate-resilient WASH services in health facilities.

Inclusion is embedded in the toolkit, with close attention paid to ensuring that infrastructure is female friendly (e.g., equipped for menstrual health and hygiene), inclusive, and accessible for persons with disabilities.

- Closer collaboration between the health and water sectors helps to address some of the bottlenecks to sustainable service delivery, such as inadequate attention to routine operations and maintenance once infrastructure is constructed. The Toolkit’s guidance can be used to develop service management models that establish these mechanisms, clarify the roles and responsibilities of the health sector vis-à-vis the water sector, and identify sources of funding to keep WASH services functional.
- The Toolkit is best applied comprehensively to the World Bank’s lending portfolio in a country where there are multiple, complementary projects. For example, in many countries, especially those with emergency COVID-19 financing, several projects in the portfolio may involve WASH activi-

ties in health facilities, either as part of the emergency response or through longer-term infrastructure and systems strengthening investments. Many of the Toolkit packages can be adapted to support improvements at a national scale that can benefit multiple projects, such as assessing the enabling environment for WASH in health facilities and setting service level standards for WASH in health facilities. Other packages are more project specific, such as service-level needs assessments of health facilities in a project area. Those using the Toolkit are encouraged to “work the problem, not the project.”

As well as working across World Bank GPs, GWSP and GFF teams are working in partnership with external organizations and stakeholders. For example, the Operational Toolkit for WASH in Health Care Facilities is aligned with other tools that support improvement of WASH in HCFs, including the “Eight Practical Steps” guidance issued by WHO and UNICEF. Additionally, the teams play an active role in the WASH in Health Care Facilities Global Task Force, which brings together multiple stakeholders to work with national governments to achieve the objectives established by World Health Assembly member states which, represented by their ministers of health, passed a resolution in 2019 to improve and sustain WASH in HCFs. This resolution commits them to developing national roadmaps, setting and monitoring targets, increasing investments in infrastructure and human resources, and strengthening systems. Thus far, national roadmaps to reach universal coverage of WASH in HCFs have been established in 15 countries, and large-scale implementation of WASH infrastructure improvements is underway in 10 countries, including Ethiopia, the Democratic Republic of Congo, the Philippines, and Cambodia, among others.

Now in its fourth year, GWSP’s CWIS initiative has assisted in the identification, design, and



2.2 CITYWIDE INCLUSIVE SANITATION

implementation of urban sanitation interventions in over 30 countries in all world regions, influencing some \$6 billion of investments with over 14 million direct and indirect beneficiaries.

CWIS support is provided in four ways: (1) developing and disseminating [tools and resources](#) to assist project design and implementation, (2) undertaking [knowledge and learning events](#), (3) [building partnerships](#) with external and internal stakeholders, and (4) direct implementation support.

GWSP helped create the initiative's web hub, which was launched in FY21 (www.worldbank.org/cwis) and is designed to create, collate, curate, and share CWIS knowledge, tools and resources, and good practices widely with government counterparts, development partners, academia, sanitation professionals, and other stakeholders. This year the CWIS initiative developed and disseminated numerous tools and resources including "[Connecting the Unconnected: Getting Households to Connect to Sewers](#)," a report launched on World Toilet Day in 2020; a Spanish version of the engineering design book [Fecal Sludge and Septage Treatment: A Guide for Low- and Middle-Income Countries](#); and a French version of [The Generic Terms of Reference for the Design of Fecal Sludge Management Interventions](#).

As part of the initiative's knowledge and learning activities, country-level CWIS workshops were conducted in virtual formats over the past year in Brazil, Cambodia, Ethiopia, Ghana, Mexico, Nigeria, Turkey, and South Africa. Knowledge events were also held on: (1) behavior change in urban sanitation; (2) the sanitation gap in climate finance and policy; (3) connecting unconnected

households to sewers; (4) inadequate sanitation and marine and freshwater pollution; (5) urban sanitation and climate resilience; (6) good practice approaches for economic analysis of urban sanitation interventions; (7) the development of a CWIS tool for estimating greenhouse gas (GHG) emissions from urban sanitation systems; and (8) the mapping of job creation opportunities along the sanitation service chain.

In FY21, with GWSP support, the CWIS team started providing technical assistance to eight new countries (Burkina Faso, Indonesia, Kenya, Nigeria, Romania, Senegal, South Africa, and Turkey) and expanded support in several other countries. While face-to-face missions were not possible, virtual missions were supported, and virtual support from global experts was mobilized. Some examples of support include:

- In Bangladesh, the CWIS team continues to support: (1) the design of a program to connect unconnected households to new sewers; (2) the design of technical interventions, including on conventional sewers, condominal sewers, on-site sanitation and fecal sludge management, and comprehensive sanitation planning; and (3) the design of institutional interventions, including the setting up of new units within the utility to support sanitation service delivery, setting tariffs, and promoting user charge collection. GWSP is also supporting the creation of sanitation demand through a range of innovative approaches and modalities, including working with the private sector; the development of mechanisms for more effective implementation of sanitation services with the involvement of beneficiaries from conception through implementation to operations and

maintenance; and a review of the status of sanitation workers.

- In Nigeria, GWSP supported the CWIS team, working with colleagues from the Policy, Institutions, and Regulation team, to: (1) assist with institutional strengthening at the federal and state level to support the identification, design, and implementation of priority sanitation activities; (2) support project management through the review of technical documents; and (3) provide technical assistance to support the design and

organization of a sanitation webinar series for sector stakeholders.

- With GWSP funding, the CWIS team provided extensive support to ongoing health efforts in Yemen, including: (1) implementing a critical WASH component; (2) providing technical inputs for UNICEF to implement a sanitation needs assessment; and (3) supporting the identification of suitable sanitation interventions, including through developing a prioritization tool for project interventions.

BOX 2.2

ECUADOR: WASTEWATER SURVEILLANCE FOR COVID-19

The COVID-19 pandemic has brought attention to the potential of wastewater-based epidemiology (WBE) to leverage the cities' existing sewer infrastructure to provide timely information on a population's health to public health officials and policy makers. The presence of fragments of the virus that causes COVID-19 can be detected in wastewater, as a significant proportion of people who are infected shed them in their feces, sometimes before symptoms start, or even if they are asymptomatic. Measurement of the level of the coronavirus genetic material in sewage can thus help shed light on the magnitude of the pandemic and whether it is increasing, decreasing, or stabilized in a given location.

In March 2020, GWSP provided "just in time" resources to fund WBE research in Ecuador. GWSP supported a partnership with Biobot, a leading WBE firm associated with the Massa-

chusetts Institute of Technology. A pilot took place in the city of Guayaquil, which successfully built local capacity in WBE. The municipal water authority in Guayaquil has since entered into a partnership with a local university to perform weekly analyses of wastewater in a range of locations. The success of this undertaking, as well as interactions with health counterparts, including the World Bank's Health Global Practice, has resulted in the development of a GWSP-supported *WBE Implementation Guidebook* to assist other countries that wish to adopt the approach. The experience in Ecuador has already been replicated and is proving relevant both regionally and globally. GWSP support has been fundamental in sharing understanding of WBE in Uruguay and Morocco, and momentum is being built for further investments in WBE to improve responses to the pandemic and thus reduce its impact.



- GWSP support has allowed detailed reviews to be undertaken to assist in gaining a better understanding of the sanitation situation in the rural, small town, and urban communities surrounding the African Great Lakes. The CWIS team has also mobilized experts to facilitate knowledge exchange and improve the overall quality of proposed interventions to improve sanitation services.

Finally, the Partnership is supporting work with several key partners to advance the concept of CWIS, including with other multilateral development banks, bilateral donors, academia, think tanks, international nongovernmental organizations, and other development partners. This year CWIS partnerships were further expanded, including with: (1) WaterAid, WHO, the International Labour Organization, and SNV on the challenges and realities facing sani-

tation workers; (2) the University of Leeds, the International Water Association, WaterAid, and others on rethinking approaches to designing and implementing sustainable sewer systems; (3) UNICEF on aligning approaches to CWIS globally; (4) the African Ministers Council on Water and UNICEF on the development and roll-out of the Africa Sanitation Policy Guidelines; (5) the African Development Bank on the Africa Urban Sanitation Innovation Fund; (6) the Nature Conservancy, the University of California-Santa Barbara, the University of Leeds, and Oceankind on the nexus of sanitation and marine and freshwater health; (7) the Stockholm Environment Institute, the Global Green Growth Institute, and the University of Leeds on GHG emissions and urban sanitation; and (8) other development partners, nongovernmental organizations, think tanks, and research entities.

2.3 WATER IN SETTINGS AFFECTED BY FRAGILITY, CONFLICT, & VIOLENCE (FCV)

In fragile and conflict-affected contexts, failure to deliver water and sanitation services or to ensure resilience to water-related shocks has particularly powerful effects that prolong and deepen fragility. Water insecurity can intensify perceptions that a government is unwilling to or unable to meet the needs of its citizens—perpetuating a vicious downward spiral—thereby weakening the social compact between the government and citizen groups and acting as a destabilizing force and risk multiplier. GWSP has substantially increased its focus on fragile states, and now supports work in 29 out of the 39 situations classified by the World Bank as fragile and conflict affected, managing a \$3.5 billion portfolio of water projects. GWSP also supports other GPs to deliver a further \$4 billion of projects that include water components. Overall, GWSP allocates 32 percent of its budget to countries and situations affected by FCV, a larger proportion than that of lending allocations by the Water GP.

These projects improve water security by building the capacity of country institutions to:

- Provide citizens with basic water services;
- Protect citizens from water-related disasters; and
- Preserve surface, ground, and transboundary water resources.

Across FCV-affected areas, FY21 saw an uptick in political risk and tension that has hindered the expansion of water-related services. For example, armed conflict has damaged vital water

infrastructure in the West Bank and Gaza. In countries such as Iraq and Somalia, elections were rescheduled, weakening the legitimacy of incumbent leaders, and resulting in reform leaders who are more risk averse. This, in turn, has delayed key decisions on policies, institutions, and investments related to the water sector, such as tariff policies or new infrastructure investments, leading to lower revenues for water utilities, delays in investment decisions, fragmented policy processes, and, ultimately, poor services.

In addition, the COVID-19 pandemic has severely affected the functioning of government bureaucracies in FCV-affected settings, slowing World Bank operational processes. As local lockdowns and hybrid working arrangements have been put in place, the relatively poor digital infrastructure in FCV-affected areas has made it much more difficult for the staff of client governments and World Bank teams to sustain dialogue around policy reform and hold capacity-building events. Nevertheless, teams on both sides have achieved results, often using unconventional methods and making extra efforts to overcome critical constraints.

Despite these very real challenges, GWSP has focused on collaboration with clients to prepare, implement, and complete vital analytical work, technical assistance, capacity building, and other critical inputs to bring knowledge into implementation. In Somalia, the Water for Agro-pastoral Productivity and Resilience Project is focused on strengthening resilience in the northern and central parts of the country. GWSP support

of hydrological and hydrogeological prefeasibility studies helped set a solid foundation for the project's implementation, with teams of government staff trained and ready, sites for sand dams and other water storage structures selected, and construction imminent ([see full story](#)). A Water Security Diagnostic for Somalia is also helping to further advance understanding of available water resources, and inform sector dialogue. In Baghdad, Iraq, the procurement of a large reservoir that will serve more than 550,000 people reached the evaluation stage. In Kiribati, a GWSP-supported study helped the government gain a detailed understanding of the particular water scarcity challenges faced by this small island state, and develop possible resilience strategies, including launching a new sanitation roadmap.

Knowledge curation, training, and technical assistance enhanced the capacity of clients to rebuild across our FCV-affected partner countries. For

example, in Somalia, a national water strategy was developed along with training of government staff on water resource modeling to prepare them for discussions on transboundary waters and regional integration. A digital transformation roadmap developed for the billing system at the Baghdad Water Authority and a diagnostic of options for modernizing the billing system in Libya will help these countries rebuild revenue streams post-pandemic. An emergency preparedness plan was developed for Tripoli, Libya, where conflict and economic decline have repeatedly threatened the main water source. A water sector review in Sudan that underpins new investments in water security, irrigation, and water supply and sanitation was completed ([see full story](#)). In Haiti, GWSP support is improving water and sanitation monitoring, while in the West Bank and Gaza technical assistance is advancing water security for Palestinians. In Kosovo, the Partnership has supported an ongoing effort to modernize and rehabilitate the Iber Canal. An important aspect



of this modernization is the implementation of SCADA (supervisory control and data acquisition) through a computer system that is being used for process monitoring and automation. This has enabled the government to manage flow to reduce overflowing, which in turn reduces water losses.

GWSP also supported a report on the economics of water in Somalia, which highlighted the need to generate data from both remote sensing and modeling, as well as to collect operational data on site. Globally, there needs to be increased investment in collecting data to improve the quality of operations, particularly in FCV settings. There is a danger that in a post-pandemic era, budgets for local data collection will be cut back in the false understanding that all data can be collected remotely.

Another key element of the Partnership's support in FCV-affected areas was a stock-taking of the importance and urgency of this type of external support. Lessons learned were captured in the report "[Joining Forces to Combat Protracted Crises](#)," coauthored by the World Bank, UNICEF, and the International

Committee of the Red Cross. The report, widely disseminated this year, examines how humanitarian and development actors in the Middle East and North Africa could best work together to anticipate—and address—five pernicious problems: (1) inadequately governed water resources; (2) aggressive competition from alternate providers (e.g., tanker trucks), undermining network services; (3) paralysis of high-tech wastewater treatment plants; (4) escalating energy costs for pumping and treating water; and (5) a cashflow crunch as service provider costs jump and revenues fall.

In all FCV-affected contexts there is a need to be innovative and flexible to enhance collaboration between governments and the large number of external actors involved. With key GWSP support, World Bank programming can be aligned with other partners, allowing a focus on building genuine government programs and systems in FCV contexts, rather than piecemeal projects. More care is needed to establish clear mechanisms to resolve key problems at the highest levels of government while building operational efficiency and overcoming risk aversion at lower levels of government.



2.4 WATER AND INCLUSION

GWSP-supported analytical work on inclusion seeks to identify and quantify not only the drivers of exclusion in water, but also to identify ways to progress towards greater inclusivity. This means establishing an evidence base on the benefits of shifting the underlying norms, institutional processes, and incentives that tend to drive exclusion over time. It also means developing approaches to make these shifts. The challenge of fostering more inclusive institutions is that it often requires a fundamental change that is not always aligned with existing incentives. It thus takes time to build consensus among national stakeholders, clients, and partners, and to cultivate champions. Extensive engagement is needed across organizations, as is advocacy to create coalitions—something that was particularly challenging under COVID-19 pandemic-related restrictions.

Despite these challenges, the positioning of inclusion in projects supported by GWSP deepened during this fiscal year. Analytical work to curate evidence and develop guidance formed the basis for external advocacy and capacity building, with global influence. This included a review of menstrual health and hygiene that demonstrated that increasing the availability of menstrual management products to adolescent girls is linked to reduced school dropout rates, and a review of empirical evidence on the effectiveness of mechanisms to promote gender equality in the workplace. The social inclusion team leveraged existing programs—for instance, Equal Aqua—to provide an ongoing forum for peer-to-peer discussions among clients, and to increase client knowledge of and capacity to address inclusion issues. Virtual knowledge and capacity-building events were ramped up to reach and engage with clients, partners, and staff across the globe, including those in

country offices. Twenty-nine events were held, reaching thousands of clients and World Bank staff members.

As a result, in many projects clients made inclusion more central to their theory of change and allocated tangible project resources to it. GWSP-supported advisory work not only deepened approaches to inclusion in operations, but also facilitated scaling up. For the first time, 100 percent of projects address both gender and citizen engagement at the design and approval stages. For example, this included tying loan disbursement to increasing female representation in decision-making roles in one of the largest utilities in Latin America, scaling up gender equality in dam safety organizations across several states in India, and building capacity within water institutions in Albania to require private sector contractors to establish citizen engagement systems.

In Mozambique, as part of COVID-19 relief, the Urban Water Supply and Sanitation Project incorporated menstruation-friendly infrastructure and the free provision of menstrual products, combined with menstrual health and hygiene education benefitting adolescent girls. In Mexico, GWSP-supported advocacy resulted in the elimination of taxes on menstrual hygiene products. In addition to being gender sensitive, water projects have become more inclusive—in FY21 the share of inclusive projects grew to 85 percent; the share of projects that identify and address disability inclusion increased to 46 percent (from 25 percent in FY20), and, in addition, 62 percent of water projects introduced indicators related to inclusion in their results framework, while nearly one in four projects (23 percent) included indicators related to disability.

The Equal Aqua platform grew to almost 100 benchmarked utilities, with more than 60 water institutions using the platform's tools to improve gender equality. E-learning modules and benchmarking tools were further developed and embedded in core systems. One of the core systems affected in this way was the International Benchmarking Network for Water and Sanitation Utilities (IBNET), where including data on gender improves visibility and positions gender equality as a core element of good utility management. More than 30 projects were influenced, representing a portfolio of \$4.2 billion. These activities also contributed to an increase in medium- to high-skilled female job creation in World Bank-financed water sector projects in poor countries supported by the International Development Association (IDA). Through GWSP support, the Water GP was able to achieve more than double the target set under the 19th replenishment of IDA (IDA19), which required at least 30 percent of operations in water, energy, and transport to include actions to create employment opportunities for women.

Effective approaches to inclusion require multi-sectoral approaches. GWSP facilitated collaboration across the World Bank, including with the Bank's Gender Group; the Education GP; the Finance, Competitiveness and Innovation GP; the Health GP; and the Social Sustainability and Inclusion GP. This collaboration resulted in holistic approaches to empowering adolescent girls through better menstrual health and hygiene, adapting hand hygiene efforts to the needs of Indigenous populations and persons with disabilities, and the reflection of WASH-related inclusion issues in the social response to COVID-19.

An important response to the COVID-19 pandemic was the establishment, with GWSP support, of the Hand Hygiene Accelerator, an initiative to boost inclusive handwashing inter-

ventions in water projects. Hand hygiene is essential in breaking transmission of many diarrheal and respiratory diseases, including COVID-19, but access to hand hygiene facilities is low in poor countries and among vulnerable people. Operating in tandem with the Hand Hygiene for All initiative, led by WHO and UNICEF, the Accelerator provided just-in-time support, offered training, promoted knowledge exchange, and captured good practices in order to improve the quality and quantity of handwashing interventions for the poorest and most marginalized. GWSP support was also key to develop an advocacy campaign on menstrual health and hygiene with the nongovernmental organization WASH United. Content for this campaign was provided through technical guidance developed under the Menstrual Health and Hygiene Multi-sector Working Group, which was developed with GWSP support and now convenes several of the World Bank GPs.

During FY21, GWSP supported new guidance on gender in operations, which will be launched next year. Two deliverables will expand the work on inclusion in managing water resources under a changing climate, including a background note on gender in water in agriculture and a guidance note and stocktaking of citizen engagement in managing water resources under a changing climate. The latter represents an important area for collaboration with GWSP partners and civil society in terms of how to scale up and enhance government-civil society partnership. The analytical work and capacity building around disability inclusion that GWSP supported also benefitted from collaboration with partners (UNICEF, the Swedish International Development Cooperation, the International Disability Alliance, WaterAid, and others), resulting in a [joint resource page](#) for disability inclusion for WASH professionals, in addition to webinars and exchanges on the topic.

2.5 WATER AND CLIMATE CHANGE

GWSP continued to provide significant support to efforts to integrate climate change into policy dialogue with clients and the World Bank's water sector operations. All of the Water GP's lending approved in FY21 contributed to climate change mitigation and/or adaptation, generating what are known as climate co-benefits. The share of financing dedicated to climate change adaptation or mitigation in operations financed by the World Bank (differentiated from dedicated climate finance coming from funds such as the Green Climate Fund) supports climate action while also furthering development objectives. Climate co-benefits are measured using globally agreed-upon methods for tracking climate finance. In FY21, 62 percent of lending overseen by the Water

ited high climate co-benefits. A report titled "Strengthening Climate-Related Activities: Lessons for Improved Design of Water Projects" was produced in September 2020 to help clients, partners, and World Bank teams turn climate change knowledge into implementation. A series of learning notes based on this analysis was released in early FY22. With GWSP assistance, results indicators that measure the success of projects in achieving increased resilience to climate shocks or increased mitigation of GHG emissions have also been developed.

The Partnership continued to enable the development of methodologies and tools to support clients in improving investment design using the latest thinking on resilience. For example, with



Challenges in the water sector are further exacerbated by climate change, which has resulted in increasing global temperatures, changes in precipitation patterns, and extreme weather events leading to excessive flooding and droughts, and threatening water and food security, health, and the environment.



GP generated climate co-benefits, and in no project was this level less than 30 percent. All FY21-approved water projects also performed GHG accounting, application of carbon shadow pricing, and climate and disaster risk screenings. Each had at least one climate-related indicator integrated into its results framework.

GWSP supported a review of the lessons learned from 18 recently closed projects that exhib-

GWSP support, the ["Resilient Water Infrastructure Design Brief"](#) was published to complement the ["Resilience Roadmap"](#) (also supported by GWSP, focused mainly on investment/master planning level). These resources help client and World Bank teams to address vulnerabilities by incorporating resilience principles from the beginning of the infrastructure development process. Efforts are now underway to increase the utilization of both documents to help ensure

project teams and clients have the tools and resources to integrate resilience more systematically into operations.

The Partnership also supported the development of toolkits for clients and World Bank staff to enhance the quality and effectiveness of investments in the provision of water, sanitation, waste management, and hygiene services at educational institutions and in health care settings. The modules in these toolkits facilitate consideration of climate risks and the potential for reduction of GHG emissions.

GWSP was instrumental in influencing the global agenda on water and climate change, particu-

larly with respect to hydroclimatic disasters (i.e., droughts and floods). As GWSP-supported research demonstrates, these can have intergenerational poverty impacts, spur migration, and contribute to geopolitical instability. The flagship report “[An EPIC Response: Innovative Governance for Flood and Drought Risk Management](#)” established a new perspective on flood and drought risk governance. The report provides a framework for a coordinated government effort, with specific guidance for the many agencies that must be involved—water resources management authorities, disaster risk management agencies, meteorology and hydrology organizations, agriculture agencies, natural resource management bodies, social protection organizations, and



financial institutions. The basic elements spell “EPIC”: an Enabling environment of policies, laws, agencies, strategic plans, and information; Planning at all levels to prioritize risk mitigation measures; Investing in watersheds and water resources infrastructure; and Controlling the use of land and water resources to reduce exposures and vulnerabilities. EPIC is complemented by the “Response,” which is supported by drought and flood monitoring, recovery programs, and disaster risk financing mechanisms. The flagship report has been well received, and, with GWSP support, will be further developed into a decision support tool.

The Partnership’s efforts were key to the leadership role the World Bank played in the Water Action Track of the January 2021 Climate Adaptation Summit, hosted by the Government of the Netherlands, which brought together world leaders, international organizations, scientists, the private sector, civil society, and youth representatives.

Due in part to the support of GWSP, the Green, Resilient, and Inclusive Development (GRID) approach has been established for the post-COVID-19 pandemic recovery, as water and climate change are critical in this agenda. Moreover, in the second half of FY21, the issue of climate change achieved a new level of urgency within the World Bank Group, with the introduction of the updated [Climate Change Action Plan](#) and the advent of the Country Climate Development Report (CCDR) process. A CCDR investigates the potential impacts of climate change and global decarbonization on a country’s development path and priorities and identifies potential areas for action. Given the urgency of the water-climate nexus, GWSP support is providing technical inputs into the initial round of 32 CCDRs. This has included drafting a guide to integrating water sector issues into the CCDRs, reviewing CCDR drafts, and examining water’s

intersectoral linkages with climate and development plans for other sectors.

All countries that are party to the Paris Agreement (21st session of the Conference of the Parties, COP 21), are required to prepare, communicate, and maintain successive Nationally Determined Contributions (NDCs), outlining how they plan to reduce their GHG emissions, as well as priorities for building resilience to climate shocks. FY22 will be a key year for refining and asserting the water and climate narrative and highlighting its centrality in achieving regions’ and countries’ climate-related goals as outlined in the NDCs, and their development goals more generally. Some NDCs have included plans for specific projects that the Water GP, with GWSP assistance, has supported, and there will be more opportunities to help countries meet and craft their NDC targets as they relate to water. Thus, GWSP has been supporting analytical work that identifies where water can play a more central role in supporting the NDCs.

GWSP support is also helping position the water sector as an important contributor to GHG emissions reductions, addressing energy efficiency; methane reduction; carbon sequestration; and renewables in sanitation, irrigation, water resources management, and water supply investments. In water resources management the adaptation agenda is being advanced through interventions related to multipurpose reservoir storage, watershed management, and drought resilience, and the mitigation agenda through nature-based solutions and integrating green and gray infrastructure. GWSP-supported analytical work is being used, with these adaptation and/or mitigation measures in mind, in new projects under preparation in India, Cameroon, Kazakhstan, Bangladesh, Niger, Kenya, Bolivia, Tunisia, Vietnam, and the Kyrgyz Republic.



CHAPTER 3

KNOWLEDGE INTO ACTION

GWSP supports activities in three business lines: water supply and sanitation, water in agriculture, and water resources management. Activities under these business lines contribute to results across GWSP's five priority themes.



Sustainability



Inclusion



Financing



Institutions



Resilience

3.1 WATER SUPPLY AND SANITATION

GWSP efforts to support increased access to resilient and inclusive water supply and sanitation services continued to evolve and move forward over the past year, despite a complex set of challenges. With GWSP assistance, connections have been made across sectors to provide an integrated and holistic set of solutions in the water supply and sanitation sector, in which building resilience to climate change and other shocks and stressors is fundamental. In the past year:

- GWSP helped governments achieve foundational shifts in policy, institutions, and regulation that enable improved service delivery, for example, in the Dominican Republic, Argentina, and Togo.
- GWSP supported utility reform at scale, and assisted utilities to become future focused and perform better, even under crisis conditions, for instance, in Moldova, Mexico, and India.
- GWSP fostered innovative, nationwide sanitation solutions in Kiribati and Mozambique and better management approaches in rural water supply in several countries, including Tanzania.

Progress toward the water and sanitation targets of the Sustainable Development Goals (SDGs) is being made, albeit slowly, and achievement of these by 2030 depends on a dramatic and sustained increased effort by all parties. However, achieving the targets is further hampered by the impacts of both climate change and the COVID-19 pandemic. Climate change has negatively affected water supply and sanitation services globally. Serious service disruptions have resulted from damaged infrastructure due to extreme weather events, water availability has been compromised due to declining rainfall and increasing demand, and water quality is deteriorating. From July 2020 to June 2021 (FY21), these challenges were intensified by the full impact of the COVID-19 pandemic, which highlighted the need for water supply, sanitation, and hygiene (WASH) services, even as service levels and the financial viability of the sector were being undermined by reduced revenues.

Despite these very real challenges, GWSP's water and sanitation work in FY21 moved forward and embraced the principles of green, resilient, and inclusive development (GRID). A coordinated and comprehensive approach was taken that incorporates all water supply and sanitation programs. This includes work related to the Policy, Institutional, and Regulatory (PIR) initiative, which, in turn, is closely linked to the continued rollout of the Utility of the Future (UoF) program, which supports development of efficient, resilient, innovative, and sustainable approaches in order to provide reliable water supply and sanitation services for all. Work on urban sanitation has been supported through the Citywide Inclusive Sanitation (CWIS) initiative, which is itself connected to the Water in Circular Economy and Resilience (WICER) framework. In effect, the Partnership's efforts this year sought to further integrate the key elements of these various programs and bring a more strategic and holistic set of solutions to the sector.

Over the past 12 months, GWSP provided support to 16 countries to strengthen their policy, institutional, and regulatory frameworks in the water supply and sanitation sector. These foundational issues are key to achieving the goal of universal access. In Brazil, GWSP has facilitated a comprehensive capacity-building program to support the implementation of institutional and regulatory reforms resulting from the sector's new legal framework. The framework is designed to enhance regulation at the federal, state, and municipal levels, and increase private sector participation.

As mentioned earlier, the PIR work is closely linked to the UoF program, which has evolved rapidly to enhance the technical and financial efficiency of service providers. The program has now been implemented in over 30 utilities worldwide, and service providers that adopt the framework have demonstrated success in raising service levels and increasing efficiency. For example, in

Argentina GWSP supported a nonrevenue water (NRW) study to improve the operational and commercial efficiency of the Buenos Aires water and sanitation utility, AySA. This in turn, informed the preparation of a \$400 million program, driven by results, to expand water supply and sanitation services in vulnerable areas, improve the efficiency and resilience of service provision, and increase wastewater treatment. GWSP also supported AySA to increase gender diversity in promotions, particularly to management positions, given that having women in these positions is recognized as a key contributor to improved financial performance. In Rwanda, support was provided to improve the commercial efficiency of the national Water and Sanitation Corporation (WASAC), and in several cities of India, dramatic improvements in utility performance have come about as a result of GWSP support.

GWSP also continued to support innovation and change in the rural water supply and sanitation



sector as new management models were developed. In Albania, Bosnia and Herzegovina, Bangladesh, and Pakistan, GWSP supported efforts to expand rural systems with more professional management, applying approaches learned from more established utilities. The role of the private sector in supporting operation and management of rural systems continued to be explored, as well as new ways of providing incentives for local governments to prioritize sustainability.

The CWIS initiative continued to grow, innovate, and improve sorely needed sanitation services across the globe. It has now assisted in the identification, design, and implementation of urban sanitation interventions in over 30 countries. This year also saw concrete efforts to bridge the sanitation-climate change nexus through the development of a tool to estimate greenhouse gas (GHG) emissions from urban sanitation systems.

Finally, this past year, GWSP supported preparation of the WICER framework. This framework aims to establish a common understanding of the concepts of the circular economy and resilience in the urban water and sanitation sector, and to support countries in implementing those principles to ensure resilient, sustainable, and inclusive water and sanitation services. WICER promotes moving away from unsustainable linear thinking to start capturing the full value of water, with the aim of mitigating the challenges of climate change, urbanization, population growth, and aging infrastructure. GWSP support included compiling a series of case studies that show the benefits of becoming circular and resilient. In the case of Dakar, Senegal, the case study showed that resources (e.g., water, energy, fertilizers) can be recovered from wastewater and then sold to create revenue that helps cover utility operating costs. In the case of Montevideo, Uruguay, energy efficiency measures were shown to save water and energy and reduce GHG emissions

while facilitating an increase in the number of people with access to services.

WICER, UoF, PIR, and CWIS are key components of the new Water Secure Cities program, jointly launched by the Urban, Disaster Risk Management, Resilience and Land Global Practice (GP) and the Water GP. This program will address the multiple challenges facing cities around the world through innovative approaches to water scarcity, flooding, and pollution control that incorporate circular economy principles.

Together, these programs, as they converge and intersect, have enabled GWSP to work with national and subnational clients to support a more integrated approach to delivering water and sanitation to the poorest communities. Over the coming year, as these programs grow and develop, further integration will be pursued with the aim of supporting overall water security and strong, resilient water supply and sanitation systems.

3.1.1 TOGO STRATEGIC WATER DIAGNOSTIC

CHALLENGE

The COVID-19 pandemic has shed light on the crucial role of water in fighting epidemics. The disease poses an acute problem in countries with insufficient access to water, sanitation, and hygiene. In 2020, only 17 percent of households in Togo had access to a basic handwashing facility with soap and water, and 25 percent of the population used unimproved water sources, such as unprotected wells. During the rainy season, these water sources often become polluted with human waste, and the prevalence of waterborne diseases is high. To limit the spread of COVID-19 and other diseases, the country needs to integrate improved water sector infrastructure with

a national strategy aimed at systematic behavior change, including to facilitate handwashing.

Addressing the major water supply and sanitation access gaps is a high priority for the government as it aspires to meet SDG 6. The government has set a target of having all drinking water supply systems under public control, but it is estimated that currently only half of the population has access to drinking water through publicly managed systems.

The problems of water access and water quality are strongly related to the need to improve the efficiency of water services. Investment in the sector has not kept pace with demand, and maintenance has been inadequate. The national public utility catering to urban areas has struggled to expand piped water connections while maintaining continuity and quality of service. In the capital city of Lomé, it is estimated that only

31 percent of the population is served by the utility. The water distribution system is dilapidated due to inadequate maintenance, leading to significant technical losses, and there is a significant gap between production capacity and water demand.

APPROACH

To overcome these challenges, GWSP supported the Togo Strategic Water Diagnostic, which included a comprehensive, targeted analysis of both the water supply and sanitation and water resources management sectors to help the government set sectoral priorities with a clear, evidence-based narrative. The diagnostic applied a resilience lens in order to achieve a better understanding of the requirements for long-term planning and management of water resources.

The deliverables of the GWSP analysis were prepared in close collaboration with the Ministry



of Water, as well as with other partners, including the French Development Agency (AFD) on water and the United Nations Children's Fund (UNICEF) on sanitation and the elimination of open defecation. The diagnostic identified vulnerabilities in the sector and proposed short- and long-term actions in response. The findings were used to support dialogue with the government, both before the COVID-19 pandemic struck and during pandemic-response-related discussions. The outputs of the diagnostic included analysis of the constraints, inadequacies, and limitations of the current water resources management approaches and of the service delivery models used in rural and urban water supply schemes.

In the absence of a consolidated national strategy for universal water supply and sanitation in the country, the Partnership supported the Government of Togo to formulate concrete policy recommendations to improve the water sector, with a focus on urban areas. Key outputs of the diagnostic included an action plan to improve the sector's operational and technical efficiency; principles to guide urgent tariff reforms; and broader recommendations on topics such as water sector planning and regulation and sector management in the context of the COVID-19 pandemic.

ADDITIONALITY

The GWSP-supported diagnostic provided the foundation for a policy dialogue with the Government of Togo as it developed a roadmap for improving access to water and water resources management. This dialogue paved the way for two important decisions by the government. First, the water sector policy actions identified in the diagnostic were adopted as part of the framework of the Togo COVID-19 Crisis Response. These policy actions, implemented in 2021, included raising charges related to surface and groundwater extraction to reflect environmental and social costs. They also included a decision to spread the payment of connec-

tion fees over three years, until the end of the state emergency declared in the wake of the COVID-19 pandemic, in order to increase access to water for the most vulnerable households, and to carry out an energy audit of the water utility to strengthen the sector's energy efficiency.

Second, the government used the study's recommendations to inform the design of a \$65 million project to improve the national urban water utility's operational efficiency, to be financed by the World Bank. This represents the World Bank's first engagement in Togo in the water sector after more than 15 years. The Togo Urban Water Security Project is now under preparation, with an expected board delivery date in September 2022. The proposed project activities reflect some of the core recommendations of the diagnostic, specifically related to improving the public utility's operational and financial efficiency. The design of the project will be further informed by a follow-up study, co-financed by the Public-Private Infrastructure Advisory Facility, to further explore sector reform options to involve the private sector. Other recommendations from the GWSP diagnostic study, relating to such issues as the regulation of water resources in the aquifers that serve Lomé, will also be incorporated into the project.

3.1.2 INDIA

SUPPORTING WATER UTILITY TURNAROUND

CHALLENGE

No major city in India provides its residents with continuous public water supply. Less than half of urban households have access to piped water in their dwelling, and even those who do typically receive only intermittent supply. Contamination problems are common. Cost recovery of water

service providers is typically below 50 percent, undermining their ability to maintain infrastructure and aggravating service gaps. NRW due to leakages and unauthorized connections is estimated to be up to 70 percent of water distributed. In addition to insufficient capital investments, institutional issues have contributed to poor service outcomes. A high degree of fragmentation, weak accountability mechanisms, and poor technical capacity are typical. These problems are compounded by the fact that rapid urbanization is increasing pressure on urban services across India.

These pressures are clear in Shimla, the capital of the mountainous state of Himachal Pradesh in northern India. Though it is a relatively small city, it is growing fast, and hosts an average of 3.6 million tourists per year, more than 15 times its population. This has put heavy strain on the water supply and sanitation infrastructure, compounded by high costs since bulk water must be pumped 1,400 meters up from the source. Until recently, water supply was provided only once every two days for limited hours, and a third of the city had no sewer connection. Only 20 percent of water connections had meters, and only 21 percent of water operation and maintenance costs were being recovered, requiring an annual subsidy of over \$12 million. The low quality of water supply led to a series of deadly hepatitis epidemics, and severe water supply shortages negatively affected the crucial tourism industry.

Confronted with similar challenges, the state of Karnataka has been a leader in improving urban water supply and sanitation since the early 2000s. In 2002, Karnataka formulated a policy that identified institutional reforms, a commercial approach to tariff setting, and opportunities for private sector participation. The ongoing World Bank–financed Karnataka Urban Water Supply Modernization (KUWSM) Project aims to scale-up earlier pilots of safe, continuous

service access to the level of entire cities for the first time. However, the project encountered serious challenges when a high-profile public-private partnership (PPP) contract failed due to an underperforming private operator and associated contractual disputes.

APPROACH

In Himachal Pradesh, GWSP funded support that enabled the development of a comprehensive, transformational program to improve water supply and sanitation services for the Greater Shimla area. As a result, the state government and the Shimla Municipal Corporation set up a corporatized, ring-fenced water supply and sanitation company for the city, with full operational autonomy and responsibility for services, financial sustainability, and customer accountability—the Shimla Jal Prabandhan Nigam Limited (SJPNL). SJPNL is governed by a board of directors and is professionally organized, with enabling policies for performance, a mandate to engage with the private sector, and a medium-term investment plan. The assistance provided to SJPNL with GWSP support focused



on increasing efficiency and governance of water supply and sanitation operations, improving services, entrenching managerial and financial autonomy, raising accountability, and building the capacity of the municipal corporation and the water company.

In Karnataka, GWSP supported an in-depth study of PPP contracts in India's water and sanitation sector, which has informed the successful restructuring of the KUWSM project. Performance-based contracts were designed with a focus on expanding metering and reducing water losses. New contracts have been awarded for continuous water supply in the cities of Hubballi-Dharwad, Belagavi, and Kalaburagi. All three city contracts have commenced successfully and are progressing well despite disruptions due to the ongoing COVID-19 pandemic. To streamline institutional arrangements, GWSP also supported ongoing efforts to establish institutional reform, including the establishment of ring-fenced, city-run utilities.

ADDITIONALITY

In Shimla, SJPNL has already made significant progress as a result of GWSP support. It has greatly improved water quality by maintaining stringent quality controls. Transmission losses have been reduced by 20 percent, the supply of water was increased by 25 percent, and sewage collection by 200 percent. The city now receives an assured two to three hours of water supply daily, and continuous water supply has been tested in some zones, with the aim of scaling it up citywide. A volumetric tariff with an annual, indexed increase of 10 percent has been established, and 100 percent of connections in Shimla city are now metered. Prior to the onset of COVID-19, the company had completed three cycles of metered volumetric billing, nearly tripling its revenues. SJPNL has also established a customer outreach program and grievance redress mechanism, and a new "customer

survey report card" has shown satisfactory to excellent ratings. As a result of the reforms, a new \$160 million results-based water supply and sanitation services improvement project for Shimla, to be financed by the World Bank, is now under discussion.

In Karnataka, a draft resolution for the establishment of a city-owned water utility has been prepared for consideration by the urban local bodies in Hubballi-Dharwad, Belagavi, and Kalaburagi. Debt service escrow accounts have also been operationalized for all three cities and funds have been transferred. In light of the successful utility turnaround in Karnataka, additional financing for the World Bank-financed Urban Water Supply Modernization Project is under consideration, and the closing date of the project has been extended by three years to November 2024.

The experiences in both Himachal Pradesh and Karnataka represent reforms that are unprecedented in India's water supply and sanitation sector. They have provided models for utility turnaround and private sector engagement that other cities have emulated. For example, the Bank's new cross-sectoral City Partnership Program for the megacity of Chennai incorporates key lessons from Himachal Pradesh and Karnataka, including a focus on more autonomous sector governance and performance-based contracts to expand metering and reduce water losses, and more sustainable, volumetric tariffs. At the national level, the Jal Jeevan Mission for Urban Areas, which was launched in 2021 and seeks to extend household water supply to over 4,000 urban areas in India, reaching millions of urban dwellers with piped water at home, incorporates many of the principles piloted in Himachal Pradesh and Karnataka. Specifically, it includes a provision for large cities to implement up to 10 percent of the program through PPP contracts as well as a strong focus on water quality and regularity of supply.



Through its support, GWSP is helping to set a new standard for urban water and sanitation services in India and beyond.

3.1.3 ARGENTINA

SUPPORTING A RESULTS-BASED PROGRAM TO IMPROVE SERVICE DELIVERY IN BUENOS AIRES

CHALLENGE

AySA is the concessionaire responsible for providing water supply and sanitation services to most of the city of Buenos Aires. It is the largest water supply and sanitation utility in Argentina, and one of the largest in the world, serving 14.4 million residents. While access levels in the concession area are 75 percent

for water and 53 percent for sewerage overall, there are considerable differences in coverage between localities. Needs are particularly dire in the 982 fragile urban settlements in AySA's concession area, where more than 2.5 million people live.

AySA faces significant financial constraints and relies heavily on government subsidies. Yet there is considerable scope to reduce AySA's operation and maintenance costs and increase its operational efficiency. Compared to similar utilities in Latin America and the Caribbean, AySA posts 35 percent more network breakages and 8 percent more water losses and produces 74 percent more water per person. NRW is estimated at 41 percent, almost all of which is attributable to physical losses. AySA experiences four times the sewer network blockages of regional comparators, and untreated wastewater continues to pose significant environmental,

climate, and health concerns. The risk to public health is compounded by floods of increasing frequency and intensity due to climate change. AySA's operational efficiency problems also include excessive energy consumption, in part due to aging and inefficient equipment, but also because so much water pumped into the system never reaches consumers.

AySA is one of the few large utilities in the region that lacks the ability to interact with its customers through a digital platform, and overall has low levels of digitalization of commercial processes. AySA also lags behind in terms of gender diversity, particularly female participation in executive positions. As documented in the report "[Women in Water Utilities: Breaking Barriers](#)" (2019), having women in decision-making roles is widely recognized as a key contributor to improved financial performance and is particularly crucial in times of crisis.

APPROACH

GWSP supported a study of water security that looked at the water sector in a comprehensive way, analyzing the impacts of key water security gaps in water services, water resources management, and water risk management on Argentina's economy, society and environment. The study, published in 2021 and titled "[Argentina: Valuing Water](#)" examined the performance of the water sector, its institutional architecture, infrastructure stock, and financing gaps. The report also included a Public Expenditure Review of the water supply and sanitation sector.

The report identified clear priorities for action in the water supply and sanitation sector. For instance, in the peri-urban areas of Buenos Aires a large number of vulnerable people live without access to basic services and are highly vulnerable to shocks. The COVID-19 pandemic tragically demonstrated this, with the disease spreading faster in these unserved areas. The

study also contained recommendations related to the need to improve the efficiency and sustainability of urban water and sanitation services, and highlighted the specific interventions needed to pursue a utility turnaround process and use public funds more efficiently.

ADDITIONALITY

The analytical work presented in "Argentina: Valuing Water" influenced a government request to the World Bank for a lending operation aligned with the recommendations. The resulting \$400 million Buenos Aires Water Supply and Sanitation with a Focus on Vulnerable Areas program addresses a multitude of issues identified in the report.

The program will reduce the utility's losses and operation and maintenance costs, its dependence on government subsidies, energy-related GHG emissions, and will make it more resilient to climate and nonclimate shocks. Specifically, the program will accelerate implementation of a Service Improvement, Expansion, Operation and Maintenance program for AySA. A key element of the program is the extension of water and sanitation infrastructure to selected peri-urban areas of Buenos Aires that are currently not adequately covered, and the installation of household connections. These engagements will also address ongoing efforts to mitigate COVID-19 impacts by expanding services to unserved areas to limit outbreaks of the virus. The program will also support the development of an Efficiency Action Plan that will set a vision for financial sustainability and includes measures to make the utility more resilient to shocks, mainly through modernization and digitalization measures. AySA's capacity to engage citizens will be enhanced through a new digital channel for community engagement, enhanced customer engagements, and the establishment of a feedback platform. The program will also assist AySA to accomplish its gender and diversity goals

related to career advancement, particularly to management positions and offering training to fill gaps in women’s technical and leadership skills.

GWSP’s analytical inputs have been linked to the lending, supporting the development of targets to create very strong incentives for the utility to achieve critical results such as expanding connectivity through community participation, increasing operational efficiency, streamlining managerial processes, and improving the agility of internal procedures—while at the same time promoting innovation and improving transparency.

3.1.4 MOLDOVA

UTILITIES OF THE FUTURE

CHALLENGE

Very low levels of water and sanitation access and stark disparity between urban and rural areas make Moldova an outlier among European countries. Only one in three people in rural areas has a piped water connection and only one in eight has

a flush toilet. The use of unsanitary pit latrines is near universal outside major towns. Even in towns that have sewers, poor and vulnerable households are often not connected. Water and sanitation systems, many built in Soviet times, are in poor condition due to lack of maintenance, which undermines service quality and efficiency. Many utilities struggle to cover their costs and are unable to invest in expansion, rehabilitation, and reinvestment measures to improve efficiency. Weak management capacities and outdated infrastructure translate into high NRW losses, inefficient operations, and low staff productivity.

APPROACH

The UoF program guides utilities in becoming future focused and providing reliable, safe, inclusive, transparent, and responsive water supply and sanitation services in an efficient, resilient, and sustainable manner. In Moldova, GWSP has supported these improvements by developing a utility performance improvement program. This effort seeks to transform service delivery in Moldova’s water sector by establishing the institutional foundations for sustainable service





delivery, delivering critical investments in small towns and rural areas, and scaling up delivery of a national water supply and sanitation program. This work goes beyond the built-infrastructure approach of the past, focusing on building capacity. It seeks to address persistent issues that hinder utilities' performance, including creating incentives to increase household connections and improve cost recovery.

More specifically, the program supported in-depth diagnostic assessments, examining technical and commercial operations, organization and strategy, human resource management, and financial management in five utilities. The enabling environment in which each utility operates was also assessed. Performance improvement plans developed for each utility included short- and medium-run priority actions. Each utility was provided hands-on guidance and capacity building during the self-diagnostic and planning stages. The engagement resulted in

Diagnostic Assessment Reports and Action Plans for each utility, as well as their translation into Romanian and Russian.

GWSP support also helped to inform inclusion aspects of the project in Moldova through an assessment of the barriers to water and sanitation service access faced by poor and vulnerable groups, including Roma households and rural communities.

ADDITIONALITY

The diagnostic has shaped reform measures, such as developing more accountable utility governance and management structures at the regional level. Utility managers will monitor performance indicators toward improving service delivery and implement their own priority actions and investments to improve performance. GWSP's assessments also resulted in the establishment of a targeted household sewer connection program, covering the full cost of connection, including

on-plot plumbing, as well as a pilot to improve on-site sanitation in rural areas.

The lessons and results of this analytical work, both in terms of institutional and investment improvements, have also been incorporated into the Moldova Water Security and Sanitation Project. The project is expected to start in January 2022 and, because of the engagement supported by GWSP, priority investment plans for the participating utilities are included in project deliverables and results.

3.1.5 MEXICO

UTILITIES OF THE FUTURE

CHALLENGE

In the past 60 years the population of Mexico quadrupled and, with it, the demand for water has increased. The average annual water volume availability per capita has dropped dramatically, and it is estimated that by 2025 it will be approximately 20 percent of what it was in 1950. Two-thirds of the population lives in regions facing water scarcity and high rates of groundwater overexploitation, and there is increasing water contamination due to discharge of untreated sewage into water bodies. Climate change has also affected both the quantity and quality of water across the country. A dysfunctional political environment and inefficiency results in poor service delivery by Mexico's utilities. Customers must cope with intermittent water supply, sewerage system overflows, and poor customer service. The situation is further complicated as, due to the COVID-19 pandemic, the revenues of many water utilities have decreased significantly, in some cases as much as 50 percent, and their operating costs have gone up. As a result, planned investments have been postponed. Mexican water and sanitation utilities require a new, strategic management

approach to ensure continuity of operations, encourage innovation, develop strategic capabilities, and create efficient and sustainable business models.

APPROACH

The National Water Agency (CONAGUA) and the Water Commission of the State of Mexico, the most populous of the 32 states in the country, requested technical assistance to strengthen water utilities and help them overcome the challenges in fulfilling their mandate. With the support of the UoF team, a pilot project was implemented to assist the water utility in the municipality of Chalco, which has a population of over 400,000. With GWSP support, a 100-Day Action Plan was developed, which included a review of priority actions, identification of challenges and limitations and actions to address them, and establishment of realistic, achievable objectives and clear division of responsibilities and deadlines.

ADDITIONALITY

In Chalco, the 100-Day Action Plan has been fully implemented. Under this plan, improvements in commercial efficiency were achieved through the modernization of the payment process and systematization of the customer base, monitoring of customer satisfaction, and adoption of resolution mechanisms. The plan also included the development and publication of policies on diversity and inclusion, sexual harassment, recruitment, compensation and benefits, and the performance evaluation of staff.

The UoF activity has already had impacts beyond the municipality, as the Water Commission requested further support to train its technical experts to scale up the implementation of the framework to other utilities in the state. Armed with new capacity, the commission recently began the implementation of the framework in the municipality of Tultitlán, and intends to

become a facilitator in other utilities across the state. Beyond the State of Mexico, CONAGUA has requested further assistance to implement the exercise to the municipalities of Gómez Palacio in the State of Durango and Torreón in the State of Coahuila as part of institutional strengthening in a proposed federal investment project of \$200 million.

3.1.6 TANZANIA

APPLYING A RESULTS-BASED APPROACH TO RURAL WATER SUPPLY AND SANITATION

CHALLENGE

Achieving sustainable water service delivery in rural Tanzania has presented a major challenge. A 2016 study found that 40 percent of water points were nonfunctional, and 19 percent failed during the first year of operation. The high failure rate was found to be attributable to an excessive focus on new construction, as local governments allocated nearly all their financial and human resources to the construction of new water points, neglecting the essential tasks of monitoring, building capacity, and providing operations and maintenance backstopping to villages with existing water points. The limited management capacity of small, rural, and often marginalized communities also led to frequent water system breakdowns.

The newly established Rural Water Supply and Sanitation Agency (RUWASA) has assumed responsibility for rural water supply services. The agency is under enormous pressure to provide better services for more people in rural areas, guided by the government's Water Sector Development Program and the National Five-Year Plan. RUWASA is responsible for implementing the

ongoing \$350 million Tanzania Sustainable Rural Water Supply and Sanitation Program, which targets regions with the highest poverty and stunting rates and the lowest rates of access to water supply and sanitation services. The program has established a results-based model with strong incentives to ensure the sustained operation of water supply systems. Disbursement of funds is directly linked to the number of sustainably functioning water points that meet service criteria. Indicators tied to the release of funds are used to determine whether districts or villages are keeping water points operational throughout the year. However, RUWASA needed to strengthen its data management system to collect the type of information necessary.

APPROACH

GWSP assistance was targeted to strengthen RUWASA so as to be better equipped to implement the program. Recognizing that better data are critically important for improving sector performance, GWSP focused on RUWASA's capacity in data collection and quality. A Central Data Management Team was established and GWSP helped build its capacity, leading to considerable improvements in data accuracy and timely reporting. As a result, RUWASA has been able to manage data and generate reports related to program progress, and both track success and deliver incentives at local level.

ADDITIONALITY

In FY21, as a result of the program, more than 1.8 million people were provided with access to better water supply, of higher quality, closer to their homes, and 2.6 million people gained access to improved sanitation. The results-based approach has led to new approaches to ensure sustainability; in FY21, more than 650 community-based water service organizations, providing services in 1,200 villages, were registered and their technical and financial capabilities strengthened. GWSP assistance to establish

more comprehensive and sustainable monitoring, based on incentives and rewards, has enhanced effectiveness of the results-based program.

3.1.7 DOMINICAN REPUBLIC SUPPORT TO THE WATER AND WASTEWATER SERVICES IMPROVEMENT PROJECT

CHALLENGE

In the Dominican Republic, less than 10 percent of municipal wastewater is treated, and water pollution from municipal sources, plus agriculture and industry, is deteriorating both fragile surface and groundwater resources. Water security indicators at the subnational level show that the country is already experiencing water stress, with less than 1,000 cubic meters of freshwater resources available per capita per year in its two most populous cities. Physical and commercial water losses are high and service quality is poor. Publicly provided wastewater services in many

localities are either nonfunctioning or nonexistent. Policy-making and regulatory functions are fragmented across institutions, or lacking altogether. These significant inefficiencies contribute to and exacerbate the country's water security situation. Together, these institutional and performance inadequacies limit the ability of the country to adapt to and mitigate the impacts of climate change and ensure sustainable use of water resources that are critical for economic growth and development.

In the Province of Espaillat, the local water utility struggles to provide adequate water supply and wastewater services. Only 11 percent of consumers receive continuous water supply, and the rest of the population receives water only two or three days per week. Although the utility chlorinates the water it provides, intermittent water supply and lack of wastewater control puts water quality at risk. Metering along transmission lines and circuits of the distribution networks is nonexistent, and household metering is rare, contributing to NRW rates above 80 percent. The wastewater collection system has collapsed, and the wastewater treatment plant stopped



functioning in 2004 due to lack of maintenance. As a result, 11,500 cubic meters of raw wastewater are being discharged every day into canals or streams that run throughout the town and, ultimately, into the Camu River.

APPROACH

GWSP provided critical support to government counterparts to help address the performance problems of high NRW and discontinuity of water supply, and to improve wastewater collection and treatment services. Government agencies in the Dominican Republic are accustomed to traditional methods of collecting and treating wastewater, but with GWSP support, it was possible to introduce a range of alternatives in the design of the project, including resilient and inclusive sanitation options such as condominal sewers. In addition, expert advice was provided in order to include special provisions in the project for areas where space issues made individual sanitation solutions impossible. The Partnership supported efforts to bring in technical expertise to expand the options for wastewater treatment. In addition, GWSP provided critical technical inputs into a water audit and a NRW reduction strategy.

GWSP support was also used to facilitate a dialogue, with support from the CWIS initiative, on a life-cycle costing approach to sanitation. A virtual workshop was held to explain the life-cycle costing tool and how it can be applied during the technical engineering design phase, and this was incorporated into inputs from an engineering design firm that will be financed by future investments. GWSP resources were complemented by funds from the Quality Infrastructure Investment Trust Fund to support change management interventions aimed at improving utility performance. Finally, recognizing the overall sector challenges, the Ministry of Finance requested the World Bank to conduct a Public Expenditure Review (PER) for the water supply and sanitation sector. The PER was

supported by GWSP and AFD and has been the basis for high-level discussions on policy reforms in the Dominican Republic's water sector.

ADDITIONALITY

GWSP support facilitated the institutionalization of new participatory approaches to enhance inclusivity and innovation. For instance, condominal sewers have now been prioritized as a solution by the government for low-income areas, and the government was able to go beyond standard lagoon systems and consider a range of wastewater treatment options, taking into account land availability and other technical considerations. As a result of GWSP support, the option of nature-based solutions, such as constructed wetlands, will now be included in the project design.

The PER on water supply and sanitation was instrumental in engaging a new administration and the recommendations directly informed the government's Water Pact, the official policy document outlining a 15-year vision for the water sector. As result of the PER, the policy dialogue led to a request from the Ministry of Finance for an operation to support water sector reforms, and in August 2021 the government sent a formal request to the World Bank for support. Detailed discussions are ongoing on an operation to support the government with the institutional reforms required to improve service delivery, efficiency, and resilience in the water supply and sanitation sector.

A new \$200 million project is being planned that will be implemented over 10 years using a results-based approach. The project will support the government with the implementation of a National Water Supply and Sanitation Modernization Program, and will focus on expanding coverage and quality of water supply and sanitation services, improving operational and commercial efficiency, and strengthening

resilience of public sector service providers. This new project has the potential to transform the dialogue in the water supply and sanitation sector from infrastructure to service delivery.

Furthermore, GWSP-supported reforms are being embedded in other projects. They are foundational to the \$43.5 million Water and Wastewater Services Improvement Project and the \$80 million Resilient Agriculture and Integrated Water Resource Management Project, which have both been approved by the World Bank.

3.1.8 SÃO TOMÉ AND PRÍNCIPE APPLYING THE OPERATIONAL TOOLKIT FOR WASH IN SCHOOLS

CHALLENGE

São Tomé and Príncipe has a population of just over 200,000 people and is one of the smallest economies in Africa. Recent World Bank estimates show that about one-third of the population lives on less than the international poverty line of \$1.90 per day, and more than two-thirds of the population are classified as poor. In 2020,

one-fifth of the population used water supply sources that were categorized as “limited,” over 40 percent practiced open defecation, and almost half did not have access to basic hygiene facilities. The government is faced with an urgent need to increase its water, sanitation, and hygiene capacity to prevent and respond to the continued spread of COVID-19.

The need is particularly acute in schools. The physical environment and cleanliness of a school facility significantly affect the health and well-being of children. Disease spreads quickly in cramped spaces with limited ventilation, where handwashing facilities or soap are not available, and where toilets are in disrepair. Too often, schools are places where children become ill. In 2019, according to the World Health Organization (WHO) and UNICEF Joint Monitoring Programme, 16 percent of schools had no sanitation facilities at all, 15 percent had no drinking water service, and 10 percent did not provide students with access to basic hygiene facilities. Countrywide, access to basic hygiene services was only 55 percent in 2020. With such limited hygiene coverage in schools and the country in general, food- and water-borne diseases are common, and COVID-19 has spread quickly.



APPROACH

The Operational Toolkit for WASH in Schools, developed with GWSP support, is being used to enhance the quality of school WASH investments in São Tomé and Príncipe. The toolkit provides generic terms of reference and guidance to support service level assessment, including mapping of the status and quality of infrastructure and service levels in educational settings, and the design, operation, and construction management of infrastructure. In total, 50 schools, half of all schools in the country, with approximately 40,000 students, are being assisted. With GWSP support, the technical capacity of the Government of São Tomé and Príncipe is being enhanced with access to best practices and support to increase the quality of implementation.

GWSP has also supported the design of the WASH and health components in the São Tomé and Príncipe COVID-19 Recovery and Resilience Development Policy Operation, in particular in terms of strengthening institutions in public health, water, and sanitation.

ADDITIONALITY

GWSP support has been instrumental in defining the planned Girls Empowerment and Quality Education for All Project. The project will provide safe learning spaces, including water, sanitation, and hygiene infrastructure. As well as protecting the health of children, these interventions will allow girls to practice good menstrual health and hygiene, and boost school attendance. The project will also include special measures needed for reopening of schools in the context of the COVID-19 pandemic. The government plans to use the guidance in the toolkit to prepare intervention packages school by school and launch the design tender, which in turn will be the basis for the construction tender.

The Girls Empowerment and Quality Education for All Project in São Tomé and Príncipe is being

prepared in parallel with the Girls Empowerment and Learning for All Project in Angola. Both project teams have benefited through the exchange of ideas and experience, and there have been economies of scale in terms of support. These activities are also informing the broader application of the Operational Toolkit for WASH in Schools in other countries in East and Southern Africa.

3.1.9 KIRIBATI

BUILDING RESILIENCE THROUGH IMPROVED SANITATION

CHALLENGE

Kiribati is a small island developing state in the South Pacific, home to about 120,000 people living on 32 atolls. The largest of these is Tawara atoll, where over half the country's residents live in South Tawara, the capital city. Tawara atoll faces severe water stress, and sources of water are scarce and fragile. Households are obliged to limit water consumption and complement water supply from the central water system by harvesting rainwater and using shallow wells, tapping into freshwater lenses (layers of limited fresh groundwater that float above denser saltwater) for nonpotable use.

Sanitation services are critically underdeveloped throughout Kiribati, and in South Tawara almost a third of residents lack access to improved sanitation. South Tarawa has three piped sewerage systems, using seawater for flushing, but they cover only 18 percent of the population. The rest of the population uses shared sanitation facilities or on-site unimproved sanitation systems such as pit latrines without a slab or platform, and an estimated 60 percent of the population resorts to open defecation along the seashore, at least occasionally.

As a very low-lying island country, Kiribati faces considerable risk from climate variability and sea-level rise. Climate change is likely to exacerbate drought events and increase saltwater intrusion, jeopardizing the quality of the limited freshwater available. More intense rainfall events due to climate change may cause poorly built latrines to overflow, further threatening the environment, water quality, and health. There is an urgent need to protect the quality of existing water sources, and to limit the use of what freshwater is available; this means, in particular, avoiding the use of freshwater for waterborne sewerage. However, sewerage systems that use saltwater are prone to leakages, which in turn can quickly salinize freshwater lenses. Desalination is expensive, and the population has a strong aversion to dry toilet technology. The challenge is thus to expand sanitation services while overcoming these obstacles.

APPROACH

The FY19 GWSP-funded Kiribati Water Resilience Study helped the government gain a detailed understanding of the water scarcity challenges and possible resilience strategies. The study revealed that access to well water for nonpotable use should be sustained even if drinking water supply was substantially improved, and that graywater reuse could, at the household level, help meet water needs for sanitation. In FY21, building on the detailed understanding of water and climate challenges gained under this first GWSP study, the Partnership supported efforts to build a consensus on resilient sanitation design options. The government sought to update its 2010 Sanitation Roadmap, a government-led initiative to define an approach to sanitation sector investments. Technical dialogues and workshops were held with key government representatives, experts, and development partners at the inception stage of a process to support an update to the roadmap, and GWSP provided sanitation experts to participate, review available documentation, and provide concrete technical

BOX 3.1

ANGOLA: AN UPDATE

As described in the FY20 annual report, Angola has been working toward mobilizing commercial finance to upgrade water supply and sanitation services in the capital, Luanda. GWSP, working with the Public-Private Infrastructure Advisory Facility, has provided support to the World Bank Luanda Bita Water Supply Guarantee Project. As a result, Angola's Ministry of Finance signed a \$1.1 billion agreement with several commercial banks to finance a project that will improve water treatment, distribution, and supply facilities in the southern part of Luanda. The project will be carried out by the capital city's water utility, EPAL, on behalf of the Ministry of Energy and Water.

The debt package consists of two facilities. The largest of the two, at \$910 million, is financed by Standard Chartered Bank, BNP Paribas, Crédit Agricole, Credit Suisse, and Société Générale, and is supported by the World Bank through a partial risk guarantee. The second facility is a \$165 million loan, underwritten by the Standard Chartered Bank, Santander, and Helaba, and supported by the French Export Credit Agency, Bpifrance Assurance Export.

The project includes the development of metered connections, transmission and distribution facilities, water storage facilities, and a water treatment plant. It is expected to improve water infrastructure for 2 million people and is a major milestone in mobilizing private finance in the water supply and sanitation sector.



recommendations. GWSP also provided expert advice to update the roadmap, including on the technical feasibility, climate resilience, and environmental impacts of various flushing solutions for on-site and decentralized sanitation facilities.

ADDITIONALITY

The updated Sanitation Roadmap puts a focus on decentralized and on-site sanitation options that do not rely on saltwater-borne sewerage systems. Also, it provides a broad range of recommendations such as strengthening the sector legal framework, revising the sewerage tariff with a focus on balancing financial sustainability and affordability for low-income households, and strengthening sanitation sector regulation, including in the areas of water quality monitoring and compliance of on-site systems.

The Government of Kiribati Development Coordination Committee accepted the recommen-

dations and actions in the updated Sanitation Roadmap, and the relevant ministries formulated a WASH Sector Technical Working Group to advise on implementation. The roadmap guides investments and reforms in the sanitation sector for the next 20 years. These include donor-supported investments, for instance, from the Government of New Zealand, which provided catalytic support to the roadmap update.

The impetus created by the updated Sanitation Roadmap preparation has prompted the Government of Kiribati to request financial and technical support from the World Bank for the South Tarawa Sanitation Project, to be delivered in FY22. During the detailed project design discussions, a strong consensus emerged across the government to include the key Sanitation Roadmap recommendations in the project scope, including CWIS system design principles, sector regulatory strengthening, and tariff reforms.



3.1.10 MOZAMBIQUE

CITYWIDE INCLUSIVE SANITATION

CHALLENGE

Access to sanitation remains low in Mozambique. In 2020, less than 40 percent of the population had access to basic sanitation and about one-fifth practiced open defecation. Increasing urbanization rates and a high degree of vulnerability to climate change compound public health hazards, and most urban centers are under stress.

Significant investments are being made through the World Bank–financed Mozambique Urban Sanitation Project, aligned with the GWSP-funded CWIS approach. Technical solutions consider the full sanitation service chain, from containment to collection, conveyance, treatment, and safe disposal and reuse. However, these are new concepts for both the central government agencies and city councils, which lack sanitation expertise, particularly with regards to on-site sanitation. This lack of capacity is compounded by the limited guidance tools and instruments available for operational support for on-site sanitation.

APPROACH

GWSP-funded activities are providing technical assistance and capacity building in support of improved and more sustainable sanitation investment planning and implementation, using the CWIS approach.

Emphasis was placed on assisting the Government of Mozambique to tackle the challenges of on-site sanitation. Institutional development support was provided to city councils and the private sector, and GWSP funding has been used to provide implementation support and to conduct learning activities. At the municipal level, institutional development support is being

provided to help with the restructuring of sanitation services. This takes the form of assets and tools needed for: (1) effective sanitation service provision and to improve the operation and maintenance of sanitation infrastructure; (2) development of five-year service improvement plans for sanitation aimed at increasing climate resilience and lowering the probability of service interruptions even in the face of extreme weather events, such as droughts and floods; and (3) establishment of a sanitation tariff to be charged through the water bill.

GWSP assistance was used to review inception and draft design reports for the proposed on-site sanitation facilities and fecal sludge treatment plants, aimed at increasing access to safely managed sanitation services in peri-urban areas of the cities Quelimane (population 250,000), Tete (population 300,000), and Maputo (population 1.1 million). These have been designed to include a market-based sanitation approach and output-based implementation plan. This plan was developed in collaboration with marketing and promotion consultants, using a participatory process that engaged all key stakeholders. GWSP support included review of procurement reports for on-site sanitation, technical support in the development of indicators for sanitation service monitoring, and the development of a performance-based scorecard for municipal sanitation services. Furthermore, GWSP assistance was used to identify and evaluate technical options for both household and public on-site sanitation systems, taking into account the typology of site conditions and user preferences, as well as to prepare preliminary designs and cost estimates for each of the identified options. Inputs into a new water and sanitation law were also provided.

ADDITIONALITY

As a result of GWSP support, the Government of Mozambique has established regulatory frameworks for urban sanitation, and sanitation

by-laws and tariffs for the project cities have been developed and updated. The regulatory frameworks will establish standards for the entities responsible for sanitation services related to the definition of the quality of services, efficiency of performance of service providers, tariff setting, consumer protection, and user satisfaction. Sanitation tariffs have been introduced in the cities of Quelimane, Nampula, and Tete for the first time.

Plans have been made for further support, including technical assistance related to fecal sludge management to be provided to municipalities, the National Directorate of Water Supply

and Sanitation (DNAAS), and the private sector. This includes a study of potential fecal sludge businesses and the development of guidelines that will set criteria for the safe management of fecal sludge.

A planned new water and sanitation law will bring greater clarity to institutional arrangements for service provision, taking into account the CWIS approach and focusing on sustainability. The law, which is expected to be enacted in 2023, will guide the sector for the next 20 to 30 years, and is key to achieving the government's ambitions for the sector.

BOX 3.2


PERU: PARTNERING WITH THE 2030 WATER RESOURCES GROUP

Peru is facing critical water sector challenges, including scarcity, overexploitation, and contamination. These problems are particularly severe in the coastal region, where most of the population is concentrated, as are the country's key economic activities. In November 2019, the Ministry of the Environment requested assistance from the World Bank to support the ongoing Water Policy Initiative of the Organisation for Economic Co-operation and Development (OECD), established by the Government of Peru and OECD in March 2018. Specifically, the ministry requested support in strengthening capacity in water governance and water-security-related issues at the national and regional levels and in building consensus among key stakeholders.


At the request of the ministry, a series of workshops was organized in 2020 with support

from the 2030 Water Resources Group (2030 WRG) and GWSP. The workshops took place with the participation of 10 ministries as well as key representatives from the private sector, nongovernmental organizations, and civil society. These events allowed experts from the World Bank's Water Global Practice to share knowledge in the areas of water resilience, climate change adaptation, economics, law and institutions, and gender and social inclusion. Feedback from the workshops served as critical input to the country report produced by the OECD, which provides key recommendations for water governance and water security in the country.

GWSP and the 2030 WRG will continue to support Peru in generating consensus on the implementation of the recommendations.



Water Supply & Sanitation


WATER IS AT THE HEART OF DEVELOPMENT



Lack of access to water supply and sanitation (WSS) constitutes a public health, economic, and environmental emergency across the developing world. Urgent action is needed to provide sustainable WSS services to all.

Our objective is to support the green, resilient and inclusive universal access to WSS services.






We provide knowledge, advocacy, technical expertise, and financial support to strengthen WSS services and institutions around the world.

WATER AND CLIMATE CHANGE

As the world becomes increasingly urbanized, the World Bank is working to foster a comprehensive approach to water and sanitation in cities that is green, resilient, and inclusive. This entails considering all sources and uses of water, improving efficiency in the use of resources, considering a wide range of shocks and stresses in planning, applying circular economy principles, and ensuring universal access to WSS.




Water Supply & Sanitation




2 billion people

lack access to safely managed drinking water services.



3.6 billion people

lack access to safely managed sanitation.




494 million people

practice open defecation.


1/4

of all health care facilities have no basic water services.




827 000

Some people in low- and middle-income countries die annually as a result of inadequate water, sanitation, and hygiene.



Diarrhea kills an average of **1,400 children** under age 5, despite the availability of a simple treatment solution.









IN SUB-SAHARAN AFRICA, ONLY 57%

of the population report having an improved water supply that is fully functional, available, easily accessible – and which provides good quality, safe water.

ACHIEVING GREEN, RESILIENT AND INCLUSIVE UNIVERSAL ACCESS TO WSS SERVICES REQUIRES:

- 
Effective Policies, Institutions and Regulations.
- 
Efficient and responsive utilities that provide reliable, inclusive and resilient WSS services.
- 
Sound financing and effective pricing policies.
- 
Innovation and fit-for-purpose service delivery models.

3.2 WATER RESOURCES MANAGEMENT

GWSP efforts in FY21 focused on improving water resources management by addressing the two critical elements of water security: (1) ensuring an acceptable quantity and quality of water is available for health, livelihoods, ecosystems, and production; and (2) reducing water-related risks to people, the environment, and economies. In the past year:

- GWSP supported water sector diagnostics and water platforms that helped governments outline sectoral priorities with a clear evidence-based narrative, for example, in Bangladesh, Niger, and Indonesia.
- GWSP helped advance risk-management approaches to dam safety in the face of aging infrastructure, such as in India.
- GWSP facilitated engagements in transboundary water, with special attention to contexts marked by fragility, conflict, and violence, to improve water security and resource management, for instance, in the Middle East.

Tragically, we are rapidly reaching the point where, without proper management, global water resources will no longer be sufficient to meet the demands of growing populations. Without significant advances in water resources management, by 2050 six in ten countries are at risk of having unsustainable water resource usage that will impede progress toward the SDGs and undermine economic growth. To be specific, current forecasts show that as soon as 2030, the world will face a shortfall between demand for water and the available supply. Many countries are already experiencing water shortages with an estimated 40 percent of the world population living in water-scarce areas, and approximately one-quarter of the world's gross domestic product (GDP) exposed to water security risk. Climate change will only worsen the situation by altering hydrological cycles, making water availability more unpredictable, and increasing the frequency and intensity of floods and droughts.

At the same time, water storage, which helps humanity to cope with natural and climate-induced hydrological variability, is declining per capita, in part, due to overexploitation of natural water stores, sedimentation and deterioration of built storage, and lower rates of dam construction. Moreover, water infrastructure is often targeted in conflicts. Since 2011, there have been 180 instances of targeting of water infrastructure in Libya, the Syrian Arab Republic, and the Republic of Yemen alone. Thus, as the existing stock of dams ages, investment for maintenance, refurbishment, and retrofitting is growing in importance to extend their usefulness and avoid failures and safety incidents.

Water resources management is the planning, development, and management of water, in terms of both quantity and quality, for all water users. Achieving water security through proper water resources management in the context of

growing demand, increased scarcity, and greater climate variability requires a broad range of integrated reforms and investments, including:

- Institutional reform to improve the legal and regulatory foundations of water resources management, development of policies and plans, and economic instruments and incentives to improve water allocation, regulation, and protection.
- Better information to strengthen resource monitoring, decision-making, systems analysis, and hydro-meteorological forecasting and warning systems.
- Investments in infrastructure to improve water availability and reliability, mitigate disaster risks, enhance productivity, conserve and protect resources, and reduce demand.
- Building capacity of water managers and engaged citizenry to better understand and sustainably manage their water resources.

To support these reforms and investments, GWSP is engaging with stakeholders to undertake water security diagnostic studies that examine constraints to water security, and to create platforms for dialogue to increase information and inform advisory responses for maximum impact and lending around the water security challenge. More specifically, in the past year, GWSP facilitated a stronger focus on climate resilience, dam safety, transboundary waters, and building back better to rebound from the COVID-19 pandemic. For example, GWSP analytics and projects improved capacity and knowledge for groundwater management, identified investments for improving water quality, and implemented projects for transboundary cooperation in the Nile Basin, Western Balkans, and the Southern African Development Community.

Good water governance and sustainable management of the resource is the foundation of equitable service delivery, especially as the WASH and local agricultural sectors have been under particular pressure to respond during the COVID-19 pandemic. New projects in Nigeria, Pakistan, and Indonesia integrated sustainable water management practices in rural and community-based water supply and sanitation projects to improve service delivery to communities. As economies seek to build back better in the COVID-19 pandemic recovery, this creates opportunities to allocate water in a more optimal way, invest in efficiencies, and adopt less water-intensive solutions for industry. Looking forward, GWSP is continuing to strengthen knowledge in implementation with a more strategic approach to water security analytics and stakeholder platforms, improving the use of technology and information systems in water resources management, and contributing to new frameworks for planning and operating water storage.

3.2.1 INDIA

DEVELOPING A FRAMEWORK FOR RISK ASSESSMENT OF DAMS

CHALLENGE

GWSP's FY20 annual report highlighted the growing risks of dam failures and the lack of practical guidance, capacity, and resources to mitigate these risks. Approximately 20,000 dams worldwide have been in operation for at least 50 years and need major rehabilitation to ensure their safety. Last year's report described GWSP's work with governments in implementing approaches to risk-informed dam safety, with particular regard to aging infrastructure. These efforts continued in FY21 with major progress in India, which has the third-highest number of

dams in the world, with over 5,000 large dams in operation, more than 400 under construction, and several thousand smaller dams.

Large dams are a vital component of water management and water security in India, sustaining millions of people through irrigation, power generation, water supply, and flood management. However, historical patterns of insufficient dam maintenance have led to concerns over dam safety risks, which are amplified by a growing population and the greater unpredictability of extreme weather events associated with climate change. Key factors that contribute to insufficient dam maintenance include a weak regulatory and institutional framework, scarce financial resources, insufficient investments in dam safety, and lack of data to guide safety measures and investments. So far, the allocation of resources for dam safety has been on an ad hoc basis without adequate consideration of the scientific evidence, which has resulted in a tendency to overlook threats, or allocate insufficient resources to high-risk dams.

APPROACH

The Government of India's Dam Rehabilitation and Improvement Project—Phase 1 (DRIP 1), is aimed at institutional strengthening of India's dam safety program, as well as improving safety and operational performance of priority dams. The World Bank-financed project supports rehabilitation of priority dams and preparation of Emergency Action Plans for dam failure scenarios of the selected dams. GWSP has supported the project through workshops that introduced the concept of a risk-management approach to dam safety, and its benefit to a large portfolio of dams. These workshops convened international experts and showcased international good practices that motivated the government to develop a similar approach to dam safety.

The Partnership subsequently provided support to the Central Water Commission, the technical branch of the water resources ministry, to prepare the Risk Assessment and Classification Framework (RACF), a systematic dam safety risk assessment and classification system. The RACF



is a three-tiered framework that provides decision-makers with a basis for allocating human, institutional, and financial resources to the dams with the highest risk. The first tier consists of a preliminary risk screening using a risk indexing approach that can be applied to all large dams in India. The second tier and third tier of the RACF provide more detailed risk information through qualitative and semi-quantitative analyses, including potential failure mode analyses.

In 2021, with GWSP support, the Central Water Commission and state agencies in charge of dams across India held a series of consultations to develop the first tier of the RACF. These included external expertise from a team of global dam safety experts, international organizations, and the World Bank. The outputs of this exercise included the development of a risk indexing scheme to understand the challenges of the entire portfolio of large dams. As part of this scheme, a reference manual and a user manual were also finalized. A validation report summarizing the process of examining and validating key parameters and indicators of the scheme was prepared and distributed to key stakeholders.

ADDITIONALITY

GWSP-supported activities have been foundational to significant institutional change with respect to dam safety in India. The workshops held by GWSP under DRIP 1 resulted in the development of a national guideline, representing a massive shift in the Government of India's policy toward dam safety. As a result of knowledge exchange and high-level engagements with dam-safety experts, the new national guideline for dam safety is based on a risk-management approach. Risks associated with dams will be defined not only in terms of infrastructure, but also by measures related to both the likelihood and consequences of an adverse event, including how it will affect downstream communities, the environment, and assets. The national guideline

will be applied in every state in India, and state water resources departments will have to prioritize investments and allocate resources to dam maintenance based on the level of risk.

The GWSP-supported RACF will be applied under the planned \$713 million second phase of the DRIP project, approved in December 2020 with co-financing from the Government of India, the World Bank, and the Asian Infrastructure Investment Bank. DRIP 2 will build on the national dam safety guidelines, and embed the GWSP-supported risk indexing scheme across the entire portfolio of India's large dams. This will allow the prioritization of dams for rehabilitation, which is a major innovation and likely to transform dam safety management in the country, helping to effectively allocate financial resources.

The RACF, particularly the risk indexing scheme, was internationally recognized in the peer-reviewed *International Journal on Hydropower & Dams*. This recognition built the confidence of the Government of India in publishing the national guidelines and helped leverage additional funding for the other two tiers of the RACF from other Bank-funded trust funds, including the Global Facility for Disaster Reduction and Recovery.

3.2.2 SUDAN

WATER SECTOR REVIEW

CHALLENGE

Sudan has faced formidable challenges in the past decade. The breakup of the country and the secession of the southern part into independent South Sudan triggered multiple economic shocks for a country that was already fragile, resulting in high inflation and shortage of food and fuel nationwide. The subsequent civil war in South Sudan not only damaged Sudan's economy, but



also increased the already large population of refugees and internally displaced persons. In 2019 there was a coup, and the Sudanese military removed the president, dissolved the cabinet and the National Legislature, and announced a transitional government. More recently, Sudan continues to experience political instability.

Water plays a critical role in Sudan, in terms of both the economy and the social stability of the country. The distribution of Sudan's population is largely determined by the availability of water, and more than 50 percent of the country's population lives along the Nile River. The economy is largely agrarian and relies on agricultural outputs, with the irrigation sector contributing 50 percent of the national agricultural production. Due to the decline of irrigation infrastructure, grain production has declined drastically over the past decade (for instance, wheat production in 2017 was one-third lower than it was in 2007), undermining food security. Energy production, 62 percent of which comes from hydropower, is insufficient to meet current demand. Water supply and sanitation services have suffered from limited investments and poor management, jeopardizing human development and economic outcomes.

Low socioeconomic development, inadequate infrastructure, and a high degree of dependency on climate-sensitive sectors have resulted in weak resilience to climate shocks. Sudan is ranked close to the bottom of the global climate adaptation risk indices. Climate models show that the trend of decreasing annual rainfall and increased rainfall variability will continue. The projected pattern of more intense and prolonged drought episodes will have severe social and economic impacts, and the effect of climate change on the rate of desertification is considerable. Sudan is prone to flood disasters, and major flooding has occurred almost every year over the past two decades. Displacement

and conflict have contributed to exponential growth of informal settlements in unsafe areas and on peripheries of major urban centers that are prone to floods, resulting in damages to homes and assets. The occurrence of floods is closely correlated with outbreaks of water-borne diseases, and floods destroy economic livelihoods, disproportionately affecting vulnerable population groups. For instance, during the 2020 floods, almost 200,000 women of reproductive age were forced to live in temporary shelters with minimal protection. A dam breach in the same year destroyed a camp of internally displaced people situated downstream.

APPROACH

GWSP supported a comprehensive Water Sector Review, covering the entire water sector including water resources management, water supply and sanitation, irrigation, and flood management.

With GWSP technical guidance, the Ministry of Irrigation and Water Resources embarked on a sector reform plan. Despite the logistical challenges posed by the COVID-19 pandemic, the Water Sector Review successfully compiled sector data and revealed key challenges in achieving provision of safe drinking water and the sustainable management of water resources. The analytical work established a wide-ranging knowledge base for the sector that had not existed for over a decade.

GWSP supported technical inputs, including the sharing of the World Bank's global knowledge and good practices, to the draft sector reform plan that had been under preparation since the Sudan Revolution in 2019, as well as logistical support for a process of consultation around the plan. GWSP's input focused on vertical stakeholder coordination between federal and state levels, using projects in India and Peru as examples. A successful multidonor sector wide

approach to water and sanitation, based on a model used in Ethiopia, was also introduced.

In the wake of devastating floods in September 2020, the support provided by GWSP further expanded to flood management, undertaken in partnership with the Urban, Disaster Risk Management, Resilience and Land GP. GWSP support was also used to help the government carry out a rapid Post-Disaster Needs and Recovery Assessment. This assessment paved the way for Sudan to reconstruct with GRID principles.

Support to the Sudan Water Sector Review built cohesive partnerships between the World Bank and United Nations agencies and bilateral donors. Information exchange between the World Bank, UNICEF, and the UN High Commissioner for Refugees resulted in the inclusion of an analysis of water, sanitation, and hygiene in camps for refugees and internally displaced persons in the sector review, as well as in the design of the Sudan Integrated Water Management Project and the Sudan Irrigated Agriculture Revitalization Project.

ADDITIONALITY

GWSP enabled the Bank team to engage with the Government of Sudan during a critical time in which the country was not eligible for Bank financing. The support to the Water Sector Review evolved into a vehicle for a significant policy dialogue with the Ministry of Irrigation and Water Resources, covering institutional and policy aspects. Consequently, in July 2020 the ministry finalized the National Water Supply Transformation Plan 2020–30, which outlines the key sector challenges, the long-term investment plans, and the capacity-building priorities of the water supply sector. The plan sets out a funding and cost-sharing mechanism between the federal and state governments as well as a



roadmap for capacity development to enhance water supply services.

As a result of this comprehensive analytical work, the Water GP, with strong GWSP support, was asked by the government to develop three strategic lending interventions supporting water and sanitation and water resources management, irrigation, and a regional groundwater effort. Progress on these efforts will depend on further clarification related to the political economy.

3.2.3 INDONESIA

ACHIEVING WATER SECURITY

CHALLENGE

Indonesia faces challenges and risks that are threatening its water security. Half of the coun-

try's GDP is produced in river basins that suffer "high" or "severe" water stress in the dry season, and water stress is an increasing concern for some islands, such as the high-density island of Java. Other parts of the country struggle with access to WASH services. Water demand is continuing to rise quickly under demographic and economic growth and is expected to increase by 31 percent between 2015 and 2045. Surface water is heavily polluted in almost all the islands that make up the country.

Indonesia is also one of the most disaster-prone countries in the world. More than three-quarters of Indonesia's disasters are meteorological or hydrological, such as floods, landslides, droughts, extreme weather, tidal waves, and forest fires. Overpumping of groundwater has depleted aquifers around key cities and led to widespread land subsidence, resulting in increased vulnerability

to flooding and saline inclusion, both of which will worsen with climate change. Without urgent action, Indonesia's GDP is likely to drop significantly, with the largest impact from shocks to water availability as well as from coastal flooding, sea level rise, and land subsidence.

APPROACH

The report "Indonesia Vision 2045: Towards Water Security," supported by GWSP, was prepared as part of technical assistance to the Government of Indonesia to help achieve its development goals as defined in the National Mid- and Long-Term Development Plans 2020–24 and the government's "Indonesia Vision 2045." Vision 2045 aims to transform Indonesia with the objective of the country becoming one of the world's top five economies by the time it reaches its centenary in 2045.

The GWSP-supported report is a comprehensive water security diagnostic. It has been converted into a policy note recommending reforms and priority actions for a water-secure Indonesia as envisaged in Indonesia Vision 2045. The policy note was also based on economic modeling undertaken to understand the impact of water-related challenges to the economy by 2045, and forecasts of water demand and water stress in Indonesia's river basins in 2030 and 2045.

In addition, the Partnership helped create a platform for discussions with central, provincial, and local governments on water pollutant control, groundwater management, and river basin planning and water allocation. This included engagement with civil society organizations and academia on water services in agriculture, water threats, water supply, and wastewater. GWSP also facilitated policy dialogues with 34 government directorates under 16 ministries and agencies related to the water sector in order to

inform key decision-makers of the challenges and potential solutions presented in the diagnostic.

The report and policy note were shared at a launch event held in June 2021 attended by key policy makers from the government, civil society, private sector, and development partners. The event raised awareness around the challenges related to water security. Policy recommendations and inputs to the government's Vision 2045 development plans were shared, with a focus on how these recommendations could be implemented.

ADDITIONALITY

The water security report highlighted the potential water security challenges that could undermine the objectives of Vision 2045 and quantified the impact of water-related threats on GDP and overall socioeconomic development.

Nine action plans structured under three main pillars were developed, comprising: (1) managing water resources sustainably and strengthening resilience to water threats; (2) improving inclusivity, sustainability, and efficiency of water service delivery; and (3) strengthening governance and institutions for sustainable and efficient water management.

These recommendations served as key technical inputs to the draft of the government's regulation for implementation of the National Mid- and Long-term and Development Plans. Moreover, based on the recommendations, the Government of Indonesia is exploring opportunities for the sustainable development of lowlands to avoid land subsidence and GHG emissions.

The recommendations of the water security report are also influencing an upcoming river basin improvement project. The project will incorporate elements of the three pillars

by establishing a modern data management system to strengthen resilience against water threats, investing in hydraulic infrastructure, and improving the institutional framework for water resources management.

3.2.4 PUTTING **NATURE** TO WORK

CHALLENGE

Nature-based solutions (NBS) protect, sustainably manage, and restore natural or modified ecosystems. They have been found to help achieve a range of development objectives, such as enhancing water security, at lower cost than traditional interventions (“gray infrastructure”), while providing benefits for the people and the environment. For example, restoring forests and wetlands can boost water quality and regulate seasonal flows, while constructing sand dams can promote aquifer recharge and improve reliability of water supply. NBS (or “green infrastruc-

ture”) can provide cost-effective climate change mitigation by sequestration of carbon dioxide (CO₂), and also reduce the CO₂ emissions that would result from the production of construction materials for gray infrastructure. NBS also provide a broad range of opportunities for adaptive management to reduce hydroclimatic risks such as floods and droughts, which are being intensified by climate change. Additionally, NBS investments are estimated to create more jobs and stimulate more economic activity than gray infrastructure alone, which is of particular relevance as both job creation and increased economic activity are crucial during the recovery from the COVID-19 pandemic.

However, most legal and regulatory frameworks have been developed for contexts that rely on gray infrastructure, and there is a higher perceived risk associated with NBS that complicates investments. Options to include NBS or green infrastructure are still seldom considered



when water and sanitation utilities are planning capital investments. Ambiguity around and complexity related to when, why, and how NBS can be deployed remain major challenges even though there is growing evidence of the multiple benefits and economic feasibility.

APPROACH

The concept of NBS and green infrastructure is increasingly being incorporated into World Bank projects, in many cases inspired by the 2019 GWSP-supported flagship report “[Integrating Green and Gray: Creating Next Generation Infrastructure](#).” The knowledge summarized in the report supports the GRID approach, which is key in the World Bank’s pandemic recovery strategy. GWSP was also instrumental in supporting the creation of a Community of Practice on Nature-Based Solutions, designed to promote the exchange of information and knowledge between World Bank GPs. Through this effort, the Partnership supports the World Bank’s new Global Program on Nature-Based Solutions for Climate Resilience, which is developing new knowledge products, providing technical support to better balance green and gray infrastructure, and creating a network to bring together knowledge and expertise.

GWSP supported a collaboration with the World Resources Institute, which resulted in the identification of NBS interventions for urban water supply and sanitation infrastructure. A portfolio review was carried out and provided useful insight into urban water supply projects that already include NBS. Results have been presented to a broad range of stakeholders.

ADDITIONALITY

By using the concept of NBS, GWSP has helped strengthen the World Bank-financed Rio Bogota Environmental Recuperation and Flood Control Project in Colombia in order to increase the environmental, economic, and social value

of the Bogota River. In Cambodia, NBS have been used to strengthen the Cambodia Water Supply and Sanitation Improvement Project. The concept of green infrastructure is also integrated in the support provided to the governments of Bulgaria and Romania to develop their flood risk management plans to comply with the European Flood Directive.

GWSP analysis has also explored options to achieve a better balance between green and gray infrastructure investments by clients. Detailed discussions have been held to identify opportunities and challenges for integrating NBS, and as a result, opportunities to use these approaches are now being pursued in water projects in Angola, Cambodia, Ecuador, Kenya, Kosovo, Peru, and Turkey. Guidance has been provided on ways to introduce clients to NBS and to factor it into planning processes. Finally, in China, GWSP analytical work was influential in defining the added value of NBS and the modalities to finance these types of interventions, while also contributing to the preparation of a comprehensive assessment of the benefits of NBS for integrated urban flood management.

3.2.5 BANGLADESH WATER PLATFORM

CHALLENGE

Bangladesh’s development is crucially entwined with the management of its water resources. The country grapples with water hazards, particularly floods, which are projected to rise significantly in the future. Groundwater, which sustains Bangladesh’s fast-growing water demand, is rapidly declining due to irrigation and urban demand, particularly from the garment industry. Bangladesh’s water sources also suffer from geogenic and industrial pollution. In particular, naturally occurring arsenic in much of the country’s



groundwater has been an enormous challenge. Over 93 percent of Bangladesh's total renewable water resources are transboundary, making regional cooperation an important element of its water resources management.

In response to these challenges, combined with pressures from high population growth and climate change uncertainties, the Government of Bangladesh in 2018 formulated and adopted the Bangladesh Delta Plan 2100 (BDP2100). The plan lays out holistic and cross-sectoral action needed to improve productivity and minimize disaster risks. However, uncoordinated donor assistance, significant financial limitations, and lack of intersectoral coordination of water issues, combined with challenges related to climate change and land management, impede the vision of BDP2100.

As COVID-19 cases increased across Bangladesh in FY21, poor WASH service delivery represented a dangerous deficiency. While the problem of poor WASH provision isn't new, the scale and speed of the pandemic brought greater urgency.

APPROACH

GWSP's FY19 annual report described the World Bank's cross-sectoral engagement in BDP2100 through the Bangladesh Water Platform. Since its inception in FY18, the objective of the Bangladesh Water Platform has been to carry out a strategic set of activities to assist the government to implement BDP2100.

The Partnership assisted cross-sectoral collaboration mechanisms to be established between national agencies and other development partners, including the World Bank, through the water platform. GWSP also facilitated policy reforms, improvements to institutional arrangements, and capacity building of various government ministries.

In the past year, the Partnership also supported the water platform’s provision of strategic advice, through targeted analytics, on the implementation of BDP2100. The first major analytical work was the Bangladesh Water Sector Diagnostic, which outlined the most pressing challenges for the next decade and concluded with proposals for the Government of Bangladesh for reforms and investments. The water sector diagnostic identified priority areas within the BDP2100 that either required more in-depth analysis or could yield marked results in the short term. Other major pieces of analytical work completed in the past year include a political economy study and a Water Public Expenditure Review. In addition, GWSP supported a hydro-economic modeling study, which provided the government with the necessary data for improving water quality management infrastructure, as well as managing water demand and the conjunctive use of surface and ground water in water-scarce areas, with the primary focus on greater Dhaka and other fast-growing urban centers.

ADDITIONALITY

GWSP’s support highlighted institutional and policy reforms for the Government of Bangladesh. Many of these reforms are currently being implemented, with support from the Government of the Netherlands. For instance, the government is establishing a dedicated unit, under the Planning Commission, to improve the monitoring and evaluation of programs under the BDP2100. Recommendations to improve the prioritization and sequencing of investments have influenced the creation of a government “delta fund” to channel investments using existing financial system and procedures.

Through the water platform, the World Bank initiated a number of cross-sectoral investment projects in support of the BDP2100, totaling \$1.5 billion. The findings from the diagnostic and

economic studies informed multiple intersectoral projects covering water, the environment, and ecological restoration. For example, the findings provided inputs to the World Bank–financed Jamuna River Economic Corridor Development Project, which will go to the board in March 2022. This project will improve the navigability and river management infrastructure of the Jamuna River, which will increase water transport and boost economic activities around the river. The Dhaka Rivers Ecological Restoration Project focuses on the restoration of the ecology and transport capacity of the rivers of the capital city, based on a recommendation of the water sector diagnostic. The diagnostic work has also influenced the World Bank’s \$543 million Rural WASH for Human Capital Development Project, which is co-financed by the Asian Infrastructure Investment Bank and was approved in 2021.

3.2.6 NIGER

INTEGRATED WATER SECURITY PLATFORM

CHALLENGE

Niger faces a number of mutually reinforcing challenges aggravating water security, including poverty and a lack of economic diversification, high climate variability, natural resource degradation, fragility, and rapid population growth. As with other countries in the Sahel, water scarcity is a major source of fragility and conflict. Historically, the approach of the Government of Niger to selecting water investments has been siloed, whereby government entities plan and implement with limited collaboration with other parts of the public sector, regardless of implications for other water uses. This has resulted in adverse consequences for agriculture and water supply and sanitation investments, as well as conflict

among water users. In response, the government has drafted and approved a National Action Plan for Integrated Water Resources Management (PANGIRE). The PANGIRE seeks to facilitate decentralized, coordinated decision-making for the sustainable use and management of water resources. The early stages of implementation of the PANGIRE were focused on the Ministry of Water and Sanitation, but could have engaged other line ministries, such as those responsible for agriculture, livestock, and the environment, more.

APPROACH

GWSP funding supported enhanced dialogue between the ministries responsible for water resources and sanitation, agriculture, and the environment to build a more holistic view of water resources, ecosystems regeneration, and other water services, including agriculture, livestock, fish farming, and drinking water supply and sanitation.

GWSP-supported activities were focused on building a strong coalition at the central level and preparing investments to support the establishment and operationalization of subbasin- and commune-level water resource institutions.

ADDITIONALITY

To facilitate a systematic approach to water security, an Integrated Water Security Platform for Niger, as mandated by the PANGIRE, is in the process of being established. Institutions at both the commune and subbasin levels are involved to facilitate decentralized, yet coordinated, decision-making for the sustainable use and management of water resources across sectors.

The water security platform will ensure systematic and climate-informed planning at the level of the commune, the foundational administrative division in Niger's decentralization reforms, where multisectoral water-related activities and investment priorities determined by each associated community are identified, aggregated, and harmonized in an inclusive process. Subbasin agencies can then ensure that plans developed at the commune level are coordinated and that they adequately safeguard the quality and sustainability of water resources, promoting resilience to drought and flood.

As a result of GWSP support, the \$400 million Niger Integrated Water Security Platform Project



has been prepared. This project will strengthen the management of water resources, increase access to water services and improve the resilience to climate-induced water variability in select areas of Niger. This will be accomplished through both the establishment of water platform institutions described above and their operationalization through the implementation of coordinated multisectoral infrastructure investments. One of the main transformative features of the project is that the investments to be financed under its subcomponents will be identified, prioritized, and selected through a multisectoral and consultative process. The project will contribute to improved household incomes, food security, and livelihoods of vulnerable groups, especially those dependent upon natural resources. Project activities will especially target women and youth, accounting for their needs and promoting their socioeconomic participation. The Integrated Water Security Platform will also finance the establishment and operationalization of effective rural water supply institutional arrangements that promote quality, sustainable, and climate-resilient service delivery.

3.2.7 MASHREQ WATER INITIATIVE FOR TRANSBOUNDARY WATER

CHALLENGE

The Mashreq Water Initiative includes Syria, Iraq, the Islamic Republic of Iran, Lebanon, Jordan, and Turkey. Challenges facing these countries include growing populations, rapid growth in urbanization, more water-intensive agriculture, increasing rainfall variability, and declining water quality due to pollution and saline intrusion. These factors all place enormous pressure on the scarce water resources available in the region and make water

one of the greatest risks to sustainable development and political stability.

In this region, all major river basins, tributaries, and groundwater aquifers are considered shared waters. Approximately 75 percent of the mean annual flow volume of surface water originates from outside the Mashreq cluster. But surface water flows have been affected by the disappearance of freshwater springs, a result of lowered water tables due to groundwater overabstraction. However, the link between surface and groundwater is rarely explored, and water data are not readily shared between countries. There is little common understanding of water availability use and trends.

Enhanced regional cooperation is urgently needed to improve future water security. However, achieving regional cooperation on shared waters is always challenging. It is not uncommon for countries to be reluctant to share data and information with one another, and this region is no exception. In fact, the context of fragility and conflict add another layer of complexity to the situation.

APPROACH

It has proven to be key for transboundary water cooperation to start with technical-level cooperation, which, in addition to improving capacity in key water resources management features, also contributes to building trust over time. This approach also builds a common view of a region's challenges and shared approaches for addressing them.

The Mashreq Water initiative, implemented by the World Bank and partially financed by GWSP, establishes a regional cooperation platform to improve the management of regional water and develop innovative policies and strategies to meet future demand. The initiative responds to

the Mashreq region's water security challenges through (1) developing an evidence-based narrative to promote transboundary cooperation; (2) building partnerships and consensus for action through knowledge sharing, dialogue, and trust building; and (3) enhancing technical-level cooperation through increased access to and sharing of technology and policy options.

In FY21, GWSP supported several activities that were successfully implemented, despite COVID-19 pandemic-related constraints. To start with, GWSP facilitated workshops to advance technical-level cooperation by drawing on lessons learned and expertise from other partners in the region. With GWSP assistance, the World Bank co-hosted a capacity-building workshop with the United Nations Economic and Social Commission for Western Asia on the "Economics of Climate Change and Water Scarcity in the Middle East" in December 2020. In June 2021, the third workshop under the Mashreq Knowledge Series was held to examine data-sharing platforms to improve groundwater management in the region, both at the

national and regional levels. For the first time all Mashreq countries participated in the event. The meeting featured international experts and provided space for all the countries to present their perspectives and engage.

Second, GWSP supported the development of a number of knowledge products that focused on building a strong evidence-based narrative on the benefits of regional cooperation. These included the release of the *Disruptive Technology in Groundwater* e-book, an updated version of the [Mashreq Data Platform](#), and launch of the Mashreq Knowledge Explorer (a repository for resources on water and associated topics in the region). In partnership with Purdue University, GWSP and the World Bank published a report, "[Water in the Balance: The Economic Impacts of Climate Change and Water Scarcity in the Middle East](#)," based on economic modeling and global databases. The report examined the extent to which water scarcity and losses in crop yields due to climate change could affect economies in the region, and provided a solid economic rationale for better cooperation.





Third, based on the knowledge exchange activities and analytical work conducted through the initiative, and the objective of advancing closer collaboration, a virtual Mashreq Partners Meeting was held, with GWSP support, on April 22, 2021. This meeting included representatives from several embassies in the region as well as from development organizations. The objectives of the meeting were to provide development partners with a progress report on the Mashreq Water initiative, create a space for open discussion to explore synergies, and exchange lessons learned.

ADDITIONALITY

Strengthening regional cooperation is not only a powerful tool for improving water security in the Mashreq group of countries, but also for promoting economic prosperity in the region. Through GWSP support, the analytical inputs, knowledge products, and workshops created a platform for cooperation and discussion highlighting regional water challenges. This established a base for a longer-term regional engagement. Building on these inputs, deeper cooperation, beyond the purely technical level,

was in evidence in the region in 2021. At the practical level GWSP support to the initiative helped strengthen the capacity of various water institutions to manage water resources by sharing innovative approaches and disruptive technologies for better information and water management. The knowledge products and workshops, including data on climate change impacts on water resources in each Mashreq country, were subsequently used in key policy discussions with leaders in Iraq and Jordan.

GWSP-supported knowledge products highlight the impacts of climate change and the importance of regional cooperation in building resilience. The initiative is advancing the critical regional water agenda by developing consensus, increasing cooperation, providing evidence-based data, and building trust. While some early results are already starting to materialize, the fragile, conflict, and violence-affected situations of many of the Mashreq countries, combined with challenges related to the COVID-19 pandemic, will likely mean that the full impact of this support will take years to materialize, and that incremental steps will be needed.

Water Resource Management

WORKING TO IMPROVE WATER SECURITY

Water is essential for life, but humanity faces complex challenges associated with increased demand, variable supply, widespread pollution, and water-related disasters. Climate change and population growth are expected to put additional pressure on water resources.

Our objective is to strengthen development outcomes for people, production and the planet in river basins worldwide by improving water availability and quality, and reducing disaster-related risks.

We work to improve water governance, provide infrastructure for managing water resources, increase access to information, and involve key stakeholders in decision-making. We focus on innovative analyses and engagement in water security, water storage, flood and drought management, and transboundary water cooperation.

TO SUPPORT THE COVID-19 RESPONSE AND RECOVERY, WE WORK TO:

- Enhance economic growth by improving bulk water supplies for health, sanitation, and the economy; and by encouraging associated job creation.
- Promote more sustainable management and use of water resources in economic stimulus packages, and other relief efforts through improvements in water governance.

Water Resource Management

4 billion people already live in water-scarce areas.

By **2050** global demand for water will increase by **20-30%** and water scarcity, exacerbated by climate change, could cost some regions up to **6% of GDP.**

2 billion people depend on groundwater for their drinking water; much of this use is unmonitored and, in some cases, is unsustainable.

1 in 4 cities worldwide currently experiences water insecurity. Urban water demand is projected to increase by **50-70%** over the next three decades.

>80% of wastewater is released untreated into the environment.

>3 billion people rely on transboundary river basins for their needs, **yet 60%** of the world's 310 international river basins lack frameworks to govern disputes.

Droughts are becoming more severe with climate change. Between **2000** and **2019**, **1.43 billion** people were affected by drought.

Coastal and urban flooding is becoming more frequent.

Floods represent nearly half of all weather-related disasters since 1995, affecting **2.3 billion people.**

Water resource management encompasses planning, developing, and managing the quantity and quality of water for all users.

Water security in the context of increased demand and scarcity requires institutional reforms, information management, infrastructure investments, and multistakeholder platforms.

3.3 WATER IN AGRICULTURE

GWSP support continues to be focused on improving agricultural management that results in climate change mitigation, boosts farmers' incomes, and improves water productivity, water quality, health, and biodiversity. To that effect, this year:

- GWSP assisted reforms within irrigation agencies to improve and modernize service delivery to water users, for instance, in Cameroon and India.
- GWSP supported national governments to improve agricultural management through improved data analytics, such as in Somalia.
- GWSP promoted initiatives for climate adaptation and mitigation, such as scaling up farmer-led irrigation to empower farmers to adapt to major climate risks in Sub-Saharan Africa and promoting better rice management techniques to reduce GHG emissions in China and Southeast Asia.



Water is arguably the most critical input for agricultural production and plays an enormous role in food security. However, the global food system is facing ever-increasing threats and disruptions. The water-agriculture nexus must adapt in the light of climatic, environmental, economic, political, and health-related risks. These risks are driven by increased demands for agricultural produce, competing demands for water due to urbanization and population growth, declining water quality, climate change, and poorly planned and implemented water allocation mechanisms for service delivery and financing systems.

Similar threats and disruptions are affecting producers, value chain actors, consumers, and most importantly smallholder farmers whose livelihoods depend on the sector. These risks are exacerbated by increasing climate variability, and the disruption in supply chain and labor shortages due to the COVID-19 pandemic. Managing

water in agriculture to enable farmers and households to thrive and adjust to changing conditions requires new ways of engaging, including making the sector more accountable, innovative, and attuned to water users' needs.

The need to expand agricultural production while mitigating impacts of climate change highlights the importance of cross-sectoral water solutions. In this regard, GWSP, the Water GP, the Agriculture and Food GP, the International Finance Corporation, governments, and farmers are working together to improve agricultural resilience through better water management.

GWSP works with these partners to obtain better data and information to help understand the sustainability of existing and future water use patterns, as well as to strengthen water governance. The Partnership supported water accounting (WA), which offers a quantitative

analysis of hydrological processes to better understand the status of surface and ground water resources. Various types of WA tools are being consolidated into a guideline, which will also provide direction on how to use the information to improve water sector planning, management, and investment.

To adjust to changing agricultural demands, climate change, and the post-pandemic recovery, irrigation service providers need to focus on modernizing service delivery by developing more efficient, sustainable, resilient, and financially viable systems. In this regard, GWSP supported the launch of the International Network of Service Providers for Irrigation Excellence (INSPIRE) in close collaboration with seven other international organizations, including the International Water Management Institute, the International Commission on Irrigation and Drainage, the Food and Agriculture Organization of the United Nations, and other multilateral development banks. INSPIRE is a platform for exchanging knowledge among managers of irrigation and drainage systems regarding modernizing and improving service delivery. The objective of the platform is to highlight experiences, innovations, and best practices in improving the quality of irrigation and drainage services, particularly to become more customer focused and inclusive and to link irrigation services to wider water and agricultural networks.

To further boost the resilience and optimization of water in agricultural production, future investment in the sector needs to go beyond large irrigation agencies and infrastructure; simply building more irrigation schemes is not enough. A broadening of options is needed, from government supply-driven models for irrigation to more agile approaches with a focus on farmers. One such approach, described in last year's report, is farmer-led irrigation development (FLID) that harnesses the knowledge, experience, and exper-

tise of farmers in support of small-scale irrigation. In FY21 GWSP supported the development of the [FLID Guide](#), a resource for governments to catalyze FLID by fostering a more enabling environment for smallholder farmers. This guide is supporting countries in Sub-Saharan Africa, such as Malawi, Somalia, Kenya, and Rwanda, to implement FLID-related activities.

Agricultural water management has a role to play in building climate resilience and addressing climate change. For instance, it is necessary to address GHG emissions from agricultural water use, particularly in large-scale irrigated rice cultivation. Thus, GWSP is rolling out the “Paddies for the Planet and Producers” initiative, which promotes scaling up the decarbonization of irrigated rice production. This initiative is already promoting technical solutions for reducing the carbon footprint in the largest rice-producing countries: China, Vietnam, and Indonesia.

3.3.1 CAMEROON

REFORMING IRRIGATION SERVICE DELIVERY IN THE LOGONE FLOODPLAINS

CHALLENGE

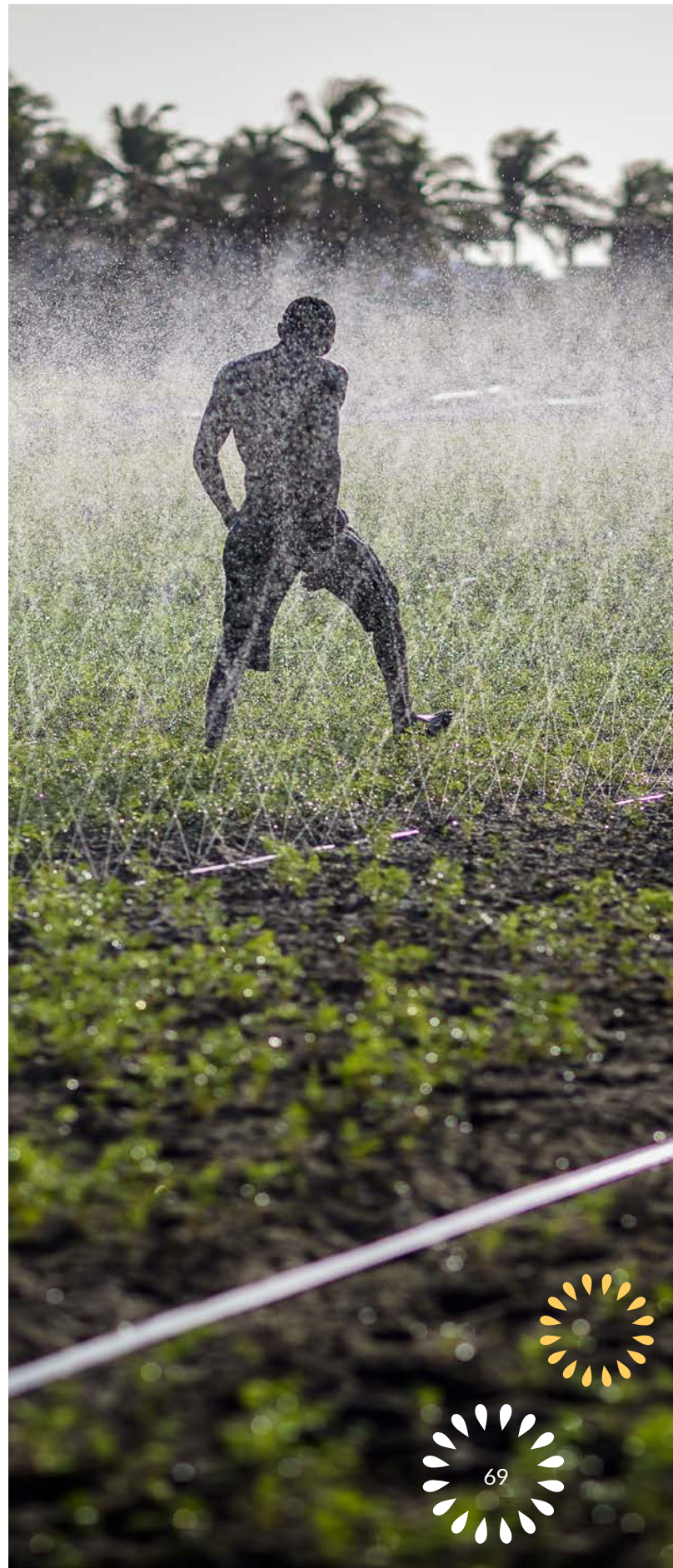
The FY20 annual report highlighted challenges facing the irrigation sector in northern Cameroon, including the performance of the parastatal organization, the lack of private sector participation, and the lack of farmer empowerment. A GWSP-supported report on the irrigation sector in northern Cameroon provided a clear roadmap for the government to consider in pursuing sector reform. Moving forward, these challenges were addressed by the Government of Cameroon in the far north region of Logone Valley.

In the Logone Valley there are eight irrigation schemes managed by the parastatal irrigation agency, the Society for the Expansion and Modernization of Rice Cultivation in Yagoua (SEMRY). The government's new agricultural water policy, issued in 2020, provided SEMRY with new functions and a revised organizational structure in addition to administrative reforms. In the past, multiple attempts to reform and strengthen SEMRY have met with modest success. Key issues that remained to be addressed included shortages of key managerial staff, limited technical skills, weaknesses in financial audits, administration systems, and transparency. There is also a lack of mechanized agriculture in the area served by SEMRY, with obsolete rules for land access and control as well as issues with irrigation water management.

Another challenge is the lack of farmer participation in decision-making and management of the irrigation schemes. The relationship between the parastatal institution, SEMRY, and the farmers it serves, in terms of their respective rights and functions, is not clearly defined. The government, as part of its reform of SEMRY, transferred management of the irrigation schemes to water user associations (WUAs). However, the problem of the lack of defined roles and rights persists. The basic challenge for modern irrigation management is the lack of an appropriate legal framework for WUAs that stipulates a legal process for the transfer of responsibilities to WUAs, thereby providing them with the right to manage and use public irrigation infrastructure.

APPROACH

Based on the recommendations from the report published last year, the government, with the support of GWSP, set out to reform the irrigation sector in the Logone Valley. The two key objectives being addressed through GWSP support are (1) to develop a transformational plan for SEMRY; and (2) to elaborate the legal framework



for setting up and operationalizing WUAs for irrigation management in Cameroon.

With the support of GWSP, expert advice was provided to the Government of Cameroon to assist with SEMRY's evolution into a modern public agency. A plan has been developed that will reframe SEMRY's functions to specifically

focus on the maintenance of the main irrigation infrastructure, provide support to farmers, and strategically develop irrigation schemes. Consultation with experts also resulted in the proposal to transfer SEMRY's current responsibilities regarding rice milling and ploughing services to the private sector and the management of the irrigation networks to WUAs. This plan, imple-

BOX 3.3

SUB-SAHARAN AFRICA: CATALYZING FARMER-LED IRRIGATION DEVELOPMENT

Farmer-led irrigation has developed informally for centuries. Individually or in groups, farmers have introduced, expanded, and optimized their irrigated production independently without external support. However, over the past two decades there has been increased awareness, among both governments and development partners, of the potential of farmer-led irrigation development (FLID), and the gains that it can bring.

At the policy level, the African Union's Framework for Irrigation Development and Agricultural Water Management identifies FLID as a pathway to accelerate agricultural growth and food production in the region. But many farmers in the region wishing to engage in irrigation are unable to do so. They are constrained by the lack of access to financial resources, unsuitable irrigation technology, and lack of access to financial markets that prevent them from improving their farming business. These challenges are compounded by climate shocks, inequitable access to water resources, and economic challenges amplified by the COVID-19 pandemic

which, in turn, are disrupting farmers' capacity to produce and sell their products.

To support the African Union, and to identify the specific constraints inhibiting farmers from engaging in irrigation services, GWSP has supported the development of the [“Farmer-led Irrigation Development Guide—A What, Why and How-To for Intervention Design.”](#) The guide provides key policy makers with practical strategies to catalyze FLID by fostering a more enabling environment for smallholder farmers. It also captures the complexity of the system through a simplified framework consisting of resource potential, farmer benefits, technology, markets, finance, knowledge, and policy/legal aspects. This structure is used in a diagnostic tool that helps users to define the potential for FLID, as well as assess the limiting factors faced by farmers who develop their own irrigation practices. Using the framework, and with GWSP support, FLID diagnostics are now ongoing in Kenya, Somalia, Malawi, Madagascar, and Rwanda.

mented over the next five years, would result in improvement in access to land rights, particularly for women and youth.

GWSP is also providing technical and legal experts to support the development of an interim legal framework for irrigation schemes in the Adamawa, North, and Far-North regions. This is complemented by a scheme management code that establishes basic rules under which the WUAs will function, and the infrastructure targeted for rehabilitation. To promote inclusion, women's participation in WUAs will also be stipulated in the code. The aim is to fill a legislative gap with respect to WUAs, and will serve as a temporary measure pending the adoption of the relevant legislation, which will be in the form of a new Water Code and National Water Policy. GWSP also facilitated a validation workshop for the draft policy, which focused on the policy direction and strategic objectives of the document.

ADDITIONALITY

GWSP-supported activities have been foundational to the reform of SEMRY and have provided a platform for a range of ministries to engage in the process. This support also catalyzed a longer-term institutional change with the establishment of a new National Water Policy and Water Code, which will contain an institutional, legislative, and regulatory framework to integrate local actors, such as WUAs, in the management and sustainability of hydraulic and hydro-agricultural infrastructure.

The critical support provided by the Partnership, in the form of technical experts and consultations with the government, provided key inputs to the \$200 million Valorization of Investments in the Valley of the Logone Project, which is expected to go to the board in November 2021. The project contains a \$36 million component focused on institutional strengthening of public

institutions, co-financed by the Government of Cameroon and World Bank. These institutional strengthening activities are directly informed by the technical assistance provided by GWSP on the modernization of SEMRY. To incentivize change, the plan will be implemented with the use of performance-based conditions, whereby disbursements are conditional on the achievement of institutional strengthening targets. These targets will relate to the transfer of irrigation schemes, the signing of a PPP contract to transfer the industrial assets of SEMRY, and the implementation of a social plan for the retrenchment of some staff.

3.3.2 SOMALIA

WATER FOR AGRO-PASTORAL PRODUCTIVITY AND RESILIENCE

CHALLENGE

Somalia is an extremely arid country, highly vulnerable to climate change, and plagued with natural disasters (it suffered 17 between 2000 and 2017). Somalia is also emerging from three decades of armed conflict, which has deepened poverty. Long-term food security is paramount for the social and economic development of the country. Half of Somalia's estimated 12 million people live in rural areas, pursuing agro-pastoralist livelihoods. Severe water scarcity has caused rampant loss of livestock and crop devastation and has led to widespread food shortages. Unless a durable, lasting solution to Somalia's water crisis is implemented, the situation will deteriorate rapidly.

While experience in Somalia has shown that locally designed water storage and infrastructure, such as sand dams, can improve water availability and mitigate communal conflict, public resources to invest and manage this infrastructure have

been limited. Although water contributes significantly to economic output, international trade, and human capital formation, data on the impact of water services on economic development, resilience, and fragility in Somalia have been scarce.

APPROACH

The GWSP-supported report “The Economics of Water: Digging for Data” was developed to identify key pathways through which the availability of water could improve economic outcomes and strengthen resilience within communities in Somalia. The recommendations in the report include a broad suite of potential investments in the short and medium term. The recommendations from this study, and the priority investments proposed, align with the government’s National Water Resources Strategy.

The report includes a range of complementary technical analyses including a groundwater assessment, a surface water and riverine assessment, an institutional analysis, and an overall water sector analysis. Most importantly, the research by GWSP includes a cost-effectiveness analysis that shows the relative contribution of specific water supply options to improving water availability and proposes criteria for the prioritization of investments. The research provides a comprehensive set of water data in Somalia, which is also available for public use. The report and the accompanying products include recommendations for investments, policy reforms, and additional research for improving service delivery to water users. The priorities are disaggregated by rural, peri-urban, and urban area over the short and medium term.

One of the primary recommendations is to revive the Jubba and Shabelle riverine irrigation infrastructure, a crucial source of water for Somalia’s agricultural hub. The GWSP study suggests that the most efficient way to revitalize irrigation in the riverine areas is to promote FLID

by strengthening local community capacity to rehabilitate and manage irrigation infrastructure. On average, where water sources are available nearby, farmer-led irrigation costs one-fourth as much as traditional irrigation and it is far easier to implement. The study also provides evidence that the use of sand dams, which were piloted in the initial Biyoole project (section 2.3), helps increase groundwater storage and is the most suitable option for coping with the effects of moderate and severe drought.

ADDITIONALITY

The recommendations from the report are influencing the ongoing \$42 million Water for Agro-Pastoral Productivity and Resilience, or Biyoole project. This project is being scaled up nationwide with an additional \$58 million in investment, bringing the program to \$100 million in total. The project’s goal is to increase rural resilience in the dry lands of Somalia, ultimately covering 100 rural communities across all the six states and Somaliland. As a result of the project, water storage in sand dams has been increased, communities have become more food secure, livestock is healthier, agricultural activities produce more diversified and nutritious crops, and drinking water is both more available and of higher quality. The GWSP-supported FLID guide (see box 3.3) is being applied as a first step in diagnosing the constraints and opportunities faced by farmers as they work to develop irrigation systems. The scaling up of the Biyoole project will play a significant role in improving agricultural security in Somalia.

3.3.3 INTRODUCING TOOLS FOR GLOBAL WATER ACCOUNTING

CHALLENGE

As the 2016 GWSP-supported [“High and Dry: Climate Change, Water, and Economy”](#) report

highlighted, increasing competition and demand for freshwater resources, coupled with growing water scarcity and variability, are endangering water security. The effects of climate change will only increase water-related shocks, making water resource availability more erratic and uncertain. A primary challenge for policy and decision-makers is to plan for a more uncertain and hazardous future, particularly as they lack the necessary data and information to identify specific water problems and inform water resources management and planning. Economic modeling helps reinforce good policies and improved water resources management based on quality data, which greatly contributes to mitigating the impact of climate change. Given this context, it is critical to get a better understanding of the status of surface and ground water resources as well as of existing demand in basins and subbasins.

APPROACH

Key to meeting these challenges is to make better use of water-related information when designing policies and adapting measures for climate change and water variability. Water accounting (WA), which supports sector planning, management, and investments by providing a comprehensive view of water resource availability over time, including their societal demand, accessibility, and use, can play a crucial role in policies and projects aimed to improve water security.

In the past year, GWSP supported the development of a WA technical guideline, developed jointly with the Food and Agriculture Organization. The purpose of the WA guideline is to help mainstream WA applications, which in turn can be useful tools to identify solutions for water-related issues, as well as to evaluate the potential impact of development interventions on hydrology and overall water systems. The guideline provides a practical overview of available tools for undertaking WA and demonstrates



how they can be used at various scales (such as field level, subbasin, basin) and by different stakeholders (farmers, government departments, city, environment).

In addition to the guideline, GWSP helped develop a web-based global WA tool for accessing information on key parameters useful in WA applications. These parameters include water availability, use and productivity, the agricultural water deficit, and other water balance components for any location and area of interest.

The automated tool makes use of public domain remote-sensing-based information on precipitation, evapotranspiration, land use, and vegetation, covering areas where hydrological data are not available or not accessible. It uses a simple and ready-to-use format for nonwater accounting experts. An initial piloting of the tool has been carried out in the Alazani Basin

in Georgia to help identify priority areas for expanding irrigation and the rehabilitation of existing irrigation schemes.

ADDITIONALITY

Water accounting is becoming increasingly popular, as governments are eager to invest in evidence-based policy making for water

BOX 3.4

PADDIES FOR THE PLANET AND PRODUCERS

Rice is a nutritious staple crop for more than half of the world's population and a source of income for many. However, its cultivation is water intensive, and rice irrigation consumes 40 percent of the world's irrigation water. Yet about a third of the area involved in rice cultivation suffers from water scarcity. Moreover, rice cultivation contributes to and suffers from climate change. Rice production emits 500 million tons CO₂ equivalent of methane per year. Methane from rice cultivation comprises around 1.5 percent of global greenhouse gas emissions, and can reach up to 20 percent of total emissions in Southeast Asian countries. Additionally, rising temperatures threaten rice yields, particularly paddy rice, with projected declines of 8–10 percent in yield for every 1°C increase in temperature.

In 2021, the World Bank, with GWSP support, launched the Paddies for the Planet and Producers initiative to develop a regional low-carbon rice strategic framework for South and East Asia. The initiative, built through collab-

oration with the Consultative Group on International Agricultural Research (CGIAR), academia, and clients, is helping countries in the region shift from methane-producing and water-intensive practices of rice cultivation to techniques such as alternate wetting and drying that produce significant water savings. The initiative will support global platforms and knowledge products that describe the technical innovations, as well as the necessary legislation and financial incentives to change agricultural practices while improving profitability at the farm level.

In support of the initiative, the Partnership is funding analytical work and policy dialogue at the national level and is helping foster policy dialogues and activities regarding the next generation of climate mitigation solutions for agricultural water. For example, through Paddies for the Planet and Producers, the Government of the People's Republic of China is in the process of designing an irrigated rice paddy transformation project intended to reduce GHG emissions and save water resources.

resources management and planning. In Honduras, for example, the Ministry of Environment and other development partners are promoting the use of the GWSP-supported WA tools. As part of the \$70 million Water Security in the Dry Corridor Project, the WA framework used by the government now integrates comprehensive data sets and remote sensing products to complement hydrological and land use information. This effort has enabled the government to undertake a more comprehensive assessment of water resources availability, considering historical and future climate scenarios to support the evaluation and design of potential sites for establishing rain-water harvesting systems.

In Uzbekistan, Kazakhstan, Turkmenistan, the Kyrgyz Republic, and Tajikistan, governments have used remote-sensing-based WA to inform the performance of service delivery in the irrigation sector. The remote sensing tool is also being used to obtain data on the current and future outflows from the Syr Darya Basin, which are crucial for plans to restore the North Aral Sea. The use of WA remote sensing techniques and advanced data targeting in the Syr Darya Basin is enabling evidence-based policy formulation where lack of data has been a major constraint in making informed decisions and investments for improved water resources management.

The methodology and tools are being incorporated into other World Bank projects. The ongoing \$340 million Sindh Water and Agriculture Transformation Project in Pakistan and the \$150 million Resilient and Sustainable Water in Agriculture Project in Morocco are applying the WA tools to identify and monitor opportunities to save surface water and improve water productivity gains in the irrigation schemes selected by the projects.

3.3.4 INDIA

IMPROVING IRRIGATION SERVICE DELIVERY

CHALLENGE

West Bengal, the fourth-most populous state in India, is one of the most important food-producing states in the country. Large tracts of West Bengal have three growing seasons, but this intensive agriculture comes at the expense of inefficient and unproductive water use. The Damodar Valley Command Area is among the most significant irrigation systems in West Bengal, as it provides an important source of livelihoods for 2.68 million people. However, the irrigation schemes in this region are in need of modernization due to infrastructure degradation, poor quality of water service delivery, inefficient irrigation, and the absence of a monitoring system.

Poor service delivery from the canal network is compelling farmers to abstract groundwater, which increases the cost of cultivation and undermines sustainability of the underlying resource. As the system continues to degrade, there is increased flooding and continued decline of groundwater levels, adversely impacting the livelihoods of farmers. Climate change is expected to amplify the challenges that the system is facing. Rising temperatures and climate variability will increase crop water requirements, particularly demand for groundwater, further endangering the sustainability of the system and the quality of service delivery.

APPROACH

To overcome these challenges, GWSP is working to support the government as it implements the \$413 million West Bengal Major Irrigation and Flood Management Project. This project was

approved in December 2019 and is co-financed by the World Bank, the Asian Infrastructure Investment Bank, and the Government of West Bengal. The project's objective is to improve irrigation service delivery, strengthen flood risk management, and improve climate change resilience in the Damodar Valley Command Area. GWSP support has helped the government address poor levels of service delivery due to aging irrigation and flood protection infrastructure, and poor operations and maintenance.

In 2021, the Partnership's support related to two critical pillars of irrigation management. The first pillar, sustained operational efficiency, was strengthened by introducing output- and performance-based contracts to manage irrigation service delivery. Advisors, with varied expertise ranging from finance to irrigation and agriculture, were brought on board to provide technical inputs to examine options for potential contract structures, designing methods to increase private sector awareness about the opportunities, and build capacity. This initiative to secure private sector irrigation service providers on an incentive basis is the first of its kind, not only in West Bengal, but across India.

The second pillar, the use of integrated remote sensing technology for irrigation performance monitoring, was supported by a pilot study funded by GWSP. The study provided an assessment of water utilization scenarios within the irrigation scheme. It contributes to the newly developed Water Resources Management Information System, which tracks information necessary to improve performance such as construction and maintenance progress, financing, and contract payments. This system is the first of its kind for West Bengal. With the information from the remote sensing study, the team was able to identify areas where surface water was lacking, and mapped groundwater use for irrigated agriculture over a two-year period. As the next step, the

quantity of surface or ground water utilized will be estimated and verification of the accuracy of results will be based on information and analysis of available statistical databases.

ADDITIONALITY

Support to the two pillars helped build capacity within the West Bengal Irrigation and Waterways Department (IWD) by familiarizing staff with the utility of geographic information system (GIS)-based applications and providing them with new skills to apply remote sensing techniques. The ability to apply remote sensing and GIS applications will help improve the IWD's oversight of water delivery and utilization and allow for the performance of various canals within the irrigation scheme to be benchmarked. For example, the IWD can now identify areas where groundwater abstraction is high due to poor surface water availability, thereby helping it understand where canal networks are not performing well. This information will also be useful in monitoring irrigation service providers' performance and form a basis for payments to such providers.

The increased capacity of the irrigation department resulted in a pilot, independent of the World Bank-supported programs, to test whether involving a private sector irrigation service provider through incentive payments, as conceptualized under the technical assistance, could be implemented. The pilot was successful, and the operator hired by the government was able to serve an area 3 percent greater than the initial irrigated area while using 7 percent less water. This resulted in increased confidence within the department to work with private sector companies. Based on the success of the pilot, the World Bank through the West Bengal project is now engaged in supporting the IWD to develop output- and performance-based contracts for private sector irrigation service providers to manage irrigation service delivery.



Water in Agriculture



WORLD BANK GROUP
Water



GWSP
GLOBAL WATER SECURITY & SANITATION PARTNERSHIP

TOWARDS RESILIENT AGRICULTURE

Water in agriculture is central to feeding the planet, providing livelihoods, and building resilience to climate shocks and extremes. Yet sustainable achievement of these objectives is threatened by growing demand for food and fiber, unsustainable resource use, and ever increasing climate volatility and change.

Our objective is to support a more water-resilient food system, in line with local and global dietary needs, that boosts livelihoods, respects the environment, and promotes resilience to climate shocks.

We work to strengthen our global and local understanding of the role of water in our food systems for evidence-based decision making, to improve water productivity in rainfed and irrigated agriculture by addressing economic and absolute water scarcity in agriculture, to improve service delivery and innovation for higher performance and accountability, and to focus on building resilience and mitigating climate impacts.

TO SUPPORT THE COVID-19 RESPONSE AND RECOVERY, WE WORK TO:

- Ensure continuity of irrigation services that sustain critical agricultural production and enable employment in light of short-term fiscal stresses and operational constraints on irrigated agriculture.
- Provide cash injections to rural communities, create job opportunities for the vulnerable, and improve the productivity of agro-environmental assets (such as irrigation channels and drainage systems) to build long-term resilience to shocks.

Water in Agriculture

Over the next **30 years**, the world's population is expected to reach **10 billion people**.

About **3.2 billion people** live in agricultural areas experiencing high levels of water stress or high drought frequency.

An estimated **78% of the world's poor** live in rural areas and depend primarily on agriculture for basic income - most of them on smallholder family farms.


To feed the world and support a wide range of other social needs, agriculture must become more productive, resource efficient, and environmentally sustainable.

The Water We Eat:

irrigation covers only **20%** of the total land used for agriculture,

but supports **40%** of global food and fodder output,

and **55%** of output value.



Global abstraction of water

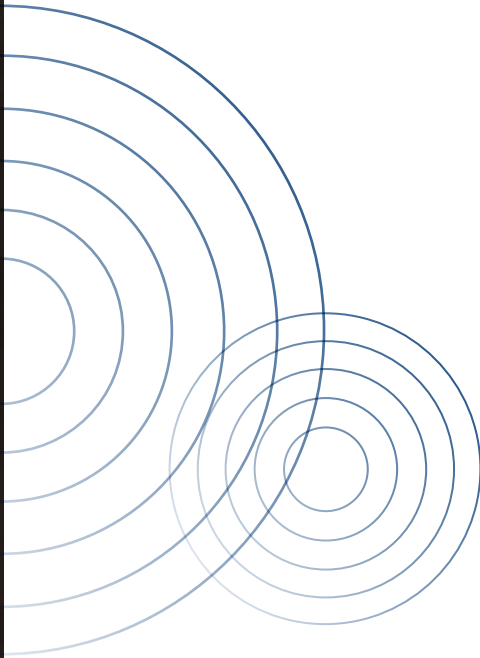
Irrigation is responsible for using **70%** of global freshwater abstracted from rivers, lakes, and aquifers. Irrigation pumping uses **6%** of global electricity and irrigated rice alone is responsible for **11%** of human methane emissions.

Sustainable agriculture is needed to increase food production, support profitable farms that create jobs, and bolster resilience. This requires **improvements in water service provision and soil water management.**

Smarter water is introducing water management in underserved areas without access to irrigation to improve resilience to weather shocks. It is also improving agricultural output and reducing real water loss in irrigated areas in water-stressed areas. **Hybrid and tailored solutions are needed to improve water productivity globally.**

Water-resilient food systems require shifts in what is produced where, better accounting of the sector's water-related footprints and social values, and a valuation of the role the sector (can) play in **achieving basin water security.**





CHAPTER 4

ADVANCING RESULTS

The GWSP Results Framework was designed to track how the Partnership helps client countries improve and deliver water services by working to enhance the impact of 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 lending resources alone.

July 2020 to June 2021 (FY21) has been a difficult year. Many client government and World Bank activities focused on responding to the COVID-19 pandemic. Meanwhile, significant capacity constraints due to health concerns and lockdown periods within client countries, Bank staff travel restrictions, and other pandemic-related challenges resulted in delays or slower rates of progress for in-country analytical work, project

design, and implementation. Despite these challenges, GWSP-supported activities continued to achieve significant results. This chapter highlights the results observed in FY21.

A complete set of tables listing the indicators, targets, and preliminary measures of the year's progress on Block A and Block B of the Results Framework are presented in appendix B.

4.1 GWSP AS AN AGENT OF CHANGE IN WATER REFORMS AND INVESTMENTS

GWSP effectively acts as a “think tank,” providing client countries, other development partners, and World Bank staff with global knowledge, innovations, and country-level technical support, while also leveraging World Bank Group resources and financial instruments. This dual approach of combining analytics, technical assistance, and knowledge with large investments through World Bank lending is one of GWSP's unique features and provides

a potent combination of resources. Through new thinking, long-term country engagement, specialized knowledge, and just-in-time technical assistance, GWSP strengthens institutions as they build up to and sustain reform, enhances project design, supports agencies with relatively low capacity in project implementation, and helps country institutions quickly respond to changing circumstances. This process is illustrated in figure 4.1.

4.2 THE GWSP RESULTS FRAMEWORK

The GWSP Results Framework streamlines the tracking and reporting of results using standardized indicators across five priority themes. Indicators are grouped into three components, or blocks. Block A looks at the multiyear knowledge and technical assistance activities supported by GWSP. Block B considers how newly approved and active World Bank lending operations in the water sector have been influenced by GWSP-supported knowledge and technical assistance. Block C includes qualitative and quantitative assessments of the influence and impact of

knowledge and technical assistance on lending operations of the Water Global Practice (GP) in nine priority countries, based on agreed-upon indicators, at intervals over the life of the Partnership (see figure 4.2).¹

1 In FY20, midterm progress assessments were conducted in four of the nine priority countries. The remaining five countries will be assessed, and the results will be reported, in FY22.

FIGURE 4.1: HOW GWSP’S “KNOWLEDGE INTO IMPLEMENTATION” BRINGS ABOUT RESULTS ACROSS ALL WATER SUBSECTORS

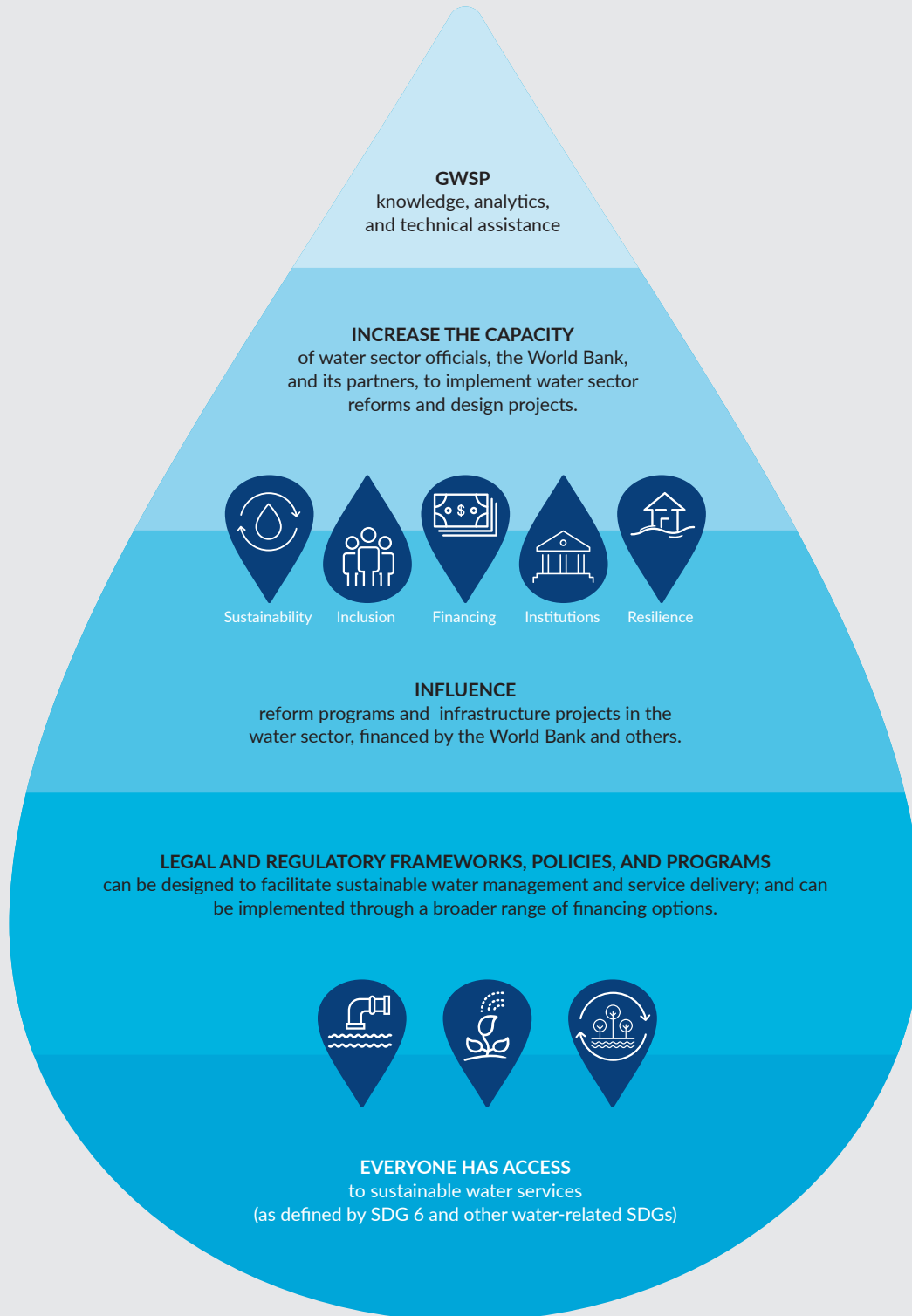


FIGURE 4.2: THE THREE COMPONENTS OF THE GWSP RESULTS FRAMEWORK



Block A
KNOWLEDGE, ANALYTICS, AND TECHNICAL ASSISTANCE

- Institutions and/or policies strengthened in support of the five priority themes.
- Amount (in US dollars) of World Bank lending influenced by GWSP-supported knowledge and technical assistance.

Block B
INFLUENCE ON WORLD BANK LENDING

- Design features of the World Bank’s Water Global Practice lending that address GWSP’s five priority themes (sustainability, inclusion, finance, institutions, and resilience).
- Access/availability of services and number of strengthened institutions across all water subsectors, reported by the active World Bank lending portfolio in the water sector.



Block C
COMBINED RESULTS

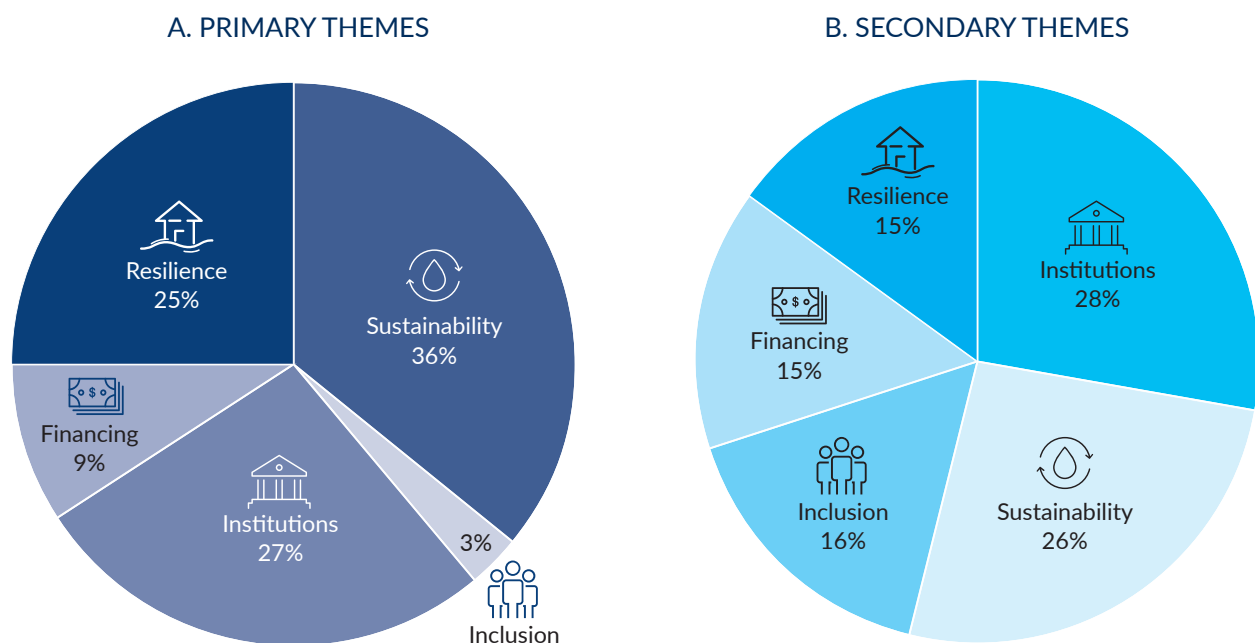
- Results from technical assistance, knowledge work, and lending operations in nine priority countries (Bangladesh, Benin, Bolivia, Egypt, Ethiopia, Haiti, Pakistan, Uganda, and Vietnam).
- Baseline data reported in FY18, and results reported at midterm (FY20 and FY22) and end of term.

4.3 KNOWLEDGE AND TECHNICAL ASSISTANCE SUPPORTED BY GWSP (BLOCK A)

This component comprises intermediate outcomes that are directly achieved by GWSP analytical and advisory activities. Indicators under Block A are intended to present a picture of how funds have been used during the reporting year, looking at the active portfolio of GWSP grants. The activities include global, regional, national, and subnational analyses, as well as technical assistance provided to country counterparts. Monitoring Block A also involves tracking the dollar amount of World Bank lending influenced by GWSP-supported knowledge and technical assistance—that is (1) the approved and pipeline lending projects (newly reported projects) and (2) all lending projects (including previously reported projects) informed by active GWSP grants in FY21.

The indicators under Block A measure the influence that the active grant portfolio has on policies and institutions in client countries and are supplemented by qualitative analyses and narratives (see chapter 3 for examples). Results manifest in the short, medium, or long term. Some activities may address short-term institutional bottlenecks, while policy advice may take longer to show influence. Accordingly, as a grant enters its second and third year, the likelihood of reporting results increases. Given that grants exit the monitoring process once funding has concluded, the percentage of results achieved under Block A tells only part of the story. Outcomes achieved at later stages are captured by monitoring the processes and indicators listed under Block B, further described in this section, and Block C.

FIGURE 4.3: PORTFOLIO BREAKDOWN BY PRIMARY AND SECONDARY THEMES, FY21



In FY21, the GWSP portfolio contributed results across all five priority themes. Each GWSP activity was assigned a primary theme to which it was expected to contribute results. Given the cross-cutting nature of the themes, most activities contribute results to more than one theme—these are recorded as secondary themes.

When analyzing the makeup of the active portfolio based on primary themes, 36 percent are tagged as contributing to sustainability, 27 percent to institutions, 25 percent to resilience, 9 percent to financing, and 3 percent to inclusion (see figure 4.3, a). Financing and inclusion are often pursued as part of an overall focus on sustainability and institutions; hence they are seldom selected as primary themes. Although primary themes provide a good indication of the main focus of a grant, they do not provide the complete picture; secondary themes must be included for a more comprehensive analysis. When looking at secondary themes, the representation of both financing and inclusion themes increases to 15 and 16 percent, respec-

tively, and the portfolio’s overall contribution toward the five priority themes is more balanced (see figure 4.3, b).

Block A includes 19 indicators that measure expected results across the five priority themes. A detailed breakdown of the results achieved under each component is included in appendix B, table B.1. Based on the FY21 portfolio, figure 4.4 shows where results are observable or expected across the five priority themes, highlighting the diversity of GWSP’s portfolio. Under each of the priority themes of sustainability, inclusion, resilience, and institutions, more than 70 percent of activities contributed to results; more than 60 percent under financing reported achieving intermediate outcomes.

In addition to the number of activities reporting results under each theme, figure 4.5 outlines some of the results achieved. A detailed breakdown of the results achieved under Block A is included in appendix B, table B.1.

FIGURE 4.4: NUMBER OF ACTIVITIES CONTRIBUTING TO RESULTS UNDER EACH THEME, FY21

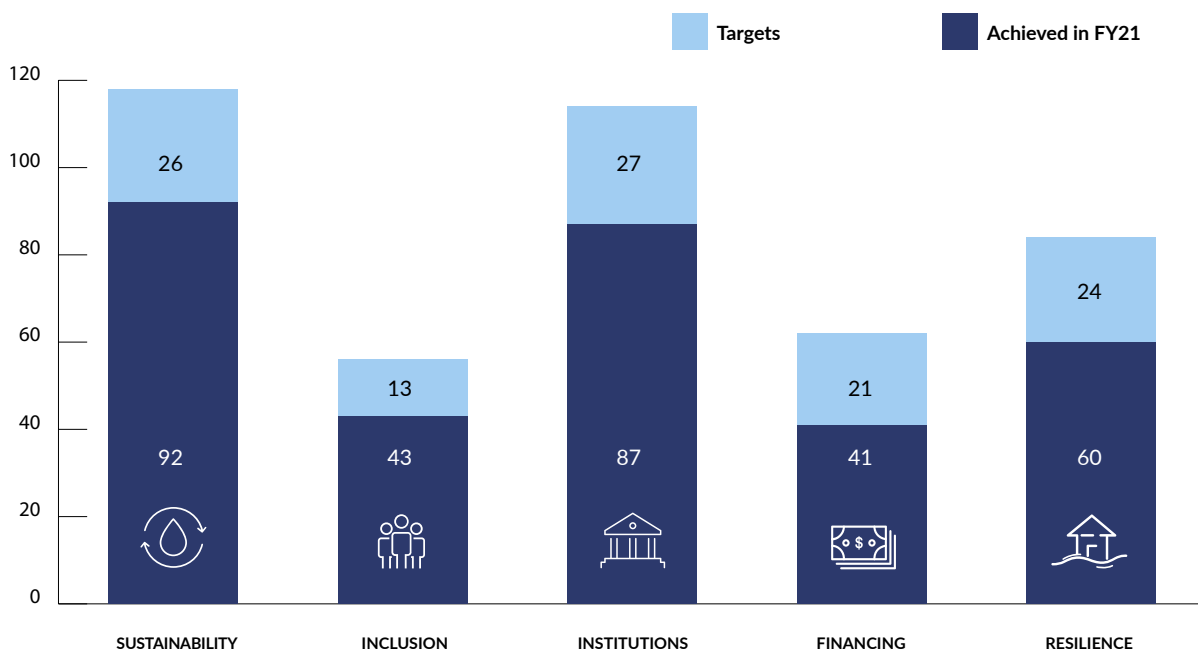


FIGURE 4.5: BLOCK A: EXAMPLES OF RESULTS ACHIEVED IN FY21

17 countries	(compared to 14 countries in FY20) were supported to develop policies and strategies that strengthen the sustainable management of water resources and the built infrastructure assets.
34 countries	(compared to 25 in FY20) were supported to build sustainable infrastructure assets.
48 countries	(compared to 43 in FY20) have reported results under one of the five priority themes for country-specific grants.
60 activities	(compared to 40 in FY20) reported results under at least one of the resilience indicators. This increase is particularly noticeable when looking at policies/strategies developed to strengthen the resilience of freshwater basins, where activities reporting results increased from 16 in FY20 to 29 in FY21.
24 activities	(compared to 18 in FY20) reported results under the inclusion indicator of activities that develop approaches, including integrated cross-sectoral approaches where relevant, to address water, sanitation, and/or nutrition issues. Overall, there was a modest increase in the results reported under inclusion.

4.4 GWSP INFLUENCE ON WORLD BANK WATER LENDING

GWSP’s unique value proposition enables it to influence, through knowledge and technical assistance, the design and implementation of water sector reforms and infrastructure projects financed by the World Bank Group.

Since its inception, GWSP reports the amount of World Bank lending² directly influenced by

GWSP-funded grants every year, based on information collected through the annual monitoring process and the dollar value of the projects that were influenced. 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.

² Influenced lending is calculated based on (1) approved and pipeline lending projects that were informed in a given fiscal year by active grants for

the first time and (2) all active lending projects in a given fiscal year that were informed by active grants (including those that had been previously reported).

In FY21, despite the lower number of approved lending in the Water GP, GWSP informed \$14.2 billion (compared to \$13 billion in FY20) in newly reported lending projects and \$37.8 billion in all lending projects (including previously reported projects). This last dollar amount reflects the multiyear nature of GWSP activities, which may influence the same project at different points in the project cycle.

This increase in newly informed projects is in large part due to GWSP support of the World Bank’s Global COVID-19 Multiphase Programmatic Approach managed by the Health,

Nutrition and Population GP and totaling \$3.76 billion. In addition, the Water GP teams continued to engage in cross-sector projects with other GPs. In FY21, approximately 53 percent of the lending projects influenced by GWSP were outside the Water GP. As displayed in figure 4.6, GWSP informed approximately \$1.67 billion in the Education GP and nearly \$1 billion in the Urban, Disaster Risk Management, Resilience and Land GP. Among the newly influenced lending projects in FY21, nine were linked to eight countries with fragile and conflict-affected situations, with commitments of close to \$950 million.

FIGURE 4.6: \$14.2 BILLION IN GWSP-INFLUENCED WORLD BANK LENDING, BY GLOBAL PRACTICE, FY21

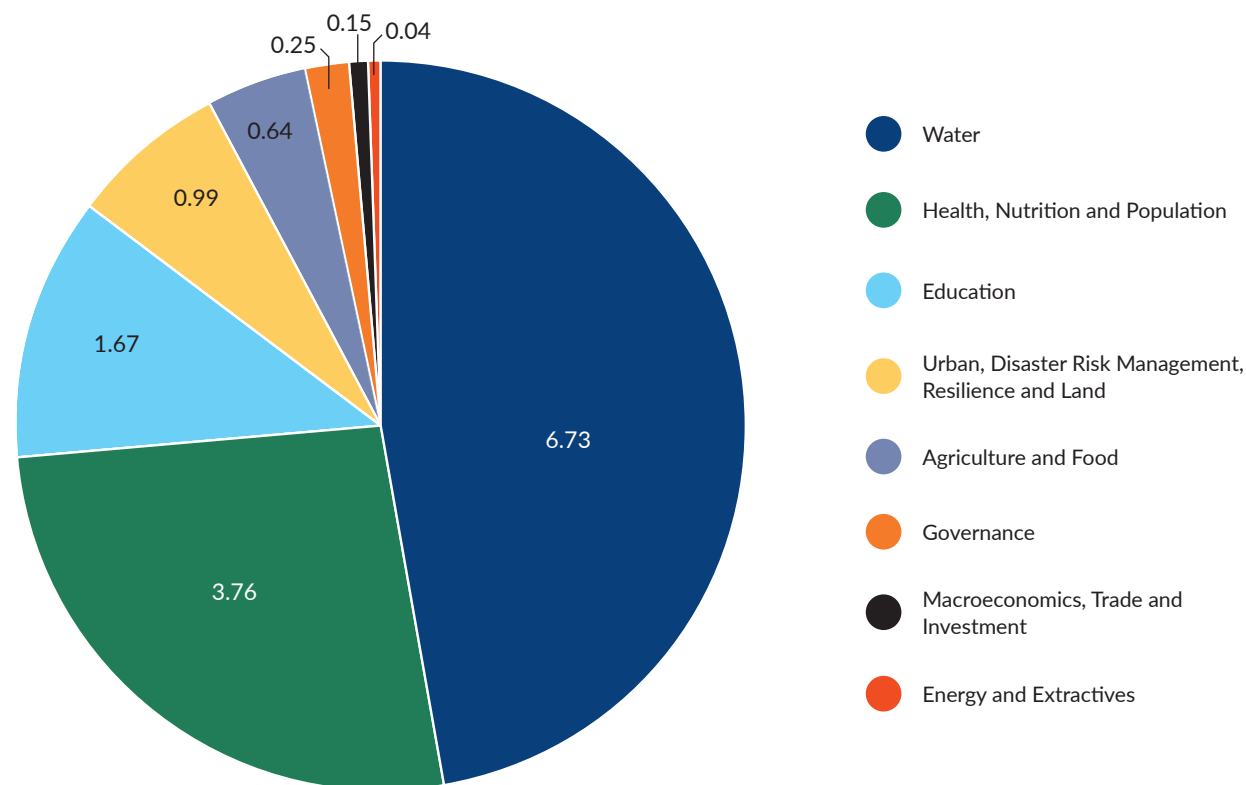
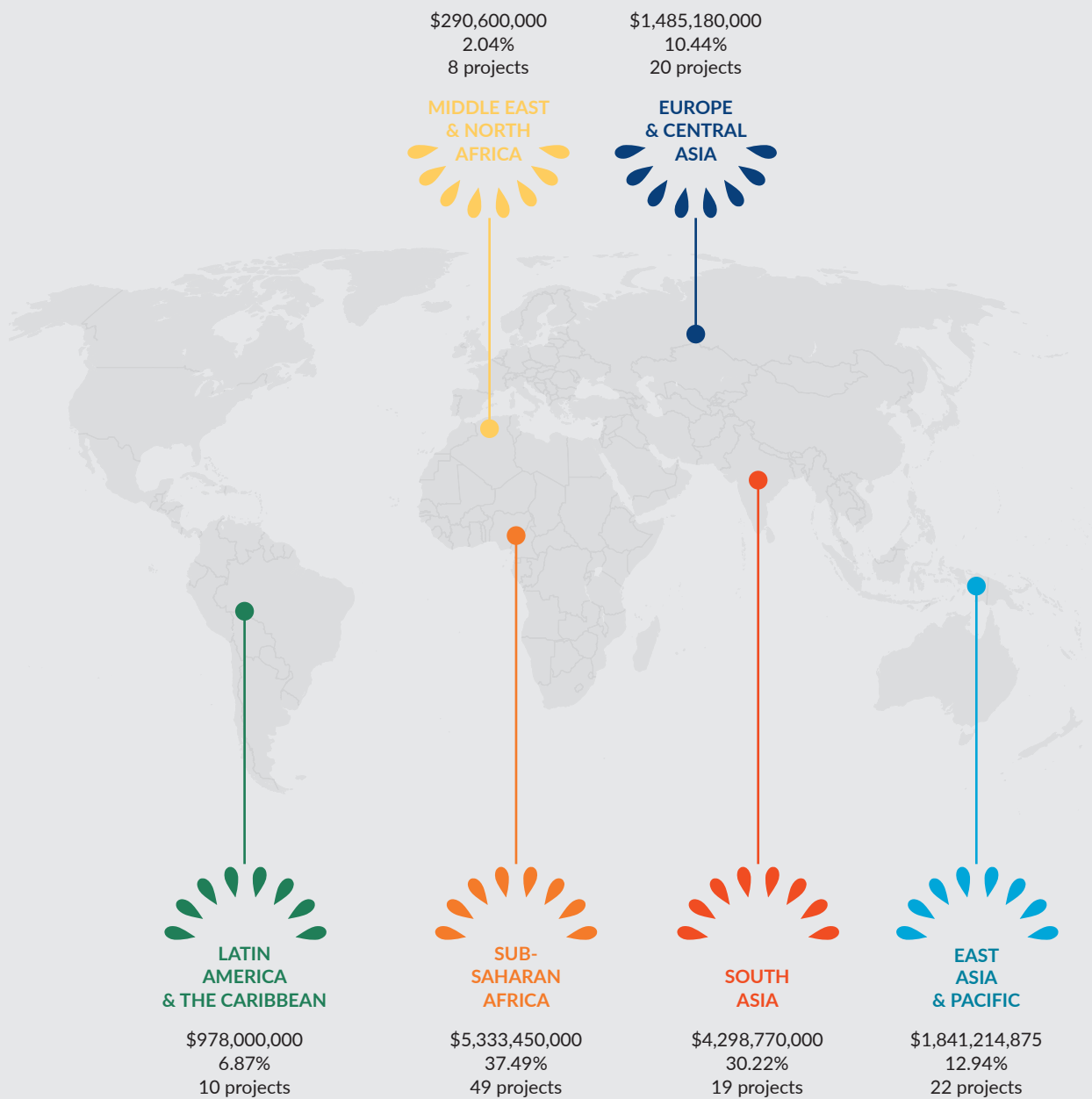


FIGURE 4.7: \$14.2 BILLION IN GWSP-INFLUENCED GLOBAL WATER-RELATED WORLD BANK LENDING, BY REGION, FY21



Source: GWSP Portfolio Monitoring Data.

4.5 REPORTING ON PORTFOLIO SHIFT AND PROJECT RESULTS (BLOCK B)

Block B reports on the Partnership's influence on the World Bank water-related lending portfolio. It does so first by tracking new Water GP lending across the five priority themes and how thematic priorities are reflected in projects' design and monitoring (refer to appendix B, table B.2). Second, it tracks the results of all World Bank active water-related lending operations, most of which were influenced by activities funded by GWSP or its predecessors, the Water Sanitation Program and the Water Partnership Program (refer to figure 4.8 and appendix B, table B.3).

4.5.1 NEWLY APPROVED WATER GP LENDING PROJECTS

The majority of World Bank efforts in FY21 were geared toward the COVID-19 crisis response. Meanwhile, due to pandemic-related travel restrictions and health concerns, some of the Water GP lending pipeline projects were delayed. As such, in FY21, only 13 Water GP lending projects were approved, compared to 24 projects in FY20. These 13 projects were under two main business lines: water supply and sanitation (9 projects), and water resources management (4 projects).

FY21 saw an improvement from FY20 across 50 percent of the Block B portfolio influence indicators tracked (Block B, table B.2), with many indicators exceeding the five-year target established for FY22. In other words, better results across most priority themes were reported in FY21 Water GP lending projects compared to FY20. GWSP supported the following achievements:

Inclusion: In FY21, 100 percent of projects were gender tagged, meaning they demonstrated a results chain by linking gender gaps identified in the design phase analysis to specific actions tracked in the Results Framework during implementation. In addition, 85 percent of new projects approved in FY21 (compared to 63 percent in FY20) have other social inclusion aspects, such as activities that target the poor, vulnerable, or underserved communities or areas.

Resilience: One hundred percent of new projects incorporated resilience in the design of water-related activities, an increase of 22 percent from FY20. In addition, the percentage of projects' climate change co-benefits increased from 60 percent in FY20 to 62 percent in FY21. This means that the portion of project financing that delivers either climate change mitigation or adaptation benefits to project beneficiaries



In FY21, GWSP informed \$14.2 billion in newly reported lending operations and \$37.8 billion across all lending



has continued to increase. Furthermore, in FY21, two projects supporting countries with fragile and conflict-affected situations (Afghanistan and Nigeria) incorporated a resilience lens in their design.

Financing: In FY21, 69 percent of projects supported reforms/actions improving financial viability, representing \$2.15 billion of investment. However, this was lower than last year by 19 percentage points. Similarly, projects with explicit focus on leveraging private finance also decreased from 19 percent in FY20 to 8 percent in FY21. Overall, the year saw reverse private capital outflows from emerging markets—the largest since the 2008 global financial crisis (0.4 percent of global gross domestic product in April/May 2020 vs. 0.25 percent in 2008). This discouraged a focus on opportunities to contribute to private capital mobilization and slowed the preparation of some projects now planned for approval in FY22.

Institutions: Compared to the past fiscal year, there was an increase in the percentage of projects that support reforms/actions that strengthen institutional capacity, from 96 percent in FY20 to 100 percent in FY21, exceeding the FY22 target of 90 percent. This means that all the new Water GP lending operations of FY21 included a focus on strengthening institutional capacity through establishing new institutions or enabling existing ones to deliver services sustainably.

Sustainability: In FY21, both indicators under sustainability remained above the targets set for FY22. Specifically, in FY21, all 13 Water GP lending operations included promoted sustainable and efficient water use. Furthermore, the indicator for rural water supply and sanitation that measures the functionality of water points increased from 67 percent in FY20 to 80 percent in FY21.

FIGURE 4.8: ONGOING LENDING OPERATIONS

217 ongoing lending operations in the World Bank water-related portfolio reported the following results achieved in FY21, influenced by activities funded by GWSP and its predecessors, the Water Sanitation Program and the Water Partnership Program.



11.6 million people
have access to an improved water source
(of which 5.5 million are female)



9.2 million people
in areas covered by water risk
mitigation measures



43,611 tons/year
of biochemical oxygen demand pollution
loads removed by treatment plants



6.4 million people
have access to improved sanitation
(of which 3.2 million are female)



20 institutions
with water resources management
monitoring systems



1.4 million hectares
under sustainable land/
water management practices





CHAPTER 5

KNOWLEDGE TO GO FURTHER

Since its inception, GWSP has regarded knowledge as a virtuous cycle. GWSP identifies challenges, issues, and roadblocks through an extensive dialogue with clients and other partners as well as through the development and implementation of water-related operations. The Partnership then uses its resources to work with a wide range of stakeholders to research, advise, and overcome those challenges through flagship studies, technical assistance, training, capacity building, and other analytical work.

The virtuous cycle shapes key inputs that are stress tested by implementation and adjusted based on the lessons of experience, so GWSP can consistently offer the best solution available and deliver results at scale.



This knowledge-into-implementation approach has been progressively refined since 2016 and the encouraging results it has garnered have been documented in previous annual reports and assessed in a recently completed external evaluation of GWSP. Early in the COVID-19 pandemic, the approach was adjusted to meet the unexpected demands and limitations imposed by remote work and an increasingly virtual playing field. In the fiscal year running from July 2020 to June 2021 (FY21), GWSP took full advantage

of these adjustments and deployed a suite of digital capabilities that are now redefining how we work.

As a testimony to the success of this effort, the GWSP Knowledge and Learning program was awarded three World Bank distinctions in FY21: one presidential award for the AskWater service desk and two vice-presidential awards recognizing the program’s contribution to digital learning and rewarding the Water Global Practice (GP) for having held the first fully virtual World Bank forum, WOW!2020, hence breaking new ground for large-scale knowledge exchange.

Concurring with these distinctions, the “[External Evaluation of the Global Water Security & Sanitation Partnership](#),” published in August 2021, concluded: “The ‘Knowledge into Implementation’ model of the GWSP has been much valued and highly effective. The model should be maintained, sustained, and even expanded, by building on existing knowledge-based relationships, collaborations, and partnerships, within the Bank, globally and in client countries” (p. 93).

This overview of the Knowledge and Learning program focuses on the two key objectives of distilling global knowledge for regions and learning from operations.



5.1 DISTILLING GLOBAL KNOWLEDGE FOR REGIONS

Water Expertise Facility. To provide just-in-time responses to requests for technical input in programs at the country level, the GWSP Knowledge and Learning program operates and finances the Water Expertise Facility, which contributes external expertise to innovative pilots, strategic priorities, emergency responses, and development opportunities. In FY21, when 29 grants in total were allocated, the Water Expertise Facility prioritized requests to accelerate efforts toward global hand hygiene and meeting the needs of fragile and conflict-affected situations. Water Expertise Facility (WEF) grants supported initiatives touching on handwashing and water supply, sanitation, and hygiene (WASH) programs in Ghana, Zambia, Vietnam, Peru, and Bangladesh. More than half of the grants were dedicated to conducting assessments of and developing solutions for water resources management solutions in Cameroon, Kenya, Zimbabwe, Cambodia, Morocco, Mexico, India (in the states of Kerala and Punjab, and focused on the Ganges) and Pakistan. The resilience of water utilities in times of COVID-19 pandemic was at the center of interventions in Kenya, Uganda, the Dominican Republic, and Bangladesh.

In Vietnam the WEF supported rural sanitation and water supply programs by incorporating COVID-19 responses in 10 vulnerable provinces. In the Philippines, the WEF conceptualized a new national water supply and sanitation master plan. In collaboration with the Department of Interior and the local governments involved, the Utility of the Future (UoF) methodology was used to conduct service performance assessments of 10 pilot local governments. In Morocco, the

WEF supported the water use modeling of the Oum-Er-Rbia River Basin and looked at the impact of agriculture and water subsidies related to irrigation schemes. Finally, in Uganda, the WEF was used to assess inequalities between refugees and host communities in access to water supply and sanitation services and overall water resource distribution. The study focused on three refugee camps in the Upper West Nile region where perceived inequalities had triggered acts of violence, some of which tragically ended in casualties. The findings informed better targeting of investments and focused the technical assistance on interventions that will benefit both refugees and host communities.

Digital learning accelerated in FY21, with the strong participation already noted in early 2020 increasing steadily over the year and prompting a shift in the learning delivery model. A time-tested workshop on the financing of water utilities was turned into a self-paced online course explaining why adequately financed utilities are imperative to achieving universal access, improved governance, and enhanced water security. Hosted on the World Bank's "Open Learning Campus" and targeting water utilities' management and staff, the [Water Utility Financing](#) e-learning course suggests ways to fill financing gaps. A conversion to e-learning improves the reach and the flexibility of capacity development initiatives while delivering substantial savings for the World Bank.

Also geared toward client learning and World Bank staff, the **Water Academy Series** was developed in partnership with the American Water Works Association to provide technical deep

dives into the concepts of smart water and UoF. The Academy series offers an interactive learning experience, blending independent study and live sessions totaling 14 hours of instruction.

Another digital learning experience that benefited regions and their clients was the organization of a series of workshops on the best approach to promote institutional reform in Kenya. The online workshops brought together three African water teams, colleagues from the Agriculture and Governance GPs, and the Water global leads to focus on a shift from piecemeal solutions focused solely on water to a comprehensive transformation of institutions across relevant sectors. The workshop helped prepare a new policy-based operation for which funding totaling \$750 million was approved by the World Bank board in May 2021.



Global diagnostics for local challenges. Analytical rigor and cutting-edge analytics underscore recommendations that can be tailored to specific country circumstances, in recognition that a one-size-fits-all approach seldom works. The approach was applied in FY21 with water security diagnostics in Argentina, Colombia, and Moldova. GWSP supported the launch of a new joint report with the International Committee of the Red Cross and the United Nations Children’s Fund titled “[Joining Forces to Combat Protracted Crises.](#)” The report highlights the numerous problems faced by water supply and sanitation providers operating in affected regions, especially in the Middle East and North Africa. It also outlines ways in which humanitarian and development partners can work together to improve the provision of water supply and sanitation services in these difficult conditions.

The push for more and better water data continued in FY21. GWSP continued to expand and improve on the new water data portal (<http://wbwaterdata.org>), which aggregates open data on water, not only from the World Bank but also from major development partners and academic institutions. The comprehensive catalog of data sets, searchable by strategic priorities and countries, has been augmented with [data visualizations](#) that allow for rapid analysis of water-related development challenges, notably around water quality and inclusion in water, respectively drawing from the flagship studies “[Quality Unknown: The Invisible Water Crisis](#)” and “[Women in Water Utilities: Breaking Barriers.](#)” Triggered by the launch of the World Bank Water Data portal, the data on water quality were integrated into the [World Wildlife Fund Water Risk Filter](#)—the leading online water risk tool, used by thousands of companies. Empowered by the water quality data in the tool, companies can now take progressive action to address risks and engage in collective action with other stakeholders to solve shared water quality challenges.

5.2 LEARNING FROM OPERATIONS

Lessons learned from operations. GWSP produces roughly 50 pieces of analytical work per year—comprising global diagnostics, evaluations, and lessons learned—all of which undergo a rigorous quality assurance process. The ongoing analytical work of GWSP and the Water GP is compiled in the sixth edition of [“Knowledge Highlights from the Water Global Practice \(2016–2021\)”](#) that showcases over 200 analytical pieces and knowledge products, ranging in scope and ambition from quick knowledge briefs capturing a best practice or local success to comprehensive country diagnostics; and from specific policy advice at the request of a client country to ambitious regional or thematic frameworks intended to shape the global response to water challenges. The [“Featured Publications”](#) at the end of this chapter highlight some of the most recently produced analytical pieces.

AskWater service desk. Through this service desk, staff gain access to an internal network of 250 highly technical, subject matter experts who respond to technical and operational challenges. This year, the AskWater service desk processed one case per business day on average, across 107 countries, and with a good distribution among regions. Technical requirements depended on the type of request, which can be summarized in four categories: (1) consultation with a highly specialized expert (44 percent); (2) tailored advice on a local operation and context (26 percent); (3) benchmarking and data issues (15 percent); and (4) inputs into highly specialized terms of reference (15 percent). The service desk continuously nurtures the crucial dialogue between global knowledge and regional operations, a dialogue further supported by an ongoing **webinar series** (about eight events per month) that culminates

in the yearly knowledge exchanges centered on **Water Week**.

The GWSP-sponsored webinar series this year included close to 90 sessions on a diverse array of technical topics including: (1) data and innovation in the water sector; (2) the benefits of farmer-led irrigation; (3) latest trends in handwashing, menstrual hygiene, and sanitation; (4) promoting female entrepreneurship and empowerment in water, notably under the umbrella of the Equal Aqua network; (5) navigating greenhouse gas accounting and dam safety standard practices; and (6) solutions to create a water-secure, green, and resilient future. In keeping with last year’s sudden increase in attendance, the webinar series generated 3,300 seats.

WOW! 2021, the Water GP’s Water Online Week, was open this year to clients, donors, and development partners. Fully virtual, the event expanded on the successful 2020 edition with a broader audience (over 2,000 participants) and a focus on water and climate change. It also included a series of internal and informal knowledge exchanges. The **WALKS** (Water Learning and Knowledge Sharing sessions) consisted of nimble networking events and informal technical sessions with the overall ambition of “walking the talk” and translating knowledge into implementation. WOW! 2021 provided a platform for GWSP to explore the vital role water plays in climate adaptation and mitigation, as well as to highlight the critical importance of delivering water services, sustaining water resources, and building resilience.



5.3 GWSP COMMUNICATIONS

INSPIRING ACTION THROUGH COMMUNICATION

Recognizing that the whole world had to adapt to a global pandemic in 2020, GWSP's communications also pivoted and adjusted both their strategy and approach. A coordinated move toward digital platforms ensured business continuity as well as audience retention. The accelerated move to digital platforms helped improve GWSP's branding and purpose-driven communications, created room for creative content marketing, and reinforced the reach and impact of its virtual events. To strengthen digital engagement, GWSP launched an official **Twitter** account in July 2021. This social media platform will not only serve to increase the Partnership's visibility and brand recognition but is being specifically targeted to client country water professionals at the national and subnational level to help amplify GWSP's messages for new audiences.

Communication plays a vital and growing role in elevating GWSP's global presence and strengthening its messaging on water writ large. The Partnership continues to enhance its communication strategy by using digital tools including feature stories, blogs, websites, social media, and videos, as well as advocacy and campaigns, to relay messages, build capacity, and share technical knowledge. This concerted communication effort supports GWSP's position as a thought leader in the production of cutting-edge research and analytics to create and deliver urgent, practical, and innovative solutions. Part of the Partnership's unique value proposition is that it not only produces knowledge, but also has the resources, expertise, and mandate to ensure that the relevant information reaches key clients and is built into World Bank lending operations.

RAISING AWARENESS ABOUT MENSTRUAL HYGIENE

For example, turning a moment into momentum only takes one action. For Menstrual Hygiene Day 2021, the world rallied behind the theme of "Action and Investment in Menstrual Hygiene and Health." GWSP joined this global advocacy campaign by producing several communications products, including a [blog](#), a [feature story](#), an [animation](#), and a [video](#). These materials, which collectively reached an audience of over 7,000 online users, featured GWSP's and the World Bank's leadership teams advocating for the importance of stepping up action and investment in menstrual health hygiene. As part of a global effort, this year's Menstrual Hygiene Day featured the participation of over 800 organizations that organized over 300 offline and online events. The global campaign attracted over 500 million online impressions, or digital views, had over 8,000 media mentions, while generating over 200,000 mentions on social media. The materials highlight GWSP's partnerships in India, Kenya, and Uganda, and showcase its research and analytical work on menstrual hygiene.

ENGAGING AT HIGH-LEVEL EVENTS

GWSP participated in several important global events in FY21, including this year's **World Water Week** hosted by the Stockholm International Water Institute under the theme of "Building Resilience Faster." World Water Week remains an outstanding opportunity to showcase GWSP's broad offerings in cutting-edge analytics. This year the Partnership and its staff participated in over 50 sessions on an array of topics including water resources management, covering transboundary water, nature-based solutions, managing floods and droughts,

groundwater resilience, accelerating universal access to WASH, and water storage. It also allowed GWSP to investigate the role of water in green recovery as part of the wider World Bank’s integrated green, resilient, and inclusive development (GRID) approach.

During World Water Week, GWSP also launched two flagship reports—[one](#) on the relationship between water, migration, and development, and [another](#) on the governance challenges of managing droughts and floods (see [Featured Publications](#)). This launch was supported by a comprehensive communication package, including a global press release, a feature story, animations, a video, and a social media campaign.

On World Toilet Day 2020, GWSP participated in a high-level [dialogue on sanitation](#) that stressed the importance of increased investments in WASH as part of the COVID-19 response. The dialogue also emphasized the importance of water and sanitation in country development strategies as the world begins to emerge from the pandemic. This event facilitated south-south knowledge exchange between ministers of water from Ghana, India, and Nigeria, and highlighted how these countries are turning advocacy into action by increasing their ambition to achieve universal access to sanitation.

CALLING FOR IDEAS TO TRANSFORM WATER UTILITIES

GWSP launched the Utility of the Future Challenge, which invited participants to imagine a future where water utilities provide reliable, safe, inclusive, transparent, and responsive water and sanitation services through best practices that support their efforts and investments to become more efficient, resilient, innovative, and sustainable. This digital campaign received 40 submissions from 27 countries—including Australia, Vietnam, and Sudan—for ideas to

improve water utilities and thus strengthen water security and sanitation. Two winners from this campaign were announced at the 2021 World Water Week.

AMPLIFYING GWSP’S VOICE IN THE DIGITAL SPACE

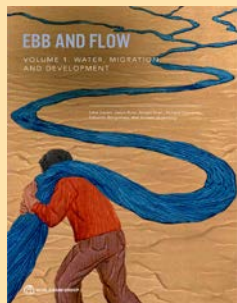
As the COVID-19 pandemic rolled into a second year, the world continued to experiment with new ways to reach and engage audiences virtually. To further adjust and reach a larger audience, GWSP launched a new Virtual Room in November 2020 that allows users to access a wide range of GWSP highlights, including interviews, technical reports, videos, and blogs, all at one online hub.

GWSP also supported the development of several infographics to better inform and simplify how GWSP is working to improve services and sustainability. Topics range from [climate change and water](#), to [water supply and sanitation](#), [dam safety](#), [water resources management](#), [social inclusion](#), and [water in agriculture](#). (Some of the infographics are featured in chapter 3.)

GWSP’s communication efforts continue to contribute to research and knowledge sharing on water security and how it affects governments, utilities, consumers, and other water sector stakeholders. To this end, the Partnership spent the past year researching and designing a new, improved website to host all GWSP-supported regional and countrywide water diagnostic studies, as well as various multimedia tools and products highlighting the importance of access and water security to increase safe and reliable water worldwide. The website, complemented by a major media campaign, was launched in October 2021.



FEATURED PUBLICATIONS



EBB AND FLOW VOL. 1: WATER, MIGRATION, AND DEVELOPMENT

This volume provides the first-ever global assessment of how fluctuations in water availability—as induced by rainfall shocks—influence internal migration and hence regional development. The new analyses presented here highlight important nuances that are critical for policy design and building resilience within communities.

FROM CITY TO SEA: MANAGEMENT OF LITTER AND PLASTICS IN URBAN AREAS—A GUIDE FOR MUNICIPALITIES

This guide was created to help municipal decision makers, service providers, and municipal planners understand the potentially critical consequences of litter in their cities and develop comprehensive, interdisciplinary approaches to managing litter flows. The guide introduces an array of management measures and describes when they would be appropriate based on local circumstances.



CONNECTING THE UNCONNECTED: APPROACHES FOR GETTING HOUSEHOLDS TO CONNECT TO SEWERAGE NETWORKS



This guide documents successful sewerage connection programs from around the world. It identifies issues to consider and processes to adopt when planning, designing, and implementing programs that focus on maximizing household connections to new or expanded sewerage networks and when undertaking activities to ensure that all households connect to existing networks.

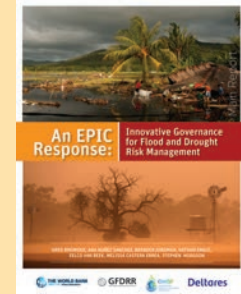
DAM SAFETY GOOD PRACTICE NOTE AND SEVEN ASSOCIATED TECHNICAL NOTES

This Good Practice Note on Dam Safety is the first in a series on the safety of dams and downstream communities and is intended to provide additional guidance to teams on the application of relevant requirements under the Environmental and Social Framework. It is supported by seven technical notes that provide more detailed explanation and guidance on hydrological risk, geotechnical risk, seismic risk, small dam safety, potential failure mode analyses, portfolio risk assessment using risk index, and tailings storage facilities.



AN EPIC RESPONSE: INNOVATIVE GOVERNANCE FOR FLOOD AND DROUGHT RISK MANAGEMENT

This report sets out a vision of how national governments can manage the risks associated with extreme hydroclimatic events through innovative governance, offering a practical and detailed guide for improving flood and drought management systems.

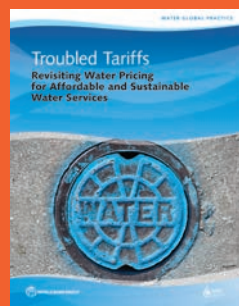


MENSTRUAL HEALTH AND HYGIENE RESOURCE PACKAGE: TOOLS AND RESOURCES FOR TASK TEAMS

The practical, user-friendly tools in this resource package assist World Bank task teams to design and monitor effective, inclusive, and sustainable menstrual health and hygiene initiatives that are responsive to the needs of women and girls as part of water supply, sanitation, and hygiene interventions.

UTILITY OF THE FUTURE: TAKING WATER AND SANITATION UTILITIES BEYOND THE NEXT LEVEL

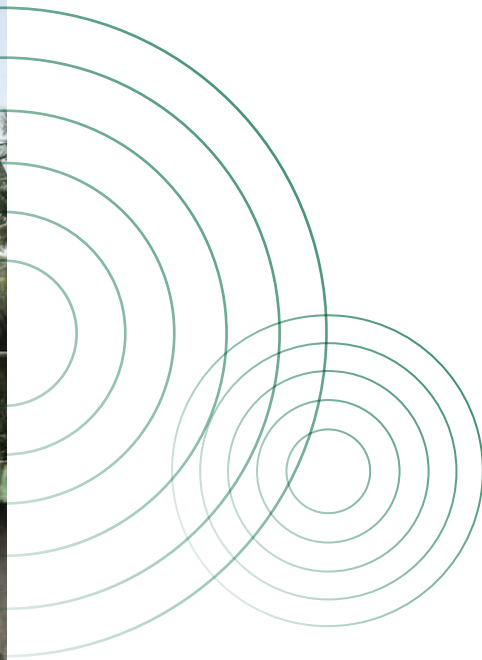
Water and sanitation utilities require a new approach to planning and sequencing reforms to provide services in a sustainable manner. The utility of the future, as outlined in this report, builds on extensive analysis of past performance, with plans customized to the needs of a specific context.



TROUBLED TARIFFS: REVISITING WATER PRICING FOR AFFORDABLE AND SUSTAINABLE WATER SERVICES

This report provides policy makers with the information needed to design better tariffs to further the economic efficiency, affordability, and environmental sustainability of water supply services. Through a layered and comprehensive analysis of the most prevalent tariff structures, it offers specific guidance on pricing water supply services in response to the sector's often competing goals.





APPENDIX A

FINANCIAL UPDATE

GWSP DONOR CONTRIBUTIONS

GWSP was designed as a \$200 million, five-year program. The Partnership was extended for an additional eight years. As of June 30, 2021, total contribution to GWSP was \$201.1 million (table A.1), of which \$193.1 million was in new funding, complementing \$7.9 million rolled over from WSP and WPP (figure A.1).

Nine active donors contribute to GWSP. They are Australia’s Department of Foreign Affairs and Trade; Austria’s Federal Ministry of Finance; the Bill and Melinda Gates Foundation; Denmark’s Royal Ministry of Foreign Affairs; the Nether-

lands’ Minister for Foreign Trade and Development Cooperation;¹ the Swedish International Development Cooperation Agency; the Swiss Agency for Development and Cooperation; the Swiss State Secretariat for Economic Affairs; and the US Agency for International Development.

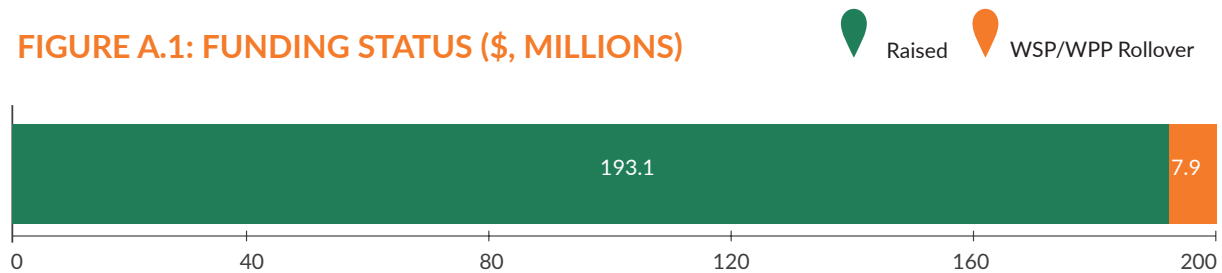
In FY22, the GWSP team will work with GWSP Council members to set new fundraising targets for the 2022–30 period. This will be done taking into account the recommendations of the recent midterm evaluation and in the context of a strategy update.

1 The Minister for Foreign Trade and Development Cooperation falls under the Netherlands’ Ministry of Foreign Affairs.

TABLE A.1: GWSP DONOR CONTRIBUTIONS, 2021

Donor Name	\$ million	Percentage
Swedish International Development Cooperation Agency (SIDA)	61.6	31
Netherlands—Minister for Foreign Trade and Development Cooperation	48.3	24
Bill and Melinda Gates Foundation	20.0	10
Australia—Department of Foreign Affairs and Trade	19.3	10
Denmark—Royal Ministry of Foreign Affairs	10.8	5
Swiss State Secretariat for Economic Affairs (SECO)	10.7	5
Swiss Agency for Development and Cooperation (SDC)	10.1	5
United States Agency for International Development (USAID)	8.3	4
Austria—Federal Ministry of Finance	4.5	2
United Kingdom—Foreign, Commonwealth and Development Office	3.5	2
Norway—Ministry of Foreign Affairs	2.4	1
Rockefeller Foundation	1.6	1
Ireland—Minister for Foreign Affairs / Irish Aid	0.02	0.01
Total Commitments	201.1	100%

FIGURE A.1: FUNDING STATUS (\$, MILLIONS)



Note: WPP = Water Partnership Program; WSP = Water and Sanitation Program.

FY21 DISBURSEMENTS

In FY21, GWSP disbursed \$35.6 million to support its work program activities and had an active portfolio of 145 activities in 55 countries and regions. Of the total 145 activities, 43 were newly approved activities in FY21, and 102 were existing activities from previous fiscal years.

Eighty-five percent of disbursements went to knowledge and analytics that are global, regional, or country-based (see figure A.2). Over half (54 percent) of the disbursements for knowledge and analytics were in regional units, while the remaining (46 percent) were global. Much of that global work, however, was rooted in country-based analysis that was then summarized in overarching summaries, findings, and recommendations. In other words, GWSP’s global analytical work is based on country-focused, evidence-based experience used to build global messages.

GWSP disbursed over \$16.3 million to regions in FY21. These activities include country-level knowledge and technical assistance that influence policy dialogue and project design. The Africa region accounted for the largest percentage of regional disbursements in FY21 (see figure A.3). The Partnership disbursed \$14.1 million to knowledge and analytics categorized as global. These activities include developing and refining tools

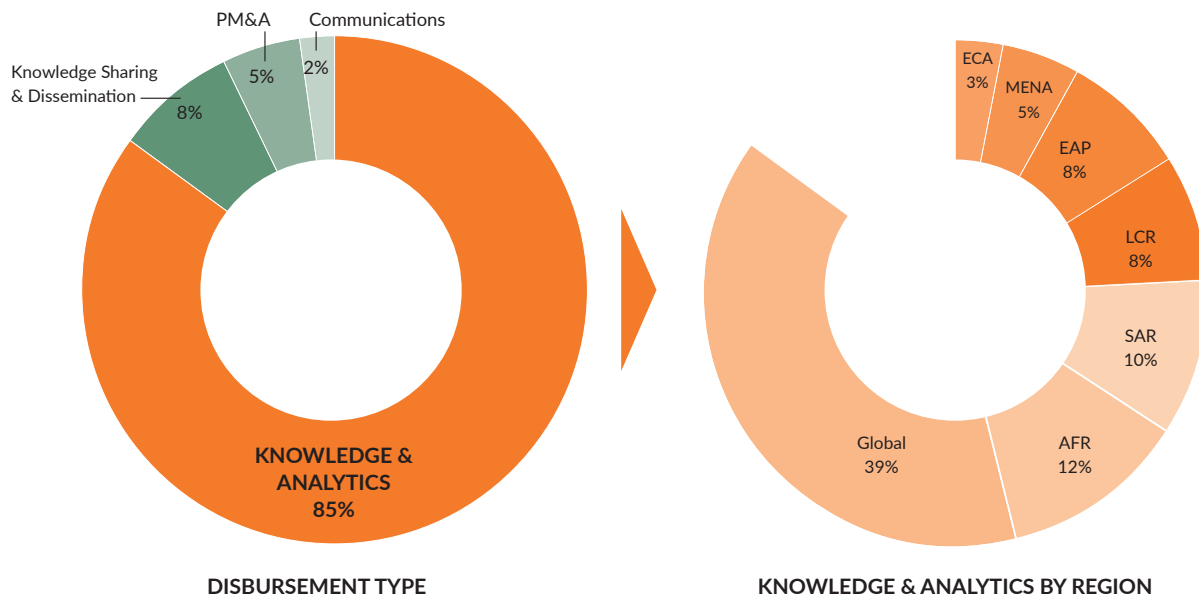
for use by country teams as well as curating and expanding cutting-edge research that is directly applicable to the current challenges our clients are facing. The disbursements to activities were managed globally and drew heavily on expertise at the regional and country levels.

The remaining 15 percent of disbursements (\$5.2 million) were used to maximize the use of the analytical work through comprehensive communications, knowledge dissemination, and program management and administration effort.

Communications, partnerships, learning, and knowledge dissemination activities all drive the knowledge-into-implementation agenda and are what makes the GWSP model unique. These critical inputs into the program help to get cutting-edge research and analytics into the hands of clients and partners to influence policy, improve implementation, and build capacity while also directly contributing to the Partnership’s ability to reinforce these critical interventions through the World Bank’s and other international finance institutions’ lending.

The program management and administration (PM&A) functions ensure the smooth, efficient, and effective management of the Partnership. GWSP has a lean program management team

FIGURE A.2: FY21 DISBURSEMENTS



Note: AFR = Sub-Saharan Africa; EAP = East Asia and Pacific; ECA = Europe and Central Asia; LAC = Latin America and the Caribbean; MNA = Middle East and North Africa; PM&A = program management and administration; SAR = South Asia.

that plays an important role administering the trust fund operations and monitoring and reporting results. The PM&A category also includes monitoring and evaluation, such as the

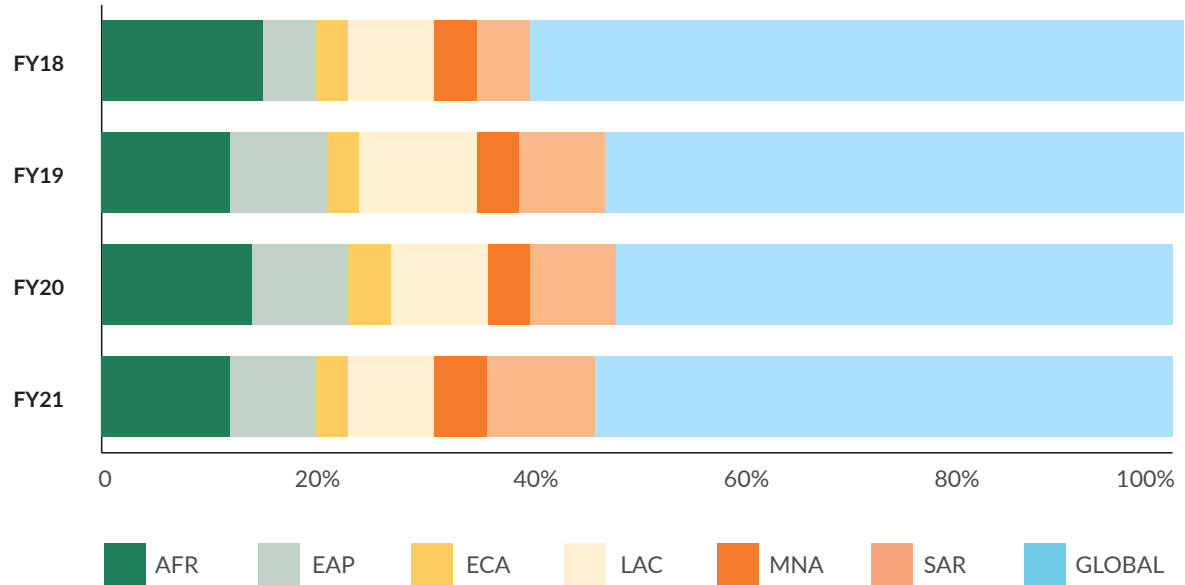
Block C assessments as well as the external evaluation of GWSP.

FINANCIAL TRENDS

Disbursements over the past four fiscal years have shown an upward trend. In FY21, disbursements increased nearly 27 percent over the previous fiscal year (see figure A.4). Despite the ongoing pandemic and travel restrictions, the demand for the type of support provided by GWSP grew significantly. First, as demonstrated in chapter 5, there was a significant increase in global and regional knowledge and learning activities, primarily due to travel restrictions and clients and staff spending more time

online. These are important investments that will have long-term benefits in terms of technical depth, knowledge transfer, and capacity building. Second, there was more client demand for analytical work addressing pandemic-related issues. Finally, GWSP resources supported increased collaboration across World Bank global practices, including with the Bank’s COVID-19 Strategic Preparedness and Response Program (SPRP), utilizing the Multiphase Programmatic Approach (MPA), as described in chapter 1.

FIGURE A.3: GWSP DISBURSEMENTS BY REGION AND FISCAL YEAR



Note: Global disbursements include knowledge management, communications, monitoring and evaluation, and program management and administration. Disbursements to nine Block C countries: AFR (Benin, Ethiopia, and Uganda); LAC (Bolivia and Haiti); EAP (Vietnam); SAR (Bangladesh and Pakistan); and MNA (Egypt). AFR = Africa; EAP = East Asia and Pacific; ECA = Europe and Central Asia; LAC = Latin America and the Caribbean; MNA = Middle East and North Africa; SAR = South Asia.

FIGURE A.4: GWSP ANNUAL DISBURSEMENTS



COLLABORATION WITH OTHER TRUST FUND PROGRAMS

Collaboration with other trust fund programs outside the Water Global Practice (GP) is an avenue for expanding the Water GP's reach and influence in other sectors. The Resilience for Water Security Program, for example, is a joint program of the Water GP and the Global Facility for Disaster Reduction and Recovery (GFDRR) trust fund. This program enables Water GP staff to leverage expertise collaboratively to deliver technical assistance and analytics in the areas of urban water supply and sanitation resilience; the resilience and safety of dams and downstream communities; and resilient river basins. From FY18 to FY21, \$3.5 million was disbursed by GFDRR for activities under this program and a similar amount has been committed in FY21.

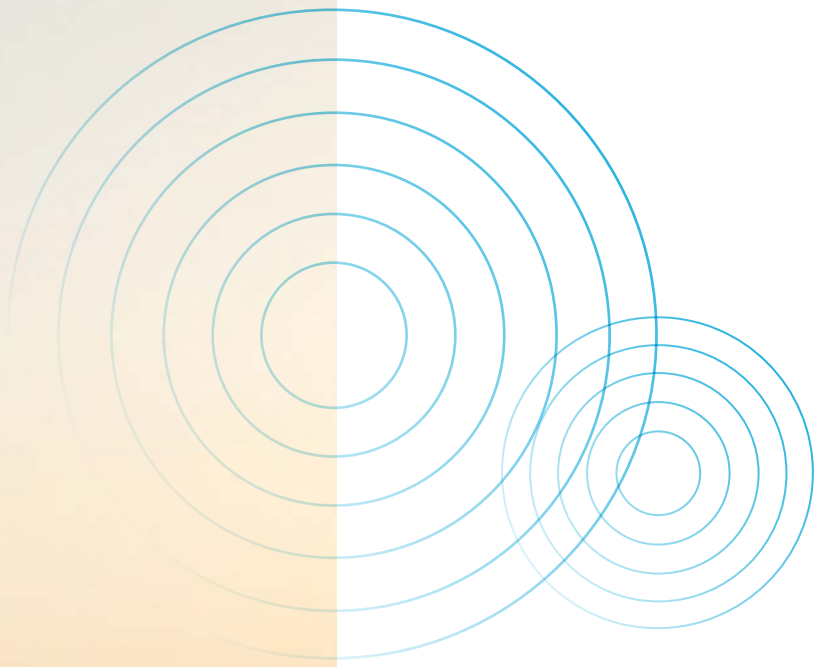
Collaboration is also underway with PROBLUE, a trust fund focused on integrated, sustainable, and healthy marine and coastal resources. This collaboration will support water-related efforts, including WASH in fisheries and aquaculture and more sustainable use of unconventional water resources, particularly desalination. Finally, collaboration with the Water Resource Group (WRG) 2030 has enabled the expansion of WASH activities to Peru, Bangladesh, and Kenya to effectively strengthen water governance and water security. GWSP plays a coordinating role to help facilitate collaboration and ensure strategic alignment and resource use. Table A.2 lists the largest collaborating trust funds based on disbursements between FY18 to FY21.

TABLE A.2: TOP 10 TRUST FUND PROGRAMS DISBURSING THROUGH THE WATER GP (FY18–FY21)

1	South Asia Water Initiative (SAWI)
2	Public-Private Infrastructure Advisory Facility (PPIAF) Subnational Technical Assistance Program
3	Global Facility for Disaster Reduction and Recovery (GFDRR) Disaster Reduction Initiative
4	Quality Infrastructure Investment (QII) Partnership
5	Western Balkans Investment Framework (WBIF) Program Trust Fund for Kosovo
6	Australian Trust Fund for Indonesia Infrastructure Support
7	Global Partnership for Results-Based Approaches (GPRBA)
8	Global Environment Facility (GEF)
9	Korea-World Bank Partnership Facility (KWPF)
10	Korea Green Growth Trust Fund (KGGTF)




























APPENDIX B





















RESULTS PROGRESS

BLOCK A: GWSP-FUNDED KNOWLEDGE AND ANALYTICS ACTIVITIES

TABLE B.1: SUMMARY OF RESULTS ACHIEVED AS OF JUNE 30, 2021, REPORTED BY 150 ONGOING GWSP-FUNDED ACTIVITIES IN FY21

Indicator	% of projects with indicator	 RESULTS TO BE ACHIEVED BY FY23	 FY21 RESULTS ACHIEVED
Sustainability			
Policies/strategies/regulatory frameworks informed to strengthen: (1) sustainable management of water resources; and/or (2) built infrastructure assets.	47		
	31		
Tools and monitoring systems supported to strengthen: (1) the sustainable management of water resources at the national, basin, and/or aquifer level; and/or (2) built infrastructure assets.	27		
	25		
Water-related institutions supported to: (1) sustain water resources; and/or (2) built infrastructure assets.	44		
	35		
Knowledge products generated on sustainability.	35		
	28		
Inclusion			
Policies/strategies generated or refined to enhance social inclusion in the management of water resources, or service delivery.	21		
	12		
Initiatives that develop approaches including integrated cross-sectoral approaches where relevant to address water, sanitation, and/or nutrition issues.	18		
	16		
Water-related institutions trained in gender and/or inclusion issues and/or human resources practices related to diversity and inclusion.	7		
	10		
Knowledge products generated on inclusion.	11		
	10		
Institutions			
Policies/strategies/regulatory frameworks informed to strengthen the institutional environment for improved water resources management, and/or water services delivery.	46		
	30		

 RESULTS TO BE ACHIEVED BY FY23  FY21 RESULTS ACHIEVED

Indicator	% of projects with indicator	
Fragility, conflict, and violence-affected states supported to develop and/or implement a water sector transition strategy.	3	
	4	
Water-related institutions supported to strengthen capacity for managing water resources or service delivery.	55	
	37	
Knowledge products generated on institutions.	33	
	34	
Financing		
Policies/strategies/regulatory frameworks developed to improve financial viability.	29	
	16	
Institutions supported to improve their financial viability and credit worthiness.	14	
	14	
Knowledge products generated on financing.	21	
	15	
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.	29	
	19	
Diagnostics conducted or implementation undertaken to promote principles of building freshwater resilience.	23	
	17	
Water-related institutions supported to build resilience in water resources management or service delivery.	29	
	18	
Knowledge products generated on resilience.	24	
	21	

BLOCK B: WATER GP OUTCOMES

TABLE B.2: PORTFOLIO INFLUENCE INDICATORS

		Baseline			Progress			Target ¹	
		FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
Number of new projects approved		27	27	27	28	22	24	13	
Indicators									
Sustainability	% of new projects that promote sustainable and efficient water use	74	63	74	75	86	96	100	80
	% of new rural WSS lending projects that measure functionality of water points				60	100	67	80	80
Inclusion	% of new projects that are gender tagged ²	–	–	–	50	81	95	100	
	% of new projects with other social inclusion aspects ³	11	19	11	50	59	63	85	30
Institutions	% of projects that support reforms/actions that strengthen institutional capacity	100	100	100	100	100	96	100	90
Financing	% of projects that support reforms/actions for improving financial viability ⁴	81	88	81	77	74	88	69	85
	% of projects with explicit focus on leveraging private finance	10	6	10	14	11	19	8	14
Resilience	% of projects incorporating resilience in design of water-related initiatives	74	74	74	75	82	88	100	80
	Number of fragile and conflict-affected states supported with a resilience lens ⁵	5	5	5	2	4	5	2	15
	% of new World Bank lending commitments with climate-change co-benefits	31	18	31	54	52	60	62	50
<p>Source: Analysis of the FY21 Water Global Practice approved portfolio by GWSP Monitoring and Evaluation team. Note: WSS = water supply and sanitation; – = not available.</p>									
<p>1 Total targets are estimated based on a weighted average of 45 percent operations in water supply and sanitation, 45 percent operations in water security and integrated water resources management, and 10 percent operations in water for agriculture.</p> <p>2 Measures the percentage of projects that demonstrate a results chain by linking gender gaps identified in the analysis to specific actions tracked in the results framework.</p> <p>3 Projects that target the poor, vulnerable, or underserved communities or areas. Excludes citizen engagement, which is included under corporate monitoring.</p> <p>4 Total percentage estimated based only on relevant projects. Excludes water security and integrated water resources management.</p> <p>5 In FY21, 38 countries and 1 territory were classified as having fragile and conflict-affected situations, as per corporate guidelines.</p>									



TABLE B.3: SECTOR RESULTS INDICATORS

	Baseline		Progress					Indicative Targets	
	FY13-17	Yearly Average	FY17	FY18	FY19	FY20	FY21	FY18-22	Yearly Average
Water Supply and Sanitation									
People with access to improved water sources (million)	72	14	12	15.7	13.1	11.4	11.6	70	14
Females				7.9	6.6	5.5	6.5		
People with access to improved sanitation (million)	30	6	8	11.5	172	4.2	6.4	80	16
Females				5.7	86	2.1	3.2		
Biochemical oxygen demand pollution loads removed by treatment plants (tons/year)	15,000	3,000	3,900	8,300	12,900	8,994	43,611	25,000	5,000
People trained in hygiene behavior (million)	11.7	2.3	2.5	4.3	3.2	1.87	1.28	13	2.6
Females				2.1	1.7	0.96	0.65		
Utilities with improved working ratio	85	17	15	27	28	19	26	90	18

TABLE B.3: SECTOR RESULTS INDICATORS (CONTINUED)

	Baseline		Progress					Indicative Targets	
	FY13-17	Yearly Average	FY17	FY18	FY19	FY20	FY21	FY18-22	Yearly Average
Water for Agriculture									
Area with new/improved irrigation services (million hectares)	4.3	0.8	1.2	0.5	0.7	0.99	0.67	4	0.8
Farmers adopting improved agricultural technology (million)	6	1.2	0.8	2	2.9	2.9	1.4	3.5	0.7
Females				0.4	0.6	0.9	0.44		
Water user associations created/strengthened	17,900	3,580	3,000	4,900	3,050	2,422	2,188	20,000	4,000
Water users with improved irrigation services (million)	5.6	1.1	1.3	1.8	2.2	0.63	0.47	5	1
Females				0.5	1	0.18	0.11		
Water Security and Integrated WRM									
People in areas covered by water risk mitigation measures (flooding/drought) (million)	15.3	3	4	3.7	5	2.2	9.2	16	3.2
Basins with management plans/stakeholder engagement mechanisms	85	17	30	22	20	9	21	140	28
Institutions with WRM monitoring systems	110	22	26	30	21	15	20	120	24
Area under sustainable land/water management practices (million hectares)	1.2	0.24	0.2	0.32	0.5	1.2	1.4	1.3	0.26
Hydropower generation capacity constructed/rehabilitated (megawatts)	2,100	420	300	1,400	4,000	1,253	224.95	7,500	1,500

Source: Original compilation.

Note: WRM = water resources management.



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