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Effective Water, Sanitation, and Hygiene Services Program (E-WASH)

Final Report:
Program Activities, Results, and Lessons

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List of Exhibits

List of Acronyms and Abbreviations

AATRISAN	Accelerating Access to Rural Sanitation in Nigeria
AbSWC	Abia State Water Corporation
ACBS	Advocacy and Capacity Building Specialist
AfDB	African Development Bank
AMELP	Activity, Monitoring, Evaluation, and Learning Plan
AMM	Asset Maintenance Management
BoD	Board of Directors
CCU	Customer Care Unit
CLA	Collaboration, Learning, and Adapting
CODE	Connected Development
CoP	Community of Practice
COVID-19	Coronavirus Disease 2019
CRM	Customer Relationship Management
CSO	Civil Society Organization
CSS	Customer Satisfaction Survey
CSTF	City Sanitation Task Force
CWIS	City-Wide Inclusive Sanitation
DBOT	Design Build Operate Transfer
DCOP	Deputy Chief of Party
DESUWACO	Delta State Urban Water Corporation
DMA	District Metering Agency/Area
DQA	Data Quality Assessment
DSCR	Debt Service Coverage Ratio
EAP	Emergency Action Plan
EBITDA	Earnings Before Interest, Tax, Depreciation, and Amortization
ENVIRUMEDIC	Environmental and Rural Mediation Centre
EOI	Expression of Interest
ERP	Enterprise Resource Planning
EUM	Effective Utility Management
E-WASH	Effective Water, Sanitation, and Hygiene Services
FAO	Finance and Admin Officer
FGD	Focus Group Discussion
FMWR	Federal Ministry of Water Resources
FOMWAN	Federation of Muslim Women in Nigeria
FSTP	Fecal Sludge Treatment Plant
FY	Fiscal Year
GESI	Gender Equity and Social Inclusion
GFP	Gender Focal Person
GHARF	Global Health Awareness and Research Foundation
GIS	Geographic Information System
GoN	Government of Nigeria
GRACODEV	Grassroots Community Development Initiative
HR	Human Resources
ICT	Information and Communications Technology
IDS	Institutional Development Specialist
IPDS	Institutional and Policy Development Specialist
ISPO	Irrevocable Standing Payment Order
ISWSC	Imo State Water and Sewerage Corporation
JMP	Joint Monitoring Programme
KII	Key Informant Interview
KPI	Key Performance Indicators
LAN	Local Area Network

LTTA	Long-Term Technical Assistance
M&E	Monitoring and Evaluation
MD	Managing Director
MDA	Ministries, Departments, and Agencies
MEL	Monitoring, Evaluation, and Learning
MERLA	Monitoring, Evaluation, Research, Learning, and Adaptation
MHM	Menstrual Hygiene Management
MIS	Management Information System
MoU	Memorandum of Understanding
MPU&WR	Ministry of Public Utilities & Water Resources
MWR	Ministry of Water Resources
MWRD	Ministry of Water Resources Development
MWR&DD	Ministry of Water Resources and Dam Development
NBC	Nigerian Bottling Company Limited
NGN	Nigerian Naira
NISWASEC	Niger State Water and Sewage Corporation
NRW	Non-Revenue Water
NWSA	Nigerian Water Supply Association
O&M	Operations and Maintenance
OCAT	Organization Capacity Assessment Tool
OCCR	Operating Cost Coverage Ratio
ODF	Open Defecation Free
OGP	Open Government Partnership
P&R	Pause and Reflect
PBC	Performance-Based Contract
PBCMRC	Performance-Based Contract Management and Review Committee
PEA	Political Economy Analysis
PIP	Performance Improvement Plan
PIRS	Performance Indicator Reference Sheet
PMS	Performance Monitoring Specialist
PMU	Program Management Unit
PPP	Public-Private Partnership
PSE	Private-Sector Engagement
PWA	Progressive Web Application
RCT	Reform Champions Team
ROE	Return on Equity
RTI	Research Triangle Institute
RUWASSA	Rural Water Supply and Sanitation Agency
RUWATSAN	Rural Water and Sanitation Agency
SDG	United Nations Sustainable Development Goals
SEM	Self-evaluation Matrix
SEPA	State Environmental Protection Agency
SGF	Small Grants Fund
SIP	Service Improvement Plan
SOPs	Standard Operating Procedures
SSWB	Sokoto State Water Board
STL	State Team Leader
STOWASSA	Small Towns Water Supply and Sanitation Agency
STTA	Short-Term Technical Assistance
SURWASH	World Bank Sustainable Urban Wash Program
SWACAT	State Water Agencies Capacity Assessment Tool
SWB	State Water Board
SWC	State Water Corporation
SWOT	Strengths, Weaknesses, Opportunities, Threats

TAWASCO	Taraba State Water and Sewerage Corporation
TAWASREC	Taraba Water Services, Regulation, and Control
TMU	Technical Management Unit
TOC	Theory of Change
TWG	Technical Working Group
TYPA	Taraba Youth Progressive Association
UOA	Utility Operations Advisor
UOS	Utility Operations Specialist
USAID	United States Agency for International Development
USF	Utility Support Fund
USSD	Unstructured Supplementary Service Data
UTA	Utility Technical Advisor
UTS	Utility Technical Specialist
WASH	Water, Sanitation, and Hygiene
WASHCOAT	Water, Sanitation, and Hygiene Capacity Organizational Assessment Tool
WCF	WASH Customer Forum
WEWE	Widows and Orphans Empowerment Organization
WIW	Women in WASH
WTP	Water Treatment Plant

Executive Summary

With annual urban population growth at 4.3 percent, Nigeria is urbanizing rapidly. This pace of urban growth puts pressure on basic service providers, including state water boards (SWBs), to effectively deliver residents the services they need. SWBs meanwhile have encountered systemic deficiencies over the years, resulting in a significant decrease in piped water access to urban households, from 32 percent in 1990 to 3 percent in 2015.[1] Key constraints have included weak state enabling environments that have hampered service provision as well as technical and operational inefficiencies within SWBs in general, including poor institutional management and governance, aging infrastructure, high water losses, and limited to no production of water supply. In most cases, SWBs have limited financial and operational autonomy and no systems or tools to manage assets, leading to limited commercial viability and accountability to customers.

To address these systemic challenges, the U.S. Agency for International Development (USAID) launched its Effective Water, Sanitation, and Hygiene Services (E-WASH) program that applied a systems approach to improve urban water services delivery by strengthening the financial and technical viability of SWBs and reforming their enabling operating environments. The [redacted] USAID E-WASH program, implemented from May 2018 to April 2022, had four main objectives: (1) creating professionally managed and commercially oriented SWBs; (2) improving the financial and operational viability of SWBs; (3) strengthening policy, institutional, and regulatory frameworks for improved WASH services; and (4) building national and state WASH advocacy, coordination, and communications for reform. Under the Water and Development Indefinite Delivery Indefinite Quantity Contract (WADI) No. AID-OAA-I-15-00033, Task Order No.: 72062018F00003, RTI International led the overall managerial and technical oversight of the USAID E-WASH program implementation with support from three sub-contractors: Segura Consulting LLC, CDM International, and Plan International.

In its 47 months of implementation, USAID E-WASH effectively operated in five states in Nigeria – Abia, Delta, Imo, Niger, and Taraba – after ceasing implementation in Sokoto in 2020 given concerns related to state-level preparedness to support the project. Key counterparts in each state included the respective state government ministries and departments responsible for WASH, corresponding SWBs (also referred to as SWCs, see below), civil society organizations (CSOs), and targeted communities in major urban centers. With this broad geographic spread, USAID E-WASH successfully embedded staff in each state within partner SWBs to facilitate the sector policy and governance reform process and the SWB transformation into state water corporations (SWCs) by the end of the program. At its operational peak, the program had 69 staff across the five states and its headquarter in Abuja. The program also included two specialized grant funds – the $[redacted] Small Grant Funds (SGF) for CSOs and technical organizations to support reform processes and the $[redacted] Utility Support Fund (USF) for provision of infrastructure and small-scale equipment to incentivize reform. Key partner SWCs in the program were the Abia State Water and Sewage Corporation (AbSWSC), the Delta State Urban Water Corporation (DESUWACO), the Imo State Water and Sewerage Corporation (ISWSC), the Niger State Water and Sewage Corporation (NISWASEC), and the Taraba State Water and Sewerage Corporation (TAWASCO).

This Final Report documents the major program activities, adaptive management, outputs and outcomes, and way forward based on experiences and lessons from implementation. The Report has eight main sections as follows:

[1] The World Health Organization (WHO) and the UNICEF Joint Monitoring Programme (JMP).

Introduction. This section provides high-level contextual challenges and the USAID E-WASH scope to address those challenges. It includes the program Theory of Change that rationalizes the program design.

Program Approach. This section summarizes the basic tenets of USAID E-WASH implementation and provides critical operating context. *Collaborating*, *Learning,* and *Adapting*, for instance, was a foundation, whereby *Collaboration* entailed the program's focus on stakeholder partnerships to drive reform and transformation including with non-traditional partners like the private sector (e.g., Coca-Cola affiliate) and media outlets. *Learning* was inherent through training, with 36 specialized local and international experts, day-to-day facilitation to adopt training outputs through embedded program staff, stakeholder engagement platforms like WASH Customer Forum and Knowledge Cafés, and development of over 232 technical documents shared with SWCs. *Adapting*, through regular Pause and Reflect sessions, was essential in program management due to shifts that affected implementation. The decision to simultaneously operate the program in all six states initially, to exit Sokoto after months of activities, and to exit and re-enter Abia required quick response to allocate resources timely without major disruptions. The emergence and subsequent spread of COVID-19 greatly impacted USAID E-WASH due to delays in delivery of USF-procured materials, but the program navigated through the local and international conditions effectively by again shifting resources to focus on critical operational gaps like the USF. The program also adapted to the program re-scope, which essentially focused on six major construction activities to enable and improve water supply production and distribution with all five SWCs. This major shift became effective within 7.5 months prior to program ending; USAID E-WASH, however, was able to successfully complete all activities on time and within the reduced budget of $[redacted] and targets.

Program Highlights. This section presents the major achievements and milestones from all four program components. Governance reform through the passing of first-ever state water (or WASH) laws and policies in each state set the pathway for SWC transformation and unlocked commitments to corporatize and professionalize SWCs, establish regulatory mechanisms, include sanitation, and gender equity and social inclusion (GESI) principles within SWCs, and promote accountability. SWC operational and institutional improvements were incremental such as customer billing and collection and demonstrated internally that change was possible.

Program Implementation. This section lays out the summarized detail of activities, results and lessons from state selection, baseline assessments, and each of the four program components and the program's monitoring, evaluation, and learning (MEL). State selection was demand driven, while baseline assessments incorporated political economy analysis (PEA) as a key tool that helped shape sector reform entry points in each state.

Component 1 touches on the changes in the institutional structure of the SWCs based on the requirements of the new laws and policies set in Component 3. This transformation includes leadership and management (e.g., Board of Directors development, performance monitoring); corporatization process (e.g., strategic and business planning, corporate culture); organizational development (e.g., human resources, GESI); and customer orientation.

Component 2 focuses on the improving the technical and operational efficiencies of SWCs to complement Component 1 activities and to set the building blocks for financial viability. Complementary activities entail improvements in internal business processes through modernization and capacity building (e.g., financial management, billing and collection, enterprise resource planning system adoption); technical operations to increase internal revenues and eliminate inefficiencies (e.g., asset and water quality management, non-revenue water reduction); tariffs and private-sector engagement opportunities; and infrastructure improvements via the USF (e.g., construction and non-construction).

Component 3 covers the foundational enabling environment reform. Program activities facilitated pioneering state water law development and implementation through structured advocacy and CSO support; social accountability and transparency with CSOs through learning and stakeholder engagement platforms (e.g., WASH Customer Forum, Urban WASH Media Network); and attention to sanitation management via sanitation mapping.

Component 4 includes activities that provided overall support for the reform process, from coordination of stakeholders to monitor reform progress (e.g., high-level steering committee) and advocacy and public awareness raising by commemoration of WASH-related events and multi-media tools.

MEL summarizes how the program set and strengthened M&E units in each SWC to ensure better identification, collection, and management of SWC performance data.

Program Results. Collectively, these sections summarize how the program has progressed against meeting the minimum contractual deliverables and the intended life-of-program targets. USAID E-WASH has achieved or exceeded 10 of the 28 program targets while ranging between 14 to over 200 percent achievement rates. The program has met all the contractual minimum deliverables.

Management. This section summarizes how the program has led operations and reported its deliverables timely and within budget through focus on leadership, embedded staff, and dedicated home office (RTI) project and technical management teams. This section also reports on subcontractor engagement, staffing, quality control, schedule, and financial management.

Overarching Next Steps. This section provides overarching recommendations and actions for each program activity and each SWC to reach and maintain its reform efforts toward corporatization and service delivery improvements. The suggestions are based on the outputs from the program closeout meetings with high-level stakeholders in each state and from the action plan set out in the program's Sustainability Plan (provided separately). The Sustainability Plan summarizes by each component and sub-component (1) how USAID E-WASH implemented activities to address the specific SWC and sector challenges and (2) what SWCs and stakeholders need to act on to sustain the momentum and replicate successes.

Annexes include lists of technical and contractual deliverable reports, selected social media clippings and success stories/briefs, and selected pictures of the six major USF construction activities.

Acknowledgment

In closing and in completing USAID E-WASH, RTI International would like to thank the USAID Mission in Nigeria for its partnership and guidance throughout implementation; high level representatives from state governments of Abia, Delta, Imo, Niger, and Taraba for the vision, commitment, and support to proceed with critical reform of sector policies and laws; SWC management and staff from Abia, Delta, Imo, Niger, and Taraba for the continued dedication, partnerships, and willingness to improve processes and systems and move toward becoming corporate- and customer-oriented, autonomous service providers; CSOs for the efforts to keep all stakeholders in check during the reform process and for instilling accountability throughout; and media partners for the attention to a critical sector that cuts across health, economic growth, and resilience.

Introduction

Background

With annual urban population growth at 4.3 percent, Nigeria's cities are growing rapidly. In 2015, 48 percent of the population was urban,[2] and by 2037, Nigeria's urban population is expected to double. This pace of growth is placing added pressure on services provision to urban residents, including water supply, sanitation, and hygiene (WASH). Water supply service delivery especially has lagged. Per the global 2020 Joint Monitoring Programme (JMP) report, access to safely managed drinking water in urban areas has remained low at 25 percent and has increased by only 3 percent since 2000. Access to safely managed sanitation services increased to 35 percent in urban areas in 2020, compared to 20 percent in 2000. Limited or no access to WASH services continues to affect millions of Nigerians, adversely impacting health and well-being, access to educational and economic opportunities, and work efficiency and labor productivity.

In 2015, The World Bank conducted a comprehensive performance assessment of all state-level water service providers, or state water boards (SWBs), and identified systemic deficiencies across the state-level service providers.[3] These included aging or non-functional water supply infrastructure and assets, poor cost recovery and limited commercial viability, and inadequate operations and maintenance. The assessment also highlighted that broader WASH service delivery enabling conditions were inefficient due to weak state governance and policy frameworks, lack of coordination between state ministries, missing SWB performance monitoring systems, weak incentives for improved SWB performance, and little accountability to customers.

To address these sector and SWB challenges, the Government of Nigeria (GoN) committed to national reform through the passing of a National Action Plan (2017–2019) that included improving public services, increasing citizen engagement in public policy development, and improving governance and transparency in the natural resources sector, including water supply. Development partners, including international multilateral banks, government bilateral support, NGOs, academic institutions, and other civil society organizations, have increased attention and resources to support the GoN in realizing its reform vision.

Program Description

In 2018 and in support of the GoN, the U.S. Agency for International Development (USAID) launched its Effective Water, Sanitation, and Hygiene Services (E-WASH) program—hereafter abbreviated as USAID E-WASH or "the program"—to improve urban WASH service delivery in targeted states. As the USAID Mission in Nigeria's flagship program, USAID E-WASH (May 2018 – April 2022) worked to strengthen the sector enabling environment and governance and the financial and technical viability of selected SWBs through four key objectives and components:

1. Creating professionally managed and commercially oriented SWBs
2. Improving the financial and operational viability of SWBs
3. Strengthening policy, institutional, and regulatory frameworks for improved WASH services
4. Building national and state WASH advocacy, coordination, and communications for reform

To achieve these program objectives, USAID E-WASH employed a theory of change (TOC) framework that set the foundation of technical assistance and infrastructure improvement activities.

[2] United Nations, Department of Economic and Social Affairs, Population Division. (2014). *World urbanization prospects: The 2014 revision, ighlights* (ST/ESA/SER.A/352).
[3] Macheve, B., Danilenko, A., Abdullah, R., Bove, A., & Moffitt, L. J. (2015). *SWAs in Nigeria: A performance assessment.* Directions in Development. Washington, DC: The World Bank.

Validated through a stakeholder-driven, collaborative process early in the program, the TOC helped ensure logical flow between activities and outcomes; supported staff, local stakeholders, and program partners to work toward a common vision; and enabled monitoring, evaluation, and learning. Exhibit 1 shows the program's TOC.

Exhibit 1. USAID E-WASH Theory of Change

If SWBs can demonstrate a strong governance structure that embodies autonomy, accountability, and transparent financial and **operational management** for inclusive service provision;

If policy, institutional, and regulatory frameworks for improved WASH services are strengthened; and

If WASH sector reforms at the state and national levels are promoted through targeted advocacy, coordination, and strategic communications;

Then increased access to sustainable WASH services will be achieved in urban areas within Nigeria and will raise the quality of life of its customers, facilitate economic performance in their service areas, improve finances by reducing or better targeting of subsidies, and increase the chance of serving all customers in their area by improving staff morale and increasing their competence.

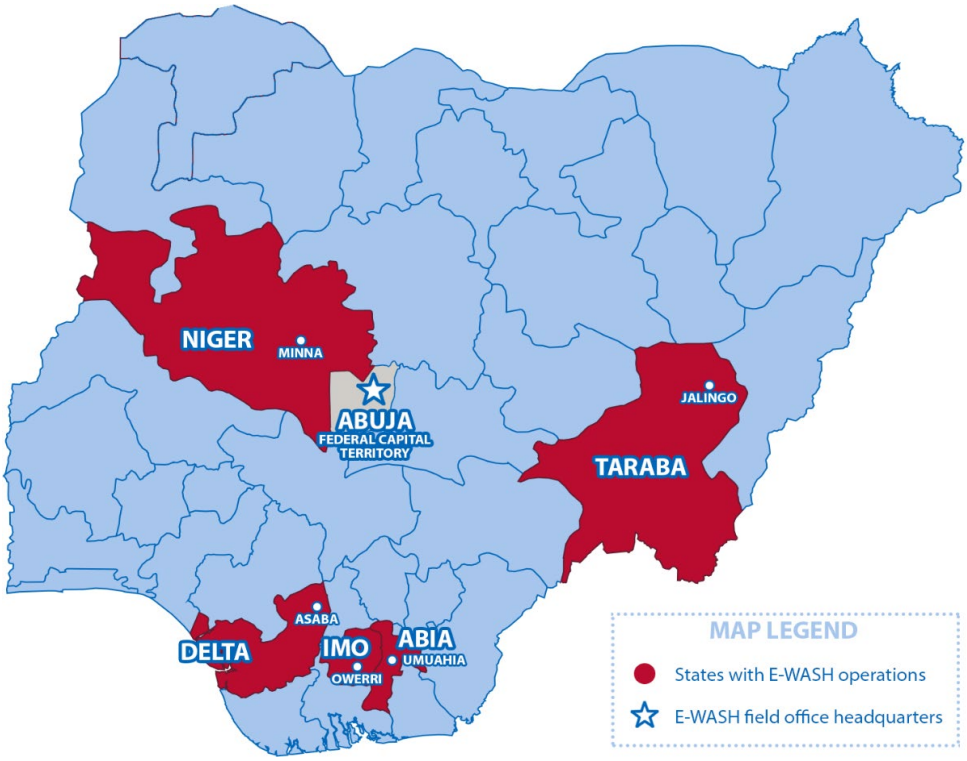
Initial program design designated six states for USAID E-WASH support through the life of program from fiscal year (FY) 2018 until FY 2022. Through a state self-selection process as described below in the *Partner State Selection* section, USAID E-WASH launched activities in six states: Abia, Delta, Imo, Niger, Sokoto, and Taraba. Key counterparts in each operating state included the respective state government ministries responsible for WASH, corresponding SWBs, partner civil society organizations (CSOs), and media outlets.

Since the program successfully facilitated state-level sector reform in the WASH sector that resulted in pioneering passage of water laws and policies that mandated SWBs to transform into state water corporations (SWCs), this document will therefore refer to SWBs as SWCs. In the six initial states, partner SWCs included the Abia State Water and Sewage Corporation (AbSWSC), the Delta State Urban Water Corporation (DESUWACO), the Imo State Water and Sewerage Corporation (ISWSC), the Niger State Water and Sewage Corporation (NISWASEC), the Sokoto State Water Board (SSWB),[4] and the Taraba State Water and Sewerage Corporation (TAWASCO).

By the end of the program in FY22, USAID E-WASH effectively completed activities in five states. To support operations, USAID E-WASH headquartered in Abuja where the Chief of Party, Deputy Chiefs of Party, and technical leads resided. The program also deployed multiple program staff in the main urban centers of each partner state to provided day-to-day technical assistance and advocacy with counterpart SWBs, state governments, and stakeholders. Exhibit 2 shows the final operating locations of the program.

[4] While the program started in six states, eventually it exited Sokoto in early FY20 and at near mid-point exited and re-entered Abia. The *Program Approach* section below further details the program operating context including pivots and adaptive management.

Exhibit 2. USAID E-WASH States



Program Approach

USAID E-WASH applied several key modalities for implementation including technical assistance and small-scale infrastructure support based on partnerships with multiple stakeholders as well as on collaboration, learning, and adaptation (CLA) that supported adaptive management. The following section highlights the overarching program approach.

Partnerships

USAID E-WASH partnerships entailed multiple stakeholders to ensure ownership and commitments for the reform process and to adopt a locally driven and locally appropriate process. The design and implementation of the program's technical support revolved around leveraging these partnerships such as through memorandums of understanding (MoUs) with state governments and the private sector (e.g., Coca-Cola), agreements for program staff to remain embedded within the SWC office, small grants for partner CSOs, and others. These partnerships also helped form the basis of co-creation activities to develop state sector service improvement plans (SIPs) and SWC-specific Performance Improvement Plans (PIPs).

State Governments

Through continuous consultations and advocacy by its partner CSOs, USAID-EWASH completed the signing of MoUs between the USAID Mission in Nigeria (represented by the USAID Mission Director) and all five state governments (represented by the State Governors) and their SWCs. The MoUs formalized commitments for each state's sector and SWC reforms and were the foundation for partnership with state governments based on collaboration, shared goals, and milestones for WASH reform. The content of the MOUs included the following:

- State governments to demonstrate and actively commit toward implementing newly passed water laws and policies in each state by fully designating their SWBs as SWCs with a Board of

Directors (BoD) appointed by the State Governor and by setting a steering committee to drive WASH reforms with high-profile state government officials.

- State governments to allocate operational subsidies to the SWCs on a sliding scale as per the SIPs for each state while SWCs to provide quarterly and annual reports on water and sanitation budgets and expenditures to their state governments.

- State governments to provide space on government land for the construction of a fecal sludge treatment plant (FSTP).

- USAID via USAID E-WASH to provide technical support and facilitation to develop the new water laws and policies, build the capacity of the SWCs in management and governance, and set accountability and monitoring mechanisms to review reform progress.

- USAID via USAID E-WASH to deliver technical assistance through activities defined in the SIPs and performance improvement plans (PIPs) and assist SWCs in procuring goods and services through the Utility Support Fund (USF) for small-scale equipment and infrastructure improvements that will lead to better provision of water and sanitation services. USF deployment will be based on the achievement of milestones as agreed by the USAID E-WASH program and respective state governments and SWCs.

State Water Corporations

As close partners for SWC reform and transformation into a corporatized entity, USAID E-WASH worked with each SWC to agree on information sharing and in-kind resource support such as SWC staff participation in all activities. Each SWC also committed by providing office spaces in their respective headquarters for program staff to be embedded and to provide day-to-day facilitation. This arrangement allowed USAID E-WASH to assess SWCs' gaps in management and service provision and to co-create respective capacity-building and technical assistance activities per the PIPs. USAID E-WASH also collaborated with each SWC to monitor reform progress in the PIPs with the State Water Authority Capacity Assessment Tool (SWACAT) application and with establishment of Monitoring and Evaluation (M&E) Units. Further details on SWACAT deployment (Component 1) and M&E Unit strengthening (Monitoring, Evaluation, and Learning) are in the *Program Implementation* section of this document.

Civil Society Organizations (via Small Grants Fund)

The Small Grants Fund (SGF) was a key mechanism for USAID-EWASH to partner with and support local CSOs. The SGF deployed $[redacted] in grants, of which $[redacted] was awarded to 17 CSOs across all six states. These grants intended to support advocacy for sector reform with state governments and SWC corporatization; raise public awareness of the changing sector and importance of WASH services in general; incorporate Gender Equity and Social Inclusion (GESI) elements in the overall sector and SWC reform process; and instill greater SWC accountability and sector transparency.

The SGF had three main categories: partnership, innovation, and capacity building. Partnership grants were for CSOs to complement USAID E-WASH technical assistance; improve CSOs' own capacity to work directly with SWCs and state governments; and advocate for the needs and attention of state government and SWC constituents, especially women and traditionally excluded groups. Through their continuous public and state government advocacy activities, CSOs were essential in enabling the passage of water laws and policies in each state. CSOs also played a critical role in orienting the public and providing services to communities to limit the spread of COVID-19. Innovation grants were awarded to CSOs who could provide non-traditional ways to improve service delivery, social accountability, and inclusive governance in the urban WASH sector (e.g.,

digital technology solutions for SWCs). Lastly, capacity building grants were awarded to specialized institutions that supported organizational development and technical capacity strengthening of the CSOs.

Support to these CSOs was an important aspect of the sustainability plan for USAID-EWASH. As local institutions, they continued to remain active in advocacy for WASH reform following program closeout. Further details of partner CSO activities and results are highlighted in Components 3 and 4 in the *Program Implementation* section.

Private Sector

As part of the program's private-sector partnership, USAID E-WASH in early FY20 signed an MoU with the Coca-Cola Nigerian Bottling Company Limited (NBC), a subsidiary of the Coca-Cola Hellenic Bottling Company, to offer professional development for executives, senior managers, and cohorts of young professionals from Abia, Delta, Imo, Niger, and Taraba SWCs. As part of corporate culture application and the SWB corporatization process, the tailor-made trainings, listed in Exhibit 3, were intended for SWC staff in commercial functions who interfaced with customers and for targeted operations staff in HR and leadership. Due to the COVID-19 pandemic restrictions, all trainings sessions were virtual, while nearly 100 staff attended.

Following the series of trainings, SWCs gained improvements in staff relationships and financial administration per the SWACAT analysis in 2020. For example, finance and accounts staff in DESUWACO, ISWSC, and TAWASCO began to prepare monthly cashflow budgets and in-house finance accounts for official auditors.

Exhibit 3. Trainings Hosted by Coca-Cola NBC for SWCs

Training Topics	Training Contents
Corporate Governance and Risk Management	Roles of BoD, regulatory regime, risk management, and transparent reporting
Customer Relationship Management and Marketing	Customer care services, marketing principles
High Performing Utilities	Asset maintenance principles, systems and equipment reliability, cost management
Water Quality Management	Hydrology, water chemistry, water quality standards and regulations
Performance Management	Training needs analysis and capacity building, performance monitoring key performance indicators
HR Management Essentials	Talent acquisition, employee development, employee retention
Training for Top Executives	Impactful leadership, emotional intelligence, leading during a crisis

Media

Various media outlets worked with USAID E-WASH to bring increased public attention to WASH subjects, including services delivery, reform processes taking place at SWCs and states, and COVID-19 pandemic prevention. Working with CSOs and directly with SWCs, the media also brought greater accountability and transparency to SWCs through over 744 live interviews, written pieces, social media, and others. Further details are described in Component 4 in the *Program Implementation* section.

Incentives

USAID E-WASH designed and implemented the USF as means to incentivize state sector and especially SWC reform. The USF incorporated selected milestones that the SWCs and state

governments needed to accomplish in order to receive small-scale infrastructure and equipment support for the SWCs procured through the USF. This performance-based mechanism became essential to realize the reform agenda set out in the MoUs while also strengthening SWC operations based on key priorities.

By the end of the program, USAID E-WASH disbursed $[redacted] through the USF in four milestone-based cycles. The first three covered provision of services and small-scale equipment that facilitated operational and technical SWC improvements to complement activities in Components 1 and 2, such as ICT (laptops and software); office furniture; customer enumeration exercises; website development; water quality management tools; basic electro-mechanical tools; enterprise resource planning (ERP) system development; and others. The fourth and final USF cycle focused strictly on infrastructure development and construction activities that entailed water production rehabilitation with AbSWSC and DESUWACO, distribution network expansion with TAWASCO and ISWSC, and water treatment plant (WTP) efficiency improvements and reduction in non-revenue water (NRW) with NISWASEC. Further details are described in the USF section in Component 2 under the *Program Implementation* section.

Collaboration, Learning, and Adapting

Collaboration, learning, and adaptation (CLA) was integral in all USAID E-WASH activities. Collaborating was primarily in the form of partnerships discussed in the previous section above. This section summarizes the learning and adapting (adaptive management) components of CLA.

Learning

Capacity building and subsequent uptake of trained materials with SWCs, partner CSOs, and selected state government officials were the core of USAID E-WASH technical assistance. Embedded program teams in each state, consisting of an average of eight technical staff led by a Program State Team Lead, delivered daily technical support and guidance, and worked to facilitate adoption or institutionalization of training in SWC operations. Selected state technical staff also supported the SGF and USF implementation, engaging with CSOs, equipment vendors, and construction contractors. USAID E-WASH also prepared a Global Training Plan for SWCs that covered key SWC institutional, financial, and technical topics such as organizational development, HR management, customer engagement, financial management, GESI principles, NRW reduction, and others (see Components 1 and 2 in the *Program Implementation* section). Over the life of the program, USAID E-WASH delivered 199 training events via this Global Training Plan and through additional technical support by specific equipment vendors, suppliers, and consultants such as on ERP system installation, mobile payment schemes, water quality monitoring tools, and others. The program also involved 36 short-term technical assistance (STTA) experts and water utility practitioners, often via multiple training events, to conduct SWC operations assessments, train SWC staff on relevant priority topics and capacity building needs, and conduct state-level political economy analyses, among other activities.

Exhibit 4. Practical technical training on water quality monitoring in the Imo SWC laboratory.

Photo: USAID E-WASH

Learning also took place through dedicated platforms facilitated by partner CSOs. These included WASH Customer Forums and Knowledge Cafés, where SWCs and state governments connected with communities to discuss service delivery challenges, inform reform processes, and resolve

misconceptions. These learning activities were part of the overall approach toward bringing accountability and transparency to SWCs and policy makers.

Over the course of the program, USAID E-WASH produced over 232 reports – in the form of baseline assessments, studies, and training manuals – and disseminated them via emails and hard copies to SWCs and relevant local and international development sector partners. These reports provided a solid evidence-based approach to designing and refining program activities while also contributing to the broader body of knowledge for WASH strategies and approaches in Nigeria.

To monitor progress and learning uptake and gaps, USAID E-WASH worked with partner SWCs to establish and/or strengthen their M&E units as well as relevant SWC technical units. The program supported application of tools and systems like the SWACAT and the ERP system by the SWCs, which specifically laid out performance indicators and progress for designated SWC operations like stakeholder engagement, HR management, and effective utility management. These tools and systems enabled the program and SWCs to target technical assistance better and to continue alignment with each SWC's PIP and overall program activity, monitoring, evaluation, and learning plan (AMELP). In addition to monitoring SWCs, USAID E-WASH also applied similar progress check tools with partner CSOs – the WASH Capacity Organization Assessment Tool (WASHCOAT) – to determine how CSOs' capacities have increased over the life of the program and to identify where learning gaps remain. Results of the SWACAT and WASHCOAT applications are described in Components 1 and 3, respectively, in the *Program Implementation* section.

Adaptative Management

Since the program start, USAID E-WASH had to adapt to various changes in implementation and operating context. The program truly practiced adaptive management to ensure that its objectives were met efficiently and effectively. The following section summarizes key pivots and subsequent adaptation that the program applied:

Startup

The initial design of the program called for a phased approach during startup and inception. USAID E-WASH had prepared to conduct selection of six states and advanced to the inception phase in the first three states, followed by another three states closer to program mid-point in early FY20. Upon discussion and confirmation with the USAID Mission in Nigeria, USAID E-WASH agreed to change course and start in all six states at once. This inception pivot required faster and simultaneous mobilization of resources that proved challenging in FY18 and in early FY19 as the program began. While implementation capacity was stretched, the program was able to ramp up activities by end of FY19, which included completion of foundational activities such as baseline PEAs and assessments, development of SIPs and PIPs, SGF preparation, deployment of key leadership and technical staff to each state, and others.

Implementation

Contextual shifts during program implementation required USAID E-WASH to adapt its operations and overall strategic direction effectively. The program had to reallocate and reduce resources in certain instances and also course-corrected overall program targets and outcomes as a result. In terms of operations and management, the program adapted by establishing a Home Office Technical Management Unit (TMU) to support the Program Management Unit (PMU). This document's *Management* section describes the role of the TMU. The following sections highlight key programmatic and operational changes that USAID E-WASH was able to respond to.

Exiting and Re-Entering Abia. As program activities initiated following state selection, USAID E-WASH noted that three states were adequately operating water supply schemes to produce and deliver water supply (Niger, Sokoto, and Taraba) while three others were not effectively nor

consistently operating their water supply schemes (Abia, Delta, and Imo). USAID E-WASH immediately worked with the latter three states in mid-FY19 to develop an emergency action plan (EAP), requiring the respective SWCs to initiate technical activities to resume operations and other agreed tasks as detailed in the EAP description in the *Program Implementation* section below. While DESUWACO and ISWSC had met the requirements in their EAPs, AbSWSC at that time did not follow through despite numerous consultations and engagement by USAID E-WASH. Therefore, the program, with agreement by the USAID Mission in Nigeria, decided to cease operations temporarily by mid-FY19.

In mid-FY20, after a seven-month cessation of activities and after additional consultations, the Abia State Government re-committed to supporting program activities (including with AbSWSC) and signed the MoU with the USAID Mission in Nigeria. In response, the program was able to quickly re-staff and embed in AbSWSC to continue with state enabling environment reform and SWC corporatization. This immediate resource allocation took place after a change in Sokoto state below.

Exiting Sokoto. By mid-FY 20, ongoing activity implementation for reform had stalled in Sokoto state. After several inconclusive efforts to secure the commitment of Sokoto state officials to support reform processes, and the explicit expressions of the SSWB and state government that they were not ready for the reforms, USAID E-WASH, in coordination with the USAID Mission in Nigeria, made the decision to phase out of Sokoto. The program formally closed toward the end of FY20, and key technical staff relocated back to Abia state.

Responding to the COVID-19 pandemic. With the fluctuating pandemic restrictions in Nigeria and as instituted by RTI International–wide organizational policies, USAID E-WASH took all necessary precautions to ensure the safety of staff, grantees, subcontractors, government officials, vendors, and community members in line with the pandemic guidelines of the Nigerian Center for Disease Control (NCDC). The GoN had limited domestic air travel, banned international air travel, encouraged working from home, introduced social distancing, and banned all large gatherings. Program management thus encouraged staff to work from home while providing remote technical assistance, required the use of masks and social distancing in the office and at community engagements where permitted, promoted regular handwashing, kept office spaces sanitized, and communicated timely updates to stakeholders about supply chain delays. STTA from RTI and subcontractors also worked remotely. USAID E-WASH also effectively adjusted its approach to ensure that program implementation continued as effectively as possible by providing regularly updated operational contingency plans to the USAID Mission in Nigeria and informing program stakeholders about real-time as well as anticipated delays to planned activities. The program was effectively able to combine safe in-person meetings and trainings with virtual platforms to advance activity implementation.

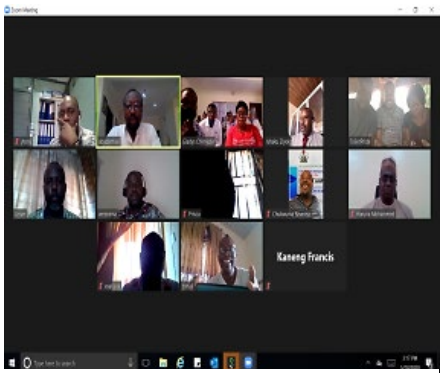


Exhibit 5. USAID E-WASH continued with virtual training activities to adapt to COVID-19 restrictions on in-person meetings.

Photo: USAID E-WASH

USAID E-WASH adapted activities and approaches where feasible to allow for the safe continuity of implementation. For example, the program modified the procurement of USF-supported materials to circumvent local supply chain constraints and committed additional resources to focus on the delivery of goods and services via the USF. The program was also able to shift attention rapidly to infrastructure development by sourcing an established local engineering and construction management firm to coordinate and support the preparation and subsequent launch of the construction-related activities with COVID-19 pandemic restriction protocols in place.

Pause and Reflect Sessions

As part of USAID-EWASH's commitment to CLA, the program held periodic pause-and-reflect (P&R) sessions to revisit the TOC, analyze its underlying assumptions, and make the necessary course corrections. In mid-FY20, following the changes taking place in Abia and Sokoto and the emerging COVID-19 pandemic, the program held an in-depth P&R session aimed at determining the program's vision and strategic direction to prepare for the FY21 work plan. The program engaged the USAID Mission in Nigeria to support the design of these sessions and to help identify how the program needed to pivot its focus based on progress to date, barriers in reform, challenges due to state changes, and the increasing pandemic restrictions. Outcomes from this session pointed to the need to shift direction that aligned with SWC priorities to resume non-functional water production in Abia, Delta, and Imo and improve existing production and distribution schemes in the other states; this change affected overall program targets and goals and thus led to revision of the program AMELP. In early FY21, USAID E-WASH organized another extended P&R session to respond to the program's mid-term evaluation results, which noted that while the program had succeeded in advancing state sectoral reform and selected SWC operational and institutional efficiency improvements, basic elements around water production and distribution remained behind. This P&R led to the program re-scope discussed below.

Program Re-Scope

In mid-FY21, in coordination with the USAID Mission in Nigeria, USAID E-WASH made significant adjustments to its scope. The programmatic changes narrowed focus to finalizing the objectives under the USF to deliver infrastructure and equipment that enabled safe water supply production and distribution and to providing targeted technical assistance for sustainability and monitoring, evaluation, and learning. As previously mentioned, the program reorientation was partly due to the program's successes in reforming state sector policy and enabling environment frameworks that set the foundations for SWCs to better deliver their services. This stressed the critical need for SWCs to effectively treat, manage, and distribute safe water. These drivers resulted in increased focus on infrastructure investments and improvements of SWC water supply production and distribution systems through construction funded by the USF.

In response to the program re-scope, USAID E-WASH pivoted by effectively:

- Refocusing its grants and procurement team to support the USF and allowing the program to adjust readily to sudden shifts in USF implementation (especially during the COVID-19 pandemic) in order to advance timely and quality construction activities. USAID E-WASH also adjusted the USF management team reporting to the program's Chief of Party.
- Developing and updating its technical, USF, and operational contingency plans and informing the USAID Mission in Nigeria and program partners regularly on actual and anticipated delays to planned activities. Information delivered included progress and challenges across all USF-related infrastructure and equipment provision activities, including major uncertainties in global supply chain that affected USF procurement activities throughout the COVID-19 pandemic. The program continued to submit reports, such as the construction supervision monthly progress report, weekly USF updates, and monthly status updates, and held weekly check-ins with the USAID Mission in Nigeria.

Further detail on the USF rollout during the rescope period is described in the *Program Implementation* section under Component 2.

Advancing Construction Activities in Compressed Timelines

During the implementation of USF-funded construction activities, USAID EWASH had to continuously adapt to challenging country context and state operational environment in an effort to complete construction within a truncated timeline of 7.5 months. Specific examples of how the program adapted to these constraints are as follows:

Abia: Due to the on-going civil disturbances by a separatist group, the state government initiated a weekly stay-at-home order from August to November 2021 that consequently severely limited construction activities with AbSWSC. To resolve this constraint, USAID E-WASH worked closely with the construction subcontractors to extend working schedules and initiate rapid deployment once the restrictions were lifted.

Delta: Due to shortages and rising prices as global supply chains restricted, designated construction subcontractor faced financial resource limitations to procure necessary supplies. The program therefore pre-financed the supplies - pipes, dosing pumps, and submersible pumps - directly from the suppliers to ensure timely provision and delivery of these essential equipment.

Niger: The construction subcontractor was unable to procure agreed-upon chemical dosing equipment from local markets. USAID E-WASH, NISWASEC and the construction management firm re-valuated pump specifications and determined that a smaller pump available in local markets would be appropriate. The smaller pump was then procured, delivered and installed in time and within budget.

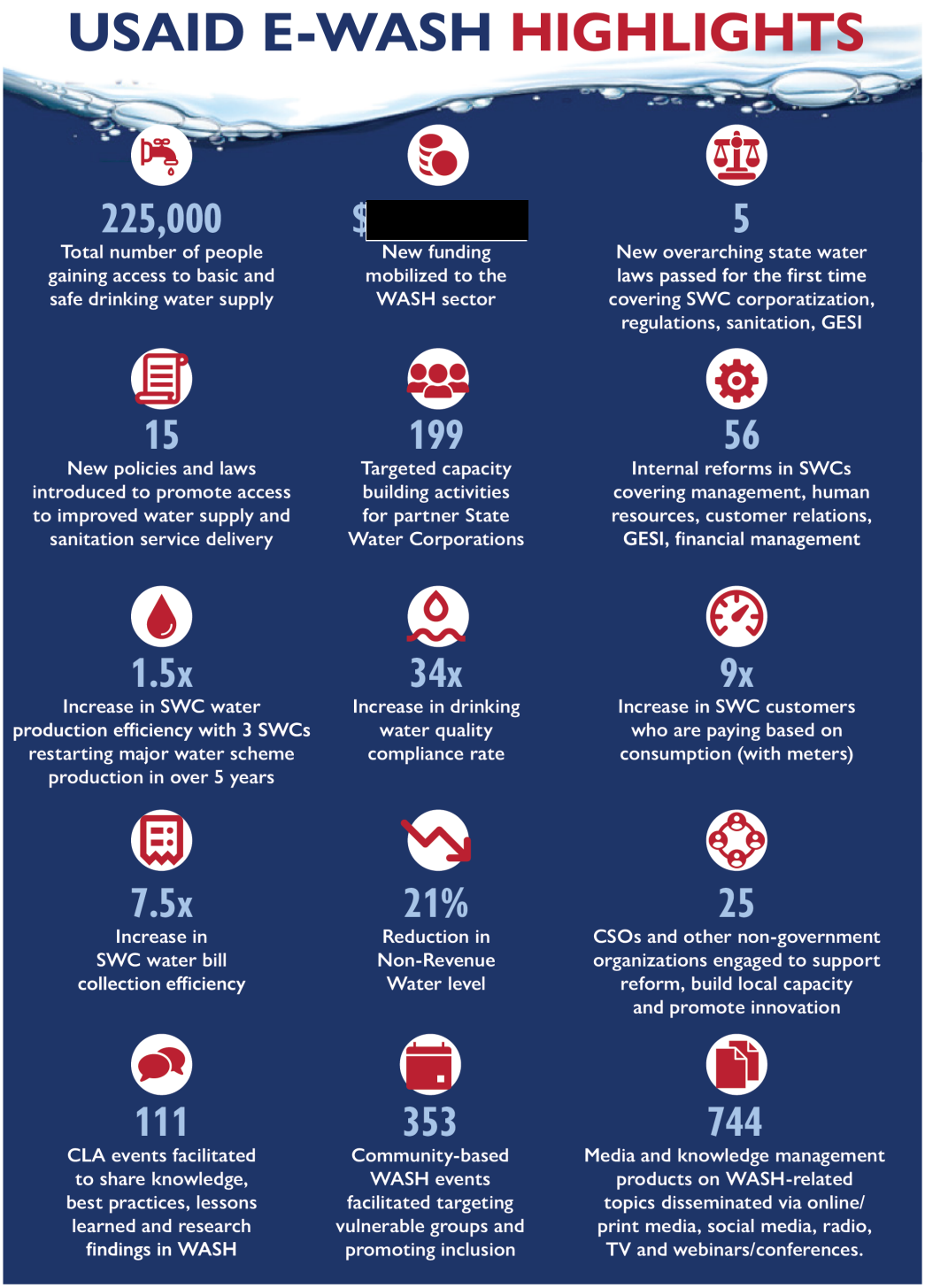
Taraba: Due to the torrential rainfall and the opening of dams, the construction site encountered flooding. USAID E-WASH therefore had to work with a construction subcontractor and construction management firm to modify the pipe network route to avoid the flood prone area. This adaptive approach mitigated delays and resulted in quick adjustments with similar result.

Despite these challenges, USAID E-WASH was able to support three SWCs to begin water production for the first time in years and to facilitate better safe water distribution in two other SWCs, benefiting 225,000 people.

Program Highlights

The following Exhibit 6 and list of results/achievements summarize high-level USAID E-WASH outputs and outcomes. Descriptions and details of supporting activities and indicator monitoring that contribute to these high-level highlights are in *Program Implementation* and *Program Outputs* sections.

Exhibit 6. Program Highlights



Summary of key program activities and achievements by components are as follows:

Component 1: Creating professionally managed and commercially oriented SWBs

- Establishment and strengthening of a **Board of Directors (BoDs)** for the first time in five SWCs to provide strategic oversight and management of SWC operations and maintain relations with state governments, customers, and other stakeholders.
- Application of the **State Water Agency Capacity Assessment Tool (SWACAT)** with each SWC to measure each SWC's progress towards autonomy and good governance through ten domains: effective utility management (EUM), financial management, internal controls, external relations, governance and legal, human resources management, gender and special needs management systems, sustainable services and delivery, and stakeholder engagement. On average, all SWCs (excluding AbSWSC) improved performance, increasing by at least 56 percentage points over baseline values, while **three SWCs more than doubled their institutional capacity levels** from baseline.
- Introduction and preliminary adoption of **performance-based contracts (PBCs)** in parallel with regulatory framework development at three levels, covering agreements between state governments and SWCs for service delivery in four SWCs, internal agreements between SWC HQs and zonal branches in two SWCs, and arrangements related to staff development.
- Development and institutionalization of **vision/mission/core values statements** in all SWCs that provide the overarching purpose, goals, and corporate culture templates as the SWCs reform toward becoming more corporate oriented.
- Preparation and implementation of **strategic and business plans** for the first time in all SWCs that lay out the processes, activities, and required resources to achieve the long-term vision/mission of each SWC. Program support included annual budgeting and financing development.
- Design and launch of **corporate branding** for all SWCs that entailed new logos, websites, communication tools, and others to represent the newly reformed SWCs for customers and other external stakeholders as well as to build internal ownership and pride among SWC staff.
- Streamlining and adoption of **revised SWC organizational structure**, including definition of tasks, functions, and job descriptions in all SWCs.
- Introduction and operationalization of new, fundamental processes, tools, and systems to manage HR, including staff development through capacity building and placement based on skills and needs; staff retention and transition (from civil servant to SWC employee); and staff reporting and review mechanisms. The HR tools and systems, such as the innovative e**nterprise resource planning (ERP) system** that collects and manages staff information, are based on the each SWC's revised organizational structure.
- Introduction and **institutionalization of GESI principles** as new organization policies in all SWCs.
- Enumeration of more than **275,000** customers in the main urban areas served by all SWCs as an initial step to recognize current and potential customers.
- Application of the **ERP system** and associated ICT infrastructure to take account of the customer data and link with billing/collection (see Component 2) and customer complaints management.
- Introduction of pioneering **Customer Service Charters** that outlined commitments from SWCs and customers regarding service delivery, payments, and engagement.
- Establishment and strengthening of **Customer Care Units** at all SWCs to enable improved engagement with customers.

Component 2: Improving the financial and operational viability of SWBs

- Introduction and implementation of **PIPs** that outlined key targets for enhanced technical and operational efficiencies with defined KPIs, contributing to increased staff morale and customer perceptions.
- Adoption of international standards and practices in accounting, basic bookkeeping, transparent auditing, and financial management (including budgeting and financial statement analysis) by all SWCs to help increase financial viability, resulting in AbSWSC, NISWASEC, DESUWACO, and TAWASCO preparing their **own operational budgets** for the first time in 2021.
- Deployment and commissioning of the innovative ERP system in all SWCs to centralize and **modernize operational processes** in customer database management, customer billing and collection, HR administration, payroll, customer relations management, asset management, financial management, and performance monitoring. Over time, ERP use will help reduce NRW as billing and collection and customer relations improve.
- Provision of technical support to improve billing and collection via the ERP and via mobile payment schemes that resulted in over **seven times** improvement in average bill collection efficiency across the five SWCs (from baseline of 6 percent to end of program 44 percent efficiency).
- Average **water production efficiency across all SWCs increased by 1.5x** from baseline with **first-time production in selected major water schemes** in Abia, Delta, and Imo after at least 5 years of inactivity.
- Preparation and implementation of **customer metering management and policies** to allow for better meter monitoring and management and expanded meter installation activities supported through the USF that resulted in **21 percent reduction in overall NRW level**.
- Introduction and application of **asset management** processes and tools (via the ERP) that included the relative locations and conditions of **301 fixed assets** in more than **45 water schemes and offices** across all SWCs.
- Introduction and development of **NRW management strategies** in all SWCs to address physical and commercial losses that led to design of District Metering Areas (DMA) as means for managing overall NRW and DMA implementation via the USF with NISWASEC.
- Strengthening and **adoption of water quality monitoring and management** systems through training and provision of equipment and infrastructure via the USF that led to improved average drinking **water quality compliance by 34 times over baseline values** (from 16 percent to 69 percent compliance rate).
- Completion of a **tariff study and a five-year financial model** encompassing all operational costs to reach financial viability, as well as implementation plans for DESUWACO, NISWASEC, and TAWASCO with additional support for approval to respective state governments.
- Completion of a **willingness and ability-to-pay study with over 25,000 customers** to identify current water and sanitation practices, monthly payment for water and sanitation services, and willingness to pay for improved SWC services to align with the tariff studies.
- **Assessment of creditworthiness and risk** for all SWCs (except Abia) that validated the constraints to access commercial financing and offered possible actions to remediate the challenges by managing internal and external risks.
- Completion of a **feasibility study for potential private-sector partners** for water kiosks in the state capitals of Abia, Imo, and Taraba states and for NRW management performance contracts in Niger's Minna and Suleja towns.
- Delivery of over **9,000 essential small to major equipment and systems** to all SWCs including pumps, meters, pipes, computers, power supplies, servers, water quality monitoring

tools, ERP software, and others that led to better operational and business processes and longer-term services delivery.

- Support of **foundational services for all SWCs on their corporatization and modernization journey** including large-scale enumeration of more than 275,000 customers, total ERP system installation with six critical modules, development of website and corporate branding, and construction operations and management.
- Completion of **six major construction activities across all SWCs that entailed rehabilitation and new installation of water production and distribution** schemes and power units that led to restart of water production in three SWCs after years of non-service and to improved safe water supply provision, **benefitting over 225,000 people**.
- **Disbursement of $[redacted] from the USF in 7.5 months** through intensified adaptive management to address global supply chain and local restriction challenges caused by the COVID-19 pandemic.

Component 3: Strengthening policy, institutional, and regulatory frameworks for improved WASH services

- **Passage of five water sector laws and policies for the first time** in Abia, Delta, Imo, Niger, and Taraba to set the foundation for overall SWC reform and corporatization, regulatory reform to monitor progress, promote GESI and accountability and transparency, and revisit the need to manage sanitation.
- Implementation of **enabling environment review studies and PEAs** that were critical to capture legal frameworks, policy gaps, state government and SWC long-term outlook, and power dynamics that informed advocacy and outreach activities organized by the program and partner CSOs.
- Preparation of **operational guidelines and procedures for regulatory bodies** including KPI tools, reporting mechanisms, and inclusive regulatory body selection processes in all five states.
- Establishment of partnerships with **17 CSOs** to lead sector and SWC reform advocacy, stakeholder engagement, GESI adoption, awareness raising of WASH practices and prevention of COVID-19 pandemic spread.
- **Collaboration** with CSOs and other WASH stakeholders (e.g., line ministries, customer groups and SWCs) to inaugurate **first evet budget-tracking committees** in four states.
- Facilitation of over **90 regular events reaching over 2,000 people to promote accountability and transparency** of service delivery by enabling open dialogue; informing of new WASH reforms, the impacts of WASH policy and law implementation and the roles of new regulatory bodies; and recognizing and addressing community constraints and concerns.
- Conduct of over **300 community-based events reaching 34,000 people** through town hall meetings, rallies, women's group, and youth group meetings to promote WASH topics, raise attention to decrease spread of COVID-19 pandemic, prioritize GESI adoption during reform, and celebrate local and international WASH-related events.
- **Inclusion of sanitation management** as an SWC mandate in the new state water laws and **establishment of a dedicated sanitation unit in each SWC** to manage sanitation service delivery.
- **Establishment and capacity building of city-based sanitation taskforces** (CSTFs) in collaboration with state WASH sector stakeholders to oversee overall sanitation planning and services provision and to prepare for Citywide Inclusive Sanitation Plan (CWIS) development.
- Conduct of **sanitation mapping** that consisted of **4,700 premises** and development of first-ever **shit flow diagrams (SFDs).**

- Facilitation four state governments to set aside **land for the installation of FSTPs**.

Component 4: Building national and state WASH advocacy, coordination, and communications for reform

- Creation of **multi-stakeholder State Steering Committees** to monitor implementation of the program and the new water laws.
- **Annual commemoration** of World Toilet Day, World Handwashing Days, World Water Day, and International Women's Day with interactive school WASH club meetings and community engagements to **promote reform advocacy**.
- **744 multi-media releases on WASH topics** through online news, radio, social media, newspapers and print, and television across the five states and Abuja.
- Trainings on **communications/public relations** and **engagement with the Urban WASH Media Network in each state**.
- **Sharing of program lessons and innovations** on GESI adoption, sector reform, SWC transformation, and CSO engagement at more than 5 global events with program and SWC staff.
- Completion of **gender assessment by involving over 1,000 stakeholders** such as community members, SWC staff, and local government representatives across Delta, Imo, Niger, and Taraba.

Program Implementation

This section presents the overall 47-month program implementation and covers the various stages including the 3-month inception phase where state selection and baseline assessments took place, the ramp-up of activities since inception, and the subsequent program re-scope during the last 7.5 months. This section also summarizes the key activities, outcomes and lessons learned encountered in Components 1 to 4 and MEL activities during program implementation.

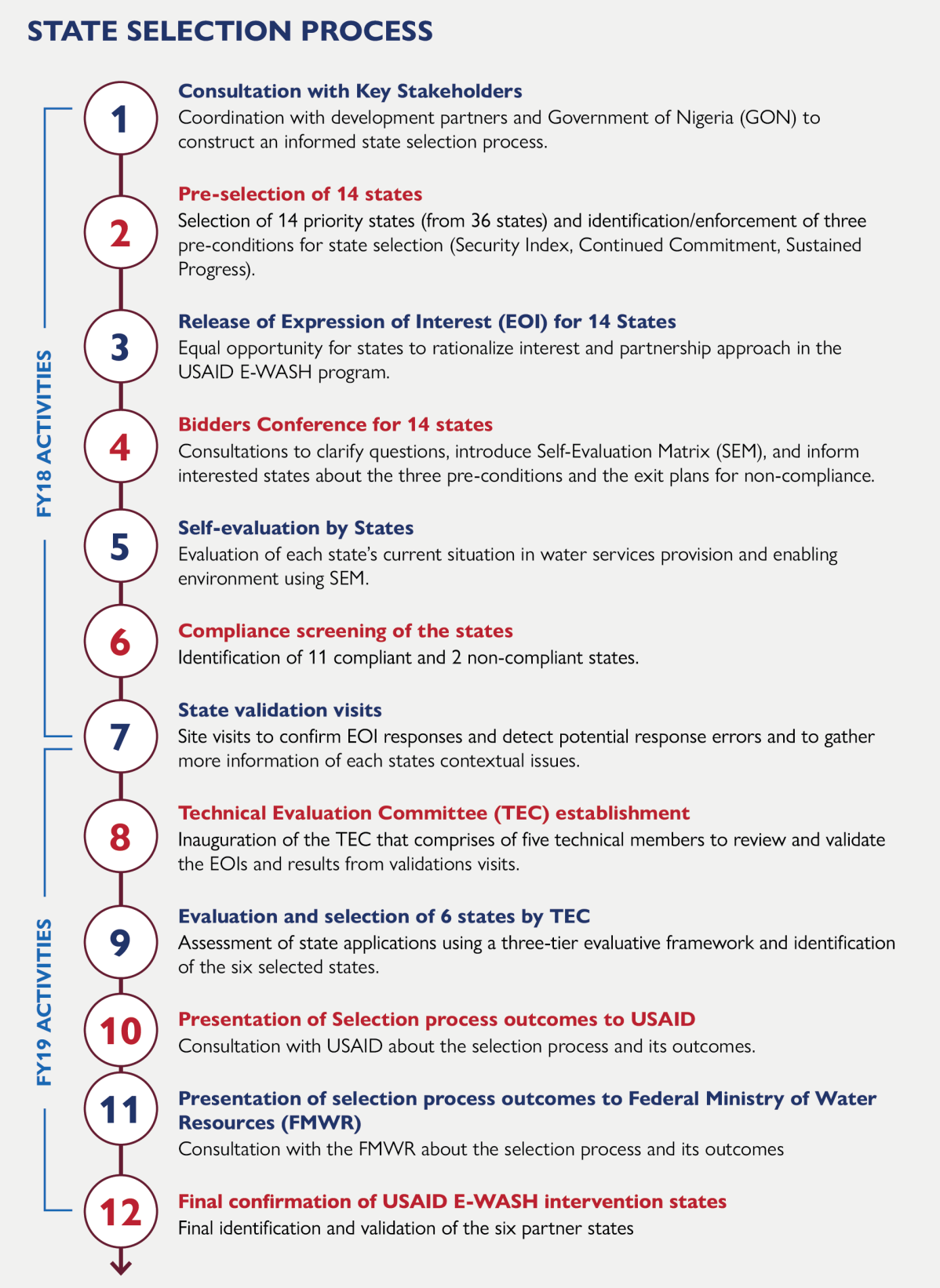
Partner State Selection

USAID E-WASH facilitated a participatory and demand-driven 12-step process to identify program partner states that closely engaged the GoN; USAID; and other development sector stakeholders such as The World Bank, the African Development Bank, and the Nigeria Federal Ministry of Water Resources (FMWR). Key steps included conducting a pre-screening of states based on GoN and USAID joint priorities to 14 states from 36 states, requesting expressions of interest (EOIs), organizing a bidders' conference to introduce the program, screening applications, conducting validation visits, and final selection. USAID E-WASH conducted the pre-selection process to identify those states that met the following criteria: reform-mindedness; security; presence of other donor interventions (e.g., The World Bank and the African Development Bank); and presence of other USAID-funded programs (e.g., in HIV, food security, nutrition, health, education, and governance). USAID E-WASH also developed a template for each of the 14 states to self-evaluate their current situation using a self-evaluation matrix (SEM) and to submit along with the EOI. The evaluation process of the 14 states then used various assessment tools and SWOT analysis to determine each state's institutional, technical, and security readiness. Key selection criteria and indices included the following:

- **State sector conditions:** Sector investment, reform priorities, enabling environment
- **SWB services and operations:** Internal revenues, tariff adjustments, access, meters
- **SWB leadership:** Board of Directors, distribution of staff
- **Operating and leveraging opportunity:** Complementary donor, development bank, and government programming and investment; USAID programming; WASH infrastructure investment; infrastructure and facilities; bulk water resources; existing capital improvement programs; and civil society participation and engagement
- **Security conditions:** Local conflicts, operating risks
- **Commitment to the USAID E-WASH goals and objectives:** Statements of readiness

Exhibit 7 summarizes the 12-step state selection process that the program implemented in the six months in FY18–19.

Exhibit 7. State Selection Process



Only 11 of 14 states submitted EOIs. Following the submission of the EOIs, USAID E-WASH, through a multi-stakeholder evaluation committee, then organized validation visits to determine current conditions within the states from the information contained in each EOI and to identify

further pertinent contextual issues. After the internal review process, the program presented all findings and a final list to the USAID Mission in Nigeria and FMWR. By early FY19, the program identified six states for inclusion: Abia, Delta, Imo, Niger, Taraba, and Sokoto. Discussions ensued to confirm the primary cities/towns within the six states where USAID E-WASH would deliver technical assistance for service delivery improvements based on population density and economic activities: Umuahia in Abia, Asaba in Delta, Owerri in Imo, Minna in Niger, Sokoto City in Sokoto, and Jalingo Town in Taraba.

Baseline Assessments and Political Economy Analysis

Immediately upon state selection, USAID E-WASH completed a comprehensive baseline assessment to identify the gaps and opportunities in the institutional, legal, and operational aspects of water service delivery in the six states and the designated urban areas served by the SWCs. The assessment process intentionally incorporated validation of findings with communities, CSOs, and SWC staff to ensure local ownership of the challenges and opportunities identified. Assessment findings informed not only a program benchmark but also the development of state SIPs and SWC-specific PIPs. In general, the program identified inadequate SWC performance data availability and confirmed that SWCs required reforms to resolve some of their systemic operational challenges, such as a lack of financial, institutional, and technical autonomy from state governments. Urban sanitation management was also deficient as there were no proper treatment facilities for fecal sludge nor clear institutional homes for urban sanitation. Gender inequity was common, given that the SWCs had very few female employees. These assessment findings also identified the lack of water supply service in Abia, Imo, and Delta, leading to the initiation of the interim Emergency Action Plan (see below). The program presented the findings to the USAID Mission in Nigeria, The World Bank, and the FMWR related to five areas for SWC improvement: (1) institutional, policy, and regulatory operations; (2) commercial, financial, and HR operations; (3) infrastructure and technical operations; (4) CSO engagement; and (5) GESI indices.

As part of these assessments, the program launched a baseline political economy analysis (PEA) in early FY19 in each state along with a conflict analysis to examine the underlying institutional conditions and stakeholder relations within each SWC and state governments that could affect program implementation. The PEA evaluated formal and informal political structures, incentives, power dynamics, and benefits affecting the pace and willingness of stakeholders to reform water services. It also identified potential champions for change and helped understand how to best influence governance and WASH service delivery reform with a GESI lens. These analyses focused on the reform agendas of each counterpart SWC and included tailored "PEA questions" on foundational factors, current events, rules and norms, and opportunities that were unique to the conditions of each state. While PEA findings presented sensitive and confidential parameters for stakeholder discussion, the following describes a few general findings:

- **Abia:** Lack of succession planning within the SWC, aging piped networks and water schemes, power supply challenges, reliance by citizens on private water vendors and boreholes, lack of transparency, zero overall sector coordination, and lack of GESI adoption.
- **Delta:** Water did not provide political mileage compared to other infrastructure development like roads; weak demand by citizens due to available water supply alternatives and overall lack of trust in the sector; no GESI adoption, but women groups had lobbying power; low SWC staff motivation; no benchmarks for budget allocation to the sector; and unclear institutional roles and mandates within the SWC.
- **Imo:** Poor coordination in state-level water sector players, multiple concession agreements for different waterworks with minimal transparency, SWC recruitment subject to political influence, lack of adequate budget for services delivery, water scheme locations based on political considerations, and key waterworks remained inactive.

- **Niger:** Poor customer service orientation, lack of proper system operations and maintenance, lack of succession planning within the SWC, distrust of the SWC by citizens, inequity in service distribution, and lack of overall accountability within the sector.
- **Sokoto:** Strong concept and implementation of "free water" principles, civil servant deductions represented the largest source of funds for the water sector, and limited GESI due to social norms.
- **Taraba:** Limited water distribution network; weak state and water sector policy, but reform acceptance and political will were high; then-upcoming elections (2019) had the potential to have affects; capacity building not linked to departmental needs within the SWC; and active youth engagement and willingness of communities to participate in reform.

Emergency Action Plans

As noted, USAID E-WASH identified that in order to fully realize the reform process, Abia, Imo, and Delta SWCs needed to restore water production to their customers while continuing to participate in the program's technical assistance for SWC operational efficiency improvements. The program worked with relevant state Commissioners and SWC leadership teams to agree and initiate EAPs in the three SWCs. The EAPs stipulated that three SWCs were to make arrangements to restore partial water supply production within 90 days while the state governments had to disburse funds to their SWCs in support. The EAP development consultations laid out expectations and anticipated next steps, including the possible withdrawal of program support if the water production requirements failed. At the end of the 90-day EAP period in May 2019, USAID E-WASH audited the three states' readiness and found that none had achieved the agreed-upon targets, mainly due to the elections that coincided with the EAP time period. Therefore, the EAP completion deadlines extended for another 60 days into July 2019.

Exhibit 8. AbSWSC with USAID E-WASH began planning to restart selected water schemes that were idle for years.

Photo: USAID E-WASH

At the end this second EAP period, USAID E-WASH evaluated progress and determined that Delta and Imo state governments had made substantial advances in releasing funds, and the relevant SWCs had initiated improvements to begin water production. In Imo, communities in selected parts of Owerri received water for the first time in as much as 12 years, while similar testimonies took place in the Asaba area in Delta as the SWCs tested operations of selected water schemes. In Abia, the evaluation determined that water production development remained slow and incomplete. On this basis, USAID E-WASH recommended exiting Abia and suspended its direct operations in the state while awaiting formal stakeholder approval. Further discussions between the Abia State Governor and the USAID Mission in Nigeria in September 2019, however, showed a refocused commitment by the Abia state leadership to complete the water production requirement and to establish a high-level steering committee to oversee reforms, including enacting a WASH policy and bill that USAID E-WASH had helped draft. As noted previously, USAID E-WASH then effectively resumed operations in Abia in mid-FY20 as part of the program's adaptive management capability.

Key Program Activities and Achievements

This section highlights key activities, milestones, and lessons that emerged throughout USAID E-WASH implementation with respect to the four main program components. This section builds from and complements the previous sections by integrating baseline assessment findings and EAP implementation within each of the respective component activities.

Component 1: Creating Professionally Managed, Commercially Oriented SWBs

While SWCs the partner SWBs had mandates to provide safe, adequate, and affordable water supply and sanitation management services to residents of urban areas, they were mainly struggling to meet their objectives due to a lack of an effective enabling environment that allowed them to become more institutionally autonomous and limited organizational capacity that supported effective SWB operations, among other factors. While on paper SWBs were autonomous institutions, in practice they functioned as government departments whose employees remained as civil servants and whose organizational structures restricted corporate-oriented governance. In short, SWBs did not have political, managerial, operational, or financial management autonomy to take ownership and direct control of their operations and lacked the overall capacity to operate more independently.

To support the SWBs in meeting their mandates with greater autonomy and corporate orientation, USAID E-WASH facilitated key foundational activities that strengthened SWB institutional development. These activities entailed reform in (1) leadership and management, (2) corporatization process, (3) organizational structure, and (4) customer orientation. They also built on and represented the implementation of the new state-level water and sanitation policies and laws the program supported (see Sub-Component 3.1) that formally recognized SWBs as corporations (thus SWCs) with anticipated operational, financial, and managerial autonomy.

Leadership and Management

Key Leadership and Management Activities and Results

- Establishment and strengthening of a **Board of Directors (BoDs)** for the first time in five SWCs to provide strategic oversight and management of SWC operations and maintain relations with state governments, customers, and other stakeholders.
- Application of the **State Water Agency Capacity Assessment Tool (SWACAT)** with each SWC to measure each SWC's progress towards autonomy and good governance through ten domains: effective utility management (EUM), financial management, internal controls, external relations, governance and legal, human resource management, gender and special needs management systems, sustainable services and delivery, and stakeholder engagement. On average, all SWCs (excluding AbSWSC) improved performance, increasing by at least 56 percentage points over baseline values while **three SWCs more than doubled their institutional capacity levels** since baseline.
- Introduction and preliminary adoption of **performance-based contracts (PBCs)** in parallel with regulatory framework development at three levels, covering agreements between state governments and SWCs for service delivery in four SWCs, internal agreements between SWC HQs and zonal branches in two SWCs, and arrangements related to staff development.

BoD institutionalization. The passing of new water laws and policies that USAID E-WASH facilitated in program states (see Component 3) officially allowed SWBs to follow commercial and corporate practices and designate themselves as SWCs. This corporatization process entailed the formal establishment of a Board of Directors (BoD) for each SWC to provide overall strategic direction, demonstrate leadership, and ensure SWC accountability to state governments and customers for service delivery. In each state, USAID E-WASH collaborated with partner CSOs to advocate for the swift establishment of the BoDs in each SWC and worked with the SWCs to select members and draft the ensuing BoD codes of conduct and charters based on the principles of good corporate governance established by the Nigerian Institute of Directors. In four SWCs, the program facilitated the appointment of BoD members based on lawful criteria for qualifications, the mode of appointment, and the tenure in office. This process allayed concerns associated with the recruitment of the BoDs, whose appointment has traditionally depended on which governor is in office.

Upon BoD inauguration, USAID E-WASH organized orientation and training sessions for BoD members to define and strengthen their understanding of organizational and leadership roles by

applying the new BoD charter and code of conduct within each SWC. These capacity-building activities aimed at enabling each SWC BoD to effectively work with counterpart SWC executive leadership in implementing its mission and vision as it evolved into a corporate entity with autonomous decision-making processes. General technical topics discussed included leadership functions, good governance principles (e.g., accountability and transparency), water supply delivery operations, stakeholder engagement, regulatory frameworks, and KPIs as well as related PBC mechanisms (see below). These activities also engaged key technical and management staff in addition to BoD members to further strengthen relations and operational discussions. By the end of the program, four of five SWCs with state governments formally nominated and appointed BoDs (see Exhibit 9 for details). In Imo, USAID E-WASH laid out the foundations for the ISWSC BoD establishment.

Exhibit 9. Status of SWC Board of Directors

SWC	Date Established	Characteristics and Key Tasks to Date
Abia – AbSWSC	November 17, 2020	9 members (3 women, 6 men). BoD reviewed PBC documents.
Delta – DESUWACO	January 29, 2020	7 members (4 women, 3 men). BoD held quarterly meetings and ratified new organizational structure.
Imo – ISWSC	*In process*	*Selection of 13 members remained ongoing.*
Niger – NIWASEC	August 11, 2020	11 members (3 women, 8 men). BoD ratified 2021 budget; reviewed the NISWASEC strategic plan and PBC arrangements; revised short- to long-term financial projection plans; and rolled out BoD activity roadmap.
Taraba – TAWASCO	December 19, 2019	5 members (1 woman, 4 men). BoD ratified gender policy and 2021 budget; reviewed PBC arrangements; supported assessment of water production facilities; and advocated for state government approval to streamline staff transitions to TAWASCO.

Performance monitoring. To support SWC management monitoring, USAID E-WASH together with the SWCs and state-level stakeholders developed and applied the State Water Agency Capacity Assessment Tool (SWACAT) to measure each SWC's progress toward autonomy and adoption of good governance practices. The SWACAT provided a measurement tool through the Institutional Strength Index that each SWC could monitor. The Index aggregates ten operational/technical domains such as effective utility management (EUM); financial management; internal controls; external relations; governance and legal, human resource management; gender and special needs management systems; sustainable services and delivery; and stakeholder engagement. Exhibits 10 and 11 show SWACAT application outputs for each SWC as well as an aggregated result, indicating progression since the program started in 2019 and identifying areas for further improvement. This set a baseline measurement to compare SWC progress over time and link with KPIs developed under state-level regulatory frameworks (see Component 3) and PBCs.

Exhibit 10. FY2018–2022 SWACAT Application

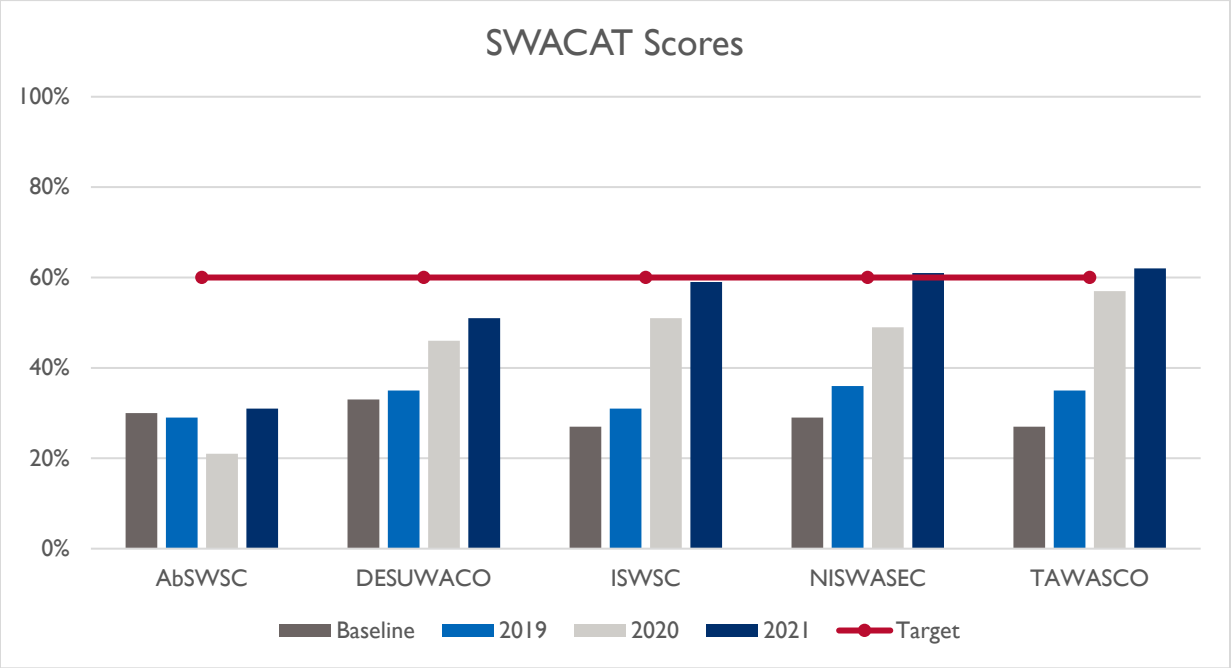


Exhibit 11. Aggregate SWACAT Data for Abia, Delta, Imo, Niger, and Taraba SWCs

Key highlights in each state as noted in Exhibits 10-11 include the following:

In ***Abia***, AbSWSC increased its institutional capacity level from 29.8 percent at baseline to 34.3 percent by the end of the program, a 15-percent improvement. AbSWSC strengthened its organizational and HR management by developing foundational procedures and policies; financial controls, including preparation for cash flow tracking and customer billing; internal performance management and monitoring; and gender mainstreaming. Challenges included lack of water

production, which continues to inhibit effective utility management; limited sharing of standard operating policies and procedures; and limited outreach to customers and the general public.

In ***Delta***, DESUWACO increased its institutional capacity level from 32.9 percent at baseline to 51.4 percent by the end of the program, a 56-percent overall improvement. The SWC excelled in restructuring its recruitment process; proceeding with a corporate plan approval and associated business plan; instituting the Customer Service Charter; and advancing laboratory operations, customer database development, and GESI application with gender mainstreaming. Ongoing gaps that the SWC needed to improve included, among others, urban sanitation management; sustained media engagement as part of outreach; and internal control and budgeting system management.

In ***Imo***, ISWSC increased its institutional capacity level from 26.9 percent at baseline to 58.9 percent by the end of the program, a 119-percent overall improvement. ISWSC approved its strategic and business plans; institutionalized corporate goals throughout its staff; put in place staff succession plans; maintained an infrastructure asset tracker system; implemented regular budgeting processes with financial reporting; established an active M&E unit; managed water quality monitoring processes and laboratory; and instituted gender mainstreaming. Current gaps include, among others, development of SWC communications and outreach plans; improvements in billing and collections; attention to urban sanitation management; and strengthening of procurement policies and plans.

Exhibit 12. ISWSC monitors new pumps as part of its asset maintenance management program.

Photo: USAID E-WASH

In ***Niger***, NISWASEC increased institutional capacity level from 29 percent at baseline to 61.4 percent by the end of the program, a 117-percent overall increase. Improvements largely attributed to the SWC's governance structure and SWC management and external relations, including gains in BoD development; strategic plan implementation; corporate values adoption; internal communications and management information system development; GESI adoptions; and customer relations and public outreach. Identified gaps currently include succession planning; financial management autonomy; approval of revised internal policies and procedures (e.g., Human Resources/HR management, human capital development); and asset management system updates.

In ***Taraba***, TAWASCO significantly increased its institutional capacity from 26.6 percent at baseline to 61.7 percent by the end of the program, a 132-percent overall increase. The SWC outperformed in governance as its BoD continued to function more effectively and corporate orientation gained traction; its HR management supported staff welfare and development; and its monitoring and evaluation unit established progress tracking systems. Constraints remained, however, with limited sharing and slower uptake of organizational development policies and procedures; lack of effective financial management systems; and inconsistent review of strategic and business plans.

In addition to performance monitoring, USAID E-WASH also introduced concepts of results-driven SWCs, whether externally to their stakeholders or internally within their organizational structures. To achieve this, the program laid the foundations for the development, implementation, and mechanisms for monitoring performance-based contracts (PBCs). These contracts are between state governments and SWC boards, and then between SWC boards and SWC managing directors, and down to zonal offices. PBCs provided means for motivating SWCs to meet targets to improve their service delivery and operational performance and were specific to the conditions of the respective SWC, with targets calibrated against the SWC's baseline using tools like the SWACAT.

In this process, USAID E-WASH helped establish an effective and mutually agreed oversight and monitoring mechanism, along with specific policies, roles, and responsibilities to regulate service delivery. The program supported the creation of performance-based contract management and review committees (PBCMRCs) in each state to manage contracting and facilitated all aspects of PBC development.

In ***Abia***, the AbSWSC BoD reviewed draft PBCs and engaged the Abia State Government to approve the drafts. In ***Delta***, the Ministry of Water Resources Development (MWRD) structured and formalized a pioneering PBC, signed by the state government and DESUWACO (see the success story in Exhibit 13). The Delta State Regulatory Committee evaluated the PBC arrangement and, by the end of the program, was finalizing a report for submission to the State WASH Steering Committee, chaired by the Governor. In ***Imo***, ISWSC collated performance targets and drafted a PBC and corresponding action/implementation plan; ISWSC then submitted the draft to the Imo State Government for approval, along with requests for formally establishing the PBCMRC. In ***Niger***, the state government created a PBCRMC, while the NISWASEC BoD and management prepared and reviewed a draft PBC for the approval.

Exhibit 13. DESUWACO Launching Performance-Based Contract Mechanism

Delta State Promotes Accountability through DESUWACO Performance-Based Contract

Since the Delta state Water Law pointed to a corporatized DESUWACO, USAID E-WASH worked with state stakeholders to advance DESUWACO's accountability through the establishment of a Performance Based Contract (PBC) between the state government and DESUWACO. Having effectively advocated the Ministry of Water Resources and Dams (MWRD) for the PBC, USAID E-WASH facilitated discussions between the Delta WASH Regulatory Committee and DESUWACO BoD to set the PBC KPIs and monitoring protocols.

Exhibit 14. Delta State Governor signs WASH Bill.

The program organized multiple preparatory trainings for members of the Committee and DESUWACO on performance indicators, targets, baselines, and means of verification. Through stakeholder discussions, USAID E-WASH helped prepare the PBC template to describe objectives and incentive structures and the Regulatory Committee's role to lead quarterly PBC obligation review. On February 5, 2020, USAID E-WASH's support resulted in the signing of the PBC between the DESUWACO GM with the Delta State Government, represented by MWRD, in line with the Water Law.

While the pioneering activity in Delta remains ongoing, USAID E-WASH promoted the PBC process with other SWCs to comply with their laws and policies. The program facilitated a replication workshop where DESUWACO shared lessons learned and practices on PBC development and implementation with their peers, SWBs and state governments (ministries and regulatory units). The discussion touched on PBC templates and operational procedures based on respective state laws.

Corporatization Process

Key SWC Corporatization Activities and Results

- Development and institutionalization of **vision/mission/core values statements** in all SWCs that provide the overarching purpose, goals, and corporate culture templates as the SWCs reform toward becoming more corporate oriented.
- Preparation and implementation of **strategic and business plans** for the first time in all SWCs that lay out the processes, activities, and required resources to achieve the long-term vision/mission of each SWC. Program support included annual budgeting and financing development.
- Design and launching of **corporate branding** for all SWCs that entailed new logos, websites, communication tools, and others to represent the newly reformed SWCs for customers and other external stakeholders as well as to build internal ownership and pride with SWC staff.

The USAID E-WASH corporatization model aimed at reforming SWBs through the transfer of assets and liabilities, staff, and ongoing business to an SWC that would deliver public service while remaining owned by the public sector. Relevant characteristics of a corporatized utility adopted in the program's technical assistance for partner SWCs include establishment as an independent and separate legal entity; managerial autonomy for operations; establishment of a BoD in line with the enacted sector laws and policies; defined responsibilities for its BoD vis-à-vis the state government, the SWC, the regulatory commission, and customers; separate personnel management and employment conditions no longer linked to civil service, addressing critically important issues like salaries, performance bonuses, fringe benefits, and pensions; and gradually increasing financial independence, with revenues coming from sales (instead of state budget allocations) and higher/direct responsibility for losses. Supported by the state water laws, USAID E-WASH assisted SWCs through technical support and training on their reform journeys toward becoming corporate entities. The program facilitated a workshop on change management for over 300 participants at all SWCs to inform them about the change process, communications, staff involvement, managing barriers to reform, and the benefits of change management.

Corporate culture. A key feature of USAID E-WASH support for SWC corporatization was the development of corporate philosophy statements through various consultations and workshops in all SWCs. The program worked with SWCs to prepare a clearly articulated organizational vision shared by staff and management, defined in a mission statement, and characterized by core organizational values understood and adhered to by all staff. Representatives from SWC management, junior staff, state ministries, rural water agencies, and union leaders participated in these consultations to build ownership of the new corporate culture. Exhibit 15 shows the result of these visioning exercises in all SWCs.

Exhibit 15. SWC Corporate Philosophy Statements

SWC	VISION	MISSION	CORE VALUES
AbSWSC	To be a model water and sewage service utility in Nigeria	To provide potable water and sewage services sustainably and affordably to the Abia state urban population	Customer Confidence; Accountability; Integrity; Quality Service; Purpose-Driven; Teamwork
DESUWACO	To become the trusted premier urban water and sewerage utility in Africa	To exceed stakeholder expectations through: Human Capital Development; Service Reliability; Stewardship; Protection of the Environment; and Technological Advancement	Customer Satisfaction; Accountability; Teamwork; Innovation; Sustainability; Professionalism
ISWSC	To be the most innovative water and sewerage utility in Africa	To provide sustainable potable water and sewerage services to Imo-lites using available, environmentally friendly technology	Customer Satisfaction; Collaboration; Professionalism; Integrity; Teamwork; Transparency
NISWASEC	To be the world-class water and sewerage utility that delivers efficient and sustainable services in the urban areas of Niger state	To provide safe water and sewage services for public well-being through the effective use of resources	A.S.P.I.R.E.D.: Accountability; Sustainability; Professionalism; Innovation; Reliability; Efficiency; and Dedication
TAWASCO	To be a pacesetter in water and sewerage services in Africa	To integrate and maximize resources for top-notch water and sewerage management services with strong focus on customer satisfaction to the urban people of Taraba State	S.I.M.T.T.A.P.: Sustainability; Innovation; Motivation; Transparency; Teamwork; Accountability; Professionalism

The SWCs continued to adopt these corporate statements internally. SWCs posted their corporate statements in strategic locations in their HQ and zonal offices. Staff at DESUWACO, ISWSC, and NISWASEC presented these statements at meetings. ISWSC updated its website with the new statements, while its various departments (e.g., Finance and Commercial) started to develop their departmental visions, missions, and core values statements to continue building morale and align with their overall corporate strategy. NISWASEC developed a jingle to reinforce these statements. TAWASCO developed a staff handbook with statements on corporate culture.

Strategic and business planning. As the SWCs developed and adopted their corporate statements, the program also facilitated strategic and business plan development with staff from all levels to set the direction and goals for becoming corporate entities and for delivering effective services in the medium term. These plans drew on the corporate statements and represented progressive tasks that each SWC intended to execute to achieve set objectives and targets to support the corporate statements. Each SWC prepared the plans based on the conditions in FY20 and on the anticipated improvements by FY22 through infrastructure and system enhancements supported by USAID E-WASH. The development of the plans also relied on SWC-specific SWOT (strengths, weaknesses, opportunities, and threats) analysis and organizational development attributes from the SWACAT findings. Each SWC completed the plans that prioritized, among other things, water production (e.g., for AbSWSC, DESUWACO, ISWSC) and distribution (e.g., NISWASEC, TAWASCO). All SWCs in general identified billing and revenue generation, human resources development, water quality management, and infrastructure maintenance as other priority objectives in their plans. Subsequently, USAID E-WASH worked with each SWC to finalize its strategic and business plans and began efforts to conduct similar exercises with zonal offices.

Setting Out a Three-Year Strategic Plan in Niger

NISWASEC's three-year Strategic Plan (2020–2022) focused on re-engineering its water production, improving water quality control and monitoring, reducing NRW, boosting revenue collection and growth, elevating customer engagement and satisfaction, and instituting brand equity. The Strategic Plan also outlined ways to strengthen the organization, including human resources and financial management. These actions will strategically re-position NISWASEC to achieve better results in the increasingly competitive water markets, with a focus on commercial viability and financial sustainability and in alignment with its vision and mission. Improvements in the volume of water produced and sold by the SWC, as well as enhanced network coverage and phased tariff progressions, will result in a regular supply of good-quality water and sustained revenues.

When all the planned measures are executed and objectives achieved, it is expected that water treatment plants, water quality equipment, reservoirs, transmission mains, and distribution pipes will function continuously and will be expanded at all levels and capacities; power supply to plant production will increase to 133 KVA; water production will increase from 33,000 to 70,000 m^3 per day; active connections will hit 85,000, with 10,000 new connections per year; technical losses will be reduced from 53 to 23 percent, while commercial collection efficiency will rise from 51 to 95 percent; and resources (funds and human capacity) will be optimized to ensure the highest levels of performance and productivity.

Corporate branding. With the SWB to SWC evolution in progress, USAID E-WASH worked with each SWC to re-brand for external and internal purposes. The program closely coordinated with each SWC to develop new corporate logos and branding to reinforce its new public image and signal change through the ongoing reform activities. Corporate branding activities entailed brand identification workshops, logo competitions, public unveiling through celebrations and MOU-signing events, and integration of the new logo and branding into SWC letterhead and branded materials for official communications. The branding development was also critical for building pride and ownership within each SWC as part of organizational development. Exhibits 16–20 show the new SWC logos and branding. With these new logos and increased customer outreach, USAID E-WASH supported greater SWC staff empowerment to inform their customers of the reform processes taking place such as greater customer orientation, progressive service delivery improvements, increased attention to billing related to service improvements, and others.

Exhibit 16. New DESUWACO Logo

Exhibit 17. New ISWSC Logo

Exhibit 18. New NISWASEC Logo

Exhibit 19. New TAWASCO Logo

Exhibit 20. New AbSWSC Logo

Corporate branding development also entailed website development with the logos and forewords by SWC leadership, funded through the USF (see Component 2) as follows: AbSWSC (www.abswsc.org); DESUWACO (https://desuwaco.org/); NISWASEC (www.niswasec.org); and TAWASCO (www.tarabawaters.com.ng). The websites include highlights, profiles of management staff and BoD members, and blog posts, and they enable customers to make a complaint or inquiry and register for a water connection.

Organizational Development

Key SWC Organizational Development Activities and Results

- Streamlining and adoption of **revised SWC organizational structure**, including definition of tasks, functions, and job descriptions in all SWCs.
- Introduction and facilitated operationalization of new, fundamental processes, tools, and systems to manage HR, including staff development through capacity building and placement based on skills and needs; staff retention and transition (from civil servant to SWC employee); and staff reporting and review mechanisms. The HR tools and systems, such as the innovative **Enterprise Resource Planning (ERP) system** that collects and manages staff information, are based on the each SWC's revised organizational structure.
- Introduction and **institutionalization of GESI principles** as new organization policies in all SWCs.

To complement the corporatization process support, USAID E-WASH provided targeted technical assistance to ensure that SWCs had contextually appropriate organizational development systems and tools in place as they began to implement their strategic and business plans and address internal operational limitations. Program support laid the groundwork for introducing and maintaining these processes for subsequent regular reviews and updates. Operational challenges identified during initial assessments included lack of processes to match staff skills and experience with their expected functions; overlapping departments and their duties; inconsistent staff training and follow-up; missing performance tracking; and outdated HR management and organizational structures. Subsequent program support thus focused on reducing these inefficiencies and increasing effective human resource management. Through direct interactions with SWC management, technical and general staff, USAID E-WASH helped SWCs with reviewing and reorganizing their department functions; assessing staff training needs and matching with skills; developing, evaluating, and revising staff handbooks and administrative manuals; and evaluating payroll and staff performance tracking.

Based on USAID E-WASH assessments and technical consultations, SWCs modified their organograms and realigned staff to targeted units. For the first time, four SWCs (DESUWACO, ISWSC, NISWASEC, and TAWASCO) created Gender and Pro-Poor, Sanitation, Customer Care, and Information and Communication Technology (ICT) units to match their strategic goals. NISWASEC in particular promoted female staff to lead these new units. In the process, USAID E-WASH helped craft standard operating procedures (SOPs) and functional roles for the new units.

Internal organization processes. Concurrently with the change in organizational structures, SWCs evaluated their HR processes and administration and began to plan for transitioning staff and management into a corporate entity. SWCs determined how they would reach optimal staff count and roll out internal staff performance improvement plans to strengthen staff capacity and encourage retention. USAID E-WASH assisted with the preparation of multiple documents and policies with SOPs, templates, and forms for adoption on various topics including HR Development Strategy and Training Plan; Human Capital Development Plan; Workforce Analysis; Staff Compensation Plan; Staff Transition and Succession Plan; Staff Performance-Based Monitoring Policy; and Recruitment Policy. This process entailed iterative consultative workshops and training with SWC leadership and management staff, and day-to-day assistance with respective departments to make sure that adoption took place and that ownership of the tools and processes resided with the SWCs.

Implementation of these new tools and systems has resulted in SWC staffing management. For the first time, ISWSC recruited 45 staff on its own without state government direction and developed job descriptions aligning with staff qualifications per its new recruitment SOP and based on the revised organizational structure; these staff filled gaps in its engineering, data analytics, laboratory services, communications, and office support roles. TAWASCO and NISWASEC critically reviewed staff qualifications against job descriptions and strategic plans, conducted performance appraisals, and terminated casual staff hired for non-essential temporary work. TAWASCO gained productivity efficiencies by decreasing staff per 1,000 connections by 28 percent. NISWASEC used the new staff transition plan manuals to ensure the smooth transition of 317 staff members from the SWC to the Niger State Small Town Water Supply and Sanitation Agency (STOWASSA). AbSWSC and DESUWACO set up transition and restructuring committees to implement the recommendations of the documents regarding gender equity principles, retirement benefits, support for staff transitioning from government salaries, names and numbers of departments and corresponding overlaps in roles, and performance contract obligations. ISWSC and NISWASEC reduced staff per 1,000 connections by 69 and 27 percent, respectively, nearing their optimal staffing headcounts and demonstrating efficiency gains in operations.

Exhibit 21. TAWASCO leadership reviewing HR management changes to align with its corporatization process.

Photo: USAID E-WASH

The program also supported modernization of SWCs as part of their reform journey. In consultation with SWCs, the program helped set up the ERP system that consisted of various modules. One was an HR Management System (HRMS) module that enabled SWCs to integrate staff information with payroll, work schedules, skills, training needs, and other pertinent HR information for staff management, development, and retention. The HRMS module allowed SWC HR managers to align all operations, while keeping management in the loop. SWCs began to apply the HRMS to recruit staff and manage and monitor employee benefits, pension/welfare plans, and health care packages while tracking enrollment options and their financial implications. Details on ERP system development is in Component 2.

Targeted training. Drawing on the initial training needs assessment and supporting the implementation of Human Capital Development Plans for all SWCs, USAID E-WASH facilitated over 199 capacity-building and skills development training events that touched on key aspects for promoting corporate and customer orientation and good governance. Training topics included GESI adoption, corporate branding, utility change management, GIS, customer care and enumeration, NRW management, asset management, financial management, and ERP use. Exhibit 22 shows the various topics covered in training activities throughout the program.

Exhibit 22. Trainings with SWCs in FY20

Key Element	Selected Training Topics
Leadership	Corporate governance for BoD and management; corporate culture adoption; development of vision, mission, core values; development of business and strategic plans; change management for ICT, ERP, and GIS; corporate branding; demand-side analysis and tariff reform; stakeholder relations and partnerships; GESI training; teamwork and emotional intelligence; compliance monitoring
Operational	HR management; talent acquisition and recruitment; program management; performance management; SWACAT application and update; financial management; effective auditing; budgeting; customer billing and collection; customer care and relationship management; media engagement; monitoring and evaluation (M&E) systems application; community scorecard development
Technical	ERP application and effective use; GIS and geospatial mapping; hydraulic modelling; customer meter provision and maintenance; NRW management and reduction; water quality management and monitoring; water production and treatment operations; asset management; basic operations and maintenance

In addition, the program also successfully worked with Coca-Cola affiliate NBC Bottling Company as part of its partnership approach to deliver practical training on corporate entity operations (see below).

Coca-Cola and USAID E-WASH: Bringing Core Professional Practices to SWCs

USAID E-WASH and the Nigerian Bottling Company Limited (NBC), a subsidiary of the Coca-Cola Hellenic Bottling Company, signed a MoU in 2020 to engage NBC/Coca-Cola in building capacity of over 100 SWC executives, senior managers, and cohorts of young professionals from Abia, Delta, Imo, Niger, and Taraba SWCs on corporate culture development through tested approaches. Virtual training focused on instilling corporate governance for SWC leadership and BoD members as well as tailor-made technical capacity building for SWC staff in commercial functions, customer relations and water supply production. Topics included risk management, customer relationship management and marketing, water quality management, HR management, and performance management.

Following the series of trainings, SWCs have noticed improvements in staff relationships and financial administration per the SWACAT analysis in 2020. For example, finance and accounts staff in DESUWACO, ISWSC and TAWASCO now prepare monthly cashflow budgets and in-house finance accounts for official auditors. SWBs have begun to implement the financial manual to strengthen accountability; scheduled monthly management meetings more consistently; and adopted manuals and SOPs from the organizational development activities.

Training manuals. USAID E-WASH also reviewed and edited training manuals developed by the National Water Resource Institute (NWRI) on the following topics: Community-Led Total Sanitation; maintenance of electric motors; water production, treatment process control, and quality management; water quality management and water quality process parameters; water resource management and water treatment; sewage and sanitation services; motor vehicle routine maintenance; NRW; O&M of water meters; plumbing works and service connections; and asset management and maintenance. USAID E-WASH had planned to work with NWRI on hosting a training platform; however, due to the program shift, the program ceased activities to advance this initiative.

GESI adoption. Another essential reform supported for all SWCs was the introduction of GESI principles as a foundation for corporatization, which led to the preparation of pioneering gender policy in each SWC. Following initial program assessments, USAID E-WASH and the SWCs worked closely to identify applicable means to elevate GESI inclusion in the organizational development process, with attention to gender mainstreaming. This technical assistance led to the appointment of gender focal persons (GFPs) and establishment of gender units at each SWC, who then led the preparation of GESI policies within each respective SWC and gained internal SWC support for policy implementation. Exhibit 23 below highlights an example of how NISWASEC had followed through with gender policy implementation. In ***Delta***, the program provided support to the Women in WASH (WIW) chapter to promote female leadership and WASH-related issues disproportionately affecting women, such as menstrual hygiene management (MHM) and also mentored the GFP on public speaking and engaging with media channels. The GFP and DESUWACO team utilized those trainings and reported greater confidence in public speaking and event organization. The DESUWACO WIW team, together with a local NGO and several girls' schools, celebrated International MHM Day with a large event in Asaba. DESUWACO continued the program's and CSOs' advocacy work to highlight the importance of breaking down stigmas related to MHM.

Other key accomplishments that USAID E-WASH facilitated include advocating for and securing the appointment of women as BoD members in the selected SWCs; establishing WIW forums across all SWCs; conducting GESI training for SWC staff; creating female safe spaces in ISWSC and NISWASEC; encouraging women, youth, and people with disabilities to actively participate in accountability platforms at the state and zonal levels; and empowering women at SWCs with information on MHM. In particular, CSO advocacy with state governments also resulted in agreements to have at least 35 percent representation of women in each SWC's BoD, as noted in the *Leadership and Management* section above.

Exhibit 23. NISWASEC Leading Gender Equity

NISWASEC Selected Four Women as Unit Heads

According to USAID E-WASH's baseline assessments, NISWASEC employed one woman for every nine men. The assessments also found that only two women served on NISWASEC's 12-member management team.

As part of its gender activities, USAID E-WASH supported the establishment of five new units for which NISWASEC selected qualified female staff to lead four. USAID E-WASH and NISWASEC continue to provide gender trainings to address patriarchal biases and ensure these new leaders receive effective mentoring.

"Before now, women were not recognized," said Zainab Yunusa, the new Customer Care Unit Head. "But now, we are being given a chance."

Following Aishatu Mohammed's appointment to lead the M&E Unit, she has received USAID E-WASH support to systematize NISWASEC's data collection efforts and developed reporting templates for eight departments. Sadiya Suleiman, the Sanitation Unit Head, is part of a team that has pushed for the acquisition of land for a pilot FSTP and commitment from the Niger State Government. Salamatu Ibrahim, who leads the Gender and Pro-Poor Unit, led efforts to conduct a comprehensive NISWASEC gender audit to develop its Gender Policy and advocated for pro-poor tariff adjustments. Meanwhile, in only four months, Zainab Yunusa, who leads the Customer Care Unit, has successfully resolved 108 of NSWB's total 110 complaints.

These women and their dedicated efforts are examples of the USAID E-WASH program supporting efforts to break the glass ceiling at SWBs and encourage more women to enter and succeed in the sector.

Below, in the left-hand photo are NISWASEC's four new unit leads, and in the right-hand photo, the NISWASEC team shows its commitment to equality (with the "=" hand sign).

USAID E-WASH's Engendering SWC Activities

Each SWC has made incremental progress for greater GESI principle adoption, with cumulative achievement of 65 percent against program targets. TAWASCO and DESUWACO in particular increased active recruitment of women into their staffing roster by over four percent from their baselines. However, USAID E-WASH has recognized the recurring need and advocacy by stakeholders to uphold greater and purposeful attention toward broad GESI adoption by the SWCs.

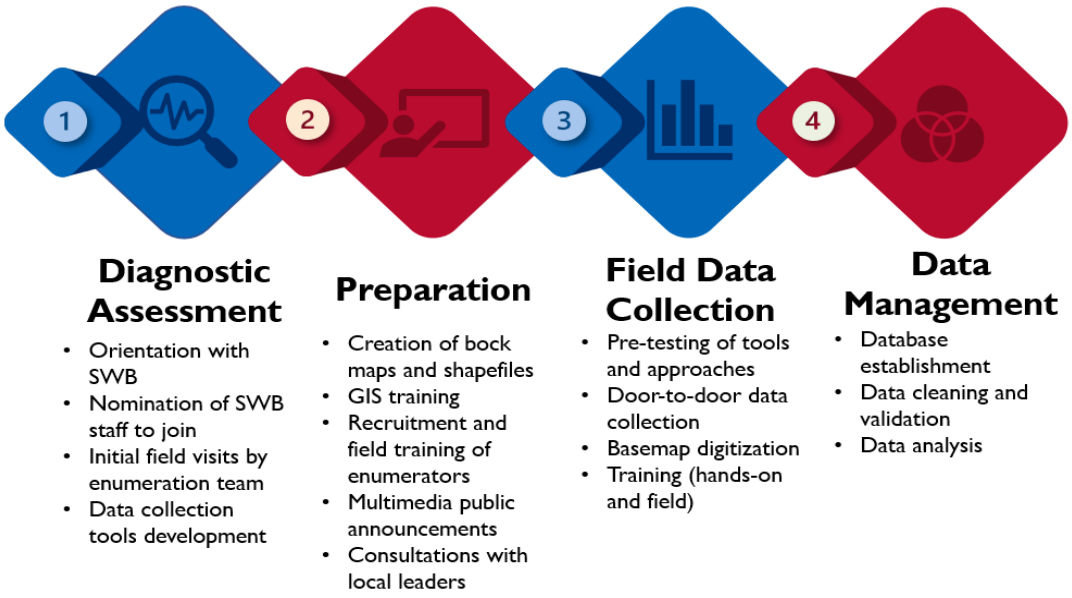
Customer Orientation

Key SWC Customer Orientation Activities and Results

- Enumeration of more than **275,000** customers in the main urban areas served by all SWCs as an initial step to recognize current and potential customers.
- Application of the **ERP system** and associated ICT infrastructure to take account of the customer data and link with billing/collection (see Component 2) and customer complaints management..
- Introduction of pioneering **Customer Service Charters** that outlined commitments from SWCs and customers regarding service delivery, payments, and engagement.
- Establishment and strengthening of **Customer Care Units** at all SWCs to enable improved engagement with customers.

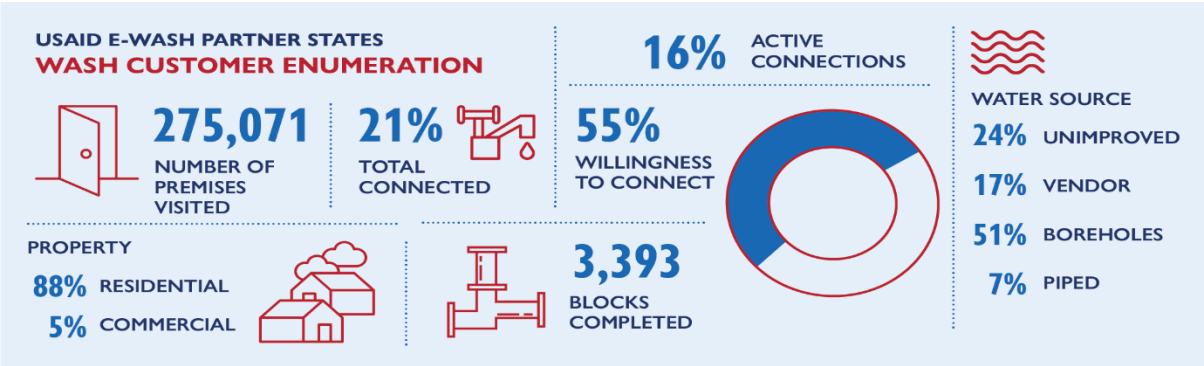
Customer Enumeration. Initial program assessments noted that the SWCs lacked the knowledge of their existing and potential customers, effectiveness of billing/collection processes, and service delivery levels. To address these fundamental challenges, USAID E-WASH worked with the SWCs (excluding Sokoto) to enumerate more than 275,000 customers and yet-to-be-connected households in key urban areas of the five SWCs. Funded through the program's USF (see Component 2), the expansive customer enumeration and block-mapping exercises employed a consultative planning, training, and technology solutions application linked to a geographic information system (GIS) to easily locate properties and to collect customer billing and service level data into databases maintained by the SWCs. Exhibit 24 shows the development of the enumeration and mapping activity.

Exhibit 24. Customer Enumeration and Block Mapping Process



The exercise introduced innovative methods to gather data using tablets and a data management platform and facilitated the use of WhatsApp to help communicate and coordinate during field activities. SWC staff participated throughout the process and managed the data flow and database with USAID E-WASH support for hands-on training. Exhibit 25 highlights the results of the exercise.

Exhibit 25. Aggregated Customer Enumeration and Block Mapping Outputs



Data from the customer enumeration and block-mapping activities fed into the customer relationship management (CRM) module of the ERP system from the database platform. Data collected and updated into the CRM module included customer name and contact information; date of last communication with the CCU and what was discussed; complaints the customer has made and feedback from the SWC; and any recent visits by the customer to the SWC website. The CRM and Billing modules (see Component 2) access the same customer database at the back end and provide an interactive platform for the SWC to access its customers on social media. As the CRM is accessible from the SWC's website, customers can access notifications about general supply disruptions, as well as other important messages. With these centralized operations, SWCs are now in a position to specify and track customer relations and service expansion and improvements.

Customer care unit. To support sustained customer management, SWCs with USAID E-WASH facilitation prepared customer engagement strategies, such as CCU development and improved relations with customers. For instance, in ***Niger***, NISWASEC's strategy focused on knowing its customers, developing user-friendly customer platforms, segmenting its customer database, institutionalizing customer care, practicing effective communication, and developing promotional products. In ***Imo***, ISWSC strategy centered on re-engaging existing customers without active connections to the Otamiri WTP in Owerri to prepare for the WTP's restart (see Component 2).

The program continued to support implementation of these customer engagement strategies in all SWCs. For CCU establishment, the program assisted in setting up the CCU functions, SOPs, and staff job descriptions and facilitated internal CCU recruitment. Once in place, the program also delivered customer care trainings on communications, complaints and redress management, and overall customer relations for CCU staff as well as SWC line officers. CCU staff also became focal persons for managing the CRM module in the ERP and in validating new customer information from the enumeration and block-mapping exercises, and the program also provided specific training on CRM management. In ***Delta***, DESUWACO assigned 22 staff to operate the new CCU at its HQ and ten zonal offices. To respond to COVID-19 restrictions, the DESUWACO CCU launched and implemented the *Water at Your Doorstep* campaign and delivered water with tankers to low-income areas without access to potable water.

CCU staff, SWC management, and technical leads also participated in regular quarterly WASH Customer Forum events facilitated by CSOs (see Component 3) to inform on the reform processes, take feedback on service delivery improvement plans and complaints, and also create customer service charters as agreed by SWC leadership and customer or community representatives. Each charter essentially laid out commitments by SWCs to begin improving services provision, while at the same time customers would agree to provide timely and regular water bill payments. In ***Imo***, the ISWSC CCU investigated low collection efficiency rates by interviewing customers and found that they claimed to use alternative sources (e.g., tankers, boreholes, etc.) instead of direct connections. In this process, the CCU also informed customers of its system rehabilitation plans and new billing structures. Additionally, the CCU designed handbills and flyers for staff to distribute to both current and potential customers during the interviews.

With USAID E-WASH facilitation, the SWCs also began to work with multimedia outlets like the Urban WASH Media Network in Delta, Imo, Niger, and Taraba to inform communities and residents of urban areas of the ongoing reform process as set out in each SWC's customer engagement strategies as well as public service announcements related to hygiene and COVID-19 spread mitigation. In ***Niger***, the NISWASEC CCU continued addressing customer complaints, facilitated regular discussion on WhatsApp platforms, and presented its work at a weekly radio program hosted by program grantee CSO Connected Development (CODE). The weekly Urban WASH program (see Component 4) also featured the CCU. In ***Taraba***, TAWASCO conducted outreach activities to increase customer connections by engaging with communities who were not connected to understand their challenges and address them.

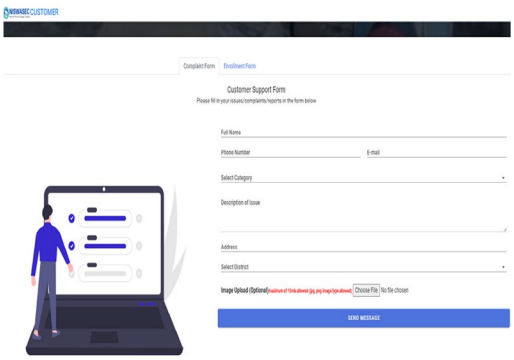


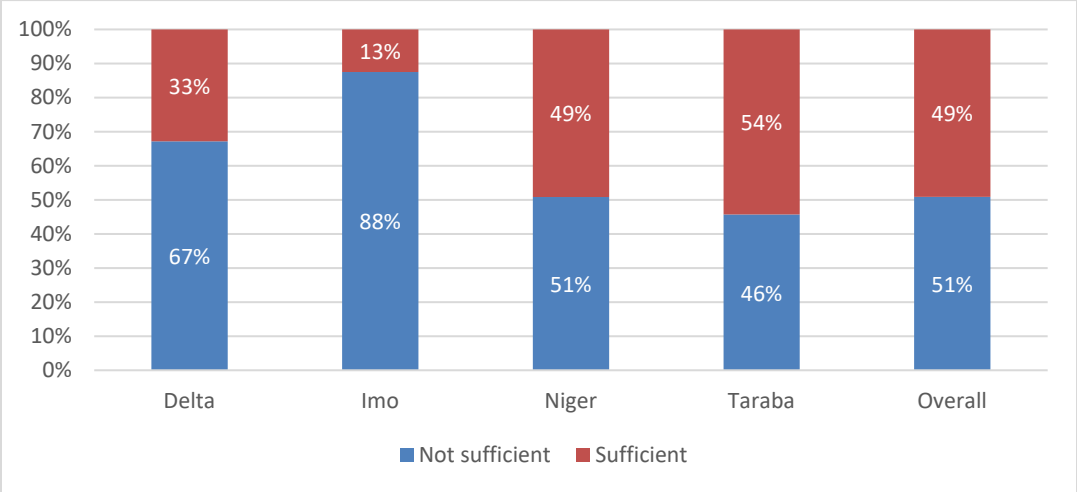
Exhibit 26. NISWASEC's newly launched customer complaint form included in its corporate website.

To supplement these capacity-building and customer orientation efforts, the program via the USF also provided foundational infrastructure, such as furniture and ICT equipment consisting of computers, tablets, and phone and local area network (LAN) lines. In essence, USAID E-WASH enhanced both the soft skills as well as the technical hardware needed for SWCS to establish greater customer orientation in order to build customer trust and confidence that will ultimately support revenue generation (see Component 2).

Customer satisfaction monitoring. USAID E-WASH also introduced concepts of measuring customer satisfaction through direct surveys on access to water supply, cost and billing of services, SWCs' responsiveness to addressing complaints, and water supply quality and quantity. In 2020, the program surveyed 914 customers from DESUWACO, ISWSC, NISWASEC, and TAWASCO. The survey measured availability, accessibility, and quality of water provided by the SWCs. Results indicated that the average customer satisfaction score for the four SWCs was 43 percent, with the highest customer satisfaction with NISWASEC at 61 percent and lowest satisfaction with DESUWACO. Customers were satisfied with the quantity of water from DESUWACO, NISWASEC, and TAWASCO. Although customers were not satisfied with the quantity of water from ISWSC, they were satisfied with the cost of water, billing processes, and pace to respond to complaints. In 2021, the program surveyed 903 customers from the same four SWCs, in which 38 percent were satisfied with overall services, a decrease of five percentage points from FY20. ISWSC had the highest percentage of unsatisfied customers (89 percent), followed by DESUWACO, NISAWSEC, and TAWASCO. TAWASCO was the only SWC that recorded an increase in satisfied customers from 2020 to 2021.

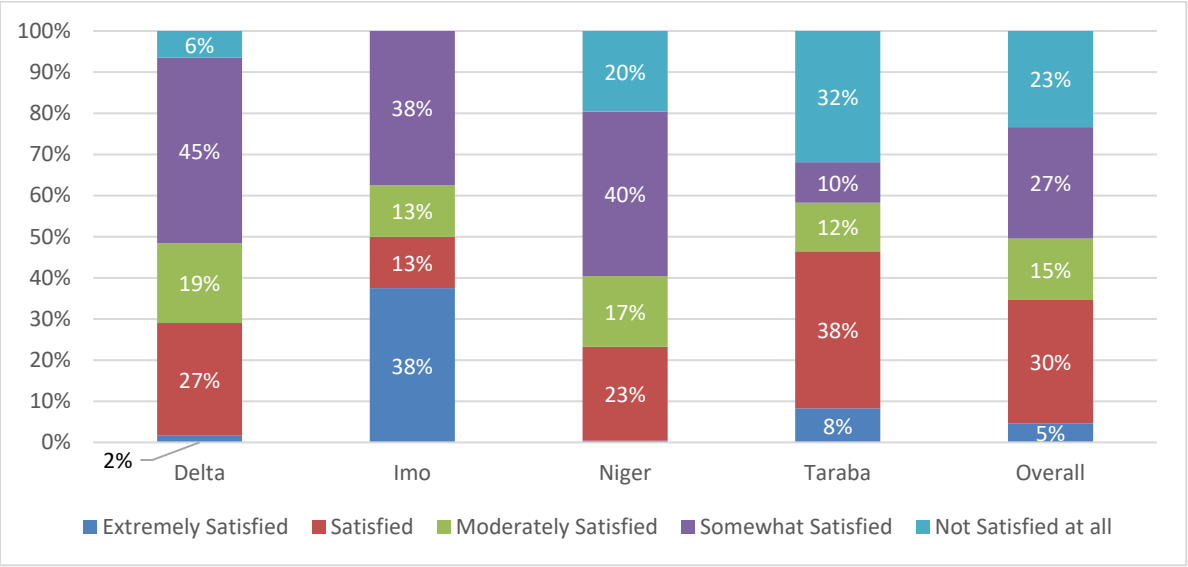
The 2021 survey revealed selected limitations and best practices in SWC service delivery. For instance, the survey noted that limited access to water supplied by the SWCs impacted customer satisfaction levels. Most noteworthy was the highest average satisfaction score for any indicator was improved water quality supplied by the SWCs, an 80 percent increase from 2020. The second highest average satisfaction score was water usage (drinking) followed by primary water source and cost of water. Like the 2020 survey, customers were least satisfied with the hours of water availability, which declined by nearly 33 percent in 2021. Exhibit 27 shows the 2021 levels of customer satisfaction related to water supply by SWCs.

Exhibit 27. 2021 Customer Satisfaction on Sufficient Water Supplied by SWCs



Customer responsiveness also varied across SWCs, with the survey providing insights into limitations and areas for improvement. Overall, 57 percent of customers surveyed were satisfied with SWC responsiveness to complaints and service disruptions. In ***Taraba***, some of the respondents (38 percent) stated that they were satisfied with the response time of TAWASCO, a sharp decline from the 70 percent who were satisfied in 2020. Many of the respondents in ***Delta*** (45 percent) were not satisfied with the time spent by DESUWACO to respond and restore services. In ***Imo***, there was an even split between customers who were extremely satisfied and not satisfied at all by ISWSC's responsiveness. In general, a drastic decline in customer satisfaction with the utilities' response time in addressing issues related to inadequate manpower, weak coordination, and improvement efforts that required service shut-offs. In addressing this challenge, USAID E-WASH informed how SWCs needed to intensify efforts in recruiting additional technical staff, invest in training, and optimize the use of tools and equipment supplied by the program to readily address distribution pipe repairs. Exhibit 28 summarizes the 2021 SWC responsiveness satisfaction levels.

Exhibit 28. 2021 Customer Satisfaction on SWC Responsiveness



Detailed reports of the 2020 and 2021 survey results are provided separately. The reports also noted recommendations to further elevate and sustain increased customer satisfaction, such as dedicating a budget line to improve infrastructure and especially address aging, leaking distribution pipe networks and establishing inter- and intra-state coordination meetings that would enable better sharing of best practices, lessons learned, programming needs, and gaps.

Lessons Learned from Component 1 Implementation

The SWC reform process in Component 1 required a combination of factors that revolved around stakeholder support, creating an enabling environment for ownership and innovation, and consistent knowledge management as follows:

- Commitment from the highest levels of state government and SWC leadership is essential to support organizational reform. For instance, in ***Taraba***, TAWASCO set up an implementation committee of Permanent Secretaries, heads of service, and Commissioners to support the rollout of its reform activities. Similarly, in ***Delta*** and ***Niger***, the involvement of high-level government functionaries helped the process of reform and corporatization.
- Corporatization remains a critical element for defining SWC autonomy and self-reliance as it transitions to secure internal revenues and financial viability while at the same time professionalizing its internal procedures through improved planning, HR management, and financial management changes, as well as operational efficiencies via better customer orientation. The corporatization process proved at times challenging for SWC reform as new procedures and new approaches were introduced; management and leadership dedication and day-to-day facilitation were essential in advancing SWC reform.

Exhibit 29. TAWASCO engaging with one of its customers during customer enumeration activities to indicate its reform commitments.

Photo: USAID E-WASH

- SWCs must share progress to allow all staff to see the tangible efforts of their work and have a clearer understanding of technical operations. Likewise, staff succession plans are critical to ensure that institutional knowledge is retained in the organization.
- As the SWCs improve their service delivery and response to complaints, ongoing community outreach is important to sustain and build on these improvements.
- Through the program's corporate culture and organizational development exercises, the SWCs are independently setting up business plan review meetings. With tools such as strategic plans and human capital assessments, the SWCs are autonomously refining and implementing trainings, highlighting the sustainability of the activities that the program has led.
- Customer database validation and customer engagement are imperative to ensure that the SWCs have accurate records and are billing appropriately and are able to directly conduct outreach and gather feedback.
- SWC training for customer and staff survey methodologies need additional management and leadership support to raise staff awareness, link to individual SWC strategic and business plans, and build confidence to conduct the surveys directly or with partners like CSOs.

Component 2: Improve Financial and Operational Viability of SWBs

Due in part to their lack of autonomy and operational capabilities prior to the program (as noted in Component 1), the SWCs had struggled to deliver consistent water supply and sanitation services to their customers. Limited technical capacity to operate and manage infrastructure, assets, and finances and lack of cost-reflective tariffs and internal processes and controls have challenged SWC commercial and operational practices. For example, operating cost coverage ratios (OCCR) were near zero, while revenue collection efficiencies were below 20 percent. SWCs were operating without pre-planned budgets due to heavy reliance on government subventions. Operational subsidies by state governments for labor, power, and chemicals have hindered cost recovery.

Technical assessments of SWC water infrastructure conducted by USAID E-WASH (from raw water intake to distribution systems) in 2019 noted that most SWC assets were dilapidated, with little or no information about their operational status (see Exhibit 30). SWCs did not have O&M manuals for major assets such as pumps, and the original asset registers relied on institutional knowledge without documentation. In some SWCs, assets had been non-functional for several years without a concrete plan to rehabilitate or a formal O&M system in place. SWCs were also unable to accurately measure and mitigate NRW from physical inefficiencies such as pipe leakages and from commercial inadequacies such as improper billing and collection, lack of meters, illegal tapping, and other issues, resulting in significant water loss and revenue reduction. In lieu of piped water supply from the SWCs, customers had shifted to water vendors and private water tanker providers to get their water, thus further reducing potential revenues for the SWCs as noted in the customer enumeration exercise (see Component 1).

Exhibit 30. Assessments of water production and distribution schemes, such as this unused pipe in Delta, informed the preparation of priority technical and infrastructure support activities.

Photo: USAID E-WASH

Complementary to the technical assistance for SWC reform, the program supported SWCs to enhance their technical efficiencies in order to further achieve financial and operational viability. USAID E-WASH delivered training and technical assistance to build SWC capacities on internal processes and controls (including financial accounting systems, procurement systems, billing, and collection); technical operational efficiencies (including management of NRW, assets, and water quality); potential engagement with the private sector, including commercial financing; and in tariff development to better reflect the cost of water service delivery and adhere to cost recovery principles. USAID E-WASH also managed the $[redacted] USF to deliver targeted equipment and infrastructure that enhanced business processes (e.g., through ERP system installation and commissioning, website development, and customer enumeration), technical operations and maintenance (e.g., rehabilitation of and/or new meters, pumps, ICT, and others). With this technical and infrastructure development support, SWCs were able to initiate a pivot toward better services delivery.

Internal Business Processes and Controls

Key SWC Business Process Improvements and Results

- Introduction and implementation of **PIPs** that outlined key targets for enhanced technical and operational efficiencies with defined KPIs, contributing to increased staff morale and customer perceptions.
- Adoption of international standards and practices in accounting, basic bookkeeping, transparent auditing, and financial management (including budgeting and financial statement analysis) by all SWCs to help increase financial viability, resulting in AbSWSC, NISWASEC, DESUWACO, and TAWASCO to prepare their **own operational budgets** for the first time in 2021.
- Deployment and commissioning of the innovative ERP system in all SWCs to centralize and **modernize operational processes** in customer database management, customer billing and collection, HR administration, payroll, customer relations management, asset management, financial management, and performance monitoring. Over time, ERP use will help reduce NRW as billing and collection and customer relations improve.
- Provision of technical support to improve billing and collection via the ERP and via mobile payment schemes that resulted in over **seven times** improvement in average bill collection efficiency across the five SWCs (from baseline of 6 percent to end of program 44 percent efficiency).

In preparing a framework for technical and operational improvements in business processes, USAID E-WASH worked with SWCs to create PIPs. Through a self-diagnostic and participatory approach in FY19, the program facilitated the SWCs to develop and launch broad PIPs that aimed at (1) improving operational and financial accountability and (2) enabling SWC management and staff to recognize processes for self-improvement in support of their reform objectives in Component 1. Multiple trainings supported the SWCs to craft their three- to five-year PIPs that covered key aspects of operations, including NRW management, bill collection efficiency, financial management, and service expansion; PIPs were also linked to tariff modelling and restructuring that USAID E-WASH started and entailed capital expenditures required based on tariff model outputs. In ***Delta***, DESUWACO adopted the PIPs as internal benchmarks for its ten zonal branches, creating innovative incentives and rewards systems for zonal offices when meeting selected KPIs (e.g., Best Scheme, Best Zone, Most Innovative Zone, Best Department, and Best Staff). In ***Taraba***, TAWASCO began to test department-level PIPs, starting with the Commercial Department by assigning revenue collectors specific collection targets and instituting an award scheme with SWC-wide recognition.

While the initial intent of these SWC-specific PIPs was to have longer-term time frames that aligned with SWC business plans, SWCs also prepared shorter-term PIPs as pilots and as a means to build staff readiness and morale toward the process. Shorter term PIPs ranged from 60 to 180 days and targeted SWC departments. The following are examples:

- In ***Imo***, ISWSC pioneered a 60-day PIP in FY20 titled *Repositioning ISWSC on the Path of Sustainable Growth and Development*. This department-level PIP focused on increasing water production and the number of connections; raising revenue; ensuring customer satisfaction by enabling prompt response to complaints and feedback; and monitoring performance progress. The PIP instilled clear targets for all departments to deliver on mandates without incurring additional expenses.

- In ***Niger***, NISWASEC commissioned *Project 90-days*, a department-level PIP that stressed connection reactivation, meter installation, and NRW reduction across all five major urban centers. While this initiative did not meet its targets, NISWASEC recognized that resource shortfalls were a key reason. As a result, it was able to work with the Niger State government to use the PIPs to garner approval of NGN [redacted] for upgrades to the

NISWASEC HQ power supply, as well as renovations to the HQ quality assurance central laboratory, Chanchaga WTP process laboratory, and selected new offices. This momentum enabled NISWASEC to design a follow-up departmental PIP with competition among its zones called *Project 180-days*.

- In ***Taraba***, TAWASCO and the Taraba State Government signed a 100-day PIP MOU, facilitated by the African Development Bank commercialization team. The baseline data and targets in the MOU were derived from data collected and systems initiated by USAID E-WASH, including the ERP system, customer-enumeration data, PIP data, and organizational development reports. The MOU sought to instill a high-performance culture at TAWASCO through the implementation of incentive-based performance contracts and business planning.

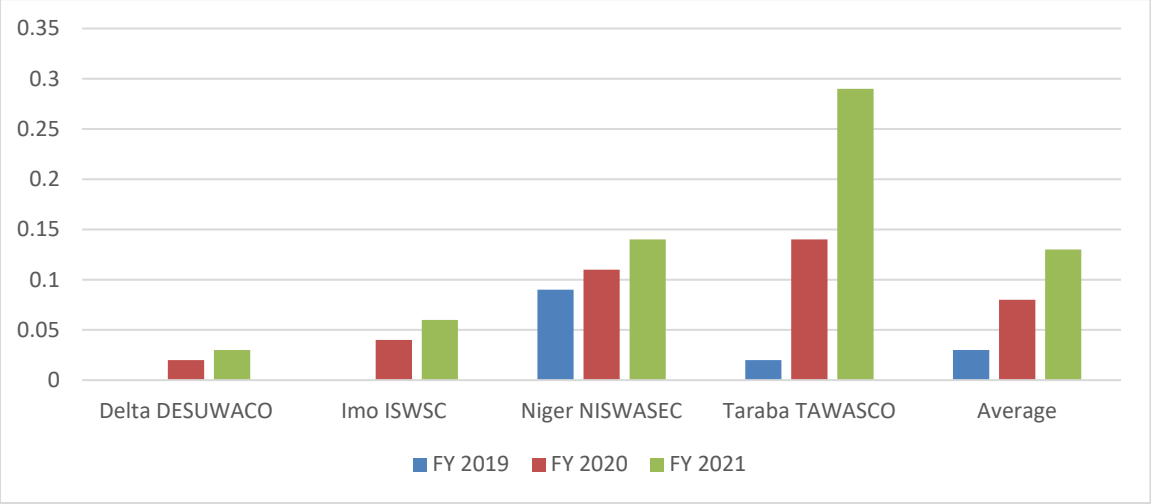
Financial management. Parallel to PIP implementation, USAID E-WASH helped strengthen SWC financial management procedures. Program support drew on findings from initial evaluations that indicated lack of financial management policies and guidelines, general ledgers and journals, and petty-cash books; limited financial controls, recordkeeping, and reporting; no budgeting and accounting systems; and manual financial operations. The program delivered targeted technical assistance and training for SWCs to generate annual accounts reports and financial statements in order to promote financial management transparency; catalog and analyze budgets and expenditures for urban water capital projects from various sources; and develop projections of income and expenditure based on actual data. In addition, USAID E-WASH support focused on developing systems, SOPs, and manuals for financial management and preparing accounts according to international public sector accounting standards (IPSAS) and linked to budget preparation with business planning (Component 1), billing and collection improvements, and overall financial projections. The program followed the trainings with day-to-day technical assistance and mentorship to ensure the application of the training subjects by the SWCs.

Subsequent adoption of tools and processes varied across the SWCs. For example, in ***Abia***, AbSWSC for the first time began tracking basic financial parameters such as expenditures and customer connections (for billing and collection). In ***Delta***, DESUWACO for the first time started preparing its FY19 internal audited accounts on income, expenditure, cash flow, and financial position per the IPSAS guidelines. In ***Imo***, ISWSC created a workflow through which payment vouchers must be filled out, checked, and certified by an internal audit process before payments to vendors can be made, ensuring transparency. In ***Niger***, NISWASEC enhanced monthly bank reconciliations, due diligence monitoring of customer payments, ledgers, and financial transactions posting. In ***Taraba***, TAWASCO's Finance and Commercial Departments gained access to revenue collections and bank account data directly, demonstrating increased transparency. AbSWSC, NISWASEC, DESUWACO, and TAWASCO prepared their own operational budgets for the first time and presented them to state government policy makers for the first time. AbSWSC and NISWASEC reviewed the provision of subventions against expenditures. AbSWSC's GM and Finance and Commercials department heads presented their 2021 budgets to the Ministry of Public Utility and Water Sources for approval through the state government. NISWASEC management completed its own 2021 operational budget and presented it to its BoD, which ratified the budget and also continued working to complete the FY19 audit report and prepare monthly financial statements.

Improving financial management practices and budgeting, as well as billing and collection and engagement with customers and state governments, had collectively contributed to overall increases in SWC Operating Cost Coverage Ratio (OCCR) since FY19. Exhibit 31 indicates the OCCR increased generally across all SWCs due to the noted improvements in financial management practices. TAWASCO's OCCR in particular rose by 15 times as it adopted improved billing and collection processes, bringing in flexibility to customers and adopting the ERP. While the SWCs improved their OCCRs, they all remained below 1.0, indicating that internal revenue generation was not fully adequate to cover operational costs. As highlighted above and in subsequent sections,

USAID E-WASH provided technical assistance for SWCs to introduce basic processes and systems and reach stakeholders that would enable them to achieve better OCCRs in the long-term.

Exhibit 31. SWC Operating Cost Coverage Ratio (OCCR) Trends



In this process, SWCs such as AbSWSC and DESUWACO involved several department heads in their budgeting process, a considerable milestone and shift that demonstrated greater transparency and allowed for more detailed departmental inputs. DESUWACO secured funding for its capital budget of NGN [redacted] and capital investment projects of NGN [redacted] for its 2021 budget. TAWASCO, meanwhile, established a 2021 Operational Budget Committee with initial guidance from USAID E-WASH. Other SWCs continued to advocate for approvals entering 2022 but were now equipped to continue financial analysis with greater staff involvement and to adhere to standard financial reporting protocols and forecast operational expenses. Other financial management improvement support was linked with the deployment of the financial and customer management modules of the ERP system.

ERP system rollout. USAID E-WASH introduced the transformative ERP system for SWCs to collect, centralize, and help analyze pertinent data for financial projections and operations. The ERP system modernized SWC operations that complemented the corporate- and customer-oriented reform process given the ERP's capability to house and streamline customer billing and collection records, manage customer complaints, and manage revenues and expenditures. The program provided both continuous technical assistance and infrastructure support, including ICT equipment such as local area networks (LANs) and computers, to ensure effective adoption of the ERP. Exhibit 32 highlights the introduction of the use of the ERP and integration of six ERP system modules to automate and streamline basic SWC business processes.

Exhibit 32. ERP Adoption to Modernize and Improve SWC Business Processes

Modernizing Business Practices to Advance SWC Operations

Historically, inefficient operations had limited SWC capabilities to reach their financial and commercial potential. SWCs were overly paper dependent, had no up-to-date customer and financial records, and lacked adequate data and ICT infrastructure, all of which contributed to constrained abilities to effectively plan for budgeting and investments and to readily connect with their customers. As SWCs adopted greater customer orientation and transitioned to a more independent, professional organization, modernizing their operations was a priority.

Exhibit 33. ERP system helped SWCs integrate various business processes with real-time data.

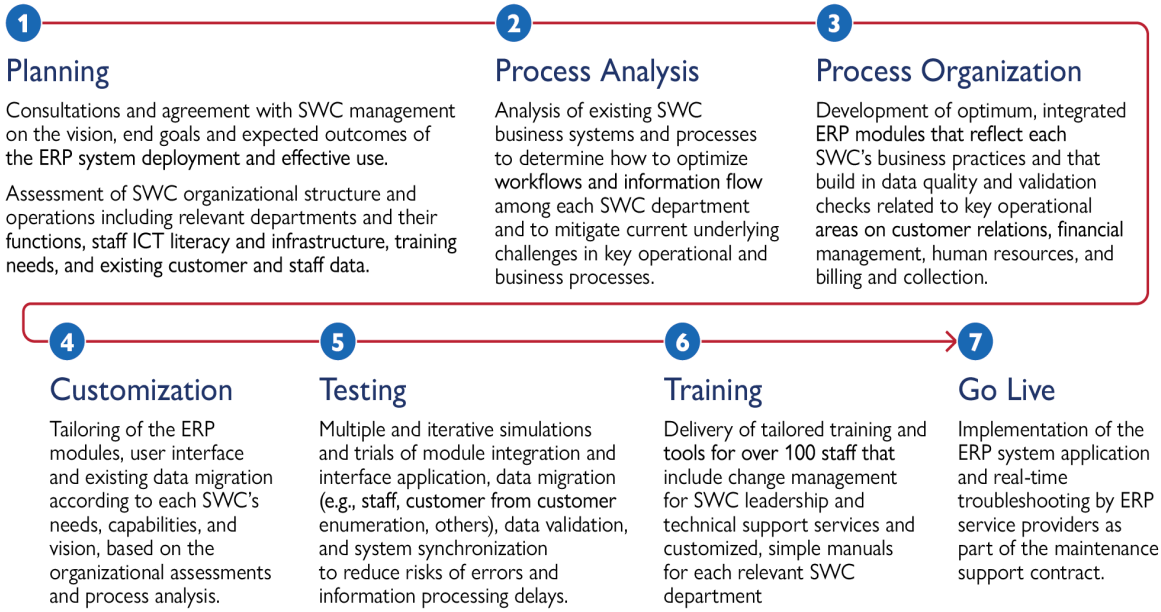
Photo: USAID E-WASH

Supporting the SWCs, USAID E-WASH helped procure and operationalize the enterprise resource planning (ERP) system as a pioneering business process advancement tool in early 2021. The ERP system integrates and automates operational six modules and workflows on (1) financial management, (2) customer care management, (3) billing and collection, (4) HR management, (5) asset management, and (6) SWC-specific performance monitoring. For example, the ERP's *Billing and Collection* module tracks customer activities from account creation to documentation of water point to customer billing and verification. Since the module links with the ERP's *Customer Relations* module, SWCs can now access their customers via e-mail, text, and social media outlets with announcements and responses to any complaints while also delivering bills. USAID E-WASH provided not only technical support through the ERP system to use hands-on training and daily coaching for key operational and managerial staff but also infrastructure support through the provision of ICT equipment like laptops, tablets, computers, local area network cables, and alternative power sources.

Since the ERP commissioning in mid-2021, the SWCs began to improve their operational processes. ISWSC, DESUWACO, and NISWASEC removed duplicate customer data entries and included new, field-verified customer information from the completed customer enumeration activities in 2020. TAWASCO's Billing and Customer Care Department used the ERP system to implement new billing cycles, manage their new billing tools, and synchronize customer data with billing provisions. ISWSC worked with its financial and human resource data to develop its first operational budget internally and to recruit over 40 new staff based on documented needs. DESUWACO, meanwhile, updated records of its field assets, including new items procured via USAID E-WASH throughout its 10 zonal offices with GPS. SWCs are continuing to institutionalize the ERP system and are developing a management plan to ensure adequate SWC staff and resources to correct and update the new data generated throughout better business practices.

USAID E-WASH deployed a seven-step process across all five SWCs to ensure that system adoption remains part of SWC operations in the long term (see Exhibit 34). This process was not only critical to secure SWC buy-in but also provided rationale for sustained management support in terms of updating information and setting aside resources to maintain system operations. For example, USAID E-WASH coordinated options for service contracting between the SWCs and selected ERP consultants.

Exhibit 34. Steps to Integrate ERP in SWC Operations



This process also allowed for customizing ERP system integration based on the conditions, priorities, and long-term vision of each SWC. For example, in ***Abia*** and ***Imo***, USAID E-WASH held an in-depth assessment of AbSWSC and ISWSC on ERP usage and helped the two SWCs designate key staff to oversee and be accountable for individual ERP modules. The program then developed specific roles and responsibilities matrices for data entry, verification, and maintenance. The two SWCs implemented these recommendations, along with the newly installed LAN connections, to update HR, billing, and customer records on a regular basis.

USAID E-WASH interviewed staff across all the SWCs to assess ERP uptake and identify and resolve barriers to system utilization and seek feedback from users on how to improve the system. Common issues included inconsistent power at some offices, lack of reliable Internet and telephone services, lack of consistent computer access, and low comfort level with the new technology among staff. The program thus worked with the SWCs' management to identify improvements to promote system adoption and to overcome barriers by brokering ongoing contracts with the ERP consultants to provide ongoing troubleshooting support into the future. The program also procured ICT equipment for the SWCs through the USF to support increased ERP usage.

Billing and collection. While the customer enumeration exercise gave insights into actual billing and collection shortcomings, USAID E-WASH worked closely with all SWCs to enhance their customer billing and collection methods; billing efficiency improvements were a key factor in reducing NRW. The program organized multiple trainings and technical assistance on billing systems, billing cycles, metering, and revenue generation strategies to complement the ERP system module activation on billing and collection integration.

Exhibit 35. ISWSC reconciling paper-based billing data as it prepares to update the ERP customer database for automated billing.

Photo: USAID E-WASH

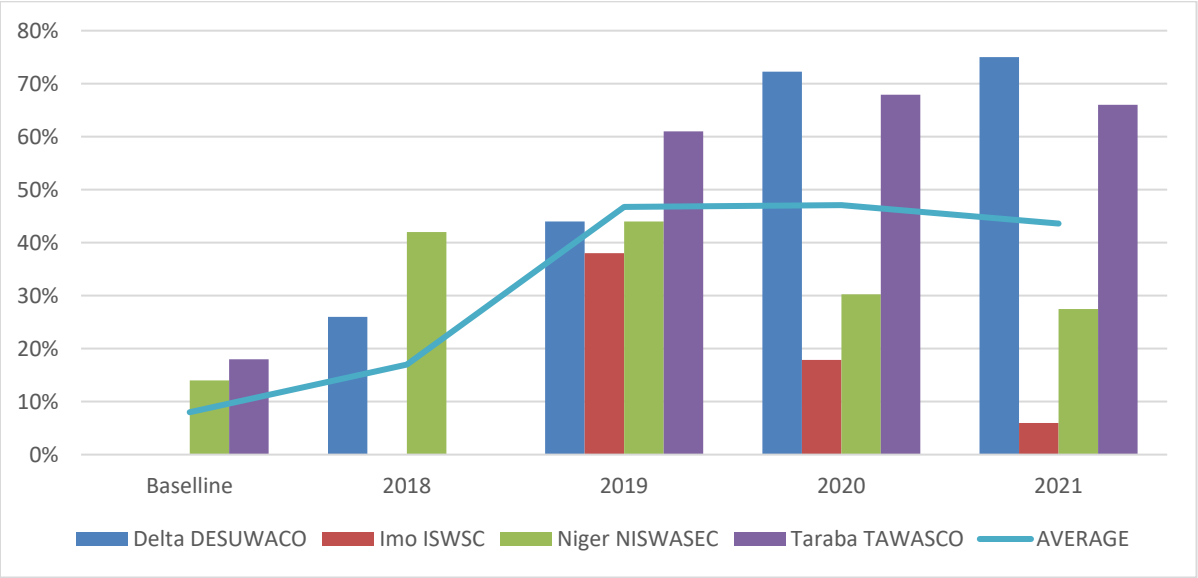
For AbSWSC, DESUWACO, and ISWSC, USAID E-WASH helped prepare customer billing and collection management as their water supply facilities (such as the Otamiri WTP in Owerri) resumed operations. ISWSC's Commercial Department completed customer billing data collection templates and billing reporting tools (on a weekly, monthly, and annual basis) and reconciled billing processes with existing customers that have active connections in the operational Egbeada booster station, enabling ISWSC to connect more than 100 customers in 2020. DESUWACO also prepared to roll out 1,000 pre-paid meters provided by the Delta State Government in three zones by raising awareness among its customers around consumption-based payments and training its Commercial Department on revenue collection. For NISWASEC and TAWASCO, the program especially focused on developing and implementing strategies for revenue generation and debt recovery. USAID E-WASH worked with the TAWASCO Commercial Department and its nine district offices in Jalingo City to increase revenue collection by revisiting and revising processes such as implementing installment payment schemes for new customer meters (or connections) for 15 months; promoting the metering program to enable customers to pay according to consumption; and beginning to address customer complaints more effectively. With NISWASEC, USAID E-WASH helped draft new water connection strategies and procedures, metering policy, and customer debt-recovery policy.

The customer billing and collection module is also a key component of the ERP system. Together with the CRM (see Component 1), these modules strengthened SWCs' ability to better issue, track, and collect water bills with corresponding service provision. For example, on deactivation of customers in the customer database, either by disconnection due to non-payment or customers resorting to their own water supplies, records are kept in the archive for future reference or possible reactivation. The database essentially keeps records of customer water bills from January to December of the billing year, and reports on bills and payments from previous months are available online, either by LAN or Internet. Integration of the module with CRM, e-mail, SMS, and social media allows SWCs to access customers through these platforms with announcements and responses to complaints and to deliver bills and demand notices. NISWASEC and TAWASCO utilized the module to print bills for the first time following deployment in 2021. Additionally, the module provides for different payment options, including USSD codes; in-premise pay; and point of sale, ATM, and bank payments.

In FY20, the COVID-19 pandemic impacted customer collection efficiencies. Due to limited staffing, NISWASEC was only able to bill its commercial customers with limited collection. To show its renewed commitment toward collection efficiency, NISWASEC management visited targeted commercial customers to ensure bill delivery and collection. To further address billing and collection challenges, NISWASEC mobilized mobile payment schemes for 15,000 customers following customer enumeration data verification. This initiative resulted in increased revenue from NGN [redacted] to NGN [redacted] by end of 2020. TAWASCO's collection meanwhile dropped by 80 percent during this time. Most SWCs only resumed regular billing distribution and collection in late 2020. Remote bill distribution and payment collection using apps and mobile systems also emerged as opportunities, with NISWASEC, TAWASCO, and ISWSC evaluating greater use of these

technologies. USAID E-WASH supported NISWASEC to institute remote payment options through the PayDirect platform and engaged a local financial technology company – Interswitch – to introduce easier ways to make payments through different platforms, including debit card payments and web portal payments. With DESUWACO, the program helped deploy a mobile ERP module for field staff to update customer and financial data in real time. Improved billing procedures helped TAWASCO triple its income from tariffs and record a gain of over NGN [redacted] in water sales in 2021, while both DESUWACO and TAWASCO collected over 80 percent of their water bills, on average. Exhibit 36 shows the collection efficiency trend throughout the program.

Exhibit 36. SWC Collection Efficiency Trends



Note: ASWSC is excluded as water production was inactive and billing efforts were limited.

Exhibit 36 shows variations in collection efficiencies, although overall, SWCs have improved significantly from baseline levels by nearly four times. DESUWACO especially enhanced its revenue generation by resourcing staff for the Commercial Department and by developing a cloud-based app for its 10 zonal offices to better track customer billing records. DESUWACO also optimized the ERP system's customer data to support automated billing and payment collection. NISWASEC made collection efficiency gains linked with the utilization of the ERP system to deliver bills and customers using the PayDirect Platform as an alternative payment method. However, a revenue and billing efficiency drop took place due to the state government's introduction of a treasury single account that required NISWASEC to close its revenue account with commercial banks and to direct revenue to the single government account, a practice which may have discouraged customers to make payments. The NISWASEC BoD and Ministry of Water Resources Commissioner continued to advocate for the state government to reverse this policy.

Technical Operational Efficiencies

Key Technical Operational Efficiency Improvements and Results

- Introduction and implementation of **Performance Improvement Plans (PIPs)** that outlined key targets for enhanced technical and operational efficiencies with defined KPIs, contributing to increased staff morale and customer perceptions.
- Average **water production efficiency across all SWCs increased by 1.5x** from baseline with **first time production in selected major water schemes** in Abia, Delta and Imo after at least over 5 years of inactivity.
- Preparation and implementation of **customer metering management and policies** to allow for better meter monitoring and management and expanded meter installation activities supported through the USF that resulted in **21 percent reduction in overall NRW level**.
- Introduction and application of **asset management** processes and tools (via the ERP) that included the relative locations and conditions of **301 fixed assets** in more than **45 water schemes and offices** across all SWCs.
- Introduction and development of **NRW management strategies** in all SWCs to address physical and commercial losses that led to design of District Metering Areas (DMA) as means for managing overall NRW and DMA implementation via the USF with NISWASEC.
- Strengthening and **adoption of water quality monitoring and management** systems through training and provision of equipment and infrastructure via the USF that led to improved average drinking **water quality compliance by 34 times over baseline values** (from 16 percent to 69 percent compliance rate).

Baseline and subsequent technical surge assessments of all SWCs in FY18–19 determined that water supply production and distribution infrastructure were generally in poor condition, with minimal asset maintenance and management. In three of the five SWCs – AbSWSC, DESUWACO, and ISWSC – water production was scarce, while none of the SWCs had effective bulk and customer meters and accurate knowledge of distribution systems and water losses. Water quality management was also nearly nonexistent. Production and consumption figures were estimates based on pump operations.

Resolving these technical challenges by introducing practical and tested approaches was a USAID E-WASH priority. The program's technical assistance for better operational efficiency complemented its support for ameliorating the financial and operational viability of SWCs and aligned with overall SWC corporatization reform. Operational efficiency assistance covered technical aspects related to effective water service provider management that had direct impacts on supply delivery and customers such as customer metering, asset and NRW management, and water quality monitoring. The following summarizes the set of activities and impacts from the program's support to improve technical operational efficiency.

Exhibit 37. Critical technical and institutional assessments of water schemes by specialized experts provided evidence for co-design of technical and infrastructure support.

Photo: USAID E-WASH

Asset maintenance management. Together with the SWCs, USAID E-WASH developed and implemented an asset maintenance management (AMM) system as an initial step for the SWCs to know their assets. This process initially employed targeted technical assistance for all SWCs to map

and determine the conditions of their fixed assets at water schemes and offices with a rating system using color codes. The mapping exercise coordinated with the outputs from the block mapping and GPS-related work in the customer enumeration activities (see Component 1). All SWCs tracked relative locations and conditions of 301 fixed assets in more than 45 water schemes and offices, focusing on equipment that were critical to water production and distribution. Of all the assets observed, approximately 50–80 percent had red and orange risk ratings for high risk of failure because they lacked accompanying operational information, had been in use longer than the recommended age of 25 years, or lacked proper access for effective maintenance checks. The assessment activity confirmed a general lack of O&M and asset knowledge (e.g., a lack of identification and condition checks) and a lack of O&M manuals and plans.

Exhibit 38 summarizes the total and conditions of water infrastructure assets checked during the activity. As shown, all SWCs had over 50 percent of their assets in the red or orange risk categories to indicate immediate attention needed for maintenance, replacement, or rehabilitation. TAWASCO and DESUWACO had the highest percentage of assets in the green risk category, while AbSWSC had the lowest percentage.

Exhibit 38. SWC Key Water Asset Conditions

	AbSWSC		DESUWACO		ISWSC		NISWASEC		TAWASCO	
	n	%	n	%	n	%	n	%	n	%
Red Risk	20	*29*	17	*20*	7	*20*	10	*25*	26	*36*
Orange Risk	26	*37*	26	*31*	12	*34*	18	*45*	18	*25*
Green Risk	24	*34*	40	*49*	16	*46*	12	*40*	28	*49*
Total Assets	**70**	*100*	**84**	*100*	**35**	*100*	**40**	*100*	**72**	*100*

Building off the assessment findings, the program and SWCs worked to acquire and input the identified asset inventories into the ERP system via a dedicated AMM module. USAID E-WASH provided training to relevant staff at all SWCs and assisted the management in establishing asset management policies as well as formalized roles and responsibilities for managing the AMM system, including O&M frequencies and tasks. Based on these inventory activities, SWC staff began migrating existing equipment records into the digital asset registers as well as planning for maintenance activities going forward. The SWCs also began including assets provided by the USF into the AMM module.

In ***Abia***, AbSWSC collected data and re-assessed schemes in Ubakala, Uba Nankata, Ariaria, Urban 1, and Christ the King Cathedral water schemes and prepared for future asset checks and O&M. In ***Niger***, USAID E-WASH drafted an asset management training plan for NISWASEC to improve its capacity to manage the infrastructure at its disposal, including waterworks; the transmission network; electrical and distribution installations; industrial, commercial, and administrative buildings; laboratories and workshops; ICT software and hardware; and vehicles. In ***Taraba***, the program collaborated with TAWASCO to develop an asset register template to ensure proper documentation for current and future assets and tracked O&M manuals.

Metering. The SWCs, with USAID E-WASH facilitation, increased attention to metering as part of SWC business process improvements and NRW management. Via the USF deployment, the program employed innovative strategies such as bulk and household meters in pilot areas and customer-friendly payment systems. To link with the billing and collection improvements and the revenue generation objective that included planned tariff adjustments, SWCs focused on consumption-based metering for households. The SWCs and USAID E-WASH prepared customer metering policies that touched on meter specifications, installation and disconnection procedures, and regular calibration

and maintenance checks per their AMM systems; these policies were also part of the NRW management activities.

In ***Delta***, the program worked with DESUWACO to establish customer metering management policies and trained staff on metering operations and a recharging payment system after it received 3,000 prepaid meters. In ***Niger***, the program and NISWASEC set up a pilot District Metering Area (DMA), containing 1,670 customer meters, through the USF as a key solution for reducing NRW. NISWASEC added another 3,760 prepaid meters in the DMA, and along with the program, drafted a metering policy to manage these customer meters. In ***Taraba***, TAWASCO expanded its metering effort in Jalingo City with the program supplying 500 pre-paid meters. TAWASCO strategically selected customers in commercial premises, large water users, and those who were known to evade water payments. All meters across nine districts in Jalingo City were configured, tested, and installed, including 100 meters in the Central District area where most of the construction work centered, and 50 each to the remaining districts to maximize revenue generation. USAID E-WASH and TAWASCO also identified 20 faulty meters and worked to get their replacements. The program assisted TAWASCO to develop a template to capture data and ensure the reporting of monthly meter readings. TAWASCO also established a committee to accelerate and monitor the metering program. TAWASCO increased the number of customers paying by consumption threefold.

Water production. Water production rehabilitation was a critical priority for all SWCs, especially in Abia, Delta, and Imo where effective services had not operated for years, and infrastructure remained dilapidated. Through technical support and the USF deployment, USAID E-WASH therefore supported the SWCs to improve and/or start water production, including through targeted capacity building and provision and rehabilitation of production meters, electromechanical equipment, and power supply. To initiate and sustain data-driven operations, the program supported provision of over 50 pumps and 70 power supply-related infrastructure mechanisms. Activities and impacts include:

Exhibit 39. Imo SWC completing rehabilitation of Owerri's Otamiri WTP filtration process through the USF, leading to water production for the first time in 7 years.

Photo: USAID E-WASH

In ***Delta***, USAID E-WASH and DESUWACO worked to obtain a low-bed truck from the state government to transport a combination of automatic/pneumatic and digitized water borehole-drilling equipment. In an important milestone, beginning in FY21, DESUWACO produced water for on average of eight hours per day in the four producing zones (Asaba, Ogwashi-uku, Agbor, and Ozoro). As a result, DESUWACO's capacity utilization efficiency increased by more than 10 times from FY19 until the end of the program as its water production schemes re-started and rehabilitated with USF support during the program re-scope (see below on USF construction).

In ***Imo***, due to ISWSC's rehabilitation efforts through the USF, the Otamiri WTP began sustained production of consistent water supply each day for the first time in seven years. This varied throughout the year as power supply fluctuated, and at the end of FY21, the Owerri WTP was producing at a minimum of two hours a day. ISWSC also reactivated the boreholes at Okigwe urban zonal office with funding from the Imo State Government as a result of continued advocacy and attention by program grantee CSOs to water production needs. The boreholes began supplying water to seven government institutions and two public standposts. ISWSC's production efficiency

increased significantly from 0 baseline to 44 percent at end of program, especially at the Owerri WTP as the USF construction and non-construction works had focused on its restart.

In ***Niger***, through the USF, the program helped rehabilitate 20 actuators each in Minna and Suleja for NISWASEC to reduce production downtime, increase capacity utilization, and improve backwash and production efficiencies. NISWASEC's capacity utilization increased in FY21 due to renovations, such as at the Impresit and Bi-Water WTPs. NISWASEC capacity utilization increased slightly by nearly 2 percent since baseline.

In ***Taraba***, TAWASCO focused on rehabilitating production at the Karofi wellfield 1 and 2 to address turbid raw water. TAWASCO also increased capacity utilization throughout the year, in large part because of the improvement of the electricity supply from the national power grid to enable continual water production, as well as the installation of the Magami automatic voltage regulators (AVRs), funded by the USF. At the end of FY21, TAWASCO was maintaining 98 percent production efficiency while steadily improving NRW and capacity utilization. Still, TAWASCO faced funding challenges as the state government diverted funding during the COVID-19 pandemic, a barrier to procurement of replacements for broken equipment such as four out of six submersible pumps at Magami production plant.

NRW management. USAID E-WASH conducted initial site visits and field checks in late 2019 and found estimated NRW levels ranging from 55 to 98 percent in all SWCs. Assessment findings identified that SWCs were unable to accurately measure and mitigate NRW from physical inefficiencies such as pipe leakages, as well as from commercial inadequacies such as poor billing and collection, lack of meters, and illegal tapping, resulting in significant water loss and revenue reduction. Estimating NRW levels was challenging due to (1) few to no functioning flow meters to measure water production and customer use; (2) a lack of sound water accounting practices—for example, relying on manual monitoring of pump operations and storage tanks; and (3) not having the requisite information or maps on water supply systems, especially for buried infrastructure. Reducing and managing NRW was therefore a priority for SWCs per their PIPs and overall plans to improve financial and operational viability.

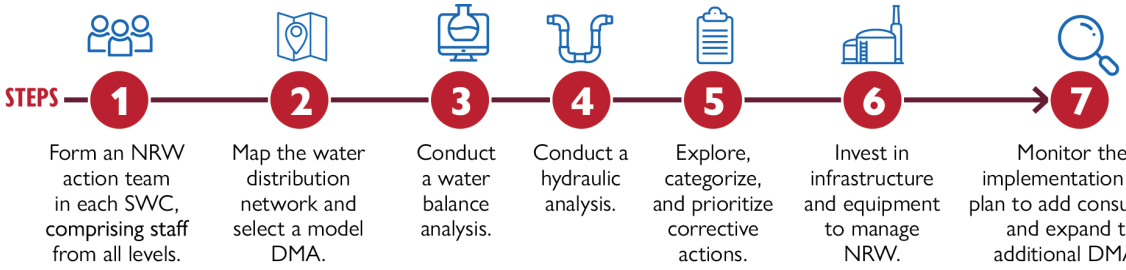
Exhibit 40. TAWASCO testing customer meter functionality in its efforts to reduce commercial NRW.

Photo: USAID E-WASH

The program drew on these assessment findings and the SWC PIPs to provide specific technical assistance involving multiple consultation workshops and hands-on field activities that determined the major causes of NRW in each SWC service area and to raise SWC attention toward the requirements for proper NRW management. USAID E-WASH also recognized that addressing complete water-loss reduction with poor water distribution network was not a viable investment, especially when most pipes had already exceeded their active service life and required replacement. The SWCs, however, can segregate their systems as standalone water supply schemes or networks with multiple sources of water, which can help minimize investment costs for NRW reduction through a DMA model. Prevailing technical and service-level constraints point to this proposed stepwise DMA approach to allow a phased approach with learning elements, starting with a model DMA. To complement the program's technical support, the USF supported procurement of targeted hardware for NRW management including bulk meters, leakage detection devices, pipes, the ERP system, and others as noted previously and below.

To help SWCs manage their NRW levels, USAID E-WASH prepared a seven-step process in consultation with all SWCs in FY19 as a first-time NRW management strategy for each SWC. Exhibit 41 describes the process:

Exhibit 41. NRW Management Strategy for SWCs



Each SWC with USAID E-WASH support implemented the steps. This process included (1) the establishment of a dedicated NRW unit in each SWC with job descriptions and roles; (2) training for 32 SWC staff members from the NRW units on basic NRW management, including using the water balance calculation to establish NRW levels, managing physical and commercial losses associated with NRW based on the water balance, and preparing a DMA; and (3) the identification of a model DMA in each SWC's main cities based on an assured water source (e.g., elevated storage tank), a power supply with backup, and a reasonably good distribution network (e.g., with 500–2,500 active connections).

- AbSWSC identified the model DMA location in the Ubakala water scheme in Umuahia and participated in hydraulic-pipe network modeling by reviewing the GIS-based water distribution pipeline networks and verifying valves, hydrants, and fittings. However, all water schemes in the state had not functioned since 2016, and therefore they posed major barriers to initiating any NRW management activities.

- DESUWACO focused its model DMA in the Ogwashi Uku water scheme and continued comprehensive pipe and leak repairs in both Asaba and Ogwashi Uku zones. Via the USF, the provision of dewatering pumps enabled a water source for the anticipated 2,000-customer model DMA, while bulk and customer meters provided means to measure flow and consumption, respectively. In Kwale zone, DESUWACO supplied new pipes and materials received via the USF to repair burst pipes.

- ISWSC designated the Aladinma pilot DMA in Owerri by using satellite imagery to apply the GPS coordinates of the existing pipes. The SWC identified the necessary equipment to set up and manage the DMA through the USF. It also repaired leakages and bursts in its transmission mains and distribution pipes caused by water pressure generated from testing the Otamiri WTP restart.

- NISWASEC, led by its NRW Management Unit, monitored, and repaired leakages and set up a regular leakage reporting and management system. It established the Shiroro model DMA in Minna and explored eight other possible DMAs. Exhibit 42 shows the pilot DMA model and zone. The program also supported an EPANET software-based hydraulic modeling exercise covering Minna that included flow simulation, pressure, and water quality in the distribution networks from various supply and demand regimes. Through the USF, NISWASEC began setting up the Shiroro DMA by installing a nine-kilometer distribution system with bulk meters and a 2.2-kilometer parallel distribution line to remove service connections from transmission mains that feed the DMA. NISWASEC also acquired leak detection equipment and a thrust boring machine via the USF.

Exhibit 42. NISWASEC established its first-ever Shiroro Tank Pressure Zone and DMA in Minna to help manage NRW and increase financial viability.

Photo: USAID E-WASH

- In Taraba, TAWASCO validated its NRW management strategy and modified its model DMA in the Jalingo Central District, which has a smaller population, to Sub-DMA1 to allow for better pilot implementation. It also identified other sub-DMAs (in Kona and Mile Six) based on the location of service tanks and determined optimal bulk meter-installation locations. TAWASCO worked with a hydraulic modeler supported by USAID E-WASH to model the entire Jalingo City water pipe network and confirmed that transmission pipelines were adequate, but distribution lines were generally undersized, thus requiring additional modeling work to stabilize. This exercise also included training on the fundamentals of hydraulic-modeling techniques. Additionally, TAWASCO deployed a leakage-monitoring protocol using WhatsApp to report pipe bursts and leakages for repair. Finally, through the USF, TAWASCO received leak detection equipment and a pressure meter to support NRW management strategy implementation. Though TAWASCO had advanced and prepared all these activities, it had not formally set up the model DMA because it continued to focus on calibrating its network hydraulics.

In addition to the above activities, USAID E-WASH conducted technical capacity-building activities for all SWCs on geospatial pipe network mapping for small sections of each SWC's state capital, building on the customer enumeration block-mapping exercise with GIS platforms. Activities also included practicing and learning about hydraulic modeling of these pipe networks using EPANET.

Water quality management. To complement improving water production and distribution, USAID E-WASH helped strengthen the SWCs to manage water quality through targeted training and delivery of water quality monitoring equipment via the USF. Equipment provided included microbial testing reagents and supplies; general laboratory equipment such as bottles, flasks, and stirrers; meters for various water quality tests; and ICT equipment for the SWCs' water quality laboratories. A total of 49 laboratory and technical staff and managers attended at least four trainings and training-of-trainers (TOTs) covering a variety of water quality topics in categories including water treatment processes, equipment, laboratory quality management systems, basic monitoring and analytical skills, and computer skills. Exhibit 43 shows the results of how NISWASEC transformed its laboratory with USAID E-WASH USF and technical support to ensure long-term capability to manage and monitor water supply quality with updated tools and facilities.

Exhibit 43. Renovated NISWASEC Water Quality Laboratory to Monitor Safe Water Delivery

Left: *Niger laboratory, 2019.* ***Right:*** *Renovated laboratory, 2021. Photos: USAID E-WASH.*

Based on the training and newly procured supplies, the partner SWCs began conducting routine water quality monitoring as part of normal operations, in which SWCs analyzed for turbidity, conductivity, pH, aluminum, iron, fluoride, nitrate, nitrite, free chlorine, and E. coli. Overall drinking water quality compliance rates increased by over 34 times from baseline, from 2 percent to 75 percent on average across all SWCs. Several results of the training and activities are as follows:

In ***Abia***, the program supported AbSWSC to create a water quality monitoring plan, identify sampling locations and their status, and test run the process in line with the monitoring program. AbSWSC visited a total of 35 locations and identified that 43 percent had sampling points. AbSWSC collected and analyzed water samples from the Imo River, Ofeme, Umungwa, Umuahia 1, and Ugba-na-nkata water schemes and shared results with management for review. The SWC staff's average knowledge increased by 23 percent based on its training test scores.

In ***Delta***, DESUWACO staff began regularly collecting and analyzing raw and treated water to ensure quality of the treated water. With this new empirical information, the DESUWACO management team prioritized acquiring water treatment chemicals and reagents. The SWC staff's average knowledge improved by 73 percent.

In ***Imo***, USAID E-WASH assisted ISWSC to complete renovations to the Otamiri water quality laboratory and provided testing equipment through the USF. Following training, ISWSC laboratory staff were able to test 57 water quality parameters, 23 of which are required to fulfill the Nigerian standard for drinking water quality. The trainings also resulted in more efficient and effective use of water treatment chemicals. The SWC staff's average knowledge scores improved 10 percent.

In ***Niger***, the program supported NISWASEC to create its own water quality monitoring program, identify sampling locations and the status of the sampling points, and test the process in line with the monitoring program. NISWASEC identified 64 water sampling points for the process control and QA monitoring program. The SWC began testing water quality daily and used the new trainings and equipment to test 776 water samples in Q4, with 50 percent of samples adhering to the Nigerian water quality standards. For the remaining 50 percent, NISWASEC adjusted the chemical dosing. Due to the increased awareness and tools to test water quality, the Niger State Government continued to assist to ensure an adequate supply of water treatment chemicals. The SWC staff's average knowledge scores improved by 47 percent.

Taraba. In Taraba, the program hosted a training for 15 of TAWASCO's senior management and executive team on water quality training, which covered the water treatment process and stressed the importance of the leadership team to prioritize water quality testing and ensure budget allocation for laboratory chemicals and reagents. Laboratory staff carried out routine tests daily such as color, taste, chlorine, pH, and turbidity and performed bacteriological analysis on a weekly basis. A total of 1,904 samples were tested for these parameters in Q4, of which 85 percent were compliant with the Nigerian drinking water standards. The results were posted to TAWASCO's dashboard, from where it was shared with the management and other relevant stakeholders for decision making. The SWC staff's average knowledge scores improved by 70 percent.

Exhibit 44. SWC Water Quality Monitoring and Surveillance Plan

Point of Use	AbSWSC	DESUWACO	ISWSC	NISWASEC	TAWASCO	Monitoring Frequency
Production outlet: tap on pumping main pipe	Factory Rd, Umuahia	Ogbeogonogo	Awarra-Ihiagwa Rd, Owerri	Chanchaga WTP	Magami, Karofi 1 and 2	Daily
Residential high density: tap on inlet to area	Faulks Rd Ariaria, Aba	Umuaji Kings St	Egbu Rd, Egbu	Tap on Bida Rd	Jalingo North	At least once a month
Residential low density: tap on inlet to area	Umuesogbu Lagru	Ogbesewe	Owerri: Nwaebere St, Portharcourt Rd, Awo-Omama St, Amanze N St	Idris Alhasan St, Old Airport Quarters	Doctors and Acct Doma D Owoniyi Quarters	At least once a month
End of Network	TBD	TBD	TBD	Mandella Rd	Anguwan Kasa	At least once a month
Storage reservoirs: tap at reservoir outlet	Afarauku Rd (Ubakala Pumping Sta.)	Headworks	TBD	INEC Reservoir, IBB Reservoir	Sintali and Central District	At least once a month
Booster stations: taps at station outlets	Factory Rd, Umuahia, SWC Booster Station	TBD	TBD	Dutsen Kura Booster Station	Mile 6 and Jalingo North Stations	At least once a month
Schools: tap on inlet to school	TBD	Ogbafor Primary School	Assumpta Ave, Owerri	School of Health, Happy Day Int. School	EYN Sabongari	4 times a month
Communal tap	Umuesogbu Lalgru	Ogbello and Umuaji (tap)	TBD	Stadium Rd	Jalingo Main Market	4 times a month
Hospital/Clinic: tap in hospital	Abriba St	TBD	TBD	Unity Clinic, General Hosp, School of Health	TBD	4 times a month
Government Building: tap within building	School Rd, Umuahia	Eluechi	TBD	NISWASEC HQ	Federal Min. of Education, Magami	4 times a month
Market: tap in the market	Umuesogbu Lagru, Village Sq.	TBD	TBD	Kure Market	Jalingo Main Market	4 times a month
Fire Hydrant	Eket St, Umuahia	TBD	Egbu Rd, Owerri	TBD	TBD	At least once a month

Tariffs Restructuring

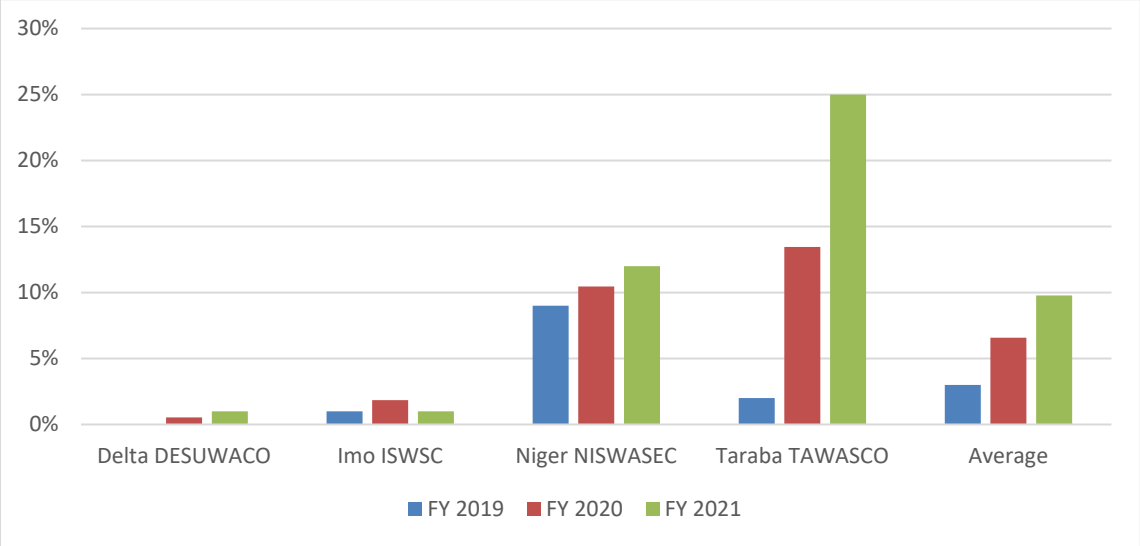
Key Tariff Restructuring Activities

- Completion of a **tariff study and a five-year financial model** encompassing all operational costs to reach financial viability, as well as implementation plans for DESUWACO, NISWASEC, and TAWASCO with additional support for approval to respective state governments.
- Completion of a **willingness and ability-to-pay study with over 25,000 customers** to identify current water and sanitation practices, monthly payment for water and sanitation services, and willingness to pay for improved SWC services to align with the tariff studies.

As previously noted, all SWCs had previously relied primarily on government subvention to operate, including funding for staff salaries, regular consumables, and major investments. None of the SWCs were able to cover operational costs from customer payments. Prior to the USAID E-WASH program, AbSWSC and ISWSC were not adequately producing sufficient water and therefore not charging customers effectively, while DESUWACO, NISWASEC, and TAWASCO were charging flat fees. With the evolving corporatization, customer orientation, and commercial viability requirements and backed by new water law and policies, the SWCs with USAID E-WASH support had begun to improve tariff implementation through better billing and collection activities (see Component 2).

Income from tariffs had started to increase on average across all SWCs as shown in Exhibit 45 with TAWASCO having over 10 times rise due to improved billing practices and ERP system deployment. ISWSC had inconsistent tariff income generation as it continued to re-start the Otamiri WTP and to have greater subvention amounts from the Imo state government.

Exhibit 45. Percentage of Income from Tariff (FY19–FY21)



SWCs however needed to elevate focus toward their customers to generate revenues and undertake operational efficiency improvements. To facilitate this shift, USAID E-WASH supported the SWCs to model cost-reflective tariffs based on customers' ability to pay for services and on providing sufficient revenue to cover all working expenses and repayments due on loans for any expansion works. Tariff models also reflected the needs and ability to pay by all customers to ensure low-income customers have affordable water.

Exhibit 46.Customer and leader engagement, like here in Abia, was a key entry point to open dialogue about initiating tariff reforms.

Photo: USAID E-WASH

The new water laws and policies in each state where the SWCs operate specified periodic tariff studies to determine the socioeconomic condition of customers, including their ability and willingness to pay for water services. To determine the most feasible tariff structure, USAID E-WASH conducted an ability-to-pay (ATP) survey in all states and reviewed the current tariff structure for DESUWACO, NISWASEC, and TAWASCO (note: The World Bank had previously conducted a tariff review for AbSWSC and ISWSC). Analysis showed that the SWCs had a cost recovery rate of less than one percent, and that most registered customers were not receiving regular demand notices. In the demand-side analysis (DSA) and ATP surveys, field teams collected key demographics and data points to drive capacity building for improved water services in the region. The communities sampled were randomly distributed across low-, medium-, and high-density areas containing residential, commercial, and mixed-use dwellings. Survey analysis determined customers' current and potential water consumption patterns, sanitation behavior, and ability and willingness to pay for services, based on their income.

The survey found that respondents were willing to pay for water services, but because of inadequate access to state water services, they relied on building and using individual and communal water tanks and boreholes, fetching water from nearby sources, and purchasing potable water for drinking and cooking. The ATP study also showed that the price households paid for alternative sources of water

was higher than the operating costs of state-provided water—meaning that if SWCs charged consumers cost-reflective tariffs, water bills would be lower than what customers pay for alternative sources. After finding average monthly incomes, USAID E-WASH calculated households' estimated average annual income. The international standard states that a household's water and sanitation bill should be less than five percent of the average annual income.

Exhibit 47 shows the ATP study and survey results, indicating the variations in possible tariff options and the importance for all SWCs to segment tariff levels based on different customers, including marginalized communities and locations. In ***Taraba***, for example, the ATP study indicated that 88 percent of households in high-density areas indicated that respondents were able to pay NGN 30 for 20L of water. In contrast, 52 percent of households in medium-density areas could pay NGN 50 for 20L, indicating that tariff setting should consider price levels based on area.

Exhibit 47. Results of Ability and Willingness-to-Pay for Water Study in all States

Parameters	Abia	Delta	Imo	Niger	Taraba
Locations	Aba, Umuahia	Asaba, Agbor, Ugwuashi-Uku, Ughelli, Ozoro	Owerri, Okigwe, Orlu	Minna, Suleja	Jalingo, Gembu
Number of Respondents	2,838	2,600	2,479	8,771	8,746
Demographics	• 69% M, 31% F • 89% 19-35 yrs. old	• 48%M, 52% F • 44% 19-35 yrs. old	• 64% M, 36% F • 51% 36-50 yrs. old	• 79% M, 21% F • 49% 36-50 yrs. old	• 73% M, 27% F • 49% 36-50 yrs. old
Water Source	• Private boreholes: 53% • Organized private water street vendors and tankers: 31% • Public standpipes: 1% • Others: 9%	• Private boreholes and dug wells: 39% • Organized private water vendors and tankers: 1% • Public standpipes: 19% • Water from neighbors: 6% • HH connections: 34% • Others: <1%	• Private boreholes and dug wells: 39% • Organized private water vendors and tankers: 1% • Public standpipes: 19% • Water from neighbors: 6% • HH connections: 34% • Others: <1%	• Private boreholes and dug wells: 43% • Organized private water street vendors and tankers: 11% • Public standpipe: 8% • HH connections: 38%	• Private boreholes and dug wells: 44% • Organized private water street vendors and tankers: 35% • Public standpipe: 2% • HH connection: 15% • Other sources: 4%
Avg Monthly Income (NGN)	30,000-100,000	30,000-100,000	30,000-100,000	30,000-100,000	30,000-100,000
Tariff Options (Monthly, NGN)	• Low income: 900-1,500 • High income: 1,800-4,500	• Low income: 5,723 • High income: 5,824	• Low income: 1,500-2,000 • High income: 3,750-7,500	• Low income: 2,774 • High income: 3,202	• Low income: <1,500 • High income: 5,000-7,500
Ability to Pay	98%	92%	97%	100%	99%

Using information collected from customers through the study above, SWC PIPs, and estimated operational improvements, USAID E-WASH and the SWCs built a phased tariff model that supported financial viability, efficiency, and affordability and included an adjustment mechanism to compensate for currency fluctuations and inflation. The program also held training and advocacy for SWCs and state government representatives to proceed with tariff restructuring. In one of the program's high-level meetings with SWCs and state governments in FY21, stakeholders agreed to implement a revised tariff strategy.

To ensure that all stakeholders move forward on this commitment, USAID E-WASH and SWCs continued to advocate for tariff reviews and developed a stakeholder communication strategy. The draft strategy, for instance, included outreach to various customers through established partnerships with CSOs and via the WASH Customer Forum (WCF, see Component 3) to introduce the tariff concept, ensure that customers understood the reforms, and build customer trust that any revised tariffs were fair and rationalized. This activity would be in parallel with further advocacy to state government policy makers to approve changes and with concurrent internal SWC strengthening of billing, metering, and customer care strategies to make sure SWCs were ready with the processes and systems tariff implementation.

Private-Sector Engagement

Key PSE Activities and Outputs

- **Assessment of creditworthiness and risk** for all SWCs (except Abia) that validated the constraints to access commercial financing and offered possible actions to remediate the challenges by managing internal and external risks.
- Completion of a **feasibility study for potential private-sector partners** for water kiosks in the state capitals of Abia, Imo, and Taraba states and for NRW management performance contracts in Niger's Minna and Suleja towns.

USAID E-WASH supported studies to identify private-sector engagement (PSE) opportunities in commercial financing for SWCs and SWC collaborations with private service providers in service delivery. Due to the shift in program orientation in mid-FY21, SWCs and the program did not proceed with PSE structuring and implementation. Other PSE activities, such as with Coca-Cola on SWC capacity building, are already included in the previous section (see *Program Approach* above).

Commercial financing and creditworthiness. Supporting the SWC reform process, USAID E-WASH conducted a state-level financial sector study to identify opportunities for SWC financing as SWCs began to seek credit for capital and operational expenditures. The program evaluated the creditworthiness of SWCs as a pre-feasibility check for commercial financing as well as private-sector partnership. The activity involved both a desk review and targeted visits to engage directly with SWC staff. Key findings of the creditworthiness and risk assessments included (1) SWCs were entirely dependent on government subventions for financial support to meet salary and O&M costs; (2) revenue collection was generally low; (3) government contributions against revenue collected were high; (4) duplication of roles among staff was evident; and (5) SWCs generally had low financial viability based on financial ratio evaluations. Common risks for PSE include political (e.g., lack of governance), commercial/financial (e.g., high operational costs, high liquidity risks, and low collection efficiencies), and operational (e.g., high NRW, infrastructure challenges, availability of water treatment chemicals, and power inadequacies). Exhibit 48 summarizes the overall creditworthiness indicator analysis and rankings.

Exhibit 48. Creditworthiness Indicators and Rankings of SWCs

		NISWASEC	TAWASCO	DESUWACO	ISWSC	AbSWSC
Indicator	Ranking	1	2	3	4	5
	Personnel expenditure vs. O&M (%)	29%	30%	61%	96%	71%
	O&M cost coverage (%)	85%	103%	74%	4%	26%
	Revenue collection efficiency (%)	27%	35%	No data	No data	No data
	NRW (%)	78%	72%	85%	98%	No data
	Staff productivity (staff/1,000 connections)	13	19	57	2	16
	Current Ratio	6.23	0.08	3.0	No data	0.95
	Quick Ratio	6.21	0.05	3.0	No data	0.94
	EBITDA/Revenue	-18%	4%	-1%	-28%	-89%
	Debt Service Coverage Ratio (DSCR)	-ve	+ve	-ve	-ve	-ve
	Return on Equity (ROE) (%)	-3%	-ve Equity	-18%	-ve Equity	-2%

Note: EBITDA = Earnings Before Interest, Tax, Depreciation, and Amortization

NISWASEC ranked higher than the other SWCs due to its higher performance in four areas, especially current and quick ratios, indicating better liquidity, but its collection efficiency and NRW were also higher than the next SWC (TAWASCO). Overall, the assessment noted that all SWCs were not creditworthy for typical financing unless there was a general commitment from the state government or others to guarantee any credit schemes. The study outlined medium-term recommendations to address the credit risks and improve SWC creditworthiness that USAID E-WASH took into account in supporting improvements in internal corporate structure and governance, customer outreach, operational efficiencies, NRW reduction, and infrastructure management. These recommendations were already part of the technical assistance throughout Components 1–3.

SWC and private-sector collaboration. USAID E-WASH in FY20 reviewed PSE options in each state on how SWCs could engage with private-sector players to improve and/or expand service delivery. The review process involved various consultations with SWC staff, the state government, and private-sector stakeholders both in the water supply and sanitation management services. Exhibit 49 summarizes the PSE options identified from the study.

Exhibit 49. Potential PSE Options

State	Options	Potential Financial Resources
Taraba	**Water Supply:** Jalingo City's "operation zones" in its distribution system can be subdivided into DMAs. Using bulk meters to define the operational zones, NRW projects could be organized into PSE projects through a process using (initially) service contracts financed by the state through TAWASCO. Eventually, based on accumulated success in overseeing the DMAs and zone improvement, management contracts that attract outside capital are possible.	Likely requires the state government support Customer ability and willingness to pay likely and being verified
Niger	**Water Supply:** NISWASEC has identified operation zones in Minna and Suleja that can also be subdivided into DMAs. Thus, like in Taraba, PSE service contracts to operate these zones to reduce NRW and improve services delivery are possible. Eventually, a management contract may fit this peri-urban area where water is currently provided by private water vendors (truckers) and private boreholes. A specific sole-source service such as water vending within an agreed-upon service area is also being considered in an area that is large enough to provide a profit to the contractor. **Sanitation:** Due to the allocation of 50,000 m^2 of land for a fecal sludge treatment plant (FSTP), there is potential to draw on the private sector to design, build, and operate a facility through a design-build-operate-transfer (DBOT)/management contract.	Likely requires the state government support Customer ability and willingness to pay likely and being verified
Delta	**Water Supply:** USAID E-WASH was exploring supporting a concessionary agreement in Warri where an investor and service provider were operating but needed additional capital infusion. Discussions had involved USAID E-WASH, DESUWACO, InfraCredit, and the USAID Mission in Nigeria. Delta State recently issued the Irrevocable Standing Payment Order (ISPO) required to qualify this project for InfraCredit's guarantor participation. **Sanitation:** Since the Delta State Government has allocated 15,000 m^2 of land for an FSTP, there is potential to draw on the private sector via a DBOT arrangement.	Likely requires the state government support Customer ability and willingness to pay likely and being verified
Imo	**Water Supply:** Imo State may benefit from a concession contract for the entirety of the SWC's assets. If financed by the state, a concession contract would secure a water management company to manage the water operations, hire employees and enforce work rules, and be responsible for capital planning, project design, and construction administration. This arrangement is most likely best for the capital and larger cities. Water kiosks setup is an option (E-Madzi system). USAID E-WASH remained in the exploratory mode for these options as ISWSC's main priority is to first increase water production. **Sanitation**: Since the Imo State Government has allocated 5,000 m^2 of land for an FSTP, there is potential to draw on a DBOT arrangement.	Likely requires the state government support Customer ability and willingness to pay likely and being verified
Abia	**Water Supply:** Abia may also benefit from a concession contract for the entire SWC's assets. If financed by the state, a contractor would run the water operations, hire employees, enforce work rules, and be responsible for capital planning, project design, and construction administration. As in Imo, water kiosks setup is an option (E-Madzi system). USAID E-WASH remained in an exploratory mode for these options since the priority for AbSWSC is to start water production.	Likely requires the state government support Customer ability and willingness to pay likely and being verified

Based on the study and given their relatively ready water supply production, TAWASCO and NISWASEC have opportunities to establish service contracts for NRW reduction through DMA management and joint ventures with water kiosks/vending stations. Additionally, sanitation management infrastructure, through a design-build-operate-transfer (DBOT) scheme, remained an option for the four states that have allocated land for FSTPs. USAID E-WASH presented these findings with the SWCs and state government stakeholders for further consideration. However, due to the program re-scope, USAID E-WASH did not continue implementation of the PSE options.

Viability study. As noted in Exhibit 49 above, USAID E-WASH collaborated with Infracredit, a private financing company, to conduct a high-level due diligence evaluation of the Warri-Effurun concession contract between the State Government and Don Domingo Water Company Ltd. The

study reviewed the concessionary model and analyzed the viability of this concession from financial, legal, regulatory, and business management perspectives. Findings included the need to do the following to complete a sound agreement: (1) conduct environmental impact and willingness-to-pay assessments; (2) update the state regulatory framework to allow for concession monitoring; (3) develop a reimbursement mechanism for DESUWACO based on a milestone model prior to commencing the contract; and (4) ensure steady commitment for state government guarantees.

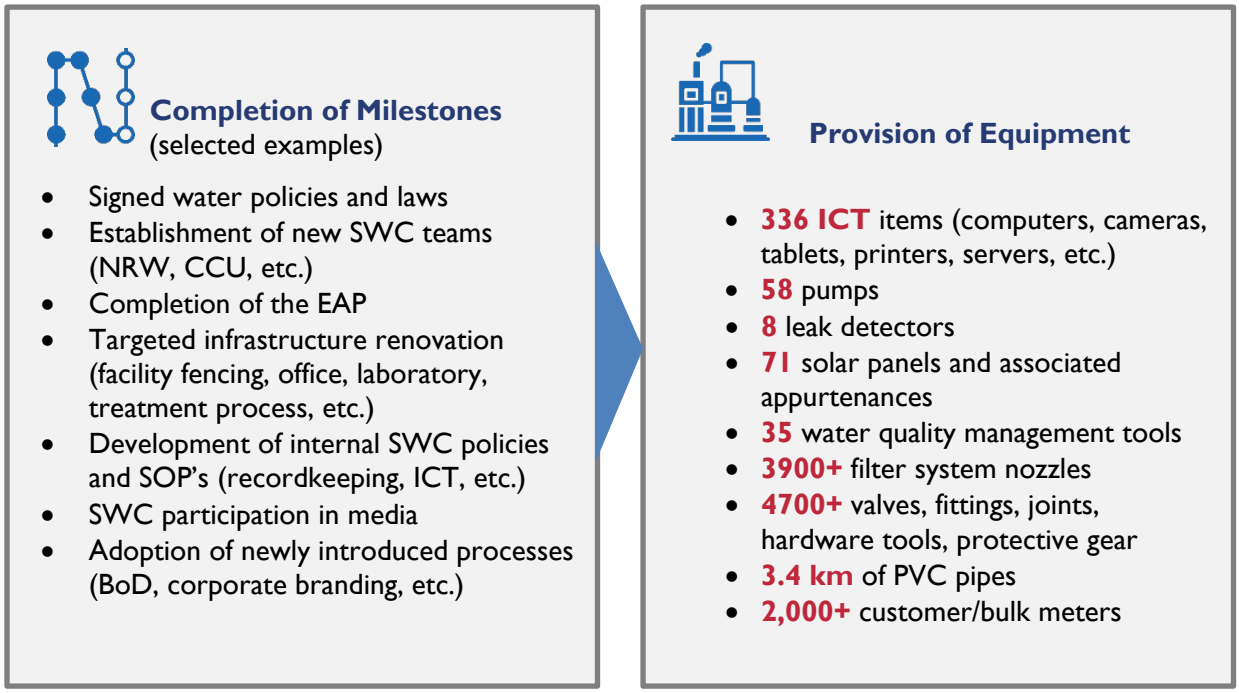
Infrastructure Improvements through the USF

Key USF Disbursement Activities and Results

- Delivery of over **9,000 essential small to major equipment and systems** to all SWCs including pumps, meters, pipes, computers, power supplies, servers, water quality monitoring tools, ERP software, and others that led to better operational and business processes and longer-term services delivery.
- Support of **foundational services for all SWCs on their corporatization and modernization journey** including large-scale enumeration of 275,000+ customers, total ERP system installation with six critical modules, development of website and corporate branding, and construction operations and management.
- Completion of **six major construction activities across all SWCs that entailed rehabilitation and new installation of water production and distribution** schemes and power units that led to re-start of water production in three SWCs after years of non-service and to improved safe water supply provision, **benefitting over 225,000 people**.
- Disbursement of $[redacted] **from the USF for construction in the final 7.5 months through intensified adaptive management** to address global supply chain challenges caused by the COVID-19 pandemic.

The incentive-based USF mechanism was a critical part of the USAID E-WASH program, supporting infrastructure development to accompany the reform process and enable tangible operational strengthening of SWCs. The mechanism consisted of two procurement types (non-construction and construction), completed in four cycles with a budget of $[redacted] and disbursed funding for priority infrastructure and operational improvement needs (goods and services) based on completion of milestones agreed by the SWCs and USAID E-WASH. The first three cycles were primarily non-construction type and covered the provision of services and small-scale equipment that facilitated operational and technical improvements such as ICT (laptops, desktop computers, Microsoft software, tablets); furniture; customer enumeration exercises; website development; water quality management tools; water flow meters (for customers and at production facilities); basic electromechanical tools to support O&M; pumps, valves, and pipes; ERP system development; and other materials and services. Under the USF, SWCs achieved their agreed milestones, such as restoration of water production in ISWSC's Otamiri WTP, establishment of an NRW team within NISWASEC, installation of a 4-km pipeline in DESUWACO's service area in Ogwashi-Uku, and completion of TAWASCO's water quality laboratory. Exhibit 50 summarizes the USF deployment for cycles 1–3 with the non-construction items.

Exhibit 50. USF Non-Construction Activities and Results



As noted above, in mid-FY21, USAID E-WASH shifted programming to infrastructure development and relied on the fourth USF cycle to implement. Construction preparation and inception activities that began in mid-FY21 entailed verifying construction design, assessing construction risks, and identifying the corresponding risk mitigation options. The program facilitated site visits in all partner states for the new construction activities and solicited quotations, bills of quantity, and drawings. Together with the SWCs, the program evaluated 16 bids from pre-qualified bidders against the mobilization schedule, site organization, construction schedule, implementation plan, and other factors and awarded contracts to construction companies to commence work in all states covering six priority projects. Implementation of these works was also in the middle of the COVID-19 pandemic and occasional local conflict incidences. The program had to adapt multiple times to GoN work schedule restrictions, global supply chain challenges, and increasing procurement costs. The Adaptative Management section under CLA and *Program Approach* describes how USAID E-WASH course-corrected and innovated to ensure timely and within-budget completion of the construction tasks.

The program completed the six construction projects involving continuous engagement with SWCs and representatives from state government, community, the Ministry of Water Resources, and the USAID Mission in Nigeria. Exhibit 51 details the six priority construction activities and impacts and shows how these activities revived water production in two key water schemes in ***Abia*** and ***Delta*** after years of dysfunction; ensured safe water treatment through better chemical dosing for disinfection; expanded service coverage; and improved water storage. These improvements will over time lead to increased revenues as new customers rejoin and tap into the distribution network service, help reduce NRW, and in the long run secure greater SWC financial viability and technical efficiencies.

Exhibit 51. USF Construction Activities and Results

SWC	Priority Construction Activities	Status	Impact
Abia	Ariaria water scheme rehabilitation in Umuahia	• Refurbished 5 boreholes • Installed 2 new boreholes with pumps • Installed 5 electrical panels for the pumps • Repaired clearwater concrete reservoir and elevated Braithwaite water storage tank • Repaired 4 chemical dosing pumps • Repaired 1,600-kva transformer • Serviced 1,250-kva generator • Renovated office and residential buildings	• Production of water returned • More consistent power supply • Better safe water treatment process • Improved water supply storage
Delta	Iselu-Ukwu water scheme rehabilitation, 10-km piped network extension, and power cables in Asaba	• Installed 2 existing and 1 new operating boreholes with pumps • Installed 10-km pipe network with associated fittings that linked with the new boreholes • Renovated overhead concrete water storage tank • Installed 2 chemical dosing pumps • Prepared connections for 1,000 customer meters • Repaired 2 generators (160, 200 kva) • Renovated office landscaping and building	• Water production and distribution returned • More consistent power supply • Improved safe water treatment process • Improved water supply storage • Expanded service coverage for 1,000 people and more in the future • Subsequent increased SWC revenue due to service expansion
Imo	3.8-km piped network replacement in Owerri	• Installed 3.8-km piped network with associated fittings that linked to the Otamiri WTP	• Expanded service coverage to support restart of Otamiri WTP • Subsequent increased SWC revenue due to service expansion
Niger	• Network pipe replacement for 2.2 km in Minna • Pilot DMA establishment, including the 9-km piped network installation in Minna	• Installed 2.2-km piped network with associated fittings that linked to the Chanchaga Water Works • Re-established 2,200 customer connections • Installed 11 chemical dosing pumps • Installed 9-km piped network with associated fittings for Shiroro DMA • Installed and commissioned 8 bulk zone meters for the DMA • Installed and commissioned 1,670 prepaid domestic water meters • Installed and commissioned vending station for the prepaid meters	• Expanded service coverage for 2,200 people and more in the future • Improved safe water treatment process • Improved water supply storage • Reduced NRW with novel DMA management
Taraba	Rehabilitation of a 16-km piped network in Jalingo City	• Installed 16-km transmission piped network with associated fittings that linked to the Magami wellfield • Installed and commissioned 3 bulk meters • Supplied 500 prepaid domestic water meters • Delivered and commissioned 2 chemical dosing pumps for the Magami wellfield	• Expanded service coverage for 500 people and more in the future • Better safe water treatment and distribution process • Improved water supply distribution • Reduced NRW with pipe replacements

Lessons Learned from Component 2 Implementation

- The combination of incentive-driven technical assistance and infrastructure support like the USF mechanism proved effective in facilitating SWC transition toward greater operational efficiencies and in enabling uptake of institutional reform processes such as corporate culture adoption.

- Increasing customer willingness to pay for water services after years without payment requires diligent community engagement and communication to improve water supply delivery and the political will to reform and introduce tariffs.

- Both active and potential customers are currently willing and able to pay for water services in most urban centers, as determined through the program's demand and ability-to-pay survey. However, it is imperative to link the current ability-to-pay results with the tariff adjustments to ensure an equitable and well-received rollout of tariffs.

- Improving overall financial management practices based on financial diagnostics and management interventions is only possible after the full corporatization of the SWB. The financial management review exercise and training put into perspective and validated the SWBs' challenges on proper bookkeeping, accounting, and expenditure tracking.

- Budget reallocation in most states from the WASH sector to the health sector due to COVID-19 impact requires more advocacy to emphasize the knowledge that public health has more impact with early preventive interventions.

- PSE is an approach to improve SWC service delivery and requires a critical review of contract types, financing mechanisms, and a transparent procurement process. PSE also requires improved SWC creditworthiness and significant coordination with the state governments to support conditions related to financing and the enabling environment.

- Short-term PIPs are effective in improving and sustaining SWC operations but requires champions and leadership commitment to take it further into implementation.

- Digital technology options, such as the ERP, are beneficial to track and back up records that trained SWC staff can access. However, new technology requires several rounds of testing and modifying and requires an appointed set of trained staff to train others to adopt the technology.

Exhibit 52. Testing wellfield pump operations is part of TAWASCO's PIP.

Photo: USAID E-WASH

- Customers are more trusting of the SWCs and their services due to the recent governance reforms. More customers agreed to participate in metering and to pay water bills in a timely manner. However, frequent water stoppages or changes to the revenue collection mechanisms will cause customer hesitancy to pay bills, yielding reduced revenue and collection efficiency.

- Construction tasks require flexibility and management of potential risks such as weather conditions, community dissatisfaction, service disruptions, and others. Regular communication and updates are key to facilitate risk management.

Component 3: Strengthen Policy, Institutional, and Regulatory Frameworks for Improved WASH Services

Political SWB appointments, lack of SWB accountability, disengagement of stakeholders, and missing attention to sanitation management have long marred inclusive and sustainable access to WASH services in the program states. Therefore, aside from improving SWC operations as noted in Components 1 and 2, reforming the state-level enabling environment was an equally critical element to ensure effective long-term delivery of WASH services to urban residents. In response, USAID E-WASH helped establish the foundational enabling environment and governance structures for transforming WASH service delivery in each state. Program activities that engaged and empowered stakeholders and facilitated reform through advocacy led to pioneering enactments of WASH laws, policies, and legal frameworks that formalized the corporatization requirements of SWBs into SWCs, adoption of good governance principles like the presence of BoDs for SWCs and a focus on service delivery accountability and transparency through performance monitoring, and the introduction of sanitation planning and management. This section summarizes how USAID E-WASH (1) facilitated the development and passing of essential sector laws and policies to establish long-term improvements in WASH service delivery; (2) built greater, more inclusive stakeholder participation in support of more accountable sector reform and implementation of passed policies and laws; and (3) introduced for the first time sanitation planning tools and processes as SWCs begin to address sanitation management.

Pioneering State Water Law Development and Implementation

Key WASH Enabling Environment Reform Activities and Results

- **Passage of five water sector laws and policies for the first time** in Abia, Delta, Imo, Niger, and Taraba to set the foundation for overall SWC reform and corporatization, regulatory reform to monitor progress, promote GESI and accountability and transparency, and revisit the need to manage sanitation.
- Implementation of **enabling environment review studies and PEAs** were critical to capture legal frameworks, policy gaps, state government and SWC long-term outlook, and power dynamics that informed advocacy and outreach activities organized by the program and partner CSOs.
- Preparation of **operational guidelines and procedures for regulatory body** including KPI tools, reporting mechanisms, inclusive regulatory body selection processes in all five states.

To facilitate reform, USAID E-WASH carried out a methodical process that gathered rationale for the needed enabling environment change, analyzed stakeholder relationships and political economies, and engaged CSOs for advocacy and for transparency. First, the program drew on its baseline PEAs to find effective advocacy outreach among stakeholders and to assess the water supply institutional arrangements in all partner states. As a result, the program closely worked with key state stakeholders on the assessment that included the Ministry of Justice, Ministry of Environment, respective SWCs, CSOs, State Environmental Protection Agencies (SEPAs), urban development agencies, and other interest groups and individuals (e.g., community leaders, religious leaders, and women's groups). Through this highly consultative review of state-specific policies and evaluation of gaps in legal frameworks, the program identified that (1) State Governments had inherited draft policy and legal frameworks as edicts from the previous military

Exhibit 53. Niger State Governor signing first-time water law to pave the way for sector and SWC reform through improved accountability and inclusive process.

Photo: USAID E-WASH

administration that ended in 1999 and (2) those frameworks lacked provisions on corporatization and autonomy for SWBs; guidelines for the appointment of BOD to oversee SWCs; and an institutional home for sanitation management. The assessment also pointed to bottlenecks that could prevent these enabling environment documents from being approved, such as processes to engage with the state legislatures or Houses of Assembly.

Second, building on these assessment outputs, USAID E-WASH developed an action plan tied to each state's SIP to update the outdated policy and legislative frameworks. The program included discussions and clauses that supported overarching national-level goals and SWB corporatization and autonomy in line with Component 1 activities, based on the conditions of each state. The action plan led to the drafting of the following:

- Updated WASH policy documents that adopted global standard practices, incorporated the UN Sustainable Development Goals (SDG) objectives and targets, and created new institutional arrangements (e.g., water and sewage corporations, small-town water agencies, rural water supply and sanitation agencies, and regulatory commissions or units within the Ministry of Water Resources) with defined roles and responsibilities
- Legal frameworks that established SWBs as corporations (SWCs) with corporate culture and governance, autonomy (operational, financial, HR, etc.), and opportunity to partner with the private sector through public–private partnerships (PPPs)
- Legal frameworks and operating procedures for strengthening and/or establishing regulatory bodies and functions to monitor service delivery of corporatized SWBs

Key Content of State Water Laws

- Autonomy and corporatization of SWBs
- Accountability of SWBs in providing quality level of service including water quality, supply, and reliability
- SWB BoD establishment
- Regulatory Unit/Commission establishment
- Performance-based operations and monitoring of service delivery
- Provision of sanitation management
- Water user community responsibility for mitigating water misuse and network vandalism
- Establishment of a dedicated Ministry of Water Resources and Sanitation Management (except for Imo)

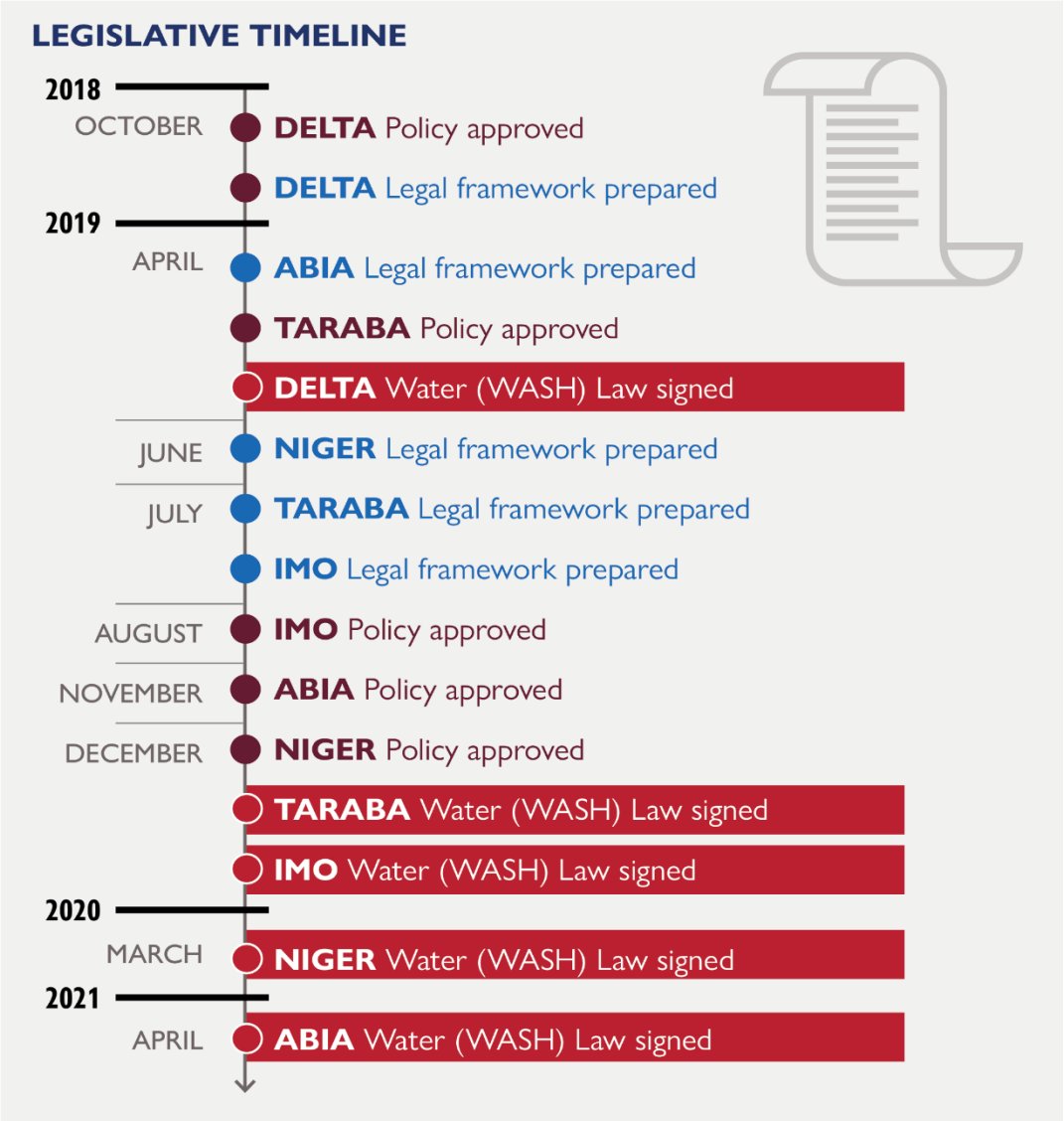
- Roadmaps and/or transition plans for the implementation of SWB corporatization and regulatory agency/unit establishment
- Communications strategy that supported the institutionalization of these legal instruments (i.e., WASH-sector policy and a law for urban WASH services)

Third, to validate the updated policies and legal frameworks, USAID E-WASH held stakeholder workshops with each state's line ministries, permanent secretaries, SWC leaders and staff, CSOs, and representation from the State Houses of Assembly. This validation process included the establishment of an Integrated State Steering Committee or State WASH Steering Committee in each state that the program facilitated to monitor reform progress. In parallel, USAID E-WASH continuously advocated with state legislatures to develop water bills to formalize and institutionalize the reform process into laws. Partner CSOs were instrumental in advancing this advocacy by organizing discussions with high-level legislative representatives to ensure passage of the water bills into law; they also hosted learning sessions with stakeholders to deliberate on the impacts of the new laws to service delivery.

Finally, to further inform the public and garner support for reform and advocacy with state legislatures, the program collaborated with the Urban WASH Media Network and Knowledge Cafés (see below). This public outreach step not only helped publicize the transformation process but also enabled public feedback and inputs that the CSOs garnered to rationalize their advocacy activities.

By the end of the program, all five states passed the water bills to become first ever state water laws. Exhibit 54 shows the timeline and process for this sector governance reform in each state.

Exhibit 54. Timeline for Water (WASH) Governance Reform



In adherence to the new laws, the program also worked closely with state governments to establish or strengthen regulatory agencies, whether through units or commissions based on a state-specific approach. As stipulated in the laws, these regulatory agencies are responsible for overseeing and approving tariffs, construction standards, and water quality compliance, among others. USAID E-WASH conducted a review of the 2006 Nigerian National Water Regulatory Framework and facilitated webinars and learning sessions with the Lagos State Water Regulatory Commission to guide state governments on potential regulatory processes and bodies for each state, as well as on development of sector monitoring indicators and metrics. The program also drafted guidelines for establishing state regulatory agencies and supported the member selection process. Key regulatory reform accomplishments are as follows:

- ***Abia***: The Ministry of Public Utilities and Water Resources (MPU&WR) agreed to set up a regulatory unit within the Ministry as part of the WASH Policy implementation process.

- ***Delta***: State legislators confirmed the Water Sector Regulatory Commission's Director General. The program recommended to the Delta State Regulatory Commission to fast-track tariff reviews, support the implementation of the PBC between DESUWACO and the government, and maintain the organizational structure and SOPs introduced by the program.

- ***Imo***: Commissioner of the Ministry of Water Resources agreed to support the establishment of a Regulatory Commission.

- ***Niger***: NISWASEC met and agreed to ensure the establishment and staffing of a regulatory unit to support transition to a fully-fledged commission.

- ***Taraba***: Taraba State Executive Governor signed the water law that formally established TAWASCO as an autonomous corporate entity and Taraba Water Services, Regulation, and Control (TAWASREC) as a regulatory agency.

Elevating Social Accountability and Transparency

Key Accountability and Transparency Promotion Activities and Results

- Establishment of partnerships with **17 CSOs** to lead sector and SWC reform advocacy, stakeholder engagement, GESI adoption, awareness raising of WASH practices and prevention of COVID-19 pandemic spread.
- **Collaboration** with CSOs and other WASH stakeholders (e.g., line ministries, customer groups and SWCs) to inaugurate **first evet budget-tracking committees** in four states.
- Facilitation of over **90 regular events reaching over 2,000 people to promote accountability and transparency** of service delivery by enabling open dialogue; informing of new WASH reforms, the impacts of WASH policy and law implementation and the roles of new regulatory bodies; and recognizing and addressing community constraints and concerns.
- Conduct of over **300 community-based events reaching 34,000 people** through town hall meetings, rallies, women's group, and youth group meetings to promote WASH topics, raise attention to decrease spread of COVID-19 pandemic, prioritize GESI adoption during reform, and celebrate local and international WASH-related events.

SWC customers and general citizens are essential stakeholders for furthering a more transparent reform process and in advocating for greater SWC accountability mandated by the new laws. To help mobilize citizens and amplify their voices, USAID E-WASH engaged CSOs as neutral third parties for advocacy through a Small Grants Fund (SGF). The program started with mapping 53 CSOs in the initial six states and selected 17 by assessing their organizational capabilities, sector experience, and general engagement readiness using a CSO mapping and assessment tool that mirrored USAID's OCAT called the Water, Sanitation, and Hygiene Organizational Capacity Assessment Tool (WASHCOAT). USAID E-WASH assessed the CSOs in six thematic areas: governance; urban WASH experience, knowledge, and skills; advocacy; resource mobilization; gender mainstreaming in management; and knowledge management/monitoring and evaluation. Exhibit 55 shows the 17 CSOs that the program collaborated with and their relative experiences; since USAID E-WASH exited Sokoto state in 2020 and re-entered Abia State, there were 15 CSOs partners by the end of the program.

Exhibit 55. Partner CSOs

No.	CSO	Location	Qualifications	Example Grant Activities
1	Connected Development (CODE)	FCT, Delta, Niger and Taraba States	• Won UN SDG award in 2019 • Owns social accountability platform called Follow the Money that promotes strengthening community voices, especially the marginalized • Familiar with national- and state-level policy advocacy environment	• Conducted courtesy and advocacy calls on key state government stakeholders to secure project support and engage them on open government partnership (OGP) adoption at the state level. The stakeholders included Commissioners and Permanent Secretaries of the Ministries of Water Resources, SWB Leads, state legislatures, and state governors. • Mapped CSOs in Delta, Niger, and Taraba states to mainstream them into the OGP process. • Commenced E-WASH transparency and accountability, and OGP campaigns on social media (Twitter and Facebook)
2	Ventures Platform Foundation (VPF)	FCT, Abia, Imo and Sokoto States	• Involved in the Public Procurement Policy initiative to advocate for inclusive procurement guidelines for startups • Supports fast-track process for obtaining pioneer status by startups	
3	Grassroots Community Development Initiative (GRACODEV)	Abia	• 10 years in stakeholders' advocacy/engagement, social mobilization, and community dynamics, including trainings/capacity building and M&E	• Mentored local CSOs to collaborate on citizen engagements, mapping, meetings, and advocacy campaigns to support program activities. • Supported advocacy for statewide WASH and SWC-level reforms, SWC accountability via WCFs and OGP, promotion of sanitation and hygiene, and COVID-19 awareness and prevention. • Assisted with the development of AbSWSC's community scorecard by facilitating community outreach to establish performance indicators and monitoring process.
4	Toilet Pride Initiatives		• Toilet Pride works with partners, to improve the WASH practices of school-aged children across communities in Nigeria. Over 20,000 children have been reached through our puppet shows in over 170 primary schools across Abia. • Implemented Accelerating Access to Rural Sanitation in Nigeria (AATRISAN) project to help create an environment in which businesses are supported to provide quality, affordable toilets for households	
5	Community and Youth Development Initiatives (CYDI)	Imo	• Focused on sexual and reproductive health and gender-based violence	• Performed advocacy activities involving government and other relevant WASH stakeholders on accountability, transparency, hygiene, sanitation, bill payment, and others. • Mapped WASH structures such as Urban WASH Community of Practice, WCFs, women groups, youth groups, and school clubs.
6	Global Health Awareness Research Foundation (GHARF)		• Undertake community economic and social empowerment	• Used social media platforms to mobilize and engage community members and increase awareness on urban WASH.

No.	CSO	Location	Qualifications	Example Grant Activities
				• Held street rallies to mobilize and sensitize community members on WASH issues, particularly on WASH-related days like World Toilet Day and Global Handwashing Day.
7	Widows & Orphans Empowerment Organization (WEWE)		• USAID experience on Local Partners Initiative for Orphans and Vulnerable Children that involved rural water facility rehabilitation, menstrual hygiene, and handwashing using behavioral change campaigns	• Co-facilitated and participated in the development of customer service charters for ISWSC. • Promoted the inclusion of women, youth, and people with disabilities in WASH service and activities.
8	Save the Child Initiative (STCI)	Sokoto	• Significant experience in rural WASH and training of trainers for WASH committees	• CSOs conducted women's group meetings, attended school WASH club meetings, held monthly review meetings with community structures, and conducted advocacy visits to address the problem of indiscriminate disposal of liquid and solid waste. • CSOs directed house-to-house visits and reached 3,771 households to promote improved WASH practices.
9	Nagarta Community Health and Gender Education Initiative (CHANGE Initiative)		• Involved in advocacy to community for enrollment of out-of-school children • Collaborated with RUWASSA to certify some communities free from open defecation	
10	Hikima Community Mobilization and Development Initiative (HCOMDI)		• Implemented USAID-funded STEER project by using local volunteers in target communities	
11	Environmental and Rural Mediation Centre (ENVIRUMEDIC)	Delta	• Experience in the WASH sector including construction of boreholes in the Abuator community and establishment of washstands in 13 primary schools • Mobilized funding from donor organizations including ActionAid, UNDP, and Wetland International Africa	• Carried out community-based WASH engagements targeting vulnerable groups on programming around sanitation and menstrual hygiene management. • Created awareness and visibility of the USAID E-WASH program and WASH topics via radio programs, meeting with media practitioners, and communication materials.
12	Society for Water and Sanitation (NEWSAN)		• Have worked on WASH projects in over 30 rural communities in Delta	• Formed a coalition of delegates consisting of traditional leaders, religious institutions, and community structures to provide WASH reforms and advocacy.
13	Maigodiya Centre for Youth Development	Taraba	• Cultivate good relationships with the media and partners for advocacy efforts	• Established WASH youth, women, and customer forum groups plus 10 school WASH clubs. • Along with the Taraba State House of Assembly members, advocated for the passage of the WASH bill that was later passed into law.
14	Centre for Initiative and Development (CFID)		• Well-defined M&E plan process and staff trained to collect data appropriately and consistently	• Established quarterly town hall and zonal WASH forum meetings. • Established monitoring and evaluation in target urban towns.

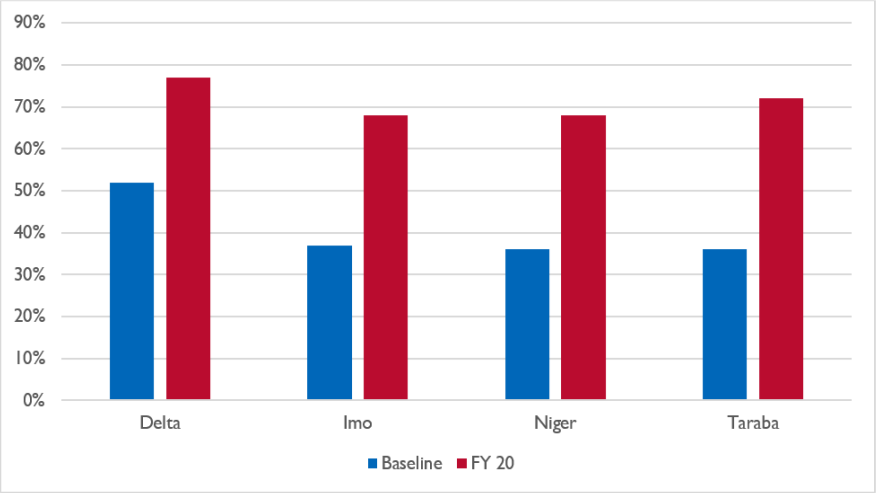
No.	CSO	Location	Qualifications	Example Grant Activities
				• Community structures established by CFID, such as the Wukari and Takum Women's Groups' continued activities.
15	Youth Progressive Association in Taraba (TYPA)		• Collaborated with RUWASSA to certify some communities as open defecation free in the state	• Established monthly women and youth group activities. • Increased visibility of WASH practices through community sensitization, radio jingles, and a WASH video.
16	Federation of Muslim Women's Associations in Nigeria (FOMWAN)	Niger	• Works with several networks for advocacy and exchange of basic information with stakeholders. • Expertise in government lobbying, policy issues, and advocacy at state and national levels	• Built the capacity of 15 local CSOs through community- and state-level engagements. • Met with over 5,000 school children on COVID-19 prevention and awareness and created a song in a local language. • Collaborated with Elohim for the passage of the water law in Niger.
17	Elohim Foundation		• Well-balanced BOD with clear roles and responsibilities. Gender focal person drives gender issues and ensures activities done under gender lens. • Over 18 years of experience in community service improvements including for vulnerable groups .	• Established school WASH clubs with 200 members, 2 youth groups with 60 members, and 2 women groups with 60 members in towns in Niger. • Through community sensitization and mobilization were able to encourage the Suleja Community Traditional Council to appoint and designate its council member as a water and sanitation ambassador.

Based on the CSO organizational and technical capacity assessment results, USAID E-WASH developed a mentoring and capacity building program to strengthen each CSO capabilities. The program deployed the SGF to select five local mentors, each having specific role to (1) improve internal CSO governance including organizational statements, constitution, and management (board development); (2) strengthen skills to deliver risk management communications strategies and cross-cutting interventions, including advocacy, strategic communications, media relations, information management, and reporting protocols; (3) build the capacity in knowledge management and monitoring systems; (4) increase urban WASH knowledge, skills, and experience; and (5) enhance capacity to mobilize resources and increase funding diversification for implementing activities.

To support these hands-on mentorships, the program also created a virtual, online e-learning platform entitled "i-Capacity Building Program 1.0" that covered six courses consisting of 20 modules on topics including advocacy, urban WASH knowledge and skills, monitoring and evaluation, resource mobilization, governance, and gender equity. The completed platform (https://icap.urbanwashcop.ng), however, was not delivered to the 15 CSOs as intended due to the program re-scoping in FY21. To achieve sustainability, USAID E-WASH engaged with the community of practice (CoP) to take over the website (see Component 4).

USAID E-WASH then conducted a follow-up capacity assessment and determined that all CSO partners significantly increased their scores by at least 25 percentage points (see Exhibit 56 below).

Exhibit 56. Average CSO Core Technical Capacity Scores (Baseline vs. FY20)



In parallel with these local capacity-building activities, USAID E-WASH jointly with CSOs developed activity work plans that focused on three tasks in support of Components 1 and 2: (1) monitoring SWC service provision; (2) strengthening social accountability including SWC budget tracking; and (3) promoting sanitation and hygiene. Partner CSOs had also reached out to over 50,000 people through more than 400 town halls, meetings, and strategic events (see Component 4) to share WASH reform updates and prioritize local WASH issues needing more attention. COVID-19 spread risk management also became a priority activity. Below are highlights on how partner CSOs implemented key activities that helped transform improved governance.

Monitoring service provision. As part of the reform process, USAID E-WASH and CSOs initiated the development of community scorecards for evaluating SWC services delivery through multiple consultations across all states. The purpose of the community scorecard exercise was not only to assess SWC service provision but also to initiate a dialogue between customers and SWCs at the community level. These consultations focused on six specific service areas – water supply coverage, water quality, gender-inclusive services, number of active connections, customer care, and billing – that linked with the KPIs for recently launched regulatory bodies in each state. However,

due to the program shift in FY21 and SGF termination, CSO support for facilitating scorecard rollout also stopped. USAID E-WASH nevertheless paved the way for CSOs, communities, and SWCs to monitor SWC service provision together.

Social accountability. USAID E-WASH partner CSOs in all states championed advocacy and stakeholder engagement to increase citizen interaction and linkages to SWC operations, state sector reform agenda, WASH activities in general, and aspects of COVID-19 management. Partner CSOs organized and hosted three platforms as noted in Exhibit 58: Knowledge Cafés, WASH Customer Forums (WCFs), and Urban WASH Media Network meetings. Each platform had different stakeholder engagement functions, such as learning in Knowledge Cafés, but each remained complementary to the others. In total, CSOs facilitated 58 WCFs, 36 Knowledge Cafés, and 18 Urban WASH Media Network meetings across all states. While the program shift discontinued CSO support to host these events, several CSOs continued to facilitate them as part of their overall mandate, such as in Sokoto where the WCF became a registered community-based organization composed of representatives from the community structures established by the program CSO partners.

Exhibit 57. CSO partner in Taraba facilitating the development of Customer Service Charter with TAWASCO and selected communities.

Photo: USAID E-WASH

These platforms essentially enabled stakeholder dialogue that informed and enabled discussions on specific ongoing water sector reforms as well as general WASH practices to raise attention toward improved services delivery and public health. They also connected stakeholders, such as between customers and SWCs, to directly engage and resolve challenges together; WCFs, for instance, supplemented the customer management improvements in Component 1. At these events, CSOs disseminated the contents of their state's water law and the SWC Customer Service Charter to their various community structures. They also engaged communities to improve hygiene, sanitation practices, water usage, accountability, monitoring of service delivery, and payment of water tariffs (see Component 4 for more details on the Urban WASH Media Network). Through these platforms, CSOs encouraged women and youth to actively discuss their experiences and recommend sector reform. For example, while CSOs participated in advocating the passage of the water laws, they also effectively provided inputs on GESI principles, resulting in the law's provision of requiring BoD members to have at least 35 percent women and/or people with disabilities representation.

Exhibit 58. Social Accountability Platforms

	Knowledge Cafés	WASH Customer Forums (WCFs)	Urban WASH Media Network
Objective	CLA-oriented to share reform and SWC transformation updates and enable open dialogue	Connect customers and citizens with SWCs to gather feedback on service delivery and inclusivity	Determine optimal means to raise state-specific public awareness on WASH to complement Knowledge Cafés, WCFs
Participants	USAID E-WASH partner CSOs and non-grantee CSOs, SWCs, water and sanitation service providers, community members, and the media		
Examples of topics covered	USAID E-WASH objectives, SWC and water sector reform status, water access and gender, pro-poor tariffs	Budget-tracking updates, SWC service delivery status, SWC customer engagement strategies, COVID-19 preventative measures, state-specific issues on water production and distribution (e.g., Otamiri WTP rehabilitation in Imo and illegal connections in Niger and Taraba)	Water sector reform, sanitation management, customer feedback channels, COVID-19 preventative measures
Key Outcomes	• Stakeholder inputs on service delivery improvement plans and approaches to state governments • Stakeholder and CSO advocacy strategy review on sector reform • Increased attention to key SWC performance indicators and corporatization • Stakeholder inputs for regulatory functions	• Joint development and validation of SWC Customer Service Charters • Creation of new zonal WCFs hosted by SWC (Imo)	• Development of WASH media advocacy tools and guidelines • Significant increase in media releases • Dedicated journalists to cover WASH reforms (Delta) • Temporary radio program coverage at no cost (Abia) • Prioritize WASH print and interactive materials • Media chats with SWCs

Additional examples of notable activities and outcomes that partner CSOs in each state delivered are as follows and as noted in Exhibit 59:

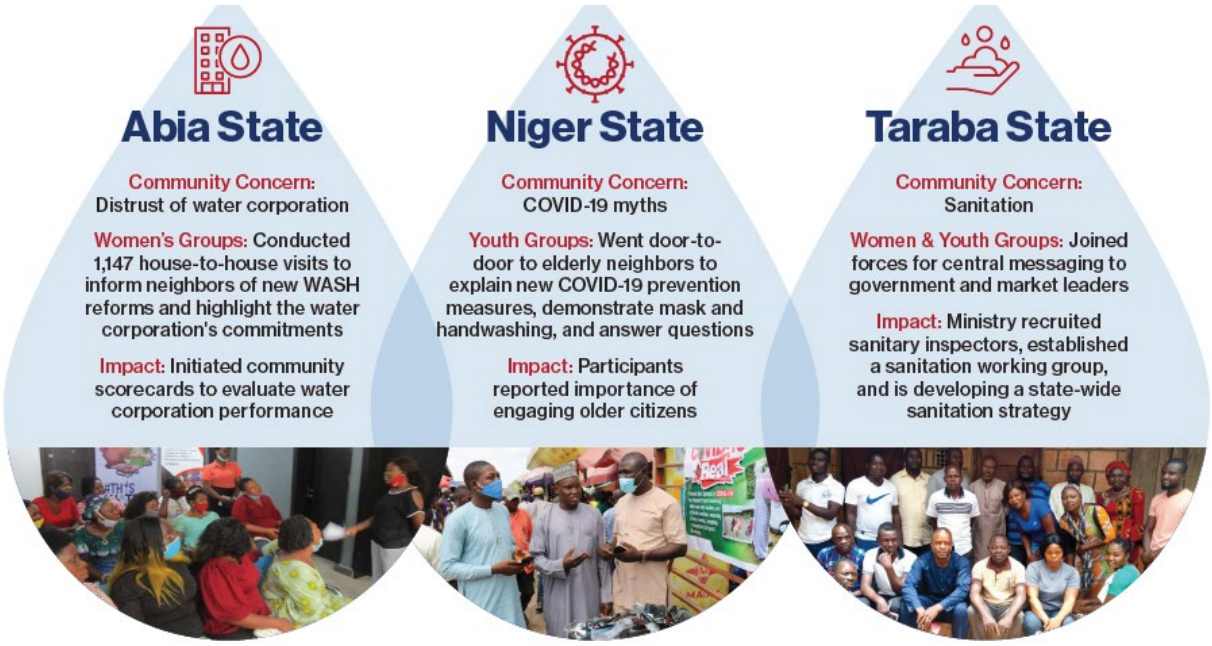
In ***Abia,*** Toilet Pride and GRACODEV conducted advocacy meetings with state governments and supported women's groups and held informational WASH sessions for schools. Both CSOs held advocacy visits to the Ministries of Local Government and Chieftaincy Affairs, Youth and Sports Development, and Health to request focal persons from these ministries to participate in an Urban WASH CoP forum. The CSOs targeted schools to mobilize support for sanitation and hygiene service delivery and messages, promote the construction of gender-responsive toilet facilities, and encourage the inclusion of sanitation and menstrual hygiene topics as part of regular civic education classes. Toilet Pride and GRACODEV also supported women's groups in Abia State to visit 1,923 households to inform them about improved WASH; the CSOs held several women's group meetings across the state to facilitate discussions on conducting additional household visits, increasing awareness about the #thiswatermatter campaign, updating participants on the progress of community; and holding six youth group meetings to inform them about the prevalence of open defecation in urban Aba.

In ***Niger***, Elohim Foundation and FOMWAN remained the two active partner CSOs. Elohim Foundation held dialogue meetings with community stakeholders to obtain feedback from the community heads and provide updates on the state of USAID E-WASH. The CSO also called for the continued support of the community heads for the effective water service delivery of NISWASEC

through sensitization of residents and customers on their duty per the Customer Service Charter on the prompt payment of water bills. On Global Handwashing Day, FOMWAN created massive awareness about the need for regular handwashing as a strategy for preventing the spread of COVID-19 and worked with the authorities to set up handwashing stations. The CSOs also attended a one-day meeting for the launching of Urban Sanitation Data Collection Tools to garner stakeholders' support for data collection on sanitation and fecal sludge that would inform decision making and planning in Niger State. One of the resolutions was to collaborate with the CSOs to organize members of already-established community structures as members to work with the enumerators for an awareness-raising campaign to ease access and acceptance of community members.

In ***Taraba***, with the resumption of schools across the state, partner CSO Taraba Youth Progressive Association (TYPA) commenced engagement with school WASH clubs, whose activities had been on hold since the closure of schools because of the COVID-19 pandemic. The CSO reached students in 14 schools across Jalingo and Zing. The Wukari women's group discussed setting a date with local government leadership to mobilize people, especially women, for the TAWASCO project of transforming Wukari into a source of tap water.

Exhibit 59. Highlights of CSO and Community Advocacy Efforts



Sanitation and hygiene promotion. In all program states, CSO partners worked with various entities including youth and women's groups to meet local government officials, traditional leaders, and public market chairpersons to raise awareness on WASH and discuss solutions to improve sanitation and hygiene management (see Exhibit 60 for example). Through these advocacy efforts with existing community structures, several local reforms were prioritized and implemented. DESUWACO and NISWASEC prioritized water access challenges to Okpanam and Ozoro zones in Delta and South Minna in Niger; LGAs in Imo State initiated discussions on developing plans to support an open-defecation free (ODF) state; and Taraba state ministries recruited a sanitary inspector and

Exhibit 60. CSO partner in Abia conducts its sanitation awareness-raising activity.

Photo: USAID E-WASH

established a sanitation working group to enforce general cleaning and reactivated toilets in Jalingo City. CSOs in Imo focused on schools and youth groups in Owerri, Orlu, and Okigwe by conducting handwashing demonstrations and establishing handwashing stations at strategic points in schools. In addition, CSO activities led to the establishment of over 100 school WASH clubs in partnership with Ministry of Education and School Authorities to promote hand washing as well as personal hygiene and menstrual hygiene management. These efforts complemented the sanitation management planning and mapping activities further detailed below in the *Prioritizing Sanitation Management* section.

COVID-19 management support. As the COVID-19 pandemic escalated in 2020–2021, USAID E-WASH CSO partners supported national and local efforts in mitigating the pandemic spread. Through adaptive management, the program pivoted its SGF deployment and delivered additional funding for selected CSOs to (1) strengthen the Federal Government and partner states' COVID-19 prevention campaigns and strategies through strategic communications and advocacy; (2) improve access to essential hygiene promotion information in at-risk and fragile urban communities in partner states to manage community spread of COVID-19; and (3) deepen partnership with national and local media to enhance access to reliable information and leverage digital technologies to fight the pandemic. Three CSOs supported state-level task forces started by state governments.

In all the states, CSOs communicated key COVID-19 messages to build understanding and support for citizens on COVID-19 spread through presentations and focus group discussions. Expected outcomes were to reduce community fear, stigma, and misinformation about COVID-19 while adopting healthy, safe, and preventive practices. These stakeholder consultations helped establish linkages between communities, health systems, and local media; partnerships across local health system providers, media groups, and communities to enhance community COVID-19 preparedness and response; and continuity of essential community-based services on COVID-19. The following section summarizes state-specific activities around COVID-19 response:

In ***Delta***, NEWSAN conducted social media campaigns and facilitated partnerships with state and nonstate actors, including reform champions teams (RCTs), Metropolitan Water Reclamation District, the Ministry of Information, the House Committee on Water Resources, six LGAs, the WASH Media Network, WCFs in the ten DESUWACO zones, and six health service providers. NEWSAN also collaborated with the Delta State COVID-19 Response Group, including more than 300 CSOs, to raise awareness among citizens aimed at disseminating legal information regarding COVID-19 for vulnerable groups. NEWSAN additionally launched a COVID-19 Community Watch in two program zones to monitor social distancing compliance and track abuse by security agents and continued to work with the National Youth Service Corps office to activate youth corps members to serve as COVID-19 ambassadors.

In ***Imo***, partner CSOs WEWE, FOMWAN, and NEWSAN continued targeted COVID-19 activities through their taskforce assignments. The CSOs launched the USAID E-WASH CSO COVID-19 prevention campaign through a virtual press conference. WEWE represented the task force on radio and TV shows such as Wazobia FM, Nigeria Info FM, and Silver Bird TV. Professionals from the National CDC, Ministry of Education, and the FCT Primary Health Board joined them on Global Handwashing Day. The radio programs focused attention on government prioritization and accomplishments in managing COVID-19 and the importance of COVID-19 prevention as schools resume.

In ***Niger***, FOMWAN led the development of radio jingles in multiple languages with the other program CSO grantees to inform listeners about COVID-19 transmission routes and the importance of handwashing. FOMWAN also participated in radio programs and conducted dramas and virtual meetings with communities to discuss COVID-19 and organized awareness campaigns. Strategies adapted during these engagements include involving law enforcement officers in the fight against COVID-19; involving members of the Road Transport Unions; engaging more with religious bodies and their leaders to use their podium to disseminate more COVID-19 prevention strategies; and engaging youths in the various communities on taking responsibility in their lifestyles.

Exhibit 61. Awareness raising of WASH topics and COVID-19 pandemic prevention with local communities, like this in Niger by partner CSO, was critical in supporting reform.

Photo: USAID E-WASH

Budget tracking activities. In addition to the customer- and public-facing accountability measures, the program also participated and advocated for transparency in WASH sector funding. The program and its partner CSOs established a budget-tracking platform following the disbursement of COVID-19 funds into the sector. The platform tracked contract award letters, certificates of release, and project completions. This budget tracking went hand-in-hand with advocating for increases to WASH sector funding. Due to the program's support to SWCs to prepare budgets (some for the first time), state governments in four states increased domestic public resource funding in FY21 by an average of 261 percent from FY20. In total, the program mobilized about US$[redacted] (NGN [redacted] resulting from its support to four partner SWCs (DESUWACO, ISWSC, NISWASEC, and TAWASCO) to prepare a budget, appoint a budgeting lead, and request from their State governments. In Taraba, the program also supported TAWASCO to prepare proposal documents for the African Development Bank that resulted in the state government's disbursing resources.

Innovation promotion. As part of the SGF, USAID E-WASH also launched funding to incentivize innovation in SWC operations and governance via grantees such as Elizade University, Oak Center for Journalism (OCJD), and Ventures Platform as follows:

- Elizade University in ***Imo*** conducted surveys and FGDs in the six selected LGAs to create awareness for more than 105 participants on safe excreta disposal and the management of fecal sludge in urban areas. They then designed a sanitation awareness-focused app that connected sewage operators with customers and presented the app to the ISWSC management team and the Sanitation Unit, fecal sludge emptying operators, and Imo Sanitation Task Force members (see below section on sanitation management). The participants identified additional information to include and recommendations to fix the payment options for sanitation operators. The program conducted a planning meeting with ISWSC communications staff to develop an action plan to disseminate details of the app.

- OCJD developed a Progressive Web Application (PWA) for the SWCs in ***Imo***, ***Niger***, and ***Taraba*** to bridge services between the providers (either the SWCs or private service providers) and their customers. Created in consultation with the SWCs, the PWA contains educational content, games, photo essays, and profiles of Women in WASH members. With support from USAID E-WASH, OJCD held meetings with the FMWR to explore expanding the narrative on women's contributions to the sector as a means for generating interest. In Imo, the OCJD demonstrated progress on the app development and shared it with ISWSC management and USAID E-WASH for feedback on the content and mobile platform compatibility. This app was designed to provide citizens with important WASH information and complement customer

engagement strategies to drive traffic toward ISWSC's services and website. With NISWASEC, OCJD finalized the PWA called Connect with WASH and provided app-centric training to staff from the Public Relations, Gender/Pro-Poor, IT, Customer Care, and Sanitation Units. NISWASEC staff learned about how to design the website using WordPress and manage content using the PWA. Following the training, the NISWASEC staff demonstrated their ability to edit, post, and create new web pages on the NISWASEC PWA.

- Ventures Platform pretested a virtual platform for the ISWSC to increase its efficiency and improve customer interactions and engagement. Designated ISWSC staff attended training on responding to customer complaints on the platform, developing and managing the website, and engaging with current and potential customers. Ventures Platform also tested the app with active customers, WCF members, and CSOs. The ISWSC MD promoted the upcoming apps to the public on two live radio programs (Orient FM and Oziza FM). Once complete, the app would help customers remotely interact with relevant ISWSC departments, make complaints, report linkages and WASH concerns in their communities, or make payments. However, as noted, the program re-scope ceased implementation of any related innovation activities by FY21.

Prioritizing Urban Sanitation Management

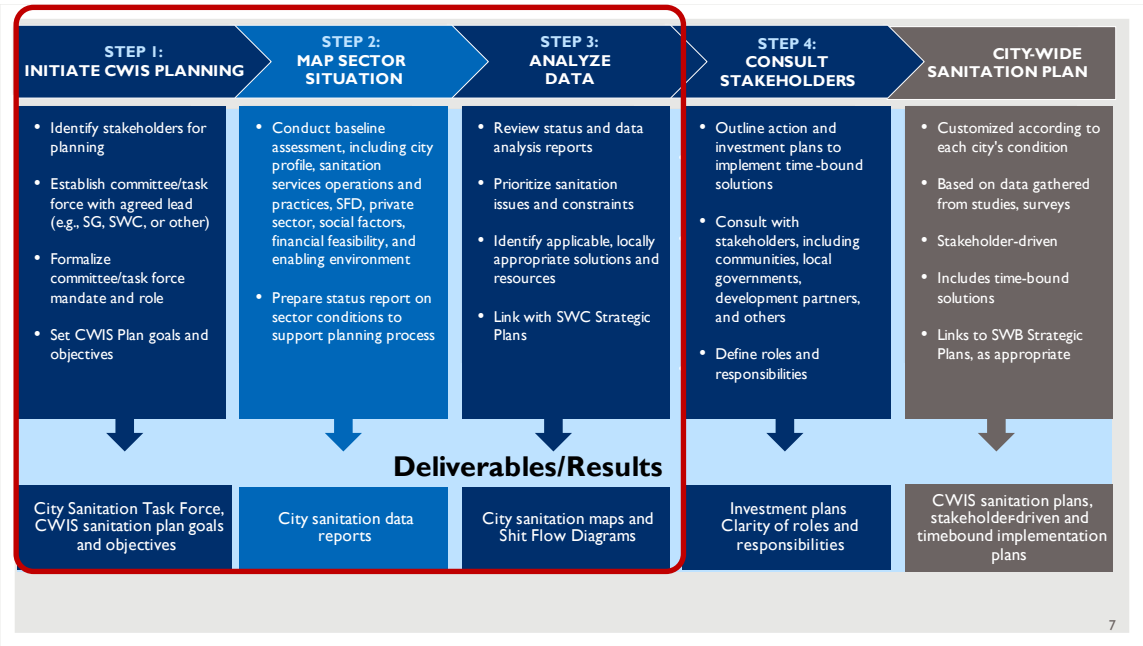
Key Sanitation Management Activities and Results

- **Inclusion of sanitation management** as a SWC mandate in the new state water laws and **establishment of dedicated sanitation unit in each SWC** to manage sanitation service delivery
- **Establishment and capacity building of city-based sanitation taskforces** (CSTFs) in collaboration with state WASH sector stakeholders to oversee overall sanitation planning and services provision and to prepare for Citywide Inclusive Sanitation Plan (CWIS) development
- Conduct of **sanitation mapping** that consisted of **4,700 premises** and development of first ever **shit flow diagrams (SFDs)**
- Facilitation for four state governments to set aside **land for the installation of FSTPs**.

Responsibility for urban sanitation management is generally poorly defined and coordinated throughout all levels of partner state governments. Key challenges included lack of sanitation management departments designated within SWCs and missing comprehensive roadmaps for urban sanitation management in major cities. Most state authorities did not know how fecal sludge was being managed.

However, with the approval and passage of water policies and laws and implementation in effect, SWCs now needed to increase their attention in preparing for delivering sanitation-management services sanitation services. In the four states (minus Abia), the program worked with the SWCs to establish and staff a sanitation unit – Sanitation and Quality Control Department (DESUWACO), Urban Sanitation Unit (ISWSC), Sanitation Unit under the Water Quality Control Department (NISWASEC), and Quality Controls and Sewerage Service Unit (TAWASCO). USAID E-WASH then supported state governments and SWCs by facilitating a four-step approach that aimed to develop a CWIS plan in each state's major cities (see Exhibit 62); due to the program's re-scope, it proceeded to complete the first three steps only.

Exhibit 62. CWIS Plan Development Process in Each Major City per USAID E-WASH



In the first step, the program advocated and helped the establish City Sanitation Task Forces (CSTFs) in the key cities of each partner state: Aba (Abia), Asaba (Delta), Owerri (Imo), Minna (Niger), and Jalingo City (Taraba). Each CSTF had between 8 and 16 members, chaired by the Permanent Secretary of the state's respective ministry responsible for WASH management. CSTF members included representatives from the State Ministry of Water Resources, State Ministry of Health, State Ministry of Environment, grantee CSOs, SWC, Local Government Administration (Planning Department), regulatory unit (water and sanitation) or commission, communities, as well as the private sector and learning institutions. USAID E-WASH also supported preparation of CSTF functions and roles in close consultation with the members. These responsibilities entailed approval and endorsement of the City Sanitation Map reports and other deliverables (e.g., Shit Flow Diagrams); participation in CWIS plan development; coordination for the implementation of city-level sanitation activities and agreement about the allocation of the institutional roles for each key agency (e.g., health, environment, water resources, etc.); and communication to the media and state government about progress.

In the second step, USAID E-WASH worked with CSTFs and a technical expert to assess and map the sanitation management enabling environment and operational conditions in each target city. The program reviewed the legal framework around sanitation for state environmental protection and urban planning agencies, development boards, and SWCs to determine the appropriate roles and responsibilities for the provision of urban sanitation services. Based on this gap analysis and discussions with key stakeholders, USAID E-WASH determined that the state ministry of water resources should be the overall responsible agency with an allocated sanitation budget and authority over its administration. To determine the existing situation on the ground, USAID E-WASH conducted a sanitation-mapping exercise for the first time in the major cities. This effort led to a rapid technical assessment (RTA) and survey of 4,299 households and 759 commercial/institutional properties, focus group discussions (FGDs), key informant interviews (KIIs), and high-quality photos throughout the five cities. Residents and owners were asked about sanitation practices, containment types, and emptying preferences in both formal and informal settlements.

Summary and analysis of the mapping exercise outputs across the sanitation value chain formed the third step. The findings, analyzed and presented to each CSTF, noted that in terms of containment on average in the five cities, 86 percent of those surveyed had some form of on-site containment, 7 percent practiced open defecation, and 7 percent used a neighbor's, communal, or public toilet.

There was indiscriminate discharge of greywater, while more than 50 percent of toilets were in disrepair. Exhibit 63 shows the septic tank emptying and fecal sludge transport characteristics in each city.

Exhibit 63. Fecal Sludge Containment Emptying and Transport Conditions in Each City

City	Containment Systems Desludged (Total)	% Desludged by Manual Emptiers	% Desludged by Truck	% By Other Method
Aba	81%	17%	71%	12%
Jalingo	24%	58%	12%	30%
Minna	28%	48%	47%	5%
Owerri	39%	20%	63%	17%
Asaba	43%	31%	58%	11%
Avg.	**43%**	**35%**	**50%**	**15%**

USAID E-WASH also identified the high concentration of illegal fecal waste disposal and, in some cities, a high prevalence of manual pit emptiers emptying septic and pit latrines. In general, sludge collection was an unregulated industry without manifests, oversight, or standard tariffs. None of the five cities have fecal sludge treatment plants yet, but they are being planned.

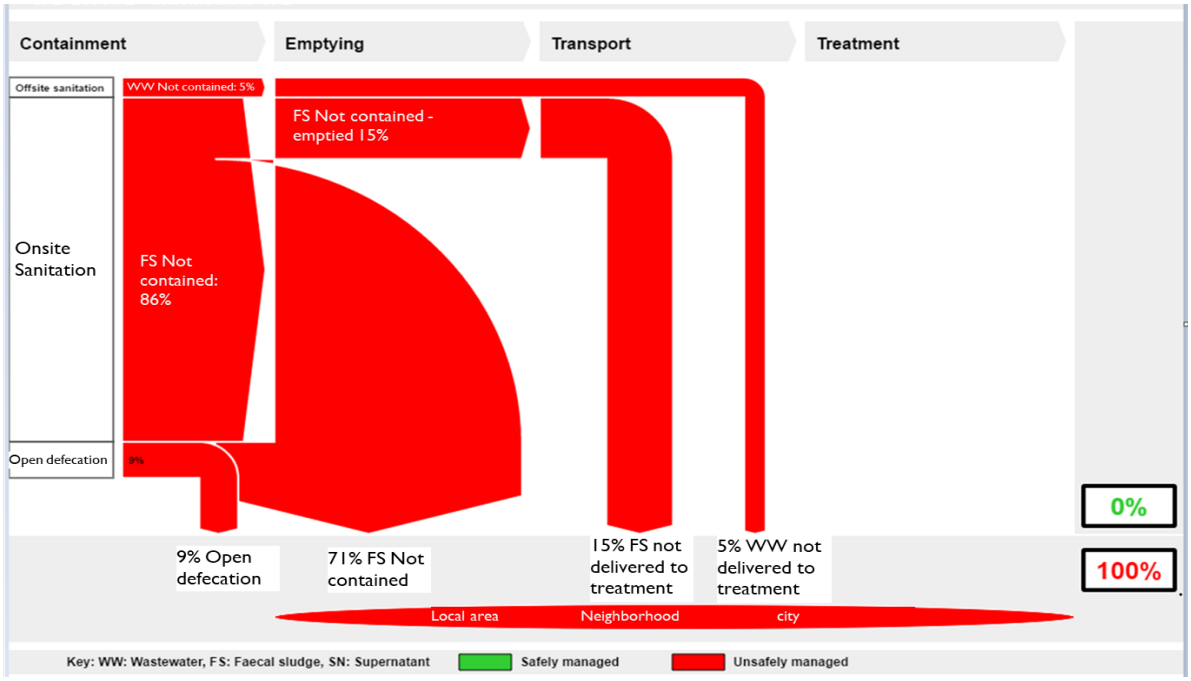
Exhibit 64. Generally, FSM small businesses like this in Owerri, Imo, have 1–2 trucks, while operators do not have personal protective equipment and parts, licenses, or inspection programs.

Photo: USAID E-WASH

A key output for each city was the first-time development of SFDs (see Exhibit 65 for Jalingo City in Taraba as an example). Jalingo City's SFD shows that all fecal sludge was unsafely management, and OD remained significant, with 71 percent of pits unlined or bottomless. The SFD helped TAWASCO characterize how fecal sludge was managed and address constraints along the sanitation value chain.

With these findings, USAID E-WASH began to build overall capacity for selected SWCs starting in Imo. ISWSC participated in trainings on safe excreta management, household water treatment and storage, fecal-oral disease transmission route, and advocacy and educational interventions in schools and communities. ISWSC also explored revenue generation. With WEWE, ISWSC held meetings with Imo's Association of Sewage Operators and two communities in Owerri to develop a standardized revenue collection framework for state-wide FSM. USAID E-WASH also advocated state governments to allocate land for treatment of fecal sludge. As a result, three states – Niger, Delta, and Imo – allocated between 5,000 and 50,000 square meters of land for an FSTP.

Exhibit 65. Shit Flow Diagram – Jalingo City, Taraba



Mapping Exercise Inspires Action for Tackling Urban Sanitation Challenges

The sanitation sector in USAID E-WASH partner states faces critical challenges, directly impacting the health and hygiene of local communities. A comprehensive sanitation mapping exercise facilitated by USAID E-WASH shed further light on the extent of the structural and political issues underpinning poor services and unsafe practices. The findings have empowered state governments to take initiative and address the crisis head-on.

This pioneering mapping and resulting SFDs clearly showed that none of the five cities were managing fecal sludge safely, contributing to a range of public health risks. While the program knew that the SFDs would be an important visual to show FSM, it was surprised at the vibrant conversations that came about from sharing the details of the results. Some WASH sector leaders were surprised to learn of these findings and the detailed extent of poor sanitation management. At the same time, the exercise has served as an important advocacy tool in building awareness and inspiring commitment from local leaders in tackling the crisis at hand.

USAID E-WASH found that ministry officials needed this tangible data to make decisions, change policies, and set targets. As an example, in Imo state, Ms. Nnenna Nwaugo, Director of Water Services in the recently created MWR, was shocked to learn that manual emptying of pit latrines was rampant. She immediately expressed commitment for investing in the necessary equipment and resources to curb this practice.

Local leaders were quick to identify that they alone could not address all aspects of the sanitation problem and saw the potential for engaging with different stakeholders.

"Numbers do not lie so I cannot argue with the findings of the sanitation mapping exercise. This revelation gives us impetus to work extra harder and develop appropriate solutions for sanitation including treatment facilities, which hopefully the water corporation can manage but also coordinating the private sector on emptying and transportation of fecal sludge." – TAWASCO MD, Engineer Buba Musa Siam

All parties who attended the program's sanitation mapping presentation also realized that sanitation is a complex problem intertwined with other government and infrastructure sectors (primarily water, housing, and roads) that requires unique market-based solutions.

Therefore, the program recommends the following:

1. CSTFs should develop detailed CWIS plans utilizing the template provided by the program to set a roadmap and budget.
2. Ensure stakeholders from key decision makers, government, SWCs, CSOs, and the private sector are equipped with data to push efforts forward, coordinate, and enact sanitation policies.
3. Meaningfully engage with existing and potential private-sector players who can fill sanitation needs from containment to transport/reuse by piloting innovative management models.

Lessons Learned from Component 3 Implementation

- Every opportunity must be harnessed to garner commitments from state leadership. This includes consultation with sector stakeholders in each state to establish and agree on gaps in the policies and laws, including a credible review process and ownership. The adoption of generic frameworks of global and regional best practices also provided a proper guide for drafting and updating both policies and bills in selected states.

- Government reform requires persistent advocacy and dedicated specialists to progress. Creating a platform to engage high-level policy makers from states and the national level generated interest for sustained buy-in on reforms among the Ministries, SSGs, Commissioners, GMs (MDs) of SWBs, and key sector stakeholders (e.g., both those retired and still in active service).

- Advocating for and launching the official transformation of SWBs to corporate entities such as in Taraba created increased awareness among diverse stakeholders.

- Ongoing support to SWCs with technical studies and assessments is important in helping them meet donor requirements for engagement and position themselves for additional funding toward sustainability.

- Developing rigorous technical reports and following up with WASH sector stakeholders has the potential to attract more financing.

- The WASH Customer Forums became effective platforms to facilitate discussions on setting up of a multi-stakeholder committee to develop a service delivery charter for an SWC, while Knowledge Cafés became effective vehicles for understanding community power relations and locating change enablers. These platforms provided the opportunity to observe and assess the conduct of SWB staff in a highly diverse environment where their opinions may be challenged.

- Sanitation mapping exercises, along with dedicated sanitation task force establishment, helped raise awareness of the challenges in managing fecal sludge, especially in urban settings. The CWIS plan development process by using evidence gathered from the sanitation mapping, and the SFDs provided a good framework for starting to create strategies and actions to manage sanitation.

- Engaging smaller groups of journalists helps manage misinformation.

Component 4: Build Coordination, Advocacy, and Strategic Communications for Reform

In the WASH sector, development partners and national stakeholders traditionally held meetings and participated in a web-based CoP platform developed from a previous USAID project and housed at the Nigerian Water Supply Association (NWSA). However, there was no direct state-level coordination meeting to regularly update to share best practices and engage broader stakeholders. Given the transitioning WASH sector in the five states through passage of new laws and accountability measures, increased coordination was necessary to drive sustainability and oversight. Through Component 4 below, USAID E-WASH worked to bring stakeholders together, creating more inclusive open dialogue platforms, and communicating the program's WASH reform facilitation to the public. The program helped enable increased and more effective state-level coordination, advocacy, and strategic communication efforts that aimed to support the sector reform process undertaken in Components 1–3. Activities included media engagement, knowledge management, stakeholder outreach, and CSO collaboration. These activities built upon and promoted good practices and lessons learned in ongoing initiatives at the national and state levels.

Sector Coordination

Key Coordination and Strategic Communications Activities and Results

- Creation of **multi-stakeholder State Steering Committees** to monitor implementation of the program and the new water laws
- **Annual commemoration** of World Toilet Day, World Handwashing Days, World Water Day, and International Women's Day with interactive school WASH club meetings and community engagements to **promote reform advocacy**
- **744 multi-media releases on WASH topics** through online news, radio, social media, newspapers and print, and television across the five states and Abuja.
- Trainings on **communications/public relations** and **engagement with the Urban WASH Media Network in each state**
- **Sharing of program lessons and innovations** on GESI adoption, sector reform, SWC transformation and CSOs engagement at more than 5 global events with program and SWC staff
- Completion of **gender assessment by involving over 1,000 stakeholders** such as community members, SWC staff, and local government representatives across Delta, Imo, Niger, and Taraba.

In support of the reform process, USAID E-WASH facilitated each state to first establish a WASH Steering Committee. These Committees set out to monitor the MOU terms and implementation set forth in Component 1 between each state government and the USAID Mission in Nigeria. Committee members included representatives from sector line Ministries, Departments, and Agencies (MDAs) such as Ministries of Water, Public Utilities, Environment, and Health; SWCs; local governments; other WASH service providers (e.g., private tankers); reform champions; and CSOs. The Imo and Niger Steering Committees were critical in ensuring that their new water policy and laws were thoroughly reviewed, included all necessary provisions, and were successfully passed. Following the passage of the water and sanitation laws in each state, these Committees have been responsible for monitoring the full implementation of the water policy and corporatization law, as well as reporting to each respective Executive Governor. For Abia and Imo, these Committees were pioneering.

In addition to the Committee meetings, the program supported existing CoP platforms as another avenue to facilitate knowledge and experience sharing on sector reform. USAID E-WASH assisted with the inauguration of a CoP executive leadership team and reviewed the CoP member mandates. CSO partners in Abia and Delta organized the first CoP meeting with WASH stakeholders. Across all six states, they hosted over 15 CoP meetings. USAID E-WASH helped develop an e-capacity

building program containing six courses to provide capacity building for CSOs (see Component 3), and the program is housed on the CoP website (www.urbanwashcop.ng). Essentially, CSOs would connect with each other for knowledge sharing and collaboration that would then feed into the CoP effort. However, due to the re-scoping of the program, activities at both the national and state level discontinued.

Communications and Knowledge Management Supporting Reform

Complementing the sector and SWC transformation process, USAID E-WASH collaborated with key CSO partners to implement innovative activities around stakeholder communications and knowledge management. The program initially drafted a communications strategy relating to promoting institutional change, generating support for changes, knowledge sharing, and monitoring and evaluation. This strategy set the stage for how USAID E-WASH worked with CSOs and SWC partners as follows:

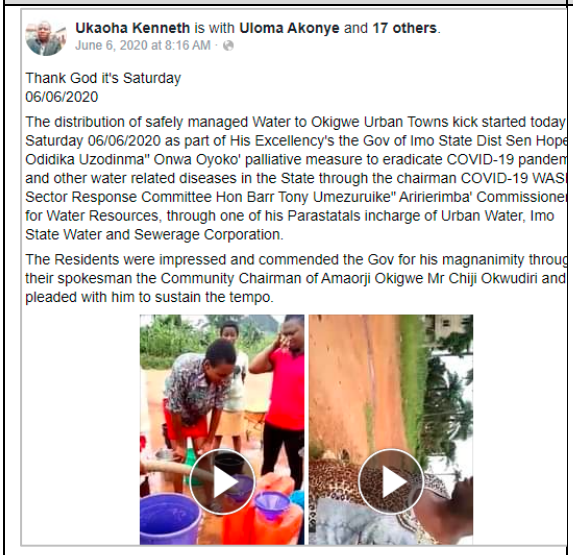
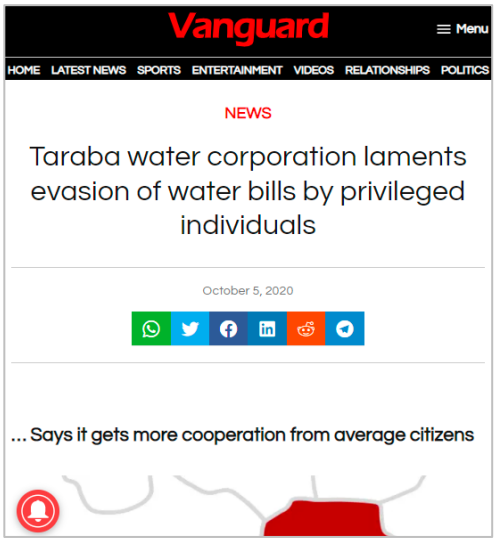
Media toolkit. USAID E-WASH with CSOs and journalists created media toolkits for advocacy. Intended as a resource for CSOs, the toolkits provided a general WASH sector background in each state (such as issues affecting media coverage of urban WASH), quality journalism, evidence-based research, and digital media tools. Exhibit 66 highlights selected toolkit modules. CSOs exercised the modules to support advocacy and citizen engagement efforts in Component 3.

Exhibit 66. WASH Advocacy Toolkit Modules

- Existing WASH Situation in Nigeria
- Introduction to Urban WASH
- WASH-related Emergencies
- Environmental Pollution
- WASH Service Provision
- Regulation
- Liquid Waste Management
- SWC Function
- Role of CSOs
- Levels of Advocacy
- Policy Frameworks
- Developing an Advocacy Strategy
- Organizing WASH Campaigns
- Social Behavior Change
- Community Engagement
- Gender Inclusivity

SWC support. USAID E-WASH supported each SWC to implement tailored, multi-media communications to inform of the reform process and service updates by engaging with each SWC's CCU and Public Relations Officers and the Urban WASH Media Network. Exhibit 68 depicts the outputs of different media products. In addition, the program also facilitated online and radio presence of SWCs as noted in examples below.

Exhibit 67. Examples of Media Products Supporting Reform and WASH Sector Topics

ISWSC Facebook Page Announcing Water Distribution during the COVID-19 Pandemic	Online News Article in TAWASCO Expressing Concerns on Water Bills
	

In ***Abia***, Magic FM 102.9 invited USAID E-WASH to engage in a 13-week discussion on WASH at no cost. Vision Africa ran live phone-in radio programs while the AbSWSC GM spoke on a Radio Nigeria about the recent WASH sector reforms.

In ***Delta***, *Pointer* newspaper designated a reporter to provide coverage of DESUWACO activities and published over 10 articles highlighting updates such as the WCF meetings.

In ***Imo***, USAID E-WASH, local media firm Visual Flow Media, and ISWSC developed radio jingles to air on popular stations on the new corporate status of the utility, clean water promotion, and COVID-19 prevention. Through program support, the WASH Media Network, Orient FM, and Darling FM aired the messages over 100 times. The media houses also conducted media chats with ISWSC officials to discuss recent improvements at the Otamiri WTP and state government investments in WASH.

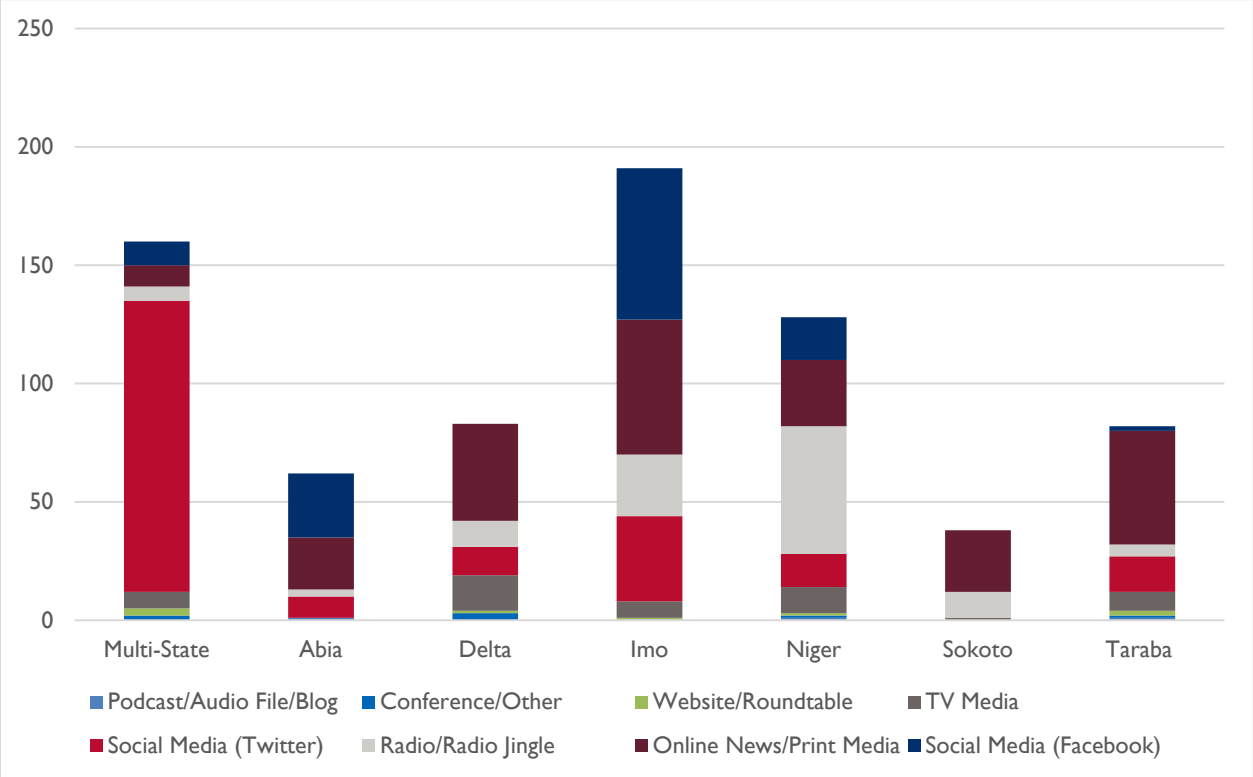
In ***Niger***, NISWASEC hosted eight urban WASH Talk phone-in radio programs during 13 weeks on Ultimate FM. The program also supported NISWASEC to present in media. Moderated by the NISWASEC Public Relations Manager, the talk show hosted NISWASEC's senior technical and operations team and the Ministry of Water Resources & Dam Development (MWR&DD) Commissioner to discuss sector reform, service delivery improvement efforts, NRW management, International Women's Day commemoration, and others. In addition to the radio programs, USAID E-WASH collated materials from women working in science and technical fields within NISWASEC and created a discussion platform to encourage women to pursue career paths in science, technology, engineering, and math.

In ***Taraba***, the Urban WASH Media Network prioritized publications to dispel myths about COVID-19, reintroduce monthly sanitation exercises, and tell customers how to report illegal connections and burst pipes.

By the end of the program, 744 online, social media, and TV/radio media items were published covering various subjects like service disruptions, BoD establishment, SWC corporatization, construction updates, and others. Exhibit 68 shows the distribution of knowledge management and

media tools supported and launched in each state. Online/print news media was the predominant means for communications, followed by social media on Twitter and Facebook (though collectively social media was the most common) and by radio. Imo and Niger had the most media products while Abia had the least. Multi-state (across all states) media postings were also high.

Exhibit 68. Knowledge Management and Media Products by State



Commemoration of international WASH events. USAID E-WASH and partner CSOs engaged stakeholders to participate actively in global awareness-raising events related to WASH sector and cross-cutting themes in gender and inclusivity. Key major events highlighted included International Women's Day, World Water Day, World Toilet Day, and Menstrual Hygiene Management Day. These events involved community engagement, press conferences, and recognition of SWC staff facilitated by USAID E-WASH in 2019–2021.

World Water Day. USAID E-WASH celebrated World Water Day with stakeholders covering various WASH-related themes. In ***Delta***, DESUWACO and CSOs raised awareness on fighting the COVID-19 pandemic through increased personal hygiene management. In ***Imo***, ISWSC hosted a public lecture in collaboration with the Nigerian Bottling Company, Nigerian Breweries, the Nigerian Society of Engineers, the Association of Professional Women Engineers of Nigeria, and the Nigerian Institution of Water Engineers and hosted a debate about the value of water for a girls' high school. In ***Niger***, the Commissioner of MWR&DD hosted a press conference with the media, ministry staff, CSOs, and members of the Borehole Drillers Association of Nigeria reiterating the Ministry's commitment to ensure safe water for all. In ***Taraba***, TAWASCO launched its Customer Service Charter to inform about its reform progress and strengthen customer outreach.

Global Handwashing Day. For Global Handwashing Day, partner CSOs in all states targeted commemoration activities with local schools and media. CSOs championed the theme of handwashing to prevent COVID-19 transmission and facilitated discussions on gender equality and inclusivity in water supply management. In ***Abia***, GRACODEV helped promote awareness for global handwashing day by posting on social media and held two media chats with Vision Africa Radio. In ***Delta***, CSOs similarly turned to public media to commemorate Global Handwashing Day by broadcasting on two radio stations in Delta on the importance of good handwashing and hygiene. In

Imo, program CSO Global Health Awareness Research Foundation (GHARF) held events in two primary schools and one secondary school to emphasize the importance of handwashing. Specific topics around the benefits of handwashing, consequences of ineffective handwashing, and the importance of the formation of WASH clubs were presented to students. GHARF distributed stools, buckets with taps, and tablets of soap to the schools to encourage handwashing. In ***Niger***, FOMWAN held a live panel radio discussion at Prestige FM 91.7 with three panelists to discuss topics on effective handwashing and its benefits and health implications of improper handwashing for the individual and society at large. Additionally, FOMWAN visited a primary school and demonstrated proper handwashing techniques to over 800 students and discussed the benefits of handwashing. In ***Taraba***, CSO MCYD visited schools in two cities to celebrate Global Handwashing Day and sensitize students on the importance of handwashing.

World Toilet Day. During World Toilet Day events, partner CSOs and SWCs together with USAID E-WASH raised attention toward sanitation management. In ***Abia***, CSOs discussed sustainable sanitation via a radio program with Vision Africa Radio to promote the need for hygienic and safe sanitation, the hazards of open defecation, and using toilets. In ***Delta***, CSOs partnered with the Delta State WASH Steering Committee, Women in WASH, and DESUWACO in a series of speaking engagements on TV and radio and in school events on improved hygiene reaching over 2,000 people. In ***Imo***, CSOs hosted events with over 259 students and teachers in secondary schools in Owerri to facilitate interactive role-plays and discussions on the fecal-oral pathogen pathway and the status of their school's toilets. Following the meetings, the CSOs took action to the Universal Basic Education Board and the Secondary School Education Board in the state to request WASH improvements in schools. In ***Niger***, CSOs reached over 200 people during the awareness-raising campaigns about the importance of providing adequate and functional toilets in the marketplace to enforce hygiene practices and stem infections and open defecation. NISWASEC also launched a campaign against open defecation. In ***Taraba***, program sub-grantee TYPA celebrated the day in 2020 by discussing the year's theme, Sustainable Sanitation and Climate Change, with 23 stakeholders and citizens. They raised awareness of the lack of access to safely managed sanitation, the need for toilets to end open defecation, and proper usage of toilets.

International Women's Day. Commemoration of International Women's Day promoted GESI principles supported by USAID E-WASH. In ***Delta***, CSOs and the DESUWACO chapter of Women in WASH conducted school outreach and awareness-raising exercises with the themes *I am Generation Equality* and *Realizing Women's Rights* and recognized contributions by key women in the SWC. In ***Imo*** and ***Niger***, the SWCs also recognized women employees at all levels. NISWASEC also hosted an interactive discussion (*Women and Leadership in the WASH Sector*) focusing on how women are choosing to challenge the status quo in the sector despite the COVID-19 constraints.

Exhibit 69. Women in Wash chapter in Delta working with CSO Newsan and USAID E-WASH to promote and advocate for GESI adoption in SWC policies.

Photo: USAID E-WASH

Menstrual Hygiene Management Day. Program partner CSOs in Delta, Imo, Niger, and Taraba celebrated annual MHM Day with TV appearances, community events, and social media postings highlighting the use of sanitary pads, the necessity of toilets, MHM challenges, pictures from MHM day visits to schools, and the benefits of handwashing to prevent the spread of COVID-19. In ***Delta***, CSO ENVIRUMEDIC met with women in the community on best practices of disposing of menstrual hygiene products, and the LGA committed to providing dump sites and sanitation facilities for environmentally friendly disposal of sanitation products. In ***Imo***, ISWSC hosted street walks, rallies, dances, and community engagements using the established WASH structures, such as women's and youth groups while reaching out to youth in Owerri, Orlu, and Okigwe. These commemorations attracted media

establishments and provided another advocacy avenue as well as awareness raising on strategic topics in the USAID E-WASH program. In ***Niger***, CSO Elohim Foundation celebrated the event by holding a session for women to address the unique challenges women face during menstruation, especially during the COVID-19 pandemic, the importance of maintaining good hygiene practices, and best ways to achieve good hygiene around menstruation. In ***Taraba*** and ***Delta***, TYPA and CFID celebrated MHM Day by meeting with women's groups to raise awareness on menstrual hygiene and educate participants on the proper use and disposal of sanitary materials.

Knowledge management support. **USAID E-WASH also worked to share lessons learned and publications internally and externally as follows:**

Newsletters. USAID E-WASH published its own quarterly newsletter *Water Works* and success stories. The newsletters highlighted program accomplishments, shared quotes from SWC and government partners, and identified lessons learned. Newsletter recipients included all partner SWCs.

International conferences. USAID E-WASH contributed to dialogue and discussions on lessons learned from program implementation on governance reform, water service provider financial management, opportunities for private-sector engagement, and CSO engagement and advocacy. Through mainly virtual events, selected program and SWC staff presented to international audiences as shown in Exhibit 70.

Exhibit 70. International Conference Presentations

Year	Conference	Conference Theme	Program Format	Notes
2020	African Water Association (AfWA) Conference in Kampala, Uganda	Breaking New Grounds to Accelerate Access to Water and Sanitation for All	Side Session	• Title: *Addressing the cause rather than the symptom of poor urban water services – the Nigeria case* • SWC GMs from Delta, Imo, and Niger presented on the SWC reform process and visited counterpart utility the Uganda National Water and Sewerage Agency for peer-to-peer exchange on utility operations
2020	University of North Carolina (UNC) Water and Health Conference	Science, Policy, and Practice	Poster Presentations	• Title: *Knowing Your Customers: A Nigerian Water Utility's Bottom-Up Approach to Improve Safe Water Access* • Program staff presented on SWC customer enumeration results
				• Title: *Gender Mainstreaming—Not just Checking the Box, Breaking the Glass Ceiling in State Water Boards* • Program staff presented on SWC gender policy and mainstreaming
2021	Loughborough University Water Engineering and Development Centre	Equitable and Sustainable: WASH Services: Future Challenges in a Rapidly Changing World	Pre-recorded Presentation with Live Q&A	• Title: *Facilitating Urban Water Reforms in Taraba, Nigeria: Where to start?* • Program staff presented on the SWC organizational reform process
			Poster with Live Q&A	• Title: *Sustaining Water Reforms by Amplifying Citizens' Voices in Imo State, Nigeria* • Program staff presented on CSO engagement and results on social accountability and transparency
				• Title: *Introducing Corporate Culture Principles to Newly Autonomous Nigerian Water Utilities* • Program staff presented on the SWC corporatization process
2021	Stockholm International Water Institute	Building Resilience Faster	Presentation	• Title: *Nature, Wealth, and Power: Multiple Dimensions of Natural Resources Management - Power: Improving Niger State's State Water Agency through Accountability, Public Outreach, Customer Engagement, and Inclusivity* • Program staff presented on the SWC customer scorecard and Customer Service Charter development

Research for Reform

Gender equity and social inclusion. In a baseline assessment conducted in all six states via surveys, FGDs, and KIIs, and prior to SWB transition into SWCs, USAID E-WASH found that the gender-related WASH subject was not being addressed in communities, SWCs, or government policies. Findings noted that none of the SWBs had a gender policy, nor a focal person and that gender equity was not mainstreamed in the strategic and operational plan, implementation, or evaluation. Poor coordination between the SWBs and other ministries, such as the Ministries of Health, Education,

and Women's Affairs, as well as CSOs hindered their ability to work together to address WASH issues.

Recognizing these constraints, USAID E-WASH delivered targeted support to raise gender equity and inclusion and related topics at the community, SWCs and state-level policies with partner CSOs and groups like Women in WASH (WIW). The program, for instance, helped revive or establish WIW chapters in each SWC. In ***Delta***, following DESUWACO's inauguration of its WIW chapter, led by the gender focal person, the Delta State MWRD revived its own WIW group. In ***Imo***, also in FY20, the program helped inaugurate the previously inactive WIW group, composed of female staff at ISWSC and the Ministry of Water Resources. In ***Niger***, the program supported NISWASEC's Head of Gender and Pro-Poor Unit to develop concept notes and an agenda for the WIW inaugural meeting with 19 representatives from the SWC, MWR&DD, RUWATSAN, and CSOs. The leadership of the four WASH-related entities in ***Taraba*** (TAWASCO, STOWASSA, RUWASSA, and MWR) consulted with the WIW chapter to deliberate on a way forward in preparing a gender action plan for the sector. The TAWASCO WIW group, supported by the program, then engaged the relevant stakeholders and women to advocate with the Taraba Ministry of Women Affairs to operationalize the National Gender Policy in Taraba. Component 1 further highlights GESI mainstreaming within each SWC.

USAID E-WASH then conducted a follow-up gender assessment based on its baseline assessment. The program surveyed 260 people in Delta, 260 people in Imo, 284 in Niger, and 260 in Taraba. The midterm evaluation showed progress compared to the baseline results as shown in Exhibit 71:

Exhibit 71. SWC Midline Gender Assessment Results

Topic	Baseline Conditions	Midline Evaluation Outcomes
Gender Focal Person	No GFP or gender policy in any SWC	All partner SWCs have a dedicated GFP who worked with the program to develop gender policies for each SWC.
Management Information System (MIS)	No MIS in and SWC	MIS developed to collect sex-disaggregated data to inform decision making and programming.
Inclusivity	Lack of GESI adoption	• Delta – A more inclusive BoD (57% women) was formed. • Niger and Taraba – Gender Unit and a Gender Desk Officer were established.

The latter evaluation highlighted that women in communities reported feeling more empowered by the platforms such as the WCFs, where the program intentionally created opportunities for women to be part of dialogue. Women from communities took part in community development issues raised at WCFs and Knowledge Cafés. In addition, the midterm evaluation identified areas of improvement relating to limited technical capacity among the staff to mainstream gender; few women in SWCs and fewer in leadership roles; lack of financial appropriations for gender mainstreaming; and lack of gender tools, training, and support for the staff to undertake gender-based work planning and implementation in the WASH sector. These findings helped shape the technical activities that USAID E-WASH supported and resulted in SWC transformation indicated in Exhibit 71 above.

Political economy analyses (PEAs). PEAs were intrinsic in USAID E-WASH implementation. At the beginning of the program, USAID E-WASH conducted PEAs for all partner states to identify and understand key stakeholders and their inter-relationships. The program then practiced quarterly PEAs to recognize changing stakeholders and conditions such as government official rotation, emergence of the COVID-19 pandemic, regional security concerns, and others. PEA outputs later formed the basis for targeted advocacy activities for the sector and SWC reform process described in Components 1 and 3 and adaptive management as the pandemic affected program activities. Examples of PEA outputs and applications are as follows:

Exhibit 72. Understanding and analyzing stakeholder perceptions and priorities were key parts of the PEAs.

Photo: USAID E-WASH

In ***Abia***, the program conducted PEAs to evaluate entry points, stakeholder mapping (including motivations and barriers to action), political action, multi-sectoral influences, and the potential impact of COVID-19 on programming in Abia. Through the PEAs, the program documented the current water access and COVID-19 case counts, government and SWC stakeholder challenges adapting to work from home protocols, and concerns on the spread of false COVID-19 information. From the analysis, USAID E-WASH worked with CSOs and AbSWSC to conduct community engagement activities to build the relationship between previous customers in preparation for water supply services resuming. Regarding the impacts of COVID-19, the program adhered to the Nigerian CDC guidelines when conducting meetings and adapted work plans and meetings due to the delays in staff movement restrictions and technical assistance support toward customer enumeration and hydraulic modeling exercises.

The main challenge in ***Delta*** arising from PEAs revolved around service delivery challenges and deploying resources (e.g., diesel release to zones led to improved water production). The PEA identified four themes around the state Governor's buy-in, pressure from citizens, bottlenecks from institutional processes, and staff agency to raise concerns. USAID E-WASH, therefore, focused efforts on supporting budget advocacy efforts to ensure increased and timely budget releases, leveraging relationships between DESUWACO and MWRD to elevate institutional challenges, and improve staff retention through morale-boosting retreats and trainings.

Due to the change in ***Imo*** state government leadership and the emerging pandemic, USAID E-WASH carried out PEAs on COVID-19 impacts and to determine possible changes to the WASH sector due to the recent change in government in 2020 (i.e., the governor and political party). The PEA showed that the change in government did not slow the momentum nor the government's interest in improving water services. However, COVID-19 affected ISWSC's revenue due to decreases in billing and revenue collection. USAID E-WASH adapted its programming accordingly to conduct safe engagements with staff and the community and supported ISWSC with revenue generation strategies.

In ***Niger***, USAID E-WASH conducted the quarterly PEA to document the effects of COVID-19 on the program's operations across all four components. The analysis found that the pandemic affected operational and finance activities due to the staff's inability to report for duty. Also due to travel restrictions, the number of participants and engagement levels were lower than expected, while participants were unfamiliar with using virtual platforms. USAID E-WASH also focused on NISWASEC's financial performance and opportunities for private-sector engagement. The PEAs also highlighted that the internally generated revenue decreased by approximately 70 percent, as NISWASEC could not collect all payments from domestic water bills. NISWASEC only printed five percent of its commercial bills because of movement restrictions during the lockdown. The PEAs

also highlighted that one of NISWASEC's main service areas – the town of Suleja – had the best potential for private-sector participation due to its proximity to Abuja.

In ***Taraba***, TAWASCO and USAID E-WASH focused PEAs on organizational development and PBCs. Therefore, the PEAs showed that the key to success was significant buy-in from the TAWASCO leadership team and coordination with government ministries. The analysis was necessary to identify and prevent likely labor disagreements, especially with the approach and criteria for staff selection or transfers out of TAWASCO. With the results from the PEA, USAID E-WASH advised the Taraba State Government to take the following measures: (1) constitute an Organizational Development Implementation Committee of Permanent Secretaries; (2) develop and distribute staff expression-of-interest forms for staff to choose the option of either remaining in TAWASCO or transferring to STOWASSA or another Ministry; and (3) ensure transparency during the exercise. The PEAs also revealed the government's ambiguity in understanding the principles of the PBCs. USAID E-WASH utilized this information from the PEA to discuss the PBCs in more detail and focused the Knowledge Café on understanding PBCs.

Lessons Learned from Component 4 Implementation

- Regular PEAs proved essential for identifying constraints and stakeholder political and social capital and addressing targeted advocacy.
- World WASH Days (toilet, water, MHM, and handwashing) were effective means of celebrating and raising awareness for WASH issues to complement advocacy efforts.
- Engaging the Urban WASH Media Network was instrumental in bridging the SWCs with expanded communication platforms and outreach with their stakeholders.

Monitoring, Evaluation, and Learning (MEL)

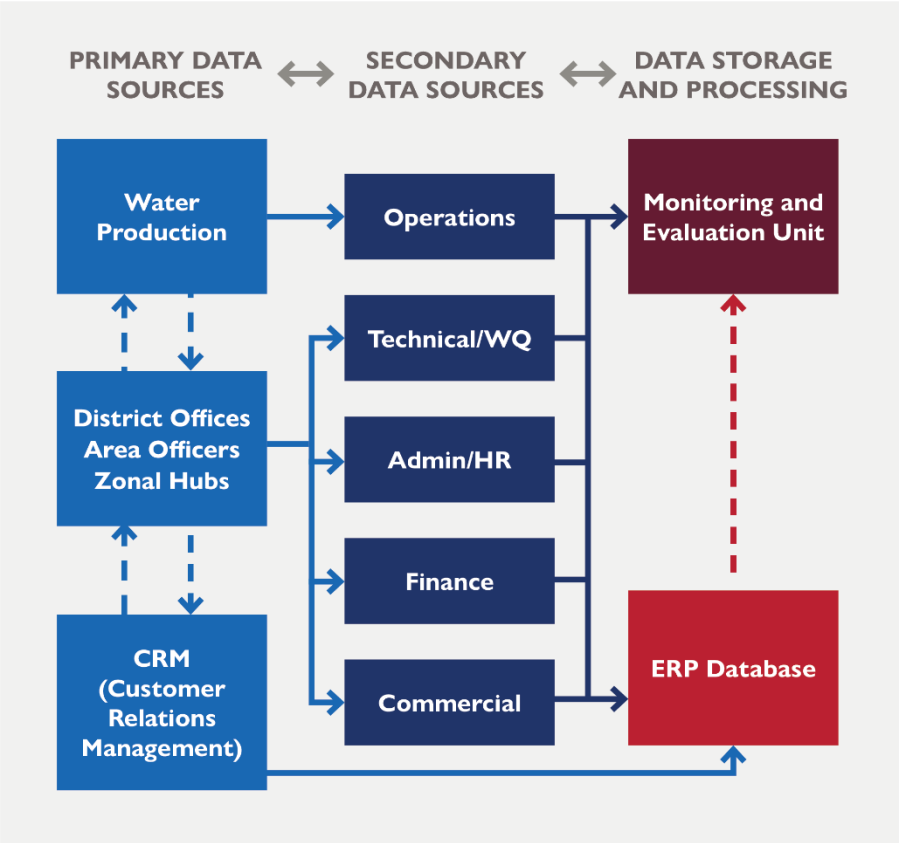
To assist with long-term reform and SWC performance monitoring, USAID E-WASH assessed the status of monitoring and evaluation (M&E) systems across all SWCs and determined the capacity-building gaps. Initial findings and associated program actions are summarized in Exhibit 73.

Exhibit 73. Results from SWC MEL System Audit and Next Steps

Capacity Area	Baseline Gaps	Completed Actions
Organizational Structure, Human Capacity for M&E and Partnership	• M&E units lack adequate staff to carry out M&E functions • Inadequate capacity and lack of commitment of some existing members of the M&E units • Absence of a functional M&E technical working group (TWG)	• Increased capacity and number for SWC M&E unit staff (from 1 to 3) • Established M&E TWG with representation from all SWC departments and key zones/districts • Stipulated the roles and responsibilities of M&E unit and TWG members
MEL Plan Development	No organizational M&E plan	• Facilitated development of MEL plan • Trained on Theory of Change • Established list of indicators for each SWC and developed a PIRS for each indicator aligning with existing accountability documents • Developed monitoring plan and checklist
Data Management and Use	• SOP for data collection not in place across all SWCs • No data collection tools for some SWCs' specific indicators • No plan or template for data validation and data quality assurance	• Integrated M&E module in the ERP, including database for management of SWC M&E data from all units • Supported the adoption of electronic data collection method • Developed and domesticated SOPs for data collection on each indicator
Filling and Documentation	• Poor filing and documentation across SWC units/departments • Lack of capacity and motivation to file documents from concluded activity	• Developed plan along with SWC M&E units to strengthen filing • Built capacity of SWC M&E units to support the initial filing and documentation process • Supported SWC M&E units to monitor process across all departments

Drawing on these MEL assessment findings, USAID E-WASH supported each SWC to apply a monitoring, evaluation, and learning (MEL) system that led to a more robust organizational MEL structure, improved M&E unit capacity and leadership, better engagement with internal and external partners, and enhanced data availability and quality. For example, to establish an urban WASH sector monitoring and benchmarking system across the SWCs, USAID E-WASH helped set up a data management process through the development of data collections tools, framework for data flow, and enhanced adherence to data quality standards. In order to ensure a digitized performance monitoring system, USAID E-WASH then facilitated incorporation of a monitoring, evaluation, and reporting module into the ERP system in each SWC to generate a real-time periodic performance dashboard from every departmental operation of the SWCs. These efforts included direct capacity building of relevant staff, mentoring, on-site monitoring, and periodic evaluation of SWC performance. Exhibit 74 depicts a data flow process set up by USAID E-WASH with the SWCs.

Exhibit 74. SWC Data Flow and Management Framework



Other MEL assistance activities complemented direct SWC support in other components. For example, to align with the organizational development exercise outputs (see Component 1), the program worked with each SWC to dedicate and resource an M&E unit, define unit roles and responsibilities, and follow up with the TWG to continue prioritizing the new M&E units. In addition, MEL support for Component 1 entailed working with SWCs on the application of the SWACAT to ensure continuous internal appraisal of the SWC's organizational and technical capacity and developing periodic customer satisfaction surveys (CSS) to ensure evidence-driven mechanism for improving customer relations and water service delivery. As part of Component 2 assistance, MEL support included practical training and utilization of the ERP M&E system. The following further details the USAID E-WASH MEL technical assistance:

Strengthening SWC M&E units. With program support, each SWC GM or MD nominated staff from the M&E unit and a representative from each department to participate in the TWG. The TWG's primary objective was to develop a MEL plan for each SWC and assist its M&E unit in collating and reporting high-quality data. The program conducted a series of MEL system-strengthening and capacity-building trainings for 74 staff across all SWCs. The training supported the M&E officers, members of the newly established M&E TWG, and select SWC staff to develop SWC-specific MEL system-strengthening action plans. The first phase of training covered methods of data collection and documentation; indicator development; performance indicator reference sheets; and methods for developing a theory of change, logical framework, and data flowcharts. The trained staff practiced drafting theories of change, developed sample indicators, and reported a greater understanding of qualitative and quantitative indicators. During the second phase of training, the program delved more into the plan development through trainings on developing

> "With the coming of USAID E-WASH, NISWASEC now has a functional M&E unit with trained and dedicated TWG from all the departments. We now have a sustainable M&E plan, database and data collection and reporting tools for tracking the performances of all the utility's KPIs. This intervention has greatly contributed to easier performance tracking and reporting for real-time management's decision making."
>
> **–Aisha Mohammed, NISWASEC's MEL Unit Officer**

monitoring checklists, costed workplans, and plans for data quality assurance (DQA), monitoring, evaluation, CLA, and report dissemination.

With the program's support, the SWCs developed and shared MEL plans and agreed upon corresponding indicators at a CLA workshop facilitated by USAID E-WASH. As a result, the SWCs now have and are utilizing these indicators to continually track performance and use performance data to make the necessary decisions for their continuous improvement as well as benchmarking. This assistance also provided an avenue for the SWCs' management teams to take official ownership of the MEL plan, provide technical inputs where relevant, as well as register their commitments to support the SWC's M&E unit in implementing the plan. With the plans in place, the M&E units are taking an active lead in data collection, whereas previously, they had depended on other departments to gather information.

Integrating M&E. As part of establishing and strengthening the SWCs' performance monitoring system, USAID E-WASH reviewed the SWC data collection processes and management systems. The program conducted monthly data verification exercises with Finance and Accounting, Administration and HR, Commercial, Engineering, Water Quality, and Operations departments from the partner SWCs and found inconsistencies in reporting. To remedy the inconsistencies and streamline data collection, the program consulted with the SWC management teams and designed an M&E module to integrate with the existing ERP system (see Component 2). The module has the capacity to record/generate performance data from the other operational modules and print out data analysis reports and visuals for departmental review, learning, and management decision making. In several SWCs, the corporation has nominated an M&E staff member responsible for ensuring timely and accurate data uploading and checking.

Exhibit 75. USAID E-WASH working with DESUWACO to develop and institute its first MEL plan to monitor its overall performance at the HQ and zonal offices.

Photo: USAID E-WASH

Implementing evidence-based research. The program provided mentoring assistance with SWC M&E and technical teams on various research study protocols in support of Component 1–3 activities. These tasks included checking customer enumeration processes through household verification and validation (Component 1); incorporating the SWACAT into the ERP module and establishing steering committees to ensure periodic SWACAT application (Component 1); conducting and analyzing gender assessments (Component 1); collecting data for water supply demand-side analysis through training on the household survey and FGD tool usage (Component 2); and monitoring of sanitation mapping and household surveys to adhere to data collection and analysis protocols (Component 3).

CLA events. In continued efforts to share lessons learned, assess progress to date, and prepare for assuring sustainability, USAID E-WASH facilitated various events (webinars, pause-and-reflect, etc.) with all SWCs (see Exhibit 76). For instance, the program hosted CLA webinar sessions called *Journey to Reforms*. In these sessions, the program highlighted SWCs' experiences in implementing reforms in organizational development and customer enumeration and discussed strategies for sustained SWC performance improvement. Through pause-and-reflect sessions, the program presented on key lessons learned from USF implementation and the consequent prioritization of planned construction activities. The prioritization focused on the potential impact of USF construction activities on SWC operational improvements, political implications of USF construction activities, and the implications of the timeline and the budget needed to maintain improvements. Findings from these sessions also serve as evidence supporting the program re-scoping.

At subsequent sessions, the program opened up dialogue on the 2021 SWACAT results and customer satisfaction surveys. At these events, the SWCs critically reviewed the results and developed actions plans to improve customer satisfaction. After sharing the preliminary results with the SWCs, USAID E-WASH facilitated individual deep-dive learning sessions with the GMs, CCUs, and MEL TWG that attended from each SWC (excluding AbSWSC). The program explained the survey methodology and data analysis and worked with the SWCs to develop tailored plans to address the survey issues. In each state, the SWC leadership team and MEL TWG committed to leading a customer satisfaction survey at the end of the year and requested technical support from the program. These discussions were the foundations of the MEL plan to support the SWC to improve services.

Exhibit 76. CLA and MEL Events

SWC	CLA Workshop (SWACAT, CSS) Attendees	CLA Workshop (MEL Plan) Attendees	MEL System Strengthening Attendees	Field Monitoring Workshop Attendees
AbSWSC	NA	11 (Commercial and Finance depts., MEL TWG)	13 (MEL TWG, Commercial, Finance, CRM, Water and Engineering services, HR/ Admin depts.)	12 (Zonal staff from Ariaria water schemes, M&E, and Commercial depts.)
DESUWACO	17 (Management)	28 (Directors, M&E unit, zonal managers, MEL TWG)	12 (MEL TWG, Commercial, Finance, CRM, Water and Engineering services, HR/ Admin depts.)	40 (Zonal staff, Finance and Accounts, Commercial depts., admin/technical, managers)
ISWSC	9 (Multiple)	30 (MWR Permanent Secretary, MD and staff)	14 (MEL TWG, Commercial, Finance, CRM, Water and Engineering services, HR/ Admin depts.)	24 (Engineering, Accounts, and Commercial depts. and zonal staff)
NISWASEC	20 (Management, BoD)	27 (Management, M&E unit, and MEL TWG)	12 (MEL TWG, Commercial, Finance, CRM, Water and Engineering services, HR/ Admin depts.)	25–27 (Zonal/cell officers)
TAWASCO	33 (Management, district managers, and MEL TWG)	30 (MWR representatives, MD, directors, staff from all zones, MEL TWG)	23 (MEL TWG, Commercial, Finance, CRM, Water and Engineering services, HR/ Admin depts.)	98 (Commercial, Finance, and Technical depts. from district offices)

Outcomes from these events include the following:

In ***Abia***, at the CLA workshop, AbSWSC agreed to set realistic targets, developed a costed MEL workplan, and detailed a compliance mechanism for operationalizing the ERP system through staff accountability and monitoring in the MEL plan. As AbSWSC is not currently producing water, the participants assumed values for water production and agreed to review the targets once water production commences.

Following the first CLA workshop in ***Delta***, DESUWACO committed to developing a succession plan for the SWC, improving the capacity of management and staff on succession planning, and

strengthening internal information management and the documentation system. The SWC refined its goals and set realistic targets per its indicators with key assumptions; established structured data and reporting flows, with persons responsible and timelines; clearly defined a detailed compliance mechanism for ERP utilization in the MEL plan; and ensured that a surveillance and monitoring plan was integrated into the MEL plan.

Prior to the CLA workshop in ***Imo***, the program facilitated a MEL capacity-building training workshop for 14 ISWSC staff. This training built upon previous trainings and covered the development of monitoring checklists and plans, DQA plans, evaluation plans, capacity-building plans, and data dissemination plans. The program then supported the ISWSC M&E unit to develop data collection tools for all remaining SWC performance indicators. During the CLA event, the ISWSC management team and representatives from the MWR reviewed the draft MEL plan and workplan and approved the progress of the documents. At the CLA workshop, the participants discussed the work plan activities and discussed the potential strategy to meet yearly targets. Additionally, ISWSC used the MEL plan and data collected to develop the SWC's 2022 budget.

Exhibit 77. DESUWACO staff reviewing its assets as part of technical assessment for performance monitoring.

Photo: USAID E-WASH

In ***Niger***, NISWASEC management committed to institutionalizing CLAs and the SWACAT after the program. The SWC also committed to finalize NISWASEC's 2022-2025 strategic plan and commence its implementation in mid-2022; set targets for all staff around implementation of the performance-based contract using the milestone schedule from the strategic plan; conduct extended advocacy to utility areas outside Minna such as Kontagora, Suleja, Bidda, and others; facilitate electronic payments and ensure adherence by customers; and ensure that cell officers remit payments collected from customers daily to curtail dishonest practices. During the CLA meeting, the participants discussed means to incorporate similar activities such as Knowledge Cafés and community scorecards into the SWC's agenda to strengthen customer relationships and expand the revenue base.

During the CLA meeting in ***Taraba***, TAWASCO management adopted the draft MEL plan and pledged to support the plan's implementation. The MWR Director attended the meeting, was impressed by the plans, and sought the support of the TAWASCO M&E team to facilitate capacity-building efforts for the state MWR staff for its own M&E Plan. In addition to supporting TAWASCO's M&E unit on the monthly data and review, the program worked closely with the M&E unit. During the capacity-building session, the M&E unit was guided on data analysis using Microsoft Excel, the correct use of data collection tools, and the conducting of regular data validation across all levels of the SWC.

Supporting the Federal Ministry of Water Resources. USAID E-WASH also initiated work to support MEL strengthening at the FMWR by conducting a rapid MEL infrastructure system assessment. Findings from the MEL assessment showed the need to streamline the two existing GoN reporting platforms (NAWIS and WASHIMS) and improve the ability to track WASH sector performance. USAID E-WASH has advertised for qualified M&E firms with WASH sector experience to lead in MEL system strengthening for the FMWR, State Ministry of Water Resources, SWCs, and regulatory commissions. USAID E-WASH also developed a structured capacity-building plan based on the findings from the assessment. The program reported these findings and plan to the FMWR leadership for the purpose of further advocacy, resource mobilization, and engagement with other stakeholders and partners to support its implementation. Due to the program re-scope, however, USAID E-WASH discontinued support.

Lessons Learned from MEL Activities

- The establishment of the MEL TWG with representatives from various departments is increasing cross-SWC participation and improving data quality. The establishment of TWG members drawn across the departments was critical in ensuring a robust MEL plan and has further improved commitment from staff at the management and junior levels toward data management and performance monitoring in the utility operations.

- The ERP capacity and system assessment survey conducted with AbSWSC and ISWSC staff provided an opportunity for in-depth understanding of root causes that were affecting utilization and compliance with the ERP system.

Program Results

USAID E-WASH by contract has a set of minimum results and deliverables and performance indicators. Exhibit 78 summarizes USAID E-WASH's progress against the contractual minimum results and deliverables and demonstrates the program's success in meeting its objectives and contractual requirements throughout the life of the program. Exhibit 79 presents the performance indicator table covering the 28 targets for the program. USAID E-WASH has met or exceeded 10 targets and has met 13 targets at above 50 percent level. For the remaining five targets, USAID E-WASH was able to meet between 14 to 24 percent accomplishments.

Program Progress against Minimum Deliverables

Exhibit 78. Program Progress against Minimum Deliverables

Component 1: Create Professionally Managed, Commercially Oriented SWBs

Minimum Results and Deliverables	Accomplishments
Increased management autonomy of all selected SWBs as measured by key indicators to be developed in five states (by the end of the program).	USAID E-WASH supported all partner SWCs to improve management autonomy as measured by the SWACAT analysis, WASH laws passed, and SWC policies adopted.
Improved institutional performance of all selected water boards using a set of indicators, some of which have been defined by the Mission and others to be defined by the contractor, in close collaboration with relevant stakeholders (by the end of the program).	USAID E-WASH used the percentage of OCAT strength index achieved indicator to measure SWCs' institutional strength index. The domains measured by this indicator using SWACAT are Governance and Legal Structure, Administration, Policies, and Procedures; Human Resources Management; Financial Management and Internal Controls; Organizational Management and Planning; Performance Management; Effective Utility Management Practices; Gender and Special Needs Management System; External Relations and Stakeholders Engagement; and Sustainability and Services Delivery. The Final SWACAT analysis in FY22 Q1 shows that the 5 SWCs' institutional index increased from an average of 29% at baseline in 2018 to 53% at closeout in 2022, with Niger and Taraba SWCs showing the highest increases of 61% and 62% respectively.
Staff development plan developed and operationalized in five states (by the end of the program); staff retention and transition plan facilitated in five states (by the end of the program).	During the organizational development exercise, USAID E-WASH supported each SWC to assess, analyze, and develop implementation plans for staff development. USAID E-WASH conducted a training needs assessment and recommended trainings and templates for performance-based assessments of staff to support career growth. The program also developed staff retention and transition manuals and reports tailored for the individual SWCs.
Increased number of women in the staff, management and corporate board (Year 3).	Due to hiring limitations in several states, the program was unable to increase the number of women in staff for all SWCs. However, the percentage of female staff increased in Delta and Taraba SWCs from the baseline. The program and partner CSOs were instrumental in advocating for women's nominations to the new SWC BODs, which had 25-33% of women representation. The program also advocated for more women in leadership roles within the SWCs. At NISWASEC, the SWC promoted four female staff to new leadership and management roles.

Minimum Results and Deliverables	Accomplishments
All management and key operational staff and 30 percent of all other staff receiving continuous training (by the end of the program).	The program trained over 300 staff members on topics such as water quality management and production, HR, ERP, MEL, leadership, and corporate culture, among others, following a Global Training Plan developed by the program in FY20. All management and key operational staff of the SWCs accounting for over 300 staff were trained, while over 50% of other staff received technical training
Improved customer orientation of utility by enumerating customers and establishing a platform for customer engagement, a customer service center, and a database created in five states (by the end of the program).	USAID E-WASH conducted a customer enumeration study of over 250,000 premises across six states, established and trained Customer Care Units, and developed an ERP with customer care modules.

Component 2: Improve Financial and Operational Viability of SWBs

Minimum Results and Deliverables	Accomplishments
Pilot options from private-sector participation investigated in five states by the end of the program.	The program conducted an in-depth assessment into the private-sector engagement opportunities for each partner state. Following the assessment, USAID E-WASH developed term sheets with SWCs on the potential options. Due to the program re-scoping, the program was not able to pilot any options.
A Utility Support Fund designed, established, and utilized to support quick service delivery improvements in five states by the end of the program.	USAID E-WASH successfully designed, established, and utilized the USF to make critical investments into the partner states through non-construction and construction activities. Examples of non-construction USF deployment covered goods and services for quick improvements such as corporate branding, ERP system, and procurement of key equipment (e.g., ICT, meters, pumps, fittings). However, USAID E-WASH also adapted the USF to cover major infrastructure development via six construction projects in five states that would set the SWCs for long-term improved services delivery beyond quick improvements.
Developed tariff structure and tariff model in the Delta, Niger, and Taraba States to be implemented by the State Government by the end of the program; developed and implemented tariff studies with pro-poor policies in three additional states (Year 3).	The program developed a tariff report and recommended a tariff structure and financial model for Delta, Niger, and Taraba SWCs. These models all contained provisions for pro-poor and social policies. USAID E-WASH also provided each SWC with a Tariff Implementation Plan, which state governments and regulatory agencies are currently reviewing for possible implementation.
Developed and implemented PIPs in 5 states by the end of the program.	USAID E-WASH supported each SWC to develop a PIP at the beginning of the program. Several SWCs have since updated the PIP and set shorter term specific PIPs to meet designated targets.
Developed and facilitated implementation of preventative maintenance plan in five states by the end of the program.	The program developed asset preventative maintenance plans with all SWCs and added an asset maintenance management (AMM) module into their ERP systems to track operations and maintenance.
Operationalized asset maintenance management system, including a manual to formalize guidelines for developing such a system within the water boards in five states (by the end of the program).	USAID E-WASH supported SWCs to categorize and survey all assets and then established a formal asset management system. To help digitize and centralize the information, the program also developed an AMM module for the ERP system.
Reduced non-revenue water (especially the billing and commercial side) by at least 30	As of the end of FY22 Q1, the program supported Delta, Imo, Niger, and Taraba SWCs to reduce NRW from baseline.

Minimum Results and Deliverables	Accomplishments
percent in Taraba and Niger and by 10 percentage points in all other three targeted states (by the end of the program).	NISWASEC reduced NRW by 28 percentage points, TAWASCO reduced NRW by 12 percentage points, DESUWACO reduced it by 23 percentage points, while AbSWSC reduced NRW by 8 percentage points.

Component 3: Strengthen Policy, Institutional, and Regulatory Frameworks for Improved WASH Services

Minimum Results and Deliverables	Accomplishments
Implemented city-wide sanitation mapping and analysis with recommendations in five states by the end of the program.	USAID E-WASH conducted a sanitation mapping study in five states (Abia, Imo, Delta, Niger, and Taraba) and helped establish City Sanitation Task Forces in each main town where the program was active to develop the City-Wide Inclusive Sanitation (CWIS) plan with all SWCs and state governments.
Designed and utilized Civil Society Engagement Fund to support community-level WASH activities in five states by the end of the program.	USAID E-WASH designed three types of Civil Society Engagement Funds through Grant Under Contract titled "Small Grants Fund": Partnership (17 grantees), Innovation (2 grantees) and Capacity Building (6 grantees). The 17 CSOs led the sector reform advocacy; GESI adoption into new laws and policies; establishment of WASH Customer Forums and Knowledge Cafés; facilitation of 300 community-level WASH engagement activities that targeted vulnerable groups; development of customer service charters; and management of COVID-19 pandemic spread. The other CSOs delivered innovative apps to track sanitation management practices by SWCs, to build closer CSO-customer linkage, and created activities and tools to strengthen internal CSO institutional and financial management capacities.
Designed, established, or strengthened regulatory unit/commission in five states by the end of the program by establishing a sector working group consisting of the state sector ministries and the SWBs in five states by the end of the program.	USAID E-WASH advocated for regulatory commissions in all states, which resulted in the establishment of regulatory units/agencies in all states as part of the newly passed water laws. USAID E-WASH also began to strengthen the roles and tasks of each regulatory unit/agency, including member selection and SOPs. The program helped set up a high-level WASH steering committee in each state, consisting of state government and SWC representatives to coordinate efforts and track program progress.
Established and operational sector performance monitoring and benchmarking system in five states by the end of the program.	The program strengthened SWC M&E units to develop monitoring and benchmarking systems through MEL plans. USAID E-WASH accomplished this deliverable by supporting the five SWCs to establish/restructure their M&E units, increased number of trained dedicated MEL staff, trained all key relevant staff across the departments in performance monitoring, decentralized the CLA structure, established MEL technical working groups, developed MEL plans, developed data management systems (MIS tools and ERP MEL Module), and supported SWCs in establishing key performance indicators with targets set based on best industry practices.
Positive net change in organizational capacity of core partner CSOs, in terms of their engagement and their advocacy, using an organizational assessment tool developed by USAID or proposed by the contractor in five states by the end of the program.	USAID E-WASH assessed partner CSOs through the OCAT and found significant improvements from baseline. With the support of USAID E-WASH, CSOs in Delta, Imo, Niger, and Taraba increased their scores by over 65 percent from baseline. Due to the program re-scoping, the program was unable to conduct a final OCAT for CSOs in Abia.

Minimum Results and Deliverables	Accomplishments
Increased percentage of SWB customers expressing trust in state government officials or institutions in selected states in relation to WASH service delivery (Year 3).	USAID E-WASH assessed SWC customers' trust in state institutions in relation to WASH service delivery, measuring customer satisfaction through direct survey on access to water supply, cost and billing of services, water supply quantity and quality, and SWCs' responsiveness to addressing issues. In 2020, the program surveyed 914 customers from DESUWACO, ISWSC, NISWASEC, and TAWASCO. The survey measured availability, accessibility, and quality of water provided by the SWCs. Results indicated that the average customer satisfaction score for the four SWCs was 43 percent, with the highest customer satisfaction being at NISWASEC at 61 percent. In 2021, the program surveyed 903 customers from the same four SWCs, in which 38 percent were satisfied with overall services, a decrease of five percentage points from FY20. ISWSC had the highest percentage of unsatisfied customers, followed by DESUWACO, NISAWSEC, and TAWASCO. TAWASCO was the only SWC that recorded an increase in satisfied customers, with increased customer satisfaction level from 43% in 2020 to 48% in 2021.

Component 4: Build Coordination, Advocacy, and Strategic Communications to Promote Reforms

Minimum Results and Deliverables	Accomplishments
Completed political economy, conflict, and gender analyses on five states in the first three (3) years of the program.	The program completed PEAs, conflict analyses, and gender analyses with all partner states within the first two years of the program. The program also conducted quarterly PEAs and a follow-up gender assessment to monitor progress.
Developed and implemented an advocacy and communication strategy, including regular coordination group meetings and quarterly outreach to media representatives (Year 2).	USAID E-WASH helped the SWCs develop a communication strategy, facilitated steering committee meetings, and connected with the Urban WASH Media Network and met with the groups quarterly.
Increased participation of CSOs and other relevant stakeholders in key utility reform processes in five states by the end of Year 3.	USAID E-WASH increased participation of CSOs and other stakeholders (e.g., reform champions and women's groups) in the reform process in all partner states. These groups were instrumental in advocating to the government to pass the WASH laws, establish gender-inclusive BODs, participated in budget-tracking committees, and customer charters, among other initiatives.
Complete a minimum of four knowledge products and/or services per year for each of the first three years of program implementation (e.g., training modules, detailed best practices, and others) in five states.	The program has completed over 50 training manuals, over 10 international conference presentations, SWC newsletters, media toolkits, and e-learning modules to share lessons learned and best practices from the program.

Program Outputs and Outcomes

The following Exhibit 79 summarizes the outputs and outcomes of the program. Activities that produced these results are detailed in the *Program Implementation* section for Components 1–4.

Exhibit 79. USAID E-WASH Program Indicators and Outputs

Indicators	State	Baseline Values	Life of Program (LoP) Targets	FY19 Actual	FY20 Actual	FY21 Actual	FY22 Actual	% Reach in LoP
Goal: Increased Access to Sustainable WASH Services in Selected Urban Areas in Nigeria								
HL.8.1-3 Number of people receiving improved service quality from an existing basic or safely managed drinking water service as a result of USG assistance	Abia	0	**0**	NA	NA	NA	**NA**	**-**
	Delta	0	**0**	NA	NA	NA	**NA**	**-**
	Imo	0	**0**	NA	NA	NA	**NA**	**-**
	Niger	0	**162,594**	NA	NA	161,091	**NA**	99%
	Taraba	0	**22,524**	NA	NA	13,480	**NA**	60%
	Total		**185,118**	**0**	**0**	**174,571**	**NA**	**94.3%**
HL.8.1.1 Number of people gaining access to basic drinking water services as a result of USG assistance	Abia	0	**37,499**	NA	0	NA	**NA**	NA
	Delta	0	**12,390**	NA	0	2,884	**NA**	23%
	Imo	0	**25,200**	NA	0	732	**NA**	3%
	Niger	162,594	**90,000**	NA	23,508	30,249	**NA**	34%
	Taraba	22,524	**26,700**	NA	8,400	16,816	**NA**	63%
	Total	**185,118**	**191,789**	**0**	**31,908**	**50,681**	**NA**	**26.4%**
HL 8.4.1 (Impact): Value of new funding mobilized to the water and sanitation sector as a result of USG assistance (standard from DO PMP	Abia	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	**NA**	90%
	Delta	[redacted]		[redacted]	[redacted]	[redacted]	**NA**	
	Imo	[redacted]		[redacted]	[redacted]	[redacted]	**NA**	

Indicators	State	Baseline Values	Life of Program (LoP) Targets	FY19 Actual	FY20 Actual	FY21 Actual	FY22 Actual	% Reach in LoP
indicators)	Niger	[redacted]		$[redacted]	[redacted]	[redacted]	**NA**	
	Taraba	[redacted]		$[redacted]	[redacted]	[redacted]	**NA**	
	Total		[redacted]	[redacted]	[redacted]	[redacted]	**NA**	**90%**
2.1.2.4 (output): Number of Active New Connections (Newly activated and newly reconnected)	Abia	0	5,357		0	0	**NA**	NA
	Delta	0	1,770	NA	678	412	**607**	34%
	Imo	0	4,200	NA	558	122	**125**	3%
	Niger	18,066	10,000	NA	2,612	3361	**4104**	41%
	Taraba	3754	4,450	NA	1,400	2102	**2356**	53%
	Cumulative Sum	**21,820**	**25,777**	**NA**	**5,248**	**5,997**	**7,192**	**28%**
Component 1: Create Professionally Managed, Commercially Oriented State Water Boards (SWBs)								
Indicator 3.1.1.2.5 (output): Percentage of positive customer satisfaction survey responses based on a statistically valid survey or on an immediately after-service survey	Abia	0	50%	No data	NA	Not Available	NA	NA
	Delta	0	50%	No data	22%	Not Available	14%	29%
	Imo	0	50%	No data	47%	Not Available	11%	22%
	Niger	0	50%	No data	61%	Not Available	41%	82%
	Taraba	0	50%	No data	43%	Not Available	48%	96%
	Average	**0%**	**50%**	**0%**	**43%**	**-**	**38%**	**77%**
Indicator 2.1.1.4.1	Abia	0%	85%	NA	NA	NA	**NA**	NA

Indicators	State	Baseline Values	Life of Program (LoP) Targets	FY19 Actual	FY20 Actual	FY21 Actual	FY22 Actual	% Reach in LoP
(outcome): Drinking water quality compliance rate (from EUM primer performance measures)	Delta	0%	85%	0%	NA	73%	**NA**	86%
	Imo	0%	85%	0%	28%	72%	**NA**	85%
	Niger	0%	85%	80%	39%	67%	**NA**	79%
	Taraba	12%	85%	0%	68%	63%	**NA**	74%
	Average	**2%**	**85%**	**16%**	**45%**	**69%**		**81%**
Indicator 2.1.1.5.1 (output): Number of staff per thousand connections (No. of casual and full-time staff)	Abia	NA	130	NA	NA	NA	**NA**	NA
	Delta	NA	100	NA	662	1066	774	13%
	Imo	NA	80	NA	4152	1566	1429	6%
	Niger	55	25	50	42	30	23	109%
	Taraba	184	87	65	126	153	122	71%
	Average	**119.5**	**84.4**	**57.5**	**1246**	**704**	**587**	**14%**
Indicator 2.1.1.5.2 (output): Percentage of staff who are women	Abia	32%	36%	32%	31%	28%	NA	78%
	Delta	11%	26%	13%	15%	15%	NA	58%
	Imo	52%	52%	42%	42%	41%	NA	79%
	Niger	34%	48%	13%	12%	19%	NA	40%
	Taraba	17%	32%	21%	18%	22%	NA	70%
	Average	**29%**	**39%**	**24%**	**24%**	**25%**	**-**	**65%**

Indicators	State	Baseline Values	Life of Program (LoP) Targets	FY19 Actual	FY20 Actual	FY21 Actual	FY22 Actual	% Reach in LoP
Indicator 2.1.1.5.3 (output): Number of internal or external leadership development/training/ skills development opportunities provided to employees (indicator from EUM primer performance measures)	Abia	0	26	1	16	17	1	131%
	Delta	0	26	5	24	15	1	169%
	Imo	0	29	1	25	15	1	141%
	Niger	0	30	2	28	16	1	153%
	Taraba	0	28	2	12	15	1	104%
	Cumulative Sum	**0**	**139**	**11**	**105**	**78**	**5**	**143%**
Component 2: Improve Financial and Operational Viability of SWBs								
Indicator DO3.16 (outcome): Percentage of OCAT Strength Index achieved	Abia	30%	60%	29%	21%	Not Available	34%	57%
	Delta	33%	60%	35%	46%	Not Available	51%	85%
	Imo	27%	60%	31%	50%	Not Available	59%	98%
	Niger	29%	60%	36%	49%	Not Available	61%	102%
	Taraba	27%	60%	35%	57%	Not Available	62%	103%
	Average	**29%**	**60%**	**33%**	**45%**	**Not Available**	**53%**	**89%**
Indicator DO3.17 (outcome) Percentage of water utility consumers who pay according to consumption (standard from DO PMP indicators list)	Abia	0%	75%	NA	0%	NA	NA	NA
	Delta	0%	75%	NA	36%	13.8%	17.0%	23%
	Imo	0%	75%	NA	0%	16%	58%	77%
	Niger	0%	75%	NA	0%	Not Available	5%	7%

Indicators	State	Baseline Values	Life of Program (LoP) Targets	FY19 Actual	FY20 Actual	FY21 Actual	FY22 Actual	% Reach in LoP
	Taraba	17%	75%	17%	73%	Not Available	Not Available	97%
	Average	**3%**	**75%**	**17%**	**22%**	**15%**	**27%**	**66%**
Indicator 2.1.1.1.1 (outcome): Percentage of income from tariff (total income denominator)	Abia	0%	20%	NA	NA	NA	NA	NA
	Delta	0%	20%	0%	0.53%	1%	2.0%	10%
	Imo	0%	20%	1%	1.84%	1%	1.2%	6%
	Niger	12.3%	45%	9%	10.46%	12%	11.2%	25%
	Taraba	2.4%	54%	2%	13.45%	25%	15.7%	29%
	Average	**2.94%**	**31.80%**	**3.00%**	**6.57%**	**9.78%**	**7.53%**	**24%**
Indicator 2.1.1.1.3 (outcome): Operating Cost Coverage Ratio (OCCR)	Abia	0	0.2	NA	NA	NA	NA	NA
	Delta	0	0.2	0	0.02	0.03	0.05	25%
	Imo	0.02	0.3	0	0.04	0.06	0.16	53%
	Niger	0.12	0.4	0.09	0.11	0.14	0.12	30%

Indicators	State	Baseline Values	Life of Program (LoP) Targets	FY19 Actual	FY20 Actual	FY21 Actual	FY22 Actual	% Reach in LoP
	Taraba	0.05	0.2	0.02	0.14	0.29	0.24	120%
	Average	**0.04**	**0.26**	**0.03**	**0.08**	**0.13**	**0.14**	**55%**
Indicator 2.1.1.2.1 (outcome): Collection efficiency Collection efficiency = (Internally generated revenue from billing)/ (Total amount billed) *100	Abia	0%	40%	0%	0%	0%	NA	0%
	Delta	0%	75%	26%	44%	72%	75%	100%
	Imo	0%	40%	0%	38%	18%	6%	14%
	Niger	14%	75%	42%	44%	30%	30%	41%
	Taraba	18%	60%	0%	61%	68%	73%	121%
	Average	**6%**	**58%**	**14%**	**37%**	**38%**	**46%**	**79%**
Indicator 2.1.3.6 (outcome): Capacity Utilization Efficiency - NEW Indicator	Abia	0%	60%	Not Available	0.00%	NA	NA	NA
	Delta	0%	60%	Not Available	0.30%	0.27%	2.8%	4.7%
	Imo	0%	65%	Not Available	1.30%	2.76%	1.7%	2.6%
	Niger	33%	83%	Not Available	33.60%	33.48%	34.7%	41.8%
	Taraba	12%	72%	Not Available	13.80%	21.66%	15.4%	21.4%

Indicators	State	Baseline Values	Life of Program (LoP) Targets	FY19 Actual	FY20 Actual	FY21 Actual	FY22 Actual	% Reach in LoP
	Average	**9%**	**68%**	**-**	**9.8%**	**14.5%**	**13.7%**	**20%**
Indicator 2.1.1.2.2 (outcome): Production efficiency (raw water volume taken into the treatment system to treated water produced x 100)	Abia	0%	35%	0%	0%	NA	NA	NA
	Delta	0%	55%	0%	0%	NA	NA	NA
	Imo	0%	50%	0%	48%	44%	NA	88%
	Niger	91%	94%	0%	90%	86%	NA	92%
	Taraba	64%	90%	0%	99%	98%	NA	109%
	Average	**31%**	**65%**	**0%**	**47%**	**46%**	NA	**70%**
Indicator 2.1.1.2.3 (outcome): Percentage of non-revenue water	Abia	100%	90%	Not Available	NA	NA	NA	NA
	Delta	100%	90%	Not Available	93%	75%	67%	134%
	Imo	100%	90%	Not Available	98%	98%	92%	98%
	Niger	93%	63%	72%	73%	67%	65%	97%
	Taraba	89%	59%	73%	71%	72%	76%	77%

Indicators	State	Baseline Values	Life of Program (LoP) Targets	FY19 Actual	FY20 Actual	FY21 Actual	FY22 Actual	% Reach in LoP
	Average	**96%**	**78%**	**73%**	**84%**	**78%**	**75%**	**104%**
Component 3: Strengthen Policy, Institutional, and Regulatory Frameworks for Improved WASH Services								
Indicator DO3.18: (outcome) Number of reforms introduced, adopted, repealed, changed, or implemented consistent with citizen input (standard from DO PMP indicators)	Abia	0	3	0	1	0	NA	33%
	Delta	3	4	0	6	0	NA	150%
	Imo	3	4	0	1	0	NA	25%
	Niger	4	5	0	1	0	NA	20%
	Taraba	3	3	0	2	0	NA	67%
	Cumulative Sum	**13**	**19**	**0**	**11**	**0**	**-**	**58%**
EWA2.1.2.2 (outcome): Number of WASH sector reforms introduced, adopted, repealed, changed, or implemented consistent with knowledge, best practices, lessons learned, and evidence from CLA events and MERLA metadata (custom)	Abia	0	6	1	2	3	NA	100%
	Delta	0	7	1	5	4	NA	143%
	Imo	0	7	1	7	4	NA	171%
	Niger	0	6	2	6	5	NA	217%
	Taraba	0	7	2	9	4	NA	214%
	Cumulative Sum	**0**	**33**	**7**	**29**	**20**	TBD	**170%**
EWA2.1.3.1: (Outcome): Number of policies, laws,	Abia	0	5	0	2	1	NA	60%
	Delta	3	5	2	2	0	NA	80%

Indicators	State	Baseline Values	Life of Program (LoP) Targets	FY19 Actual	FY20 Actual	FY21 Actual	FY22 Actual	% Reach in LoP
agreements, regulations, or investments (public or private) that promote access to improved water supply and sanitation (standard from master list of indicators)	Imo	6	5	1	2	0	NA	60%
	Niger	9	4	0	3	0	NA	75%
	Taraba	4	5	1	2	0	NA	60%
	Cumulative Sum	**22**	**24**	**4**	**11**	**1**		**67%**
EWA2.1.3.5: (outcome) Number of states with specific institutional mandate for urban sanitation management (custom)	Abia	0	1	0	0	1	NA	100%
	Delta	1	0	0	0	0	NA	-
	Imo	0	1	1	0	0	NA	100%
	Niger	0	1	0	1	0	NA	100%
	Taraba	0	1	1	0	0	NA	100%
	Total	**1**	**4**	**2**	**1**	**1**	NA	**100%**
EWA3.1.1.1.3: (outcome): Number of oversight or internal accountability mechanisms strengthened, adopted, and implemented by host nation through USG assistance (custom)	Abia	0	3	0	2	NA	NA	67%
	Delta	0	3	0	2	NA	NA	67%
	Imo	0	3	1	2	NA	NA	100%
	Niger	0	3	0	2	NA	NA	67%
	Taraba	0	3	0	2	NA	NA	67%
	Total	**0**	**15**	**1**	**10**		NA	**73%**
REINTRODUCED: Number of states with developed shit flow diagram (custom)	Abia	0	1	0	0	1	NA	100%
	Delta	0	1	0	0	1	NA	100%
	Imo	0	1	0	0	1	NA	100%
	Niger	0	1	0	0	1	NA	100%

Indicators	State	Baseline Values	Life of Program (LoP) Targets	FY19 Actual	FY20 Actual	FY21 Actual	FY22 Actual	% Reach in LoP
	Taraba	0	1	0	0	1	NA	100%
		0	**5**	**0**	**0**	**5**		**100%**
Component 4: Build Coordination, Advocacy and Strategic Communications to Promote Reforms in WASH Sector								
Indicator 3.1.1.1: (outcome): Net change in advocacy technical capacity of core partner civil society organizations (standard from DO PMP indicators)	Abia	29%	49%	0%	NA	NA	NA	NA
	Delta	52%	62%	0%	70%	NA	NA	113%
	Imo	37%	52%	0%	66%	NA	NA	127%
	Niger	36%	51%	0%	62%	NA	NA	122%
	Taraba	36%	51%	0%	60%	NA	NA	118%
	Average	**38%**	**53%**	**0%**	**65%**		NA	**122%**
Indicator Percentage of targeted CSOs that confirm that they can obtain specified information from key public agencies* **12 CSO grantees were surveyed and confirmed obtaining information from key public agencies*	Abia	0	50%	NA	NA	NA	100%	200%
	Delta	0	50%	NA	NA	NA	100%	200%
	Imo	0	50%	NA	NA	NA	100%	200%
	Niger	0	50%	NA	NA	NA	100%	200%
	Taraba	0	50%	NA	NA	NA	100%	200%
	Total	**-**	**50%**	**-**	**-**	**-**	**100%**	**200%**
DO3.21: (output): Number of CSOs receiving USG assistance engaged in advocacy interventions	Abia	0	3	0	2	2	NA	67%
	Delta	0	3	3	3	3	NA	100%
	Imo	0	3	3	3	3	NA	100%
	Niger	0	3	3	4	2	NA	

Indicators	State	Baseline Values	Life of Program (LoP) Targets	FY19 Actual	FY20 Actual	FY21 Actual	FY22 Actual	% Reach in LoP
	Taraba	0	3	3	3	3	NA	
	Cumulative Sum	**0**	**15**	**12**	**15**	**13**		**100%**
Indicator 3.1.1.2.1 (output): Number of CLA events organized to promote WASH-enhancing knowledge, best practices, lessons learned, and research data from MERLA processes (custom)	Abia	0	12	0	3	8	2	108%
	Delta	0	16	2	15	6	2	156%
	Imo	0	16	2	13	8	2	156%
	Niger	0	16	4	13	8	2	169%
	Taraba	0	15	4	8	5	2	127%
	E-WASH National		7	0	0	1	1	29%
	Cumulative Sum	**0**	**75**	**12**	**52**	**36**	**11**	**148%**
Indicator 3.1.1.2.4. (output) Number of community-based WASH engagements targeting vulnerable groups (women, men, boys, girls, people living with disabilities) (custom)	Abia	0	24	0	22	NA	NA	92%
	Delta	0	24	0	150	NA	NA	625%
	Imo	0	36	0	71	NA	NA	197%
	Niger	0	24	0	46	NA	NA	192%
	Taraba	0	36	0	63	NA	NA	175%
	Cumulative Sum	**0**	**144**	**0**	**352**	**NA**	**NA**	**244%**

Management

Program Sub-Contractors

To support program objectives, USAID E-WASH (led by RTI International) collaborated with three major subcontractors – Segura Consulting, Plan International, and CDM International. All partners deployed short-term technical assistance (STTA) and provided technical support through in-person as well as virtual/remote methods before and during the COVID-19 pandemic, respectively, to align with the program's adaptive management approach as follows:

- Segura provided technical assistance to professionalize and build the financial viability of the SWCs through the development of PIPs, private-sector engagement studies, tariff reviews, and SWB corporatization processes.

- CDM International delivered key STTA for activities such as the initial SWB baseline OCAT application, asset management maintenance, NRW management, water quality management training and monitoring, city sanitation mapping and planning support, and lab equipment procurement support. CDM also deployed several technical STTAs during a ramp-up (or surge) of assessment activities on SWC water production and distribution in early FY20.

- Plan International meanwhile not only delivered STTA but also had long-term technical assistance (LTTA) and embedded staff through life of program. Plan provided staff to lead and implement activities related to Component 3 and 4 such as an Advocacy, Coordination, and Strategic Communications Specialist; a GESI Specialist; a CSO Capacity-Building Specialist; and Advocacy, Coordination, and Strategic Communications Managers (one per state). Plan facilitated the creation of a team to help enforce gender policies embedded in HR policies at the SWC level as well as installing Women in WASH groups across the SWCs and supported grantee CSOs during all related activities.

By the end of the program, USAID E-WASH had collaborated effectively with the three main program subcontractors, on-time and within allotted budget. All subcontractors performed satisfactorily per the SOW and remained collaborative during the contract modification period to downsize programmatic activities in line with revised program expectations. As such, Segura closed out in July 2021, CDM Smith in February 2022, and PLAN International in April 2022.

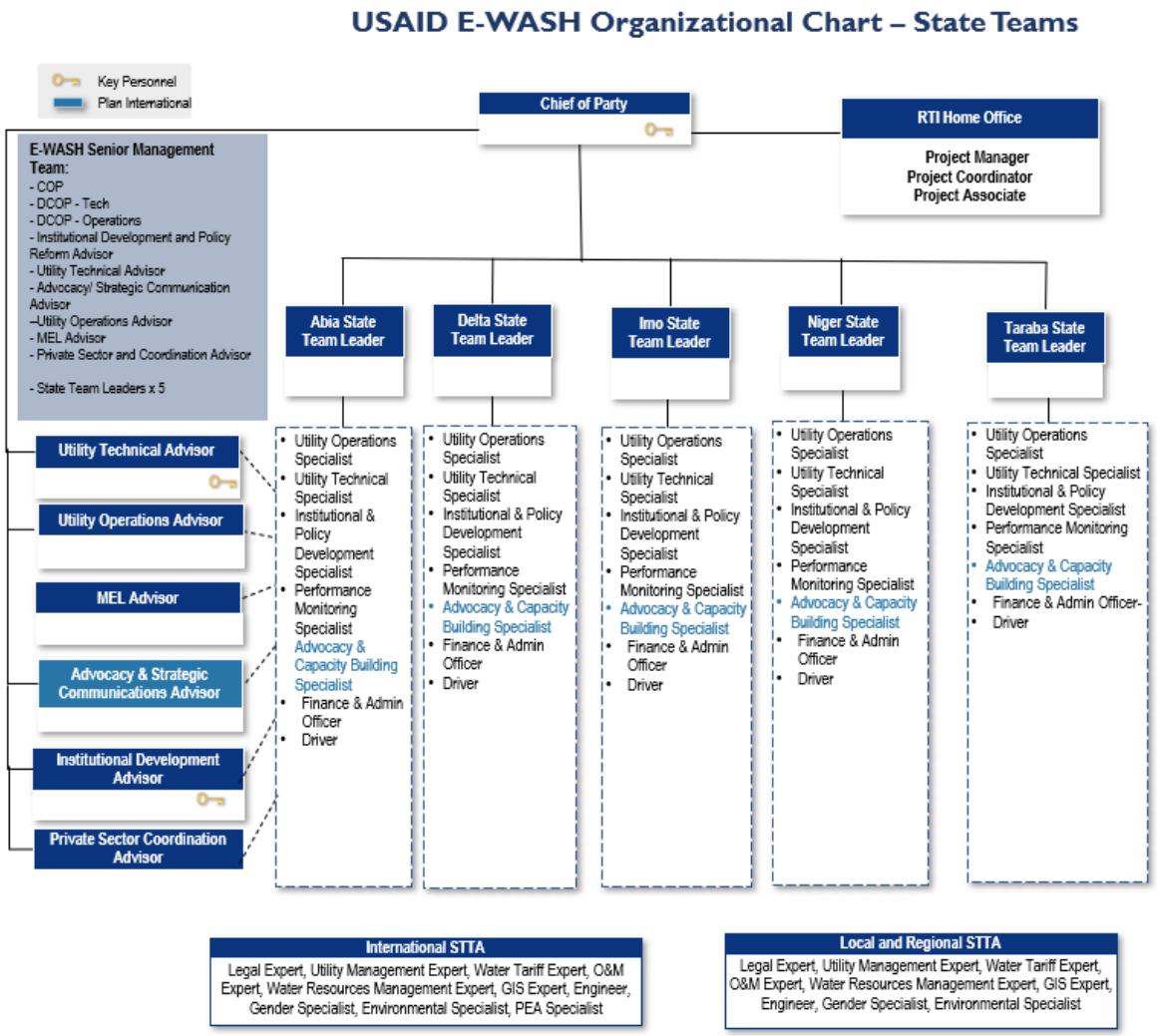
USAID E-WASH Team

To effectively manage a multi-state program, USAID E-WASH organized its personnel structure to ensure coverage in each of the five states through embedded deployment with a home base in Abuja, Nigeria consisting of field program leadership and an advisory team. Each embedded state team comprised a State Team Leader (STL), Utility Operations Specialist (UOS), Utility Technical Specialist (UTS), Institutional and Policy Development Specialist (IPDS), Performance Monitoring Specialist (PMS), Advocacy and Capacity Building Specialist (ACBS), Finance and Admin Officer (FAO), as well as a driver. The state team coordinated closely with state stakeholders at all levels (from Governor to SWC leadership to CSOs and community members), facilitated all activities across Components 1–4 and MEL, delivered advocacy for reform, and provided day-to-day technical assistance to advance program implementation.

The program leadership team consisted of a COP, DCOP-Operations, and DCOP-Technical. The Advisory team, also based in Abuja, comprised of an Institutional Development Specialist (IDS), UTS, Utility Operations Advisor (UOA), MEL Advisor, Advocacy and Strategic Communications Advisor, and Private Sector Coordination Advisor. The Advisory team and the program leadership team

provided support to each of the five state teams in Nigeria. USAID E-WASH also recruited local and regional STTA positions to provide targeted trainings and support for program objectives. Exhibit 80 shows the program organizational chart.

Exhibit 80. USAID E-WASH Organizational Chart



The USAID E-WASH program was backstopped by a Project Management Unit (PMU) from RTI International based in the United States. The PMU team included a Project Manager, Project Coordinator, and Project Associate, who provided remote operational support. Additionally, to support the large volume of reports and deliverables, a Technical Management Unit (TMU) was formed consisting of a Senior Water Manager and a Senior Water and Sanitation Specialist. The TMU coordinated with the DCOP-Technical and the technical team in Nigeria to compile data and information for all technical deliverables. In addition to the core management and technical backstopping team, the program was supported by key support divisions, such as RTI's International Grants, Procurement, and Subcontracts teams who were essential in reviewing and pushing through all of USAID E-WASH's RFP development, competition requirements, contract issuance, and modifications to ensure accurate alignment with RTI and USAID compliance regulations. Lastly, USAID E-WASH was supported by RTI's Kenya Regional Office, which supported in reviewing high dollar-value procurements and payments, compliance with human resources, and corporate financial transactions.

The personnel structure outlined in Exhibit 80 above was the standard until a program re-orientation starting in FY21 that resulted in a reduced personnel structure to accommodate streamlined technical objectives. The Adaptive Management section under CLA has described the program re-scope in greater detail.

Quality

USAID E-WASH instituted additional quality control interventions to support technical activities and reporting requirements. As noted, the USAID E-WASH TMU in the Home Office delivered additional backstopping technical support and guidance for USAID E-WASH field team on targeted interventions such as SWC technical assessments, creditworthiness analysis, regulatory framework review, NRW and asset management, water quality monitoring, sanitation mapping, CWIS planning, PSE, and financing, and others. The TMU provided in-depth coverage to engage and coordinate with the program field team and subcontractors on all contractual and technical deliverables such as reports, presentations, and other related program documents. USAID E-WASH developed and delivered a total of approximately 232 reports over the 47-month period since the beginning of the program (see Annex A).

Schedule

USAID E-WASH completed the program within agreed time frame and reduced budget (due to the program re-scoping in FY21). Initial implementation in the first 18 months of the program was challenging as USAID E-WASH adjusted from a two-phase approach covering three states per phase to simultaneous deployment to all six states. As noted, this six-state coverage required adjustments that the program navigated through leadership changes (see subsequent section) but also impacted the initial assessments related to enabling environment and SWC conditions. To overcome this, USAID E-WASH deployed surge assessment of all SWCs as noted along with COP change in late FY19. Other program changes in FY20, such as exiting Sokoto and exiting/re-entering Abia, also affected schedule as activities and resources shifted. The program made significant strides to adjust to these mid-shifts during implementation to keep to delivery schedules as agreed.

In FY20 and until the end of the program, the COVID-19 pandemic and program re-scope required further adjustments. As noted, the pandemic impacted global supply chains that then affected the USF deployment. Meanwhile, the program re-scope, which took effect in July 2021, oriented the program to construction activities that needed close oversight. The program re-scope essentially gave the project 10 months to complete six substantial infrastructure improvements to enhance safe water production and distribution. During implementation, additional events like regional conflicts and lockdowns caused construction progress delays. In early FY21, USAID E-WASH continued to inform the USAID Mission in Nigeria about these challenges and collaborated to approve a no-cost extension extending the program for two months to April 24, 2022. This extension helped alleviate the pressures of the construction activities. Despite the short time frame, challenging political environments due to COVID-19, civil unrest and protests, and global supply constraints, the program was able to complete all construction projects on time and within budget.

In addition to these activity deliverables, USAID E-WASH was also able to deliver all contractual reports on time and responded to all USAID Mission in Nigeria requirements (e.g., requests for additional reports, report-outs, and status updates) on time and to satisfaction.

Cost Control

USAID E-WASH reported accurate and on-time financial reports showing burn rates, accruals, and projected costs. The program worked closely with its subcontractors and grantees to monitor and manage monthly expenditures and ensured the timely processing of invoices and vouchers. USAID E-

WASH continued to work closely with the USAID Mission in Nigeria to verify that necessary costs during the pandemic were allowable, allocable, and reasonable for the program's operational needs.

During the program re-scope, USAID E-WASH submitted a modification to the program's overall budget, which involved incorporating the USAID Mission in Nigeria's requests for a reduced USF budget and ensuring that there were sufficient funds for the proper closeout of the program. In addition, during program no-cost extension, USAID E-WASH worked with USAID Mission in Nigeria representatives to discuss budget implications for extending the program for another two months to accommodate the completion of the USF construction activities. USAID E-WASH successfully adapted its operational and financial management practices and procedures to the changing environment and the needs of the USAID Mission in Nigeria and program stakeholders and worked in tandem with the USAID Mission in Nigeria to outline scenarios and understand program financial and operation risks.

Staffing

USAID E-WASH maintained staffing to the end of the program with the strategic phaseout of staff in the last three months of the program. In addition, the program was able to successfully transition two staff members to two new positions supporting another USAID Mission in Nigeria program (Act to End Neglected Tropical Diseases – Nigeria Office).

Leadership

Throughout the program, USAID E-WASH evaluated its objectives against the original 45-month timeline and continuous learnings from implementation. This process was to ensure adequate support and leadership were in place to meet the ambitious program objectives and its timeline. In 2019, the USAID E-WASH PMU determined a leadership transition to a new COP was required to lead the program through the remaining period of performance with high quality and responsiveness to the USAID Mission in Nigeria.

As mentioned, the first 18 months of the program put unexpected burdens on resources as activities commenced at the same time in all six states. With new leadership in late 2019, implementation momentum improved due to the strong COP leadership. Given the doubling of the workload, the COP worked with the PMU and TMU teams to support technical deliverables and advise field teams. This group met weekly and produced over 232 reports for the USAID Mission in Nigeria and state stakeholders; the vast majority of these were not required by the contract but were nonetheless critical to implementation. The COP also enabled the PMU to support the field team with compliance, USF procurement flows, and grants support.

As COVID-19 pandemic expanded, USAID E-WASH experienced delays in implementation. Throughout the first nine months[5] of the pandemic, the COP remained in Nigeria to work directly with field staff on moving the program forward and resolving major implementation issues that included working with suppliers and beneficiaries to redesign USF activities impacted by global supply chain challenges. The COP also led the process to enable remote work while at the same time keeping flexibility to ensure field teams were safely interacting with SWC counterparts and designing/implementing large infrastructure investments with the SWCs that were not initially envisioned by the program design. It is noteworthy that the COP only left the country to renew her immigration visa as required by Nigerian law and then immediately returned to Nigeria. The COP's relationship with each of the SWC MDs and GMS was invaluable, securing effective program

[5] [redacted] travelled from post on December 11, 2020 due to immigration and visa reasons but made the decision to return to post, despite the COVID-19 risk, on January 31, 2021 and stayed in-country until February 22, 2022.

implementation and resolving any conflicts not only throughout the program but also specifically during the pandemic.

Despite the short timeline of this program, including the impact of the simultaneous startup decisions and COVID-19 pandemic, USAID E-WASH effectively utilized CLA and in particular P&R sessions to pivot activities, make suggestions to the USAID Mission in Nigeria based on data, and find the appropriate set of solutions to have impact. The leadership and management teams of this program performed admirably under difficult circumstances with local counterparts, ultimately yielding significant progress in moving WASH sector reforms and water productivity forward in the five states.

Finance

USAID E-WASH began on May 22, 2018 and was awarded a total budget of $[redacted] to achieve program objectives. However, in FY21 Q2, discussions with the USAID Mission in Nigeria resulted in the program re-scope that focused on deploying the USF for six new major infrastructure activities to advance SWC water production and distribution. USAID E-WASH therefore aligned program objectives to the budget and submitted a final budget of [redacted], which was approved on July 9, 2021.

The total estimated cost for the program was [redacted] as summarized in Exhibit 81.

Exhibit 81. USAID E-WASH Program Budget Summary

Description	Approved Task Order Budget	Budget Re-Alignment
Personnel	[redacted]	[redacted]
Fringe Benefits	[redacted]	[redacted]
Travel	[redacted]	[redacted]
Equipment	[redacted]	[redacted]
Supplies	[redacted]	[redacted]
Contractual	[redacted]	[redacted]
Other Direct Costs	[redacted]	[redacted]
Total Direct Costs	[redacted]	[redacted]
Indirect Costs	[redacted]	[redacted]
Fees	[redacted]	[redacted]
Total Costs	[redacted]	[redacted]

Exhibit 82 below provides a life-of-program breakdown of this total. By fiscal year, the program expended [redacted] in FY18, [redacted] in FY19, [redacted] in FY20 and [redacted] in FY2, [redacted] in FY22. [redacted] is forecasted for trailing costs to be billed.

Exhibit 82. Detailed Life of Program Expenditures

Line Item	FY18	FY 19	FY 20	FY 21	FY22	Grand Total
Labor	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Fringe	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Travel	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Equipment	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Supplies	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Contractual	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Other Direct Costs	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Direct Costs	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Indirect Costs	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Fees	$[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
Total Program Costs	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Overarching Next Steps

Throughout program implementation, USAID E-WASH provided transformational technical assistance and infrastructure support for the SWCs and thereby strengthened the governance and financial and technical viability of the five SWCs. While these initiatives set the foundation for increased SWC operational efficiencies and institutional development, SWCs in coordination with their respective state governments need to uphold and improve upon progress made for long-term outcomes. As part of the program closeout, USAID E-WASH organized advocacy meetings with SWCs and state governments in early FY22 to discuss SWC achievements and how they could sustain progress made and also completed a Sustainability Plan shared with all SWCs that identified needed follow-ups post-program. The following highlights outcomes from the advocacy meetings in all the states and selected recommendations in the Sustainability Plan.

Program Closeout Advocacy Meetings

In ***Abia***, USAID E-WASH engaged the Permanent Secretary, Board Chairman, and MD of AbSWSC to commit to continuing progress made in the SWC and commence water production after the rehabilitation of the Ariaria water scheme. USAID E-WASH stressed the importance of the Abia State government to provide targeted funds to AbSWSC to sustain water production and water delivery, maintain the changes made to the water quality laboratory, and optimize use of the computers and other ICT equipment to operate the ERP system and thus streamline business processes. The program also discussed the need for the AbSWSC BoD and high-level steering committee to maintain regular meetings and continue its monitoring role of the SWC. In response, the state government representatives expressed commitment for continued support and gratitude for USAID E-WASH assistance to date for the reform process facilitation.

In ***Delta***, in meetings with the MWR Permanent Secretary, Regulatory Commission Director General, and the MD of DESUWACO, USAID E-WASH recommended to the Delta State Regulatory Commission to fast-track tariff reviews, support the implementation of the PBC between DESUWACO and the government, and maintain the organizational structure and SOPs introduced by USAID E-WASH. Additionally, the program emphasized the supporting role of the high-level steering committee on WASH as well as supporting the MD's efforts in engaging a payment solutions company, such as Interswitch. These reforms were critical to increase transparency in the SWC and maintain corporate culture necessary for the continued successful operations of DESUWACO. Furthermore, USAID E-WASH encouraged coordination with relevant state government and DESUWACO departments to enable the SWC's water quality monitoring unit to sustain use of the laboratory equipment procured for the SWC by USAID E-WASH. The Permanent Secretary expressed appreciation for USAID EWASH's support and assured the team that the knowledge gained and recommendations raised would be passed down to the SWC and that efforts were underway to build an FSTP in the state.

In ***Imo***, USAID E-WASH held an advocacy meeting with the MWR Permanent Secretary and the MD of ISWSC to review the achievements and progress made with program support, including the enactment of the Water Law as well as organizational development activities and capacity building of SWC staff on financial management, water quality, pump maintenance, and NRW reduction. To sustain progress, USAID E-WASH advocated for the constitution of the BoD to oversee ISWSC in line with the State's Water Law and for the creation of the Regulatory Unit/Commission. Furthermore, the program encouraged management to implement strategies for reactivating water connections, including updating and uploading customer data into the ERP software; supporting the technical working group to strengthen M&E practices in the corporation; and ensuring retention of personnel who were trained in managing the ERP, commercial, and finance departments. Finally, the program appealed to the government representatives to provide a targeted subsidy to ISWSC to improve asset management and water production until the SWC is financially self-sufficient. The

meeting concluded with the government representatives expressing their commitment to sustaining the improvements made by USAID E-WASH and advocating for better provisions to ISWSC.

In ***Niger***, USAID E-WASH conducted its advocacy meeting with high-level government officials including the Niger Honorable Commissioner and Permanent Secretary of the MWR&DD as well as the Chairman of the BoD and the MD of NISWASEC. Sustainability efforts included supporting the progress made in the human capital development of NISWASEC by planning and budgeting for staff capacity development, approving and supporting PBCs, and ensuring proper usage of ICT equipment, including the ERP system. Additionally, the program advised the government officials to maintain the use of the Chanchaga Water Works facilities and water quality laboratory equipment, including planning and budgeting for reagents and replicating the pilot DMA intervention in other pressure zones in the state. Lastly, the meeting highlighted the need to establish a WASH regulatory commission, small towns water and sanitation agency, and performance contract monitoring and tariff reviews. The MD of NISWASEC thanked USAID E-WASH for its support and expressed the importance of the program in advancing SWC improvements. The MD further acknowledged the work remaining to deliver potable water supply to the citizens of Niger State but was confident in the capabilities of NISWASEC to achieve those long-term objectives.

Exhibit 83. NISWASEC leaders drinking water from a public tap to gain public trust of the SWC's operational improvements.

Photo: USAID E-WASH

Lastly, in ***Taraba***, USAID E-WASH met with the Honorable Commissioner and Permanent Secretary of the MWR, the MD of TAWASCO, the Executive Secretary of TAWASREC, and the Chairman of the TAWASCO Governing Board to highlight achievements in Taraba State, including support in developing the Taraba State Water Policy and Water and Sewerage Corporation Law and establishing TAWASREC as a regulatory agency. USAID E-WASH stressed the roles of the MWR, TAWASREC, and TAWASCO to sustain the achievements made to ensure that TAWASCO had the support from the Taraba state government to explore outsourcing options for public standpipes and vending points to the private sector and engaging with Power Africa (a USAID project) to implement a sustainable power supply structure for the SWC. Additionally, the program emphasized the urgency of TAWASCO's financial support from the Taraba government until the SWC was ready to be self-sufficient. USAID E-WASH also encouraged TAWASREC to fully set up its governing board, review the tariff study report and submissions from TAWASCO, and make necessary approvals. Within TAWASCO, the program stressed the importance of deploying all resources for successful operations, including the ERP solution use and water quality management. The Permanent Secretary assured the state government's commitment to upholding the reform efforts and noted that the SWC already had strategies in place to ensure sustainability.

Key Sustainability Plan Recommendations

The following lists selected suggestions to sustain the reform and transformation USAID E-WASH had effectively facilitated:

Component 1: Create Professionally Managed, Commercially Oriented SWBs

- With a **corporatization** pathway established, SWCs need to continue to adopt corporate principles and build transparency and accountability with their stakeholders, including state governments and customers. With BoDs in place, each BoD should (1) organize quarterly meetings with published minutes of meetings and clear action items; (2) report outcomes of

meetings and agenda items on the new SWC websites and in the appropriate circulars for state-level stakeholders; (3) review and approve SWC budgets and annual business plans; (4) follow up on the implementation of new SWC responsibilities, such as sanitation; and (5) deliberate on priority items based on each SWC's situation. These priority items include supporting regulatory body development, as in Niger, and creating working arrangements with other new development partner programs that are being designed, such as the World Bank's Sustainable Urban WASH (SURWASH) project in Delta and Imo. When opportune, BoD members should also engage with CSOs and participate in key stakeholder events, such as WASH Customer Forum meetings and Urban WASH Media Network forums, to build stakeholder trust and show commitment to SWC improvement and reform. Continued review of the BoD charter, SOPs, and operations guidelines is also essential for capturing any evolving situation in each SWC.

- To sustain **SWC performance monitoring**, each SWC should assign the M&E Unit to keep track of the parameters needed to record and monitor the corporatization and autonomy progress using the SWACAT. Input data for the SWACAT should be available in the ERP and should be updated on an annual basis as a start to build confidence in the process. Through their BoDs, SWCs must also present the SWACAT outputs to their state government counterparts, and when strategic during outreach to their customers.

- SWCs should advance **institutional development** through proactive activities such as (1) pursuing yearly orientation programs for management and BoD members to review the ethics and norms of the agreed-upon organizational structure and their roles and responsibilities; (2) reviewing the new organizational structure periodically (e.g., annually) to align with annual business plans and the overall long-term strategic plan as the SWCs evolve; (3) taking stock of staff training needs every six months, allocating funds for training, looking into potential trainers, and building capacity of HR departments to use and implement the new policies; (4) developing a mentoring and coaching program in which senior staff engage junior staff to transfer internal knowledge and plan for succession; and (5) establishing staff performance evaluations and staff-supervisor feedback with key metrics, incentives, and linkages to staff development.

- SWCs should continue to implement all **GESI-related policies and strategies** externally and internally. Externally, because ingrained gender norms have been carried over into government institutions, there is need for a constant re-orientation of stakeholders, such as state government functionaries, on GESI principle adoption. SWCs should also review their gender policy every three to five years to meet trends in gender mainstreaming in institutions and ensure that future MOUs with state governments have a requirement for appointments of qualified women. Internally, SWCs should (1) consider internship opportunities for women WASH graduates, (2) continue to engage women and girls to participate in technical sectors associated with water and sanitation services delivery, and (3) provide deliberate mentoring and coaching of female staff in leadership positions.

Exhibit 84. Women in WASH groups in SWC continuing to advocate for GESI during the reform process.

Photo: USAID E-WASH

- SWCs should continue to determine various options for **customer management and engagement**. With the Customer Relationship Management ERP module fully integrated with the social media platforms, SWCs should constantly update their customer databases using the ICT equipment provided and link with the billing database. SWCs should also appoint desk and duty officers across timelines to ensure that SWC staff is responding to

customer entries 24/7. Using their websites, SWCs should maintain and attach relevant information, such as annual reports, construction activities, customer complaints management, and the like. SWC staff trained on website management and social media should handle deployment. SWCs should continue to conduct and publish regular customer satisfaction surveys to gather feedback on CCU operations and overall customer relations.

Component 2: Improve Financial and Operational Viability of SWBs

- For **private-sector engagement**, SWCs need to revisit business plans, performance plans, and financial projections regularly to track and improve the SWCs' financial management; continue discussions with commercial financiers to inform on financing the WASH sector; connect with proposed private-sector players; participate in another creditworthiness study in two to three years to track progress; and assign a dedicated small unit or task force on PSE to focus on law, regulations, technology options, and contract management.
- SWCs need to maintain the momentum and procure the resources to further scale and adopt **key business process improvement** systems such as the **ERP** by activities such as (1) consolidating the ERP efficiencies through constant usage, daily collection, and collation of data by the M&E Technical Working Group; (2) undertaking a maintenance management agreement with the technical ERP system specialists; and (3) making budgetary provisions that would enable ERP system upgrades and training.
- Regarding **tariff restructuring** promotion, each state should assess readiness and address stakeholders who may be resistant to the changes by advocating for the benefits and opportunities of utilizing the tariff studies conducted by the program. SWCs should work within the already-established relationships with CSOs and WCFs to introduce the tariff concept, ensure that customers understand the new reforms, and build back customers' trust to pay a fair water tariff. Additionally, SWCs should prepare communications to the state government and governors to approve the policy and concurrently strengthen their billing, metering, and customer care strategies to ensure the processes and systems are in place for the tariff implementation. SWCs should also follow the protocol developed by USAID E-WASH and use the data collection tools provided to update records on customers' ability to pay.
- Though the SWC management teams should champion the **SWC PIPs**, a designated team, such as the M&E TWG, should lead PIP development and monitoring, with support from the Planning and Commercial Departments. In the short term, the SWCs can use the same targets developed with the program and adjust when foundational operation and technical processes are improved, or when on-the-ground conditions change. A greater emphasis should be placed on establishing department-level or smaller-scale PIPs within each SWC and piloting efforts to improve within a shorter period. USAID E-WASH also recommends that the SWCs either start or continue using a reward-based system to incentivize zonal offices to meet targets.

Exhibit 85. This new borehole constructed in Issele-Uku in Delta was funded by the USF and is already tracked in DESUWACO's asset monitoring database in its ERP system.

Photo: USAID E-WASH

- To ensure sustainability of **asset maintenance management** (AMM) system use and proper asset management, the program recommends the following to the SWCs: (1) ensure assets are released and accounted for use; (2) appoint a dedicated AMM engineer to coordinate with the SWC leadership and appropriate state government departments to obtain O&M manuals; (3) apply the risk rating system to any future data collection and to replacement of red assets; and (4) ensure that routine

scheduled maintenance personnel are skilled (mechanical technicians) in operating and maintaining electro-mechanical equipment.

- SWCs should work to demonstrate how effective implementation of **water-quality monitoring** systems and processes will help improve cost effectiveness and efficiencies, such as through monthly reporting and data management. This advocacy will need to closely link with reform and capacity-building efforts on financial and asset maintenance management to effectively determine the required budgetary and resource inputs (such as chemicals and training) for long-term water quality management (such as regular reagents) and budgetary allocations. Finally, SWCs should consider and review service agreements with vendors and service providers to ensure the most cost-effective and timely procurement process.

Exhibit 86. SWCs now have the basic tools and skills to better monitor their water supply quality, meet local compliance standards, and increase public trust in safe water provision.

Photo: USAID E-WASH

- SWCs should revisit and/or implement the proposed 7-step **NRW management** strategies through additional internal discussions and coordinate with state governments.

Component 3: Strengthen Policy, Institutional, and Regulatory Frameworks for Improved WASH Services

- Each state government should develop an agreement with its SWC to provide a **financing grant** on a sliding-scale formula over a five-year period. For example, in the first year, the state government should grant 100 percent of the operational costs. Any revenue realized by the SWC should be kept for use in the next year. During the second financial year, the state government should only grant 80 percent of the operations budget. This sliding scale should continue until SWCs can generate enough revenue to cover 100 percent of operational costs.
- Each SWC should develop an **operational budget** for each financial year when the state government is developing its budget and in accordance with the state government budget cycle. The budget must include personnel-related costs such as salaries, procurement of goods and services such as chemicals, energy costs, minor or major repairs, and others.
- State **regulatory agencies/units** established by the state water laws require further institutional and operational strengthening and can learn through peer engagements with others through networks like the Eastern and Southern Africa Water and Sanitation Regulators Association. State governments should work with development partners to continue this capacity building including provision of resources and financing to ensure sustainability. In addition, state governments should provide support to the regulatory bodies/units by giving necessary autonomy, especially on setting appropriate tariff levels. The regulatory entity must also have the autonomy to implement any punitive measures if the SWCs do not comply with the requirements set by the regulators. This also means having the autonomy to approve tariffs based on financial considerations (e.g., cost recovery) and to monitor any PBC arrangements and their KPIs.
- To build **SWC accountability**, SWCs should continue liaising with **local CSOs** to implement the community scorecards on a quarterly basis and report on constraints and effectiveness to better define the tools and implementation process. SWCs and CSOs should also continue engagement to promote the open government partnership initiatives to increase advocacy for more WASH-sector funding and link with activities on corporate culture adoption. Finally, CSOs and SWCs should continue refining state-level WASH

budget-tracking monitoring systems led by special committees composed of CSOs, WASH Customer Forum (WCF) members, reform champions, SWCs, community leaders, and the media. The committees could serve as conduits for citizens' access to information regarding the states' WASH budgets, open procurement, and service delivery enhancements.

- **WASH Customer Forums, Knowledge Cafés, and the Urban WASH Media Networks** should continue, on a quarterly or semi-annual basis, to sustain reform momentum, raise awareness about sector challenges, and bring together stakeholders to resolve the constraints. CSOs should support the Urban WASH Media Networks to implement the toolkits created through the program in support of WASH-related sector outreach. The Urban WASH Media Network should partner with SWCs, local institutes, and CSOs to engage journalists and other media outlets to learn more about the challenges, best practices, and reform initiatives in the WASH sector.

Exhibit 87. CSO partners and journalists visiting the operations of ISWSC's newly re-started Otamiri WTP to observe and learn about water production processes.

Photo: USAID E-WASH

- Each state government should establish a dedicated **Directorate of Sanitation** and design capacity-building plans for the new Directorate. The new Directorate should be responsible for developing the appropriate policies and strategies for sanitation in both urban and rural areas and should create a budget line for sanitation management. Additionally, SWCs should advocate and work with the state governments to mobilize resources and funding for the construction of FSTPs in each of the five cities where city sanitation mapping was undertaken and where land was allocated.
- Using the **sanitation mapping** and **Citywide Inclusive Sanitation Plans**, SWCs need to design activities to address the sanitation value chain. This includes designing activities for coordinating the private sector in the emptying and transportation of the fecal sludge to the **FSTPs**. For the containment, the state and local government administrations must enforce the town and country planning regulations on the design and construction of toilet facilities. These tasks include having appropriate, standardized containment systems such as septic tanks and latrines; establishing working arrangements between SWCs and private-sector providers (for emptying/transporting fecal sludge); and investing in FSTP construction.

Component 4: Build Coordination, Advocacy, and Strategic Communications for Reform

- For **sector coordination and strategic communications**, future programs should build on the **high-level steering committee** on WASH in each state and revisit the capacity gaps for the **state-level community of practice** (CoP) platforms. CoPs need to have defined Terms of Reference, for example on having a knowledge management strategy to share updates and lessons learned via web-based applications, social networking, media applications, and text message.
- CSOs and SWCs should continue coordinating to organize the **celebration of local and international events** to highlight the successes and challenges related to the specific issues of **sector and SWC reform**. In these activities, customers, reform champions, and high-level government officials (e.g., state governors) should be involved and engaged. To start with, events should align with key global and sector events around International Women's Day, World Water Day, Menstrual Hygiene Management Day, World Handwashing Day, and World Toilet Day.

Monitoring, Evaluation, and Learning

- With respect to **ERP utilization**, SWC M&E officers should provide technical oversight on ERP use and carry out quality checks on all data entered into the system from the various departments while the SWC M&E technical working group members in each department should validate all data before entering it into the database. Through monthly/periodic management meetings and CLA activities, SWC management should ensure performance data are used to drive learning, decision making, and adaptive management.
- SWCs should have a dedicated budget to implement the **MEL Plan**, especially monitoring, surveillance, assessments, and data quality assurance activities. The SWC MEL Plan, being a living document, should be updated periodically to align with the SWCs' strategic and business plans.

Annexes

Annex A. List of Completed Reports and Studies

Exhibit 88. Reports and Key Documents Prepared and Submitted in FY19

Name	Date Submitted
Report: State Selection Process	December 2018
Report: Baseline Assessment (6 states)	December 2018
Request for Applications: Civic Advocacy and WASH Stakeholders Engagement Grant	January 2019
Report: Conflict Analysis Baseline Assessment	March 2019
Report: *CONFIDENTIAL* Baseline Political Economy Analysis (available but to be provided directly)	June 2019
Report: Management Autonomy of State Water Boards	June 2019
Summary: State Transition and Implementation Plans (6)	June 2019
Report: Draft Concept Note on Data Acquisition for FSM and City Wide and Inclusive Sanitation	August 2019
Manual: Customer Engagement Strategy (4 SWBs)	September 2019
Report: Baseline Organizational Assessment (6 states)	September 2019
Workshop Synopsis: State Water Board Vision, Mission, and Core Values	September 2019
Draft Report: Current State of Water Quality Monitoring and Associated Laboratories (4 SWBs and Summary)	September 2019
Report: Data Quality Assessments/Field-Based Monitoring (5 states)	September 2019
IDMS (Integrated Data Management System)	FY 2019
Manual: Draft Utility Support Fund Implementation Manual	FY 2019
Report: Water Production Assessment (6 SWBs)	FY 2019
SWB Action Plans (6 states)	FY2019 Work Plan

Exhibit 89. Reports and Key Documents Prepared and Submitted in FY20

Name	Date Submitted
Draft: CSO Capacity Development Plans (15 CSOs in 5 states)	September 2019
Report: Non-Revenue Water (NRW) Reduction Plan (5 states)	October 2019
Manual/Framework: Community Engagement Framework	October 2019
Manual/Framework: Community Scorecard Framework	October 2019
SWB Laboratory and Water Quality Management Assessment Report	November 21
Report: Draft Environmental Management and Monitoring Plan	November 2019
Briefing on the Development of the Urban WASH Network and Community of Practice	November 2019
SWB Financial Diagnostic Results	December 6
SWB Water Production Assessment Report	December 6
Revised MEL Plan	December 16
Community Scorecards and Framework	December 23
Customer Engagement Plans	December 27
Manual/Framework: Framework for Reform Communications	December 2019
Report: Financial Diagnostics and Credit Risk Assessment (5 SWBs)	December 2019
Report: Gender Analysis Baseline Assessment	December 2019
Report: Mapping and Capacity Assessment of Civil Society Organizations (6 states)	December 2019
Report: WASH CSOs Organizational and Technical Capacity Assessment (OCAT) [of partner CSOs in all states]	December 2019
Report: WASH Institutional Arrangement – Legal and Institutional Framework Review (5 states)	December 2019
State Service Improvement Plans (SIPs) (6 states)	December 2019
Summary: Block Mapping and Customer Enumeration Activity Mid-Term Update	December 2019
Draft Memorandum of Understanding (MOU) between State Governments and USAID Nigeria (6 states)	December 2019
Draft Report: Corporate Culture Action Plans (6 states)	December 2019
Creditworthiness Analysis Report	April 7
USAID E-WASH M&E System Capacity Assessment for FMWR	April 9
NSWB Financial Management Report	April 21

Name	Date Submitted
PSE Strategy SoW	May 12
Raw Water Quality Assessment Report	May 13
Sanitation City Wide Inclusive Sanitation (CWIS) Planning Concept Note	May 13
DESUWACO Financial Management Report	May 14
Imo Customer Enumeration Report	May 19
Sokoto Customer Enumeration Report	May 20
Tariff Study SoW	May 21
Taraba Customer Enumeration Report	May 22
Niger Customer Enumeration Report	May 27
Delta Customer Enumeration Report	May 28
ISWSC Financial Management Report	May 29
Consolidated Report of CSO Activities	June 7
Creditworthiness Analysis Report (revised)	June 9
AbSWB Financial Management Report	June 12
DESUWACO Technical Surge Report	June 12
ISWSC Technical Surge Report	June 12
NSWB Technical Surge Report	June 12
TAWASCO Technical Surge Report	June 12
Technical Surge Assessment Trip Reports	June 12
TAWASCO Human Capital Development and Training Plan	June 25
WASH Health and Economic Study Concept Note	June 25
NSWB Human Capital Development and Training Plan	June 26
State Strategies for Customer Service Improvement	July 1
USAID E-WASH Water Works Newsletter June 2020	July 1
Delta HR Manuals and Reports	July 3
Niger HR Manuals and Reports	July 3
Taraba HR Manuals and Reports	July 3
Imo HR Manuals and Reports	July 3
USAID E-WASH Construction Plan (July 2020)	July 8

Name	Date Submitted
Delta Training Plan	July 10
Imo Training Plan	July 10
Infographic CWIS Process	July 10
Taraba Financial Management Report	July 16
City Wide Sanitation Mapping SoW	July 16
Organization chart-sanitation intervention	July 16
IDEC Commodity Matrix	July 23
Construction Plan Scope of Work, RFP Design and Supervision	July 25
EOI Advert Design and Supervision	July 25
RFP Design and Supervision	July 25
USAID E-WASH Training Plan NBC/Coca-Cola for HR and Top Executives	July 25
Customer Satisfaction Survey (CSS) Assessment SoW	July 28
Capacity, Attitude, Practice and Performance Attitude Survey SoW	July 28
PSE Inception Report	July 31
Commercial Financing Inception Report	July 31
USF Contingency Workplan Gantt Chart Status Update	July 31
Regulatory Framework Inception Report	July 31
Communications Management Training for SWBs	August 11
Sanitation Mapping Revised SoW	August 11
USAID E-WASH's Training Manual on Customer Billing, Revenue Generation, and Debt Management Strategies	August 12
USAID E-WASH Timeline Tariff Study	August 13
Tariff Inception Report	August 13
EMMP Report Environmental Mitigation and Monitoring Plans - Construction	August 14
Coca-Cola/HBC Training Agenda	August 18
Coca-Cola/HBC Corporate Governance Curriculum	August 18
WASHCOAT SoW	August 19
USAID E-WASH Training Agenda	August 20

Name	Date Submitted
Consolidated Recommendations of the OD Assignment	August 24
Customer Relationship Management Marketing Training for SWBs	August 25
Corporate Governance and Risk Management Training for SWBs	August 25
USF Asset Management Register Report Imo State	August 31
USF Asset Management Register Report Taraba	August 31
USF Asset Management Register Report Delta	August 31
USF Asset Management Register Report Niger	August 31
NRW Reduction Strategy	September 18
NISWASEC Strategic and Business Plans	September 22
DESUWACO Strategic and Business Plans	September 25
ISWSC Strategic and Business Plans	September 25
TAWASCO Strategic and Business Plans	September 26
AbSWSC Strategic and Business Plans	September 30

Exhibit 90. Reports and Key Documents Prepared and Submitted in FY21

Name	Date Submitted
Sanitation Mapping Inception Report	October 1
Commercial Financing Assessment SoW	October 8
Asset Maintenance Management Inception Report	October 22
Gender Equity and Social Inclusion Road Map	October 28
GISI Training for CSOs and Utility Gender Focal Persons	October 28
NRW Management Strategy for Niger with the Model DMA Approach	November 16
Private Sector Engagement Report	November 20
Commercial Financing Options	November 20
Niger Tariff Report and Financial Model	November 26
Bi-monthly Technical Contingency Plan	December 1
Commercial Financing Options Reports	December 7
Delta ERP Report	December 13
Imo ERP Report	December 13
Taraba ERP Report	December 13

Name	Date Submitted
Niger ERP Report	December 13
Corporatization Roadmap and Implementation Support SOW	December 14
NRW Management Strategy for Taraba with the Model DMA Approach	December 15
National Water Regulatory Framework Review Report	December 16
PSE Implementation Support SOW	December 24
NISWASEC Tariff Implementation Plan	January 4
Coca-Cola/NBC: HR Management Essentials Training Presentation	January 19
Coca-Cola/NBC: Marketing for State Water Boards Presentation	January 19
Coca-Cola/NBC: Performance Management Training Presentations	January 19
Coca-Cola/NBC: High Performing Utilities Training Presentation	January 19
Coca-Cola/NBC: Corporate Governance and Risk Management Training Presentation	January 19
Coca-Cola/NBC: Customer Service Training Presentation	January 19
Coca-Cola/NBC: Water Quality Management Training II	January 19
Sanitation Mapping Presentation	January 26
Asaba – Sanitation Mapping Report	January 29
Basic Laboratory Skills Training Report	January 29
DESUWACO Tariff Study, Financial Model, and Implementation Plan	February 3
Sanitation Mapping Raw Data: Owerri, Imo	February 3
Sanitation Mapping Raw Data: Jalingo, Taraba	February 3
Sanitation Mapping Raw Data: Minna, Niger	February 3
Sanitation Mapping Raw Data: Asaba, Delta	February 3
Sanitation Mapping Raw Data: Aba, Abia	February 3
SoW for City Sanitation Plan Development	February 4
Global Waters Blog Post – Urban Sanitation Policy and Legal Gaps	February 5
Water Quality Operations Training SoW	February 8
TAWASCO Tariff Report, Financial Model, and Tariff Implementation Plan	February 9
Abia Customer Enumeration Report	February 25
Sanitation Mapping Report: Owerri, Imo	March 5

Name	Date Submitted
Sanitation Mapping Report: Jalingo, Taraba	March 5
Sanitation Mapping Report: Minna, Niger	March 5
Sanitation Mapping Report: Asaba, Delta	March 5
Sanitation Mapping Report: Aba, Abia	March 5
Warri-Effurun BOOT Concession Due Diligence Assessment	March 14
WASHCOAT Report 2020	March 20
Delta Tariff Model Training Slides	March 23
Niger Tariff Model Training Slides	March 23
Taraba Tariff Model Training Slides	March 23
AbSWB Creditworthiness and Risk Assessment Report	March 24
NISWASEC Corporatization Process Briefing Report	April 6
TAWASCO Corporatization Process Briefing Report	April 6
Urban WASH Media Toolkit	April 14
Integrated Advocacy Toolkit and Protocols	April 14
Urban WASH Media Network Sustainability Plan	April 14
Niger DSA and ATP report	May 8
City-Wide Inclusive Sanitation Planning Guide (CWIS Planning Guide)	May 8
Imo DSA and ATP report	May 19
Taraba DSA and ATP report	May 19
CSO e-Capacity Building Program 1.0	May 21
Abia DSA and ATP report	May 26
Commercial Financing	May 28
Training Manuals: CRM and Billing System-ERP application HR and Pay/Roll System-ERP application Effective Auditing Utility Operations Budgeting Utility Financial Management Customer Billing, Revenue Generation, and Debt Management	June 2
Delta DSA and ATP report	June 3
TAWASREC Organizational Development Reports	June 30

Name	Date Submitted
3-Year Strategic Plan Job Descriptions Staff Survey Compensation Report Transition Report Succession Report	
Abia ERP Report	August 4
Construction Inception Report	August 22
Keynotes from Construction Inaugural Meetings	August 23
NWRI Manuals on the following topics: Operation and Maintenance of Motor Vehicles Plumbing Asset Management and Maintenance Pipe Network Maintenance CLTS NRW Leak Detection and Repairs Operation and Maintenance of Water Meters Sewage and Sanitation Services Vehicle Maintenance Water Resources Management and Water Treatment Water Production Treatment Process Control and Quality Management Water Quality Management	August 27
Abridged Media and Advocacy Toolkits	September 16
WQM Equipment SOPs on the following equipment: Colorimeter Conductivity Meter Spectrophotometer Colilert Incubator Jar Testing pH Meter Turbidity Meter General Lab Safety Manual	September 17
WQM Training Reports on the following topics: Chlorine Measurement Colilert Method Conductivity Measurement	September 17

Name	Date Submitted
WQM Training and Skills Transfer Iron Measurement Jar Test Methodology Lab Instrument WQM Monitoring pH Measurements Spectrophotometric Analysis Turbidity Measurement	
Water Quality Assurance Plan and Environmental Monitoring Management Plan – Rehabilitation of Water Supply Facilities in Abia, Delta, Imo, Niger, Taraba	September 22
Construction Supervision Monthly Progress Report	September 22
USAID E-WASH Implementation Plan until Project Closeout	September 27
AMM and M&E ERP Module Report and Manuals for AbSWSC	September 30
AMM and M&E ERP Module Report and Manuals for DESUWACO; CRM Mobile App Manual	September 30
AMM and M&E ERP Module Report and Manuals for ISWSC; CRM Module Manual	September 30
AMM and M&E ERP Module Report and Manuals for NISWASEC	September 30
AMM and M&E ERP Module Report and Manuals for TAWASCO	September 30

Annex B. Selected Stories and Briefs on Program Impacts

USAID Increases Stability of Nigerian Water Utility During COVID-19 Pandemic to Maintain Taraba State's Water Delivery

The inefficient management of the Taraba State Water and Sewage Corporation (TAWASCO) in Nigeria threatened Tarabans' water delivery and their ability to wash their hands, a key way of stopping the spread of COVID-19. Since February 2020, USAID, through the Effective Water, Sanitation, and Hygiene (E-WASH) Program, has helped TAWASCO reorganize staff roles and responsibilities to increase the capacity and efficiency of the organization. As a result of USAID's assistance, TAWASCO has not only streamlined operations, it has been able to increase collection efficiency by 10 percent, which enhances the stability of the organization and helps Tarabans maintain water access during the COVID-19 pandemic. Engr. Musa Siam, the General Manager of TAWASCO, described how USAID's support has improved the organization's water service, "It is incredible to see how much more we have to offer and how we now use innovation to supply water to Tarabans. We have introduced flexible payment options and our [ratio of] staff per connections is considerably better than before."

USAID-Supported Contest for Nigerian Water Utility Logo Draws Upon Youth Creativity During COVID-19 Pandemic

After transitioning from a government agency to a corporate utility in 2019, the Imo State Water and Sewerage Corporation (ISWSC) lacked an official logo and struggled with establishing a strong brand identity, impacting its legitimacy and hindering buy-in from consumers. USAID, through the Effective Water, Sanitation, and Hygiene (E-WASH) Program, supported the ISWSC to build a new corporate brand while channeling the creativity of Imo's youth through a new logo design competition. In late March 2020, amid the COVID-19 pandemic, the contest drew over 89 online entries and the top three winners selected by ISWC staff received cash prizes as well as training in brand development. Silvia George, first runner-up in the USAID-supported logo design competition, was happy that her design was one of the three selected and was excited to be included in the training program: "I really like that recognition was given to two other designs and not just the winner. The mentorship program is a great eye-opener and has really lifted the mood in this lockdown occasioned by the COVID-19 pandemic."

Niger State Community Gets Clean Tap Water for The First Time In 18 Years

Exhibit 91. Piped Water Tap at Church Road, Suleja

Photo: USAID E-WASH

For the past 18 years, the Suleja residents of Church Road, Tudun Wada, had no access to piped water.

Like many other communities, the Church Road households relied on water vendors (locally known as Mai-Ruwa) and often cost hundreds of Naira daily. "I have ten children, and the cost of providing water for them from the Mai-ruwa [was] very difficult," said Mallam Adamu Madaki, the Mai Unguwa (leader) of the Church Road area.

According to Mallam Adamu Tukura, Suleja District Manager, NISWASEC had not maintained infrastructure nor attended to damaged pipes leading to a lapse in services in this hard to reach community.

Through USAID E-WASH's Utility Support Fund (USF) support, the program provided pipes and fittings for NISWASEC to restore water-distribution pipelines across the Iku River in the Suleja Area. Additionally, the program rehabilitated the Suleja waterworks clarifiers and filter beds for compliance with Nigerian water quality standards. These repairs resulted in the state water corporation reconnecting 15 households in the area, providing access to piped water to an estimated 135 people (9 people per household) in February 2021.

To ensure that NISWASEC can sustain service to Church Road, the SWC's Customer Care Unit followed the New Customer Connection Policy, developed by the program, and signed the customer charter with the households which outlines both the customer's and SWC's roles and responsibilities. The customers' information was updated onto the SWC's ERP system, and the Commercials department sent the households their bills. Because of trainings and equipment provided by USAID E-WASH, these customers can now call the CCU for questions and concerns and know that their requests will be addressed. Utilizing the new processes and procedures, the corporation included this community into its asset maps and management plan and will regularly follow up with customers to ensure timely billing and collections.

DRAFT: USAID E-WASH Explores Learning Partnership with Zambia's Water Supply and Sanitation Council

One of the objectives of the United States Agency for International Development's (USAID) Effective Water, Sanitation and Hygiene Services (E-WASH) program is to create a favourable environment for Urban WASH reform in six states in Nigeria by strengthening policy, institutional and regulatory frameworks. To that end, the program conducted an in-depth review and gap analysis of water and sanitation sector enabling environments in Abia, Delta, Imo, Niger, Sokoto and Taraba states to identify entry points for policy and legal framework advocacy interventions, is providing policy development support, and has started to implement social accountability and institutional transparency interventions.

Furthermore, USAID E-WASH recognizes the need to learn from countries with advanced regulatory capacity and a similar context, and to adopt models, structures and tools—with the overarching objectives of: complying with international standards that can improve measurable and transparent sector performance monitoring and benchmarking; strengthening the government's ability to provide oversight and implement regulatory reform strategies; and structuring new models for regulators across states (as built on lessons from previously established structures) to ensure full functionality and sustainability.

E-WASH identified Zambia's National Water Supply and Sanitation Council (NWASCO) and Lusaka Water and Sanitation Company (LWSC) as examples of a regulator and utility that could support the implementation of the program though learning and partnerships. NWASCO is responsible for licensing all the water supply and sanitation (WSS) companies in the country, advising the government on WSS matters, developing and enforcing standards and guidelines for the sector, tariff setting, and informing the public about sector development. LWSC manages water and sanitation in Zambia's capital city, Lusaka.

On October 31, 2019, USAID E-WASH held a two-day meeting in Abuja to learn about Zambia's experience in water sector reforms and agree on possible areas of support or collaboration. Meeting participants included Peter Mutale, the Chief Inspector of NWASCO, water operators from Zambia, General Managers (GMs) of State Water Boards (SWBs) in USAID E-WASH partner states, and USAID E-WASH staff.

The Zambian regulator team shared their experience from the start of the reform process in the early 90s and highlighted lessons Nigeria could learn from their successes and failures. The team made presentations on institutional and regulatory frameworks, benchmarking of utilities, the role of the regulator in tariff setting, licensing of utilities and LWSC operations.

Exhibit 92. Peer-to-peer knowledge sharing, here between the water regulatory agency in Zambia and with the partner SWCs, helped inform expectations, benefits and lessons of sector reform and corporate orientation process.

Photo: USAID E-WASH

The DESUWACO GM, Engr. Okoh Idenedo, was impressed by Zambia's reform and said, "we have already seen massive improvements in attitudinal change and water production at DESUWACO since the start of USAID E-WASH. We have installed 33KVA transformers to the commercial line, many staff are undergoing training, and we have started organisational development and customer enumeration. Having a more favourable regulatory environment and a strong legal and policy framework would strengthen our activities. Nigeria has a lot to learn from Zambia".

Similarly, the GM of the NISWASEC, Engr. Hassan Chado, said, "peer learning is essential to accelerate our progress. There is no need to reinvent the wheel. Thanks to the USAID E-WASH program, NISWASEC is functioning more like a business and less like the traditional civil service. Our work ethics have improved, and departments are more performance-oriented due to monitoring mechanisms. My hope is that NISWASEC will be a utility that will deliver satisfactory service rapidly. We want to delight our customers—not only satisfy them".

Indeed, Mr. Mutale believes that Nigeria is well-positioned to learn from other African countries that have set up WSS regulators. He said, "expose the political leaders to what is happening in other countries, so that they can buy into the reform. If they don't appreciate why it is necessary to reform, there might be impediments".

The meeting ended with a proposal underlining potential areas of cooperation, namely: capacity building on economic and service regulation of urban water services, support in the establishment of benchmarking of urban water services, and training of staff in regulatory units at SWCs.

ISWSC's Newly Reactivated Customer Care Unit Rapidly Fixed Burst Pipes

For several years, ISWSC had not supplied potable water to residents of the three major urban centers of Owerri, Orlu, and Okigwe. In early 2019, however, USAID E-WASH entered Imo and supported ISWSC to identify critical stakeholders, conduct advocacy during a transition between two government administrations, and activate the first and second Emergency Action Plans (EAPs). In August 2019, because of these efforts, ISWSC resumed water production.

Building on this achievement, USAID E-WASH further supported ISWSC to reconnect ISWSC with its customers, including developing a Customer Service Charter led by civil society input and reestablishing ISWSC's inactive Customer Care Unit. The program supported the unit to begin logging, responding to, and reporting requests and complaints.

One ISWSC customer Chineso Nworgu reported a burst pipe, and within 30 minutes of receiving Mr. Nworgu's complaint, the Water Services department dispatched a team of plumbers to assess the issue. Within 48 hours, the team had resolved the case.

"I reported a problem," Mr. Nworgu said, "and they swung into action immediately."

Further efforts by USAID E-WASH have resulted in the ISWSC increasing CCU staff and setting up two dedicated phone lines and a WhatsApp platform for customers to report complaints. In addition, more customers are installing running taps, taking increasingly more active roles to improve water services, assuming personal responsibility for public infrastructure, and holding ISWSC accountable.

Below, the left-hand photo shows Mr. Nworgu reporting the burst pipe and the right-hand photo shows a dispatched team confirming a burst pipe in Ikenegbu.

Exhibit 93. ISWSC Responded Quickly to Reports of Burst Pipes

The Governor of Taraba State Signed the WASH Law

In 2016, the National Bureau of Statistics reported that only just one out of six persons in Taraba State had access to potable water. On December 19, 2019, following the advocacy efforts of TAWASCO and USAID E-WASH and the WASH Policy approval, the Governor of Taraba signed the WASH Law, which declared a state of emergency for the sector and institutionalized comprehensive reforms.

The WASH Law passed further guarantees commercialization and governance autonomy of TAWASCO and supports an enabling legal framework for multi-stakeholder participation across the WASH sector.

"By signing the bill into law, His Excellency the Governor has rebuilt residents' trust in government institutions to deliver on improved public services," said the Commissioner of Water Resources Yusufu Akirikwen.

Photo of Taraba Governor Launches the WASH Policy

Exhibit 94. Governor Darius Ishaku launching the official WASH Policy at stakeholder event.

Photo: USAID E-WASH

The Taraba Governor exemplified political will toward operationalizing the WASH Law by launching the WASH regulatory commission (TAWASREC) in April and approving TAWASCO BoD appointments to support the SWB to transition into a fully corporatized entity. USAID E-WASH supported the development of BoD charter and guidelines and facilitated recommendations between MoWR and ISSC to appoint a new gender-balanced BoD, comprised of one woman and four men.

With this renewed commitment from the state government, USAID E-WASH continued to support TAWASCO with a competitive recruitment process to critically evaluate and streamline staffing needs and develop PBCs. TAWASECO's Transition Committee reviewed 585 current staff for optimal staff placement and reduced its staff/1,000 connections from 192 to 142 by the end of 2020.

Grantee CSOs in Abia Made Critical Impacts

In FY20, in Abia, USAID E-WASH collaborated with two grantee CSOs, GRACODEV in Umuahia and Toilet Pride in Aba. Collaborative activities with these CSOs led to statewide WASH and SWB-level reforms, the promotion of sanitation and hygiene, and COVID-19 awareness and prevention. In Q4 alone, the two CSOs facilitated outreach for 870 people through at least 33 events. Through the Open Government Partnerships, the CSOs have helped citizens advocate for better budgetary processes and accountability at the state level.

The two CSOs formally mentored nine other CSOs regarding citizen engagement plans, mapping, community mobilization, and more. As a result, the CSOs have created and participated in new platforms for advocacy, such as a Magic FM 102.9 FM broadcast on World Toilet Day and led outreach through Aba's landlord association. The CSOs developed audio jingles in English, Igbo, and Pidgin about hygiene and broadcasted them on the state's top two radio stations, the Broadcasting Corporation of Abia State Radio and Vision African Radio, Umuahia. These messages played 18 times on air and reached 6.5 million listeners per broadcast across southeastern Nigeria, including Abia State, Imo State, and Enugu State.

GRACODEV met with three women's groups and the Joint National Association of People with Disabilities' Abia Chapter to discuss community engagement, hygiene promotion efforts, and volunteer mobilization among PLWDs. Efforts resulted in new more hygienic norms and buy-in for meetings. Meanwhile, Toilet Pride reached more than 1,520 citizens in Aba, based on feedback from church leaders. Toilet Pride reached 100 people through women's groups to advocate, raise community awareness, and mobilize community members to take action on such issues as open defecation, effective handwashing, proper food storage, and menstrual hygiene.

Exhibit 95. Abia CSO Activities

Left: *USAID E-WASH grantee CSOs in Abia engaged with members of the WASH Media Forum.*

Right: *Grantee CSO Toilet Pride meeting with People Living with Disabilities in Aba as part of their Community Engagement and mapping*

PEAs – Pivotal for Reform

The PEA provided each E-WASH state team with a much deeper understanding of why urban water services were at their present levels. Through the PEAs, E-WASH made tactical changes to interventions at the state level. While these adjustments differed by state, the PEA findings helped triangulate and identify which players in the utility–government–civil-society system would reap the most benefit from E-WASH's efforts.

Collaborating with the right stakeholders enabled E-WASH to facilitate the signing of this milestone Water Law by the Delta State Governor. Photo by E-WASH

The PEA also had the unintended but added value of providing a mechanism for developing strong working relationships with key counterparts. The act of introducing this context analysis at the beginning of the week and then providing a debrief to the GMs of the utilities helped E-WASH state teams show their commitment to understanding challenges and opportunities and their willingness to be thorough. The PEAs set a positive tone, and E-WASH state team leaders credited the exercise with being key to developing strong working relationships with their GMs.

Working with Partner CSOs on Menstrual Hygiene Management (MHM)

In Niger, Taraba, and Delta states, E-WASH collaborated with CSOs to promote safe menstrual hygiene practices during World Menstrual Hygiene Day on May 28, 2019. Through the outreach, E-WASH connected with 363 persons—223 girls (out of which six are living with disabilities), 122 women, and 17 men. In Delta, E-WASH visited the Anglican Girls Grammar School (Asaba) alongside NEWSAN. In Niger, E-WASH worked with Life Spring Childcare Centre, CHAMUS Interfaith Organization, Hope for Future Generation School, and Deeper Peace and Social Development for the occasion. E-WASH and its partners presented about proper menstrual hygiene management, disposal of pads, and sanitary pad usage. E-WASH is building upon these partnerships through the Small Grants Fund program to reach a larger group of women and girls and reduce the stigma around menstruation by providing educational materials and products.

E-WASH collaborated with CSOs—Hope for Future Generation and Deeper Peace and Social Development—in Jalingo, Taraba State to mark the MHM day. Photo by E-WASH.

Learning by Doing – New Process to Collect Information

One important point of progress and a lesson worth noting was the growing ownership and accountability of the performance data by partner SVWBs. In September 2019, during the first phase of the data collection process, E-WASH encountered difficulties in acquiring information related to the indicators, such as percentage of income from tariffs and the Operating Cost Coverage ratio. These indicators depended on records of revenue, expenditures, and product costs in SVWB financial records. In the second phase, E-WASH performed collaborative exercises with the SVWBs to deploy the structured data collection on the EUM indicators.

Helping SWBs to analyze their financial records, such as these manual forms from the ISWC, not only builds its long-term financial autonomy but also helps track its performance internally. Photo by E-WASH.

E-WASH engaged its SVWB counterparts to of the data collection process and its purpose, and then facilitated the data gathering and verification closely with the SVWBs. The process enabled better collection of information and set precedents for a collaborative approach that in the long run will also build the SVWBs' capacities to collect and analyze their performance. E-WASH will consider formalizing this nascent collaboration by modifying existing working arrangements with SVWBs.

Advancing Regulatory Reform in Delta

In Delta, no regulatory framework for the water supply and sanitation sector existed. With E-WASH support, the State Government passed the water law on May 16, 2019 that included provisions on regulation and the establishment of a regulatory commission. In implementing the law, E-WASH worked with the Ministry of Water Resources to gain approval by the State Governor to establish a WASH Regulatory Unit as a prelude to a dedicated Regulatory Commission. This unit has seven members and will carry out the functions stipulated under the law and develop the framework to ease transition for a Regulatory Commission. The Regulatory Unit and its scope were made official in Asaba on September 18, 2019, which represents a major milestone for the state.

The Delta State Government is setting a precedent by advancing regulatory reform in Nigeria to support the water and sanitation sector. Photo by E-WASH.

Rewarding Operational Efficiencies Improvements in Delta with Internal PIP

Internal PIP development effectively incentivizes DSUWC staff to improve service delivery. Photo by E-WASH.

Proper management of bulk water supply provision, effective billing and collection, and improved customer outreach are crucial to the DSUWC's commercial viability and sustainability. With E-WASH support, the DSUWC has developed and is implementing a PIRS to improve customer information collection, increase water production, and expand services. The PIRS, among others, includes setting up an M&E process to capture how DSUWC is strengthening its customer data collection tools and reporting templates; setting economic and non-economic rewards and incentives for staff; formulating strategies to increase water production and billing; and creating strategies to curb NRW. The PIRS implementation has thus far contributed to the DSUWC's production of water via the EAP for the first time in more than five years. Additionally, the joint DSUWC and E-WASH PIRS Committee developed evaluation criteria and tools to reward outstanding DSUWC staff and teams (e.g., Best Scheme, Best Zone, Most Innovative Zone, Best Department, and Best Staff).

In unannounced visits to the ten zones in the state, the committee evaluated staff and zones against the tools and subsequently presented the findings to the DSUWC management for approval. The management team presented awards to the winners. Recognizing this effective incentive mechanism, E-WASH is working to replicate the same internal PIP system with the NSWB.

Niger State Community Celebrates Running Water

Neighbors collect water from public tap in Minna. Photo by E-WASH.

Alhaji Anas Abubakar Ahmed, a liaison between the judiciary and the emirate, is a community leader that strove to find solutions to the lack of running water in Angwan Sarki, a settlement of about 70 households in the vicinity of the Emir's Palace in Minna, Niger. He spent about NGN 500 ($1.38) daily purchasing up to 20 jerrycans of water to cater to the needs of his large and expanding household. In April 2019, E-WASH team visited the Emir of Minna. Mr. Ahmed, and other courtiers wanted to advocate for change in water services. Initially, the Emirate Council did not fully understand E-WASH's program objectives. However, following multiple visits to the palace, the E-WASH team was able to gain support for its initiatives to improve water service delivery in Niger. With E-WASH's support, NSWB began to repair and refit pipes in Angwan Sarki in August 2019. A few days later, water began to flow from a public tap, which would soon be connected to households and metered.

Dealing with Debt and Raising Revenue in Niger

As of 2018, the NSWB has accumulated outstanding or unpaid water bills of over NGN 1 Billion ($2.7 million). The State Government had expressed frustration, given its huge investments in capital infrastructure to supply water. Recognizing this urgency, E-WASH worked with the NSWB to prepare a policy and strategy for initiating the debt recovery process. As a first step, with E-WASH support, NSWB established a Debt Recovery Unit and inaugurated a task team to develop and carry out activities to increase revenue collection and collect unpaid or overdue bills. The unit set a debt profile for each category of customer and their owed amount. The profile noted that domestic (or household) customers accounted for about 70 percent of the total debt, followed by institutional and commercial customers respectively.

NSWB Debt Recovery Unit working to reconcile unpaid bills by mostly household customers. Photo by E-WASH.

Drawing on this profile approach, with E-WASH facilitation, the NWSB implemented a broad outreach campaign during May–September 2019. A customer awareness program followed through targeted media channels, such as Prestige FM Minna—a local radio station covering the entire Minna City and its environs, where the NSWB GM and the Public Relations Manager discussed and communicated about NSWB's revenue collection initiative. Notification letters went out to validate the debt and encourage payment. NSWB set incentives (such as waivers for early payment), extended the two-week response period, and mobilized enforcement (such as supply disconnection and subsequent mobile court prosecution).

As a result, the NSWB raised NGN 984,000 by the end of September 2019. The State Government welcomed this effort through the Ministry of Water Resources and Dam Development. The NSWB is sustaining the process by establishing multiple payment centers that are closer to customers, setting up a help desk in its customer care unit, strengthening internal auditing processes, and increasing overall billing and collection efficiency methods.

Initiating a New Approach for Managing NRW in Sokoto

The SSWB faces piped water supply challenges and high NRW levels in Sokoto City due to aging pipelines, frequent leakages and pressure losses, and water quality degradation. To address these challenges, the SSWB with E-WASH support has developed a new approach using the District Metering Area (DMA) method to better locate and remediate leakages, maintain pressure, review water quality improvements and measure customer water use in Sokoto City. The SSWB has established a dedicated NRW unit and trained through E-WASH to manage water losses and operate the pilot DMA.

For the first time, the SSWB is working to reduce NRW using tested, global best practice through the DMA approach in order to deliver better, measured service in the Runjin Sambo area. Photo by E-WASH.

The SSWB identified Runjin Sambo, an urban community consisting of 1,500 households within the city, as an ideal site to pilot the DMA operations based on a 32,000 m^3/day groundwater scheme completed by the State Government in May 2019 that will provide adequate, sustained water supply system. The DMA will entail a closed-loop 37-kilomete pipe with bulk meters and customer meters installed at strategic locations. In the proces E-WASH is supporting not only technical assistance to build capacity of the SSWB on DI operations and NRW management but also the provision of selected tools and small equipment, such as bulk and customer meters, leak detection, and repair kits. The SSWB provides customer meters and bill payment systems, establishes customer care centers, a supports the enabling environment through office space and staff assistance.

Both the SSWB and the Sokoto State Government are receptive to the DMA approach. They seek to replicate this effort to the Gagi area, which has suffered neglect and a lack water for the past ten years. The Government has recently completed a 12,000 m^3/day groundwater scheme in Gagi. E-WASH is continuing to support the SSWB to expand an sustain its NRW management activities.

Annex C. Selected Social Media Activities

IMO STATE WATER AND SEWERAGE CORPORATION

Ongoing Installation of Internet Services $ Wireless intercom telephones across offices of ISWSC . Courtesy of USAID EWASH Utility Support Fund(USF) to ease communications amongst staff
Yesterday 09/02/2021

IMO STATE WATER AND SEWERAGE CORPORATION

July 16 at 11:03 AM ·

Videos from the LAUNCH OF IMO STATE CONSTRUCTION, DESIGN, AND SUPERVISION OF 2KM IMO WATER DISTRIBUTION NETWORK on 15TH JULY 2021.

The Permanent Secretary, Imo State Ministry of Water Resources Mazi Gill Nnah while declaring the Pipe Network open, rendered heavy thanks to His Excellency, Distinguished Senator Hope Uzodimma, the Executive Governor of Imo State for his 3R Mantra of taking Imo State Higher, and who is desirous to reposition Imo State Water and Sewarage Corporation to greater heights in distributing safely Managed water to Imo residents

The process which involved Stakeholders and Partners EWASH Team, Consultants (Abfort working for RTI), Vendor subcontractor (ONNAN UNITY LTD), Imo State Water and Sewarage Corporation, Imo State ministry of Water Resources (Represented by the Permanent Secretary Mazi Gill Nnah) respectively was a huge success.

It was indeed a handing over ceremony between the Stakeholders and Partners.

GRACODEV Initiative added 9 new photos from February 24.
February 24 ·

The WASH customer forum (WCF) on Tuesday, 23rd of February 2021 paid an advocacy visit to the Eze of Avodim Autonomous Community.
The WCF in this meeting gave an overview on the objectives of E-WASH and the anticipated resuscitation of the water scheme in the community.
Advocacy for provision of adequate sanitation and hygiene, via the provision of toilet facilities to protect open urination and defecation was done.

USAID/Nigeria
March 11 at 10:18 AM ·

USAID is pleased to officially hand over the completed construction projects under USAID's Effective Water, Sanitation and Hygiene (E-WASH) Activity in Taraba State. Over the last five years, the activity has helped Nigeria provide adequate and sustainable water supply to its people in five states, including #Taraba.

The Honorable Commissioner of the Ministry of Water Resources, Managing Director of the Taraba Water and Sewerage Corporation, and directors from the utility ... **See more**

47 7 Comments 1 Share

USAID/Nigeria @USAIDNigeria · Mar 11

In addition to Taraba, we had a great closeout event in #Imo State. We hope to see each state continue to build on this great work so that Nigeria will flourish economically and benefit all its people.

4 11

IMO STATE WATER AND SEWERAGE CORPORATION

September 25 at 7:59 PM ·

TRAINING BY USAID TECHNICAL SUPPORT MISSION ON SUSTAINING THE USE OF THE ENTERPRISE RESOURCE PLANNING ERP, HELD AT THE CONFERENCE HALL OF ISWSC ON MONDAY, 20TH SEPTEMBER 2021.

Several individuals have often been accosted recently by the system called the "ERP", but it has been an abstract tendron to a lot of us. ERP means Enterprise Resource Planning. It is designed to solve situational challenges associated with planning and harmonization of information or data.
Today witnessed a huge training on "SUSTAINING THE USE OF THE ENTERPRISE RESOURCE PLANNING SOLUTION".
The training was carried out by the USAID Technical Support Mission which includes Mrs. Bukola Etimatie (Senior MEL Advisor who manages and oversees USAID E-WASH MEL Activities and Initiatives) and Engr. Soni Elisha (Utility Operations Advisor).
The duo indulged to rectify problems associated with the ERP and impact the knowledge of what is called "Sustainability Plan" into the assigned staff of the corporation.
Categorically, they spoke on the Seven (7) Modules of the ERP which includes:

1. Billing and collection
2. Finance and Accounts

IMO STATE WATER AND SEWERAGE CORPORATION

Governor of Imo State in partnership with USAID at achieving a sustainable water sector in Imo state. He further gave accolade to the change which USAID has brought to the Management and staff of ISWSC as well as the entire Imo people.
He also thanked Mrs. Bukola Etimatie and Engr. Soni Elisha as well as Mr. Olayinka for their well-presented training and persistence at bringing out the best from the staff at achieving ERP results.

7 2 Shares

Annex D. Selected Pictures of USF Construction Activities

Rehabilitation of Ariaria Water Supply Scheme in Abia State

Rehabilitated 1,600 KVA Transformer

Rehabilitation of Staff-quarters

Overview of Renovated Office building

Rehabilitated 1,600 KVA Service Reservoir

Transformer and Generator Change over Panel

Overhauling of High lift Pumps

Rehabilitated Chemical Dosing Unit

Pump testing/yield test on Borehole

Rehabilitation of Issele-uku Water Supply Scheme in Delta State

Drilling of new borehole

Laying of Distribution Pipeline

Reinstating pavement along Distribution Network

Cordoned area for piping works

Construction Site Signpost

Elevated Concrete Tank

Identified locations for the borehole

Rehabilitated 160KVA & 200 KVA Gen-sets

Supply & Replacement of 3.8km uPVC Pipe Network in Imo State

Laying of distribution pipes

Valve chamber under construction

Connection point to the existing trunk main

Valve installation on the trunk main

Distribution Pipeline Route Excavation

Transmission Main Connection to IMSU EWT

Installation of Fire hydrant on the transmission main

Hand roller on site for resurfacing of asphaltic road

Relocating 2,200 Service Connections & Laying 2.2km uPVC Distribution Pipe Network in Niger State

Disconnection/Reconnection of service pipes

Service reconnection on distribution mains

Dosing pump installation at the Chanchaga Water Works

Control Panels at Bi-water & Impressit WTPs

Reconnection of Service Lines at Barikin Saleh

Reconnection of Service Lines at Kpakungu Bridge

Laying of new distribution mains

Reconnection of 105 Service Lines at Top Medical Point C

DMA Implementation and Laying of 9km uPVC Distribution Pipe Network in Niger State

Pipe Laying within the DMA

Thrust boring through a major road

Laying API Pipe across a stream

Road cutting for Pipelaying

Construction of Valve chamber

Operation of Standpipe on the DMA Network

Shiroro Tank showing outlet pipelines for DMA bulk meters

Repair of Leakages on DMA Network

Rehabilitation & Extension of 16km Distribution Pipe Network in Taraba State

Laying of Control Valve on the line

Installed prepaid meter

Distribution Pipe Network

Installed HTH Dosing pumps

Pipe laying activity

Construction activity signpost

HTH mixing tank with stirrer & dissolution tanks

Installation of Tee on the pipeline

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