

PERFORMANCE EVALUATION OF USAID/WEST AFRICA WASH PORTFOLIO IN BENIN AND CÔTE D'IVOIRE



Photo credit: Sanitation Services Delivery (SSD) Project

Final Report

August 2023

DISCLAIMER:

This report is made possible by the support of the American People through the United States Agency for International Development (USAID). It was prepared by the Analytical Support Services and Evaluations for Sustainable Systems (ASSESS) activity, a partnership of the United States Department of Agriculture/Foreign Agriculture Service (USDA/FAS), the University of Rhode Island (URI), and Kwame Nkrumah University of Science and Technology (KNUST). The content of this report does not necessarily reflect the views of USAID or the United States Government.

ACKNOWLEDGEMENT

This Report was prepared for the USAID/West Africa Environment Team under the Analytical Support Services and Evaluations for Sustainable Systems activity (ASSESS). It was prepared by Annette Fay, Adrien Mazeau, Sopie Aonon, Idelphonse Elegbe, and Emenique Alladatin with support from the USAID/WA ASSESS Team.

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ACRONYMS

ABMS Association Béninoise pour le Marketing Social/Benin Social Marketing Association

(Benin)

ADS Automatic Directive System

AfriCAP AfWASA Regional Institutional Capacity Building Program

AfWASA African Water and Sanitation Association

AMCOW African Minister Council on Water

ANCB Association National des Communes du Bénin/National Communal Association of

Benin

ASSESS Analytical Support Services and Evaluations for Sustainable Systems

AST Agent de Suivi Terrain/Field Monitoring Agent (Staff position under MuniWASH)

AVIPRO Association des Vidangeurs Professionnels du Bénin/Professional Association of

Desludgers of Benin

CA Commissioned Activity

CCA Conseiller Communautaire en Assainissement/Community Sanitation Advisor (Staff

position under SSD)

CDCB Caisse des Dépôt et Consignation du Bénin/Deposit and Consignment Office of Benin

CEPICI Centre de Promotion des Investissements en Côte d'Ivoire/Center for the Promotion

of Investment in Côte d'Ivoire

CIV Côte d'Ivoire

CLTS Community Led Total Sanitation

COVID-19 Corona Virus Disease 2019

DAR Direction d'Assainissement Rural/Rural Sanitation Directorate (Côte d'Ivoire)

DAUD Direction d'Assainissement Urbain et Drainage/Urban Sanitation and Drainage

Directorate (Côte d'Ivoire)

ECBT Enterprise Capacity Building Tool

EMMP Environmental Mitigation and Monitoring Plan

EMMR Environmental Mitigation and Monitoring Report

EQ Evaluation Question

ET Evaluation Team

FGD Focus Group Discussion

FNM Fonds National de la Microfinance/National Microfinance Fund (Benin)

FSM Fecal Sludge Management

FSTP Fecal Sludge Treatment Plant

FY Fiscal Year

GW Global Waters

HDPE High Density Polyethylene

IDIQ Indefinite Delivery Indefinite Quantity

IEE Initial Environmental Evaluation

IR Intermediate Result

ISI Institutional Strengthening Index
ISP Institutional Strengthening Plan

KII Key Informant Interview
KM Knowledge Management

KNUST Kwame Nkrumah University of Science and Technology

MCVDD Ministère de Cadre de Vie et de Développement Durable/Ministry of Quality of Life

and Sustainable Development (Benin)

MELP Monitoring, Evaluation, and Learning Plan

M&E Monitoring and Evaluation
MFI Micro-Finance Institution

MinHAS Ministère de l'Hydraulique, de l'Assainissement et de la Salubrité/Ministry of

Hydraulics, Sanitation and Healthiness (Côte d'Ivoire)

MIS Management Information System

MSME Micro, Small, Medium Enterprises (TPME in French)

MuniWASH West Africa Municipal Water, Sanitation and Hygiene

ONAD Office National d'Assainissement et du Drainage/National Sanitation and Drainage

Office (Côte d'Ivoire)

NGO Non-Governmental Organization

PBL Partnership for Better Living

PeBCo Promotion de l'Épargne-Crédit à Base Communautaire/Promotion of Community-

Based Credit and Savings (Benin)

Pls Principal Investigators

PIP Performance Improvement Plan
PSI Population Services International

REAA-CI Réseau des Entrepreneurs en Assainissement Autonome de Côte d'Ivoire/Network

of Autonomous Sanitation Entrepreneurs of Côte d'Ivoire

SGDS Société Gestion des Déchets et de la Salubrité/Company of Waste and Healthiness

Management (Benin)

SIYB Start and Improve Your Business (GERME in French)

SODECI Société de Distribution d'Eau de Côte d'Ivoire/Water Distribution Company of Côte

d'Ivoire

SONEB Société Nationale des Eaux du Bénin/National Water Company of Benin

SoW Scope of Work

SSD Sanitation Service Delivery
SuSanA Sustainable Sanitation Alliance

ToC Theory of Change

UNC University of North Carolina

UNEAM Union Nationale des Entrepreneurs d'Assainissement MIMIN/National

Union of Mimin Sanitation Entrepreneurs (Benin)

URI University of Rhode Island

UVICOCI Union des Villes et Communes de Côte d'Ivoire/Union of Towns and

Communes of Côte d'Ivoire

VAT Value Added Tax

VTO Vacuum Truck Operator

WA West Africa

WASH Water, Sanitation and Hygiene

WASH-Fin Water, Sanitation and Hygiene Finance

WQ Water Quality

WSUP Water and Sanitation for the Urban Poor

XOF West African CFA Franc

EXECUTIVE SUMMARY

INTRODUCTION

Sanitation Service Delivery (SSD) was a seven-year, \$19M activity awarded to Population Services International (PSI) and partners Water and Sanitation for the Urban Poor (WSUP) and Program for Appropriate Technology in Health (PATH) from 2014-2021. West Africa Municipal Water, Sanitation and Hygiene (MuniWASH) is a five-year, \$13M activity awarded to TetraTech as lead and sub-awardees Population Services International (PSI) and Segura Consulting LLC from 2019-2024. Both activities are funded by the United States Agency for International Development/West Africa (USAID/WA) Regional Mission and implemented in Benin and Côte d'Ivoire.

USAID/WA commissioned the Analytical Support Services and Evaluations for Sustainable Systems (ASSESS) Project to conduct a performance evaluation of its WASH portfolio from 2017-to-date, consisting of SSD and MuniWASH. The evaluation examines if the SSD Activity has contributed to a more functional, inclusive, and sustainable sanitation market system for the urban poor, and increased their sustainable access to improved sanitation and safe disposal of fecal waste, as well as improving enterprise viability. It also identifies areas for improvement of MuniWASH's implementation that will facilitate the attainment of planned results by 2024. Finally, it aims to document the findings and lessons learned from both projects to inform decisions about current and future WASH programming in Benin and Côte d'Ivoire.

The Evaluation employed a mixed-methods approach consisting of document review, 127 semi-structured interviews and nine focus group discussions, as well as 30 direct observations of sanitation products. The nine evaluation questions focused on market functionality, sustainability and inclusivity, sustainability and the enabling environment, WASH systems strengthening, learning, the impact of COVID-19 on programming, environmental compliance, and the Theory of Change for each activity. Data was collected from April 25 to May 26, 2023, first in Benin, then in Côte d'Ivoire. Both qualitative and quantitative data were analyzed and triangulated. One of the key limitations of the evaluation was recollection bias for stakeholders who were interviewed on SSD, considering that the activity closed in September 2021.

FINDINGS

EQI: To what extent did **SSD** improve sanitation market functionality and enterprise viability?

During SSD implementation, approximately 39,000 sanitation products were sold in Benin (using the brand name WC Mimin) and around 14,000 sanitation products were sold in Côte d'Ivoire (using the brand name SaniPlus). These sales were not limited to urban or peri-urban areas, but also included rural areas (especially in Côte d'Ivoire). The modified latrines, available in both seated and squatting versions, were most popular. Sanitation entrepreneurs trained by SSD reported that sales increased when trained and organized sales agents were active in the area, which was an element of SSD's marketing strategy. Training provided by SSD to sanitation entrepreneurs and desludgers was highly appreciated. Mechanical desludging operations are declining over the past decade in both countries, and the decrease also applies to manual emptiers and those using motorized pumps (in Côte d'Ivoire). The poorest households were not able to access the cheapest sanitation products during SSD and they remain unable to do so today. Approximately half of sixty-two sanitation entrepreneurs that were trained by SSD Benin remain active today and SSD Côte d'Ivoire is reported to have trained over 400 entrepreneurs of which only 23 are currently working with MuniWASH. Profitability of WC Mimin and SaniPlus sanitation products has decreased since the end of SSD. WC Mimin and SaniPlus are of good quality, universally accepted by entrepreneurs and consumers, and with few cases of breakage. The technical challenge of identifying a latrine or sanitation product appropriate for high-water table areas such as Sô-Ava in Benin were not resolved during the lifetime of the project.

In-kind materials provided to sanitation entrepreneurs from SSD helped start their businesses, such as SATOPan, cement, sand, and iron bars. The quality control that was part of SSD's system helped

to ensure the quality and reputation of sanitation products. Call centers, intended to support demand creation for desludgers, were not sustainable in either country. Microfinance activities were introduced in both countries and met moderate success in Benin, although there was initially no one ensuring repayment of loans and several examples of Community Sanitation Advisors (Conseiller Communautaire en Assainissement in French - CCA) and Micro Finance Institution (MFI) agents who abused the system were documented. In Côte d'Ivoire, repayment of loans by households was also an issue. The activity had limited results in relation to influencing rules, regulations, or tariffs in either country. Engagements with authorities in Benin resulted in the reduction of some operational costs.

EQ2: To what extent has MuniWASH increased the financial sustainability and operational reliability of water and sanitation utilities and entrepreneurs in Benin and Côte d'Ivoire?

MuniWASH has contributed to the financial sustainability of the Société Nationale des Eaux du Bénin/National Water Company of Benin (SONEB) through the work completed by Segura Consulting to develop a performance improvement plan. The project has not developed a capacity building activity with the Société de Distribution d'Eau de Côte d'Ivoire Water Distribution Company of Côte d'Ivoire (SODECI); however, they have a functional working relationship. Skills of entrepreneurs have improved in Benin according to MuniWASH's Enterprise Capacity Building Tool (ECBT) in the sixmonth period between March-August 2022, although business viability has not yet seen an impact. Entrepreneurs in Côte d'Ivoire cover a wider range of abilities, thus presenting more of a challenge in attempting to support the group to reach a similar level of skills possessed by entrepreneurs in Benin. Formalization of some entrepreneurs has helped them to qualify for MFI loans. MuniWASH has been working to develop partnerships with MFIs in both countries in order to create the possibility for households or entrepreneurs to benefit from small sanitation loans. Memoranda of Understanding have been signed with two MFIs in Benin and a convention has been signed with an MFI in Côte d'Ivoire, but the loan products are not yet available in either country. In Benin, MuniWASH has also developed a sanitation product with the Fonds National de la Microfinance/National Microfinance Fund (FNM). Through the Institutional Strengthening Index exercise that MuniWASH does with municipalities, they have understood the need to pay more attention to financing WASH-related activities in their budget planning. Regarding operational reliability of water and sanitation utilities, MuniWASH was in the process of recruiting an entrepreneur to strengthen the capacity of SONEB's water quality laboratory. Operational reliability for sanitation entrepreneurs was challenged both by the decrease in demand for sanitation products since CCA stopped working on demand creation and by additional costs, such as the SATOPan.

EQ3: How are SSD and MuniWASH contributing to a more inclusive and sustainable sanitation market?

SSD has had a durable impact on the sanitation market in its former intervention zones in Benin, but less so in Côte d'Ivoire. The SATOPan toilet modifications were appreciated for reducing odor and insects, as well as the seated version for improving accessibility for the elderly. There was limited impact on Fecal Sludge Management (FSM) in either country. There was no evidence that FSM led to sustainable price reduction or improved quality of services for vulnerable groups. Demand creation and financing were the key barriers to growing the sanitation markets. Both SSD and MuniWASH gave opportunities to women in the recruitment of sanitation entrepreneurs, and there were examples of women excelling in this role under both activities. However, it was not a common role for women in either country. MuniWASH was making efforts to support inclusion in both the public and private sectors.

EQ4: To what extent has MuniWASH enhanced water and sanitation sector governance and management capacity at the subnational level in Benin and Côte d'Ivoire?

The impact of MuniWASH on sanitation coverage, market creation, and business development was greater in the private sector than the public sector. A stronger visual presence of sanitation entrepreneurs has been inherited from SSD in Benin as the group of entrepreneurs there worked with

SSD over a longer period of time. In Côte d'Ivoire, demand creation remains a major challenge for entrepreneurs. There are very few examples of demand creation for sanitation products led by municipalities and limited understanding of the roles of all stakeholders in the sanitation value chain. MuniWASH's efforts to support entrepreneurs to formalize is recognized. However, the efforts were challenged in Benin by the current reforms of the FSM sector, as well as in Côte d'Ivoire for entrepreneurs located outside of Abidjan, where the formalization process is more complicated.

EQ5: To what extent is MuniWASH contributing to strengthening the WASH system in Benin and Cote d'Ivoire?

Collaboration between the town halls and MuniWASH through the annual Institutional Strengthening Index (ISI) assessments has strengthened the capacity of participants to contribute to the development of the sanitation market in their municipalities. The collaboration framework that was created in Bouaké and San Pedro is also an example of how MuniWASH has identified a way to support local governance of the WASH sector. MuniWASH will have to determine the next steps to ensure this investment is capitalized. In both countries, MuniWASH works with the national communal associations, namely, the National Communal Association of Benin (ANCB in French) and the Union of Towns and Communes of Côte d'Ivoire (UVICOCI in French). However, to date, there is no clear plan on how MuniWASH's role will be transferred at project closeout. While MuniWASH is working with actors across the sector in both countries, more time is needed for the activity to strengthen the system as a whole.

EQ6: To what extent have SSD and MuniWASH influenced regional learning and knowledge sharing in West Africa?

SSD's approach to learning allowed the activity to reach an international scale with its products, as outlined in its Knowledge Management Strategy. There was no evidence that these learning products were used or accessed more in West Africa than elsewhere. MuniWASH produces and shares learning notes as well as participates in and organizes learning events, but as with SSD, there was no evidence that this increases learning or knowledge sharing in West Africa in particular. The learning notes remain on international or US sites, such as Ps-Eau, SuSanA, GlobalWaters and AfWASA's knowledge management platform. An analysis of Global Waters (GW)¹ users shows that most users are not based in West Africa.

EQ7: What impact did COVID-19 have on SSD and MuniWASH's performance? What strategies were developed by SSD and MuniWASH and their respective stakeholders to mitigate the impacts on activity implementation?

For both SSD and MuniWASH activities, COVID-19 caused a delay in implementation. For SSD, this was especially pronounced for all of their field activities, which essentially had to be put on hold for the months of restrictions while the governments of Benin and Côte d'Ivoire were actively trying to limit the spread of the pandemic. The delay that MuniWASH experienced is more difficult to quantify because it impacted the initial relationships the activity was developing in both countries. Both activities were able to adapt their workplans and their programming to remain productive during the COVID-19 period.

EQ8: How have SSD and MuniWASH programs monitored environmental compliance of their interventions?

The SSD activity successfully monitored environmental compliance of its interventions. MuniWASH was also following all procedures required to monitor and ensure environmental compliance of its interventions.

¹ USAID's global water security, sanitation, and hygiene knowledge portal

EQ9: How have intervention approaches of either SSD or MuniWASH impacted effectiveness as is intended in each activity's Theory of Change?

SSD was an ambitious project that had to adjust its objectives mid-project. Through the guidance of the ToC, SSD introduced a sanitation product that was appreciated by customers. The SATOPan was successful in peri-urban and rural areas. Based on this, the MuniWASH ToC may be appropriate for some countries with established sanitation markets that could benefit from an activity focusing on strengthening utilities and service providers, which is not the case for either Benin or Côte d'Ivoire. Both countries have nascent sanitation markets that still require support on both the supply and demand sides. The ToC assumes a greater level of stability of utilities and entrepreneurs than what was found on the ground. It also assumes that the utilities will be open to collaboration, which was not found to be the case in Côte d'Ivoire.

LESSONS LEARNED AND RECOMMENDATIONS

- I) SSD was an innovative/ambitious project, one of few examples that has worked on FSM in Francophone African countries.
- 2) SSD did not find a solution to the urban sanitation problem. SATOPan modifications have appeal in parts of Cotonou/Abomey-Calavi, but they are less appreciated in Abidjan, where there are fewer people with traditional latrines that will be satisfied with just the addition of a seated/standing SATOPan. SSD tested prefabricated septic tanks, among other ideas, but did not find an affordable sanitation solution for an urban setting. The higher number of sales of SATOPan modifications in peri-urban or rural areas is an indicator of this.
- 3) MuniWASH should draft a sustainability plan, identifying what and how they can transfer the work they are doing to local government and institutions depending on each country's context, by the end of the first quarter of the fifth Fiscal Year (FY). This will help ensure that local stakeholders such as ANCB and UVICOCI take ownership before the activity ends.
- 4) MuniWASH should drop the activity under intermediate result one to raise \$88 million in WASH investment for Benin and Côte d'Ivoire. It is not yielding results and MuniWASH has too many other priorities to attend to during its final year.
- 5) In addition to the technical assistance MuniWASH has sought through the engagement of Whitten & Roy Partnership to train additional MuniWASH staff on demand creation, the activity should support the entrepreneurs with demand creation, as much as possible. The ideal would be to help plan and conduct a major demand creation campaign between September and October 2023 in order to push sales in November and December. Determine if the entrepreneurs need startup capital to begin producing in anticipation of sales, or at least that there is sufficient SATOPan in stock. Work with local government on demand creation considering differences between Benin and Côte d'Ivoire.
- 6) USAID/WA should facilitate a conversation between the Partnership for Better Living (PBL) and MuniWASH so the latter can ensure adequate SATOPan distribution in Benin and Côte d'Ivoire after project closure. In parallel, MuniWASH should ensure that all entrepreneurs understand where to buy SATOPan in each country and see if they can reduce import tax.
- 7) Based on the success of the SATOPan modifications in peri-urban and rural areas, future activities should keep the geographic focus more open instead of suggesting a focus on urban areas only.
- 8) The MuniWASH Activity would be better served to adapt some of these assumptions in its ToC to include the ongoing support of a sanitation market as part of the bigger picture of improving the WASH sector.

INTRODUCTION

USAID, through its Water, Sanitation and Hygiene (WASH) portfolio, focuses on creating a WASH enabling environment in West Africa, including capacity building of a regional WASH institution, private sector engagement in urban and peri-urban sanitation services, WASH systems strengthening, and improving regional communication and coordination on WASH best practices. The USAID/West Africa (WA) WASH portfolio includes two mechanisms intended to achieve the goals of increasing access to improved water supply and sanitation services: first, Sanitation Service Delivery (SSD) - a cooperative agreement with Population Services International (PSI) to provide improved sanitation service delivery in Ghana, Benin and Côte d'Ivoire, conducted between 2014-2021; and second, the West Africa Municipal Water, Sanitation and Hygiene (MuniWASH) - a direct contract to TetraTech, ARD Inc to provide support to city governments and utilities to improve and expand their water and sanitation services to fill critical needs and reach unserved populations in targeted communities in Benin and Côte d'Ivoire from 2019-2024.

USAID/WA commissioned the Analytical Support Services and Evaluations for Sustainable Systems (ASSESS) Project to conduct a performance evaluation of SSD (from 2017-2021²) and MuniWASH (from 2019-2023). This report presents the findings, conclusions, and recommendations from the evaluation.

BACKGROUND

WASH CONTEXT IN BENIN AND CÔTE D'IVOIRE

Benin

SSD was designed in 2013 and will be used as the reference year in considering evolutions of the WASH context in both countries compared to today. According to Joint Monitoring Programme (JMP) data, safely managed sanitation has only slightly improved in Benin between 2013 and 2022 with a one-point increase from 2% to 3%. In the same time period, basic coverage has increased from 13% to 17% and open defecation (OD) has been reduced from 56% to 49%, although it remains relatively high compared to the West African regional average of 17% OD in 2022. Given the population increase, the absolute number of people relying on limited sanitation has increased by 700,000. The absolute number for people having unimproved sanitation and those relying on open defecation has increased by 600,000-700,000. As of 2017, 46% of the 11.8 million population of Benin lived in an urban area.³

² As explained in the SOW in Annex 1, this evaluation only examines SSD in Benin and Côte d'Ivoire, Ghana is not included.

³ https://unhabitat.org/sites/default/files/2022/07/benin_fr.pdf

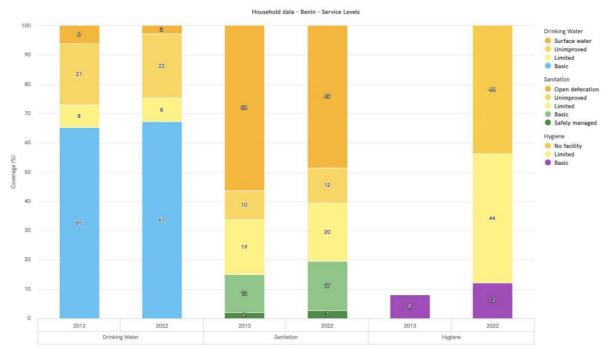


Figure 1: Levels of WASH service coverage in Benin 2013 vs. 2022 (JMP)

In 2020 the government made the Ministry of Living Conditions and Sustainable Development (MCVDD) responsible for the urban fecal sludge management sector, which had previously been the responsibility of the state-owned water and sanitation utility, SONEB. The Société de Gestion des Déchets Solides (SGDS) is responsible for the management of Fecal Sludge Treatment Plants (FSTP) in Benin⁴ - in Cotonou (Sèmè), Abomey-Calavi and a third that is under construction in Parakou (northern Benin). At the time of data collection, the SGDS had instructed all Vacuum Truck Operators (VTO) to reorganize into companies of eight operators, in an effort to reduce the recent increase in operators. SGDS previously introduced a similar reform with garbage collectors, purchasing new trucks for the operators and making trash collection free for residents of Cotonou and Abomey-Calavi, but this also ended up greatly restricting the number of collectors. Another recent legal change related to the WASH sector in Benin is the February 2022 update to the national Hygiene Code, originally drafted in 1987, which is now a law. One of the notable changes is the upgrading of the sanitary police force attached to the Ministry of Health from an administrative police force to a judicial police force in charge of researching and recording infractions in the area of basic public hygiene and sanitation, among other things. Penalties for violations of public hygiene laws have been strengthened, with the possibility of legal proceedings ranging from heavy fines to imprisonment. The means to support the sanitary police officers has been limited, however, the new law is meant to address this in part.

Côte d'Ivoire

When SSD was designed, Côte d'Ivoire presented a particular challenge in terms of urban population density and overall access to WASH. In 2013, 49% of the population was urban.⁵ In 2023, 52.5% of the population is urban and the economic capital, Abidjan, currently has a population density of 2,994 inhabitants/km2 with a current population of over 5.6 million inhabitants.⁶ It is the second most

⁴ https://www.sgds-gn.bj/presentation/

 $^{^{5}\ \}underline{\text{https://donnees.banquemondiale.org/indicator/SP.URB.TOTL.IN.ZS?locations=Cl.}}$

 $^{^6\} https://unhabitat.org/sites/default/files/2023/07/presentation_programme_cote_d_ivoire_fr.pdf$

populated city in West Africa, after Lagos, Nigeria. One can only imagine the challenge for the government to ensure access to basic services with such a large urban population.

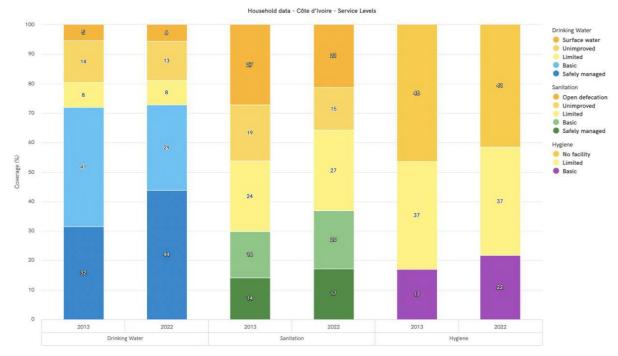


Figure 2: Levels of WASH service coverage in Côte d'Ivoire 2013 vs. 2022 (JMP)

Despite the challenges, safely managed sanitation coverage in CIV has increased from 14.00% in 2013 to 17.25% in 2022. Basic sanitation has improved from 15.79% to 19.72%, limited sanitation from 23.84% to 27.22%, unimproved sanitation has reduced from 19.18% to 14.61% and OD has reduced from 27.09% to 21.20%. Given the population increase, the absolute number of people relying on limited sanitation has increased by 5.8 million. The absolute number of people having unimproved sanitation and those relying on open defecation has decreased by 100,000-400,000. The country has also made great strides in safely managed drinking water, from 31.51% to 43.89%. One of the concerns flagged by SSD at the outset of the activity in the proposal was the limited number of FSTPs in the country, as there were only four in 2013. Currently, there are six active FSTPs and ONAD has recently announced plans to construct 14 additional plants across the country.

One of the major changes that the Ivorian WASH sector has experienced since 2013 was first the creation of the Ministries of Sanitation and Health (MinASS) and the Ministry of Hydraulics (MinH) in 2018. Regional directorates were later created in 2019 in all thirty-one regions of Côte d'Ivoire. In 2022 the Ministry of Hydraulics merged with the Ministry of Sanitation and Healthiness (MinASS) to form the Ministry of Hydraulics, Sanitation and Healthiness (MinHAS). In 2023, the new Code for Hygiene and Healthiness was adopted. A national strategy for rural sanitation has been adopted and an update to the Sanitation code is in process. Political stability has improved since 2015, however, national, and municipal budgets have remained limited for both water and sanitation.

DESCRIPTION OF SSD ACTIVITY

SSD was implemented in Ghana, Benin, and Côte d'Ivoire from October 1, 2014, to September 30, 2021. This included a second one-year program extension from 2020 to 2021, requested because of the time delay impact of the COVID-19 pandemic. This extension year focused on COVID-19 prevention activities alongside sanitation activities in Benin and Côte d'Ivoire. A mid-term performance evaluation of SSD was conducted by ASSESS in 2017.

⁷https://www.gouv.ci/ actualite-article.php?recordID=14801&d=3

Based on analysis of their urban sanitation markets, each country developed and implemented sanitation products and service delivery models designed to address the locally specific sanitation challenges. SSD developed and tested scalable, market-based models that directly contributed to the achievement of overall program outcomes (2014–2020) and Year 7 results (2020–2021):

Program Objectives (2014–2020)

- Increase use of improved sanitation
- Increase safe disposal of fecal waste
- Disseminate learning on market-based approaches

Year 7 Results (2020–2021)

- Affordable product offerings through the existing supply chain
- Promotion of handwashing and hygiene practices among water, sanitation, and hygiene (WASH) service providers and informal sector water suppliers
- Economic opportunities for microentrepreneurs

SSD THEORY OF CHANGE

The SSD theory of change presents a high-level framework showing how interventions to influence the sanitation market system can lead to increased access to and use of sanitation and safe disposal and/or reuse of fecal waste among the urban poor. Ultimately it was expected that increased use of WASH services will lead to positive health and well-being impacts. The theory of change guided the research, analysis, intervention design and monitoring and evaluation of the project. In the ToC diagram for SSD located in Annex I, sanitation is a term that includes both sanitation and fecal sludge management.

DESCRIPTION OF MuniWASH ACTIVITY

MuniWASH is a five-year (September2019 - September2024), \$13.38 million USAID/WA regional activity operating in Benin and Côte d'Ivoire. TetraTech is the lead implementing partner with PSI and SEGURA Consulting LLC operating as sub-awardees. The objective of MuniWASH is to support city governments, national directorates and agencies, utilities, and service providers to sustain and expand city-wide WASH services and fill critical needs that reach poor and underserved community members in priority municipalities.

MuniWASH THEORY OF CHANGE

MuniWASH's ToC hypothesizes that:

IF the financial sustainability of water and sanitation utilities and service providers increases, AND IF the operational reliability of water and sanitation utilities and service providers improves, AND IF water and sanitation sector governance and management capacity at the subnational level are enhanced, AND IF regional learning and knowledge sharing to replicate successful approaches increase, THEN municipal water and sanitation service delivery will improve, especially for the poor and underserved.

EVALUATION PURPOSE

This evaluation assesses the performance of the SSD Activity from October 2017 to September 2021 in Benin and Côte d'Ivoire, to determine how the SSD Activity affected the sanitation market and how MuniWASH is performing since the activity began in 2019. The evaluation examines if the SSD Activity has contributed to a more functional, inclusive, and sustainable sanitation market system for the urban poor, and increased their sustainable access to improved sanitation and safe disposal of fecal waste, as

⁸ MuniWASH has a \$18.3M contract ceiling that includes a \$5M regional buy-in plug that has not been exercised. The core funding ceiling for the project is \$13.3M for operations in Cote d'Ivoire and Benin.

well as improving enterprise viability. Of equal importance, this evaluation identifies areas of improvements for MuniWASH's implementation that will facilitate the attainment of planned results and informs potential course corrective actions for the remaining period of MuniWASH performance through 2024. Finally, the evaluation studies the comparative advantage of intervention areas that receive both SSD and MuniWASH Activities, and documents the findings and lessons learned from both projects to inform decisions about current and future WASH programming. The statement of work (SOW) is located in Annex I of this report. The primary intended audience for this evaluation report is USAID/WA, USAID/Benin, USAID/Côte d'Ivoire, USAID/Washington, the Implementing Partners (IPs) as the primary audience and the Government of Côte d'Ivoire and the Government of Benin as the secondary audience. It is expected that findings, conclusions, and recommendations shared through this report will inform future USAID programming in the WASH sector in Benin and Côte d'Ivoire.

EVALUATION QUESTIONS

The Evaluation Team (ET) worked with USAID to adapt the original set of questions that are located in the evaluation scope of work (SOW) in Annex I as follows:

Market Functionality

- I. To what extent did SSD improve sanitation market functionality and enterprise viability?
 - a. How much, if at all, has SSD affected the (I) sales trends, (2) business viability, (3) number of Micro Small Medium Enterprises (or public sector) providers, (4) profitability, (5) quality of WASH products and services, (6) products and services affordability, access, and availability (7) other market dynamics for sanitation providers in the selected communities? Was SSD's approach to increasing demand and supply for sanitation products effective? If not, why? If yes, which factors or approaches (enacted by USAID, implementers, communities, or external entities) contributed to or impaired effectiveness of this approach? How have the national government, municipalities, and service providers/private sector been supported to strengthen demand? Has the increase been sustained?
 - b. Was SSD's approach to reforming supporting functions (financing/coordination/tech innovation/supply chain) effective? If not, why? If yes, which factors or approaches (enacted by USAID, implementers, communities, or external entities) contributed to or impaired effectiveness of this approach? Has the increase been sustained? Is there any difference in current MuniWASH intervention areas versus non-intervention?
 - c. Was SSD's approach to advocating for rules, regulations, and tariffs effective? If not, why? If yes, which factors or approaches (enacted by USAID, implementers, communities, or external entities) contributed to or impaired effectiveness of this approach? Has the increase been sustained? Is there any difference in current MuniWASH intervention areas versus non-intervention?
- 2. To what extent has MuniWASH increased the financial sustainability and operational reliability of

water and sanitation utilities and entrepreneurs in Benin and Côte d'Ivoire?

a) To what extent has MuniWASH increased the financial sustainability of water and sanitation utilities and entrepreneurs in Benin and Côte d'Ivoire? What are the factors contributing to this or barriers preventing this? Are we finding any difference in MuniWASH's impact in previous SSD intervention municipalities versus non? What could be modified to better achieve results before activity closure? What else could be considered to better achieve results during future programming?

- b) Have financial and investment opportunities increased for WASH public utilities/private service providers under MuniWASH? If yes, how much and why? If not, why? Is there a difference under previous SSD municipalities?
- c) To what extent has MuniWASH improved the operational reliability of water and sanitation utilities and services providers in Benin and Côte d'Ivoire? What are the factors contributing to this or barriers preventing this? Are we finding any difference in MuniWASH's impact in previous SSD intervention municipalities versus non? What could be modified to better achieve results before activity closure? What else could be considered to better achieve results during future programming?

Sustainability and Inclusivity

- 3. How are SSD and MuniWASH contributing to a more inclusive and sustainable sanitation market?
 - a) Did SSD contribute to a more inclusive sanitation market and/or increased access to improved sanitation and safe disposal of fecal waste in their intervention areas for the urban poor, underserved, women, differently abled? If yes, for which of these groups and how has this been sustained? If not, which of these groups and why? What are the barriers still remaining? What were the unintended consequences of SSD's interventions, if any?
 - b) Under SSD and MuniWASH, what were the barriers and opportunities for women to become sanitation entrepreneurs (or technicians, etc)? Which strategies to address these barriers appeared to be the most and least successful? Why?
 - c) Within MuniWASH, how much did the utility capacity building and systems strengthening activities benefit women and other marginalized groups?

Sustainability and Enabling Environment

4. To what extent has MuniWASH enhanced water and sanitation sector governance and management

capacity at the subnational level in Benin and Côte d'Ivoire?

- a) In terms of sanitation coverage, enterprise development, and market creation, are we seeing similar impact from MuniWASH's interventions in the public and private sector? What are the factors contributing to this or barriers preventing this? Are we finding any difference in MuniWASH's impact in previous SSD intervention municipalities versus non? What could be modified to better achieve results before activity closure?
- b) Have the steps taken by MuniWASH to sustain the changes from SSD to WASH services been effective? If yes, what factors have facilitated this? If not, what barriers have arisen? How much of these changes have been sustained over time (especially in areas where SSD but not MuniWASH operate)?

WASH Systems Strengthening

- 5. To what extent is MuniWASH contributing to strengthening the WASH system in Benin and Côte d'Ivoire?
 - a) To what extent have capacities been developed amongst local institutions under MuniWASH that can continue to advance WASH market and sector development activities in Benin and Côte d'Ivoire?
 - b) What are the remaining institutional capacity building gaps that should be addressed by

MuniWASH and during future programming? How should they be prioritized based on USAID's comparative advantage?

- c) Have relationships between key WASH stakeholders (government, private sector, civil society) been strengthened for planning, budgeting, and monitoring WASH service delivery? If so, how? If not, what are the barriers preventing this?
- d) What other opportunities exist for more interventions in the water sector in Benin and Côte d'Ivoire? What technical assistance could USAID provide to the governments and other actors in Benin and Côte d'Ivoire? What is USAID's comparative advantage?

Learning

- 6. To what extent have SSD and MuniWASH influenced regional learning and knowledge sharing in West Africa?
- a) Was SSD effective in dissemination of learning on market-based approaches to the provision of sanitation services throughout West Africa? If yes, which methods were effective? If not, what were the barriers and how could future USAID-funded projects disseminate learning more effectively?
- b) To what extent has MuniWASH increased regional learning and knowledge sharing to replicate successful approaches in Benin and Côte d'Ivoire? What are the factors contributing to this or barriers preventing this? What could be modified to better achieve results before activity closure and for future programming?

COVID-19 Impact on programming

7. What impact did COVID-19 have on SSD and MuniWASH's performance? What strategies were developed by SSD and MuniWASH and their respective stakeholders to mitigate the impacts on activity implementation?

Environmental Compliance

- 8. How have SSD and MuniWASH programs monitored environmental compliance of their interventions?
- a) Are/were there any environmental issues/concerns due to SSD or MuniWASH interventions or other unforeseen issues?
- b) If yes, what steps were taken to address these issues or concerns? Were these steps sufficient to resolve the stated issue/concern?

Theory of Change (ToC)

- 9. How have intervention approaches of either SSD or MuniWASH impacted effectiveness as is intended in each activity's Theory of Change?
 - a) Was the focus of SSD's revised ToC on increasing demand and supply for sanitation products, reforming supporting functions, advocating for rules, regulations, and tariffs effective to reach the activity's stated goals? If not, how would one improve sanitation market functionality in Benin and Côte d'Ivoire if the ToC were rewritten now? How has thinking related to sanitation markets changed since the original ToC design?

To what extent is MuniWASH's ToC focus on improving financial sustainability and operational reliability of WASH utilities/service providers, governance and management capacity at the subnational level, regional learning and knowledge sharing proving effective to reach the

activity's goals? What should future ToCs focus on to better improve municipal water and sanitation service delivery, especially for the poor and underserved, in USAID's future programming?

EVALUATION METHODOLOGY

OVERVIEW

This evaluation used a mixed methods approach appropriate for both an ex-post and midterm performance evaluation, combining qualitative and quantitative research methods reinforced by direct observation and data analysis. Per the SOW, the ET began work with an extensive document review of quarterly and annual reports, as well as other available data (Institutional Strengthening Index (ISI) and Enterprise Capacity Building Tool (ECBT) scores, Monitoring and Evaluation (M&E) data). Data collection was conducted from April 25 to May 9 in Benin and from May 11 to 26, 2023 in Côte d'Ivoire. Online interviews were conducted from May 29 to June 2, 2023. A detailed data collection schedule and list of parties consulted is available in Annex III, and the evaluation team composition is in Annex IV.

DATA COLLECTION AND SAMPLING

Data collection consisted of key informant or group interviews, focus group discussions, and direct observations of sanitation products developed under each activity or of traditional latrines of nonconsumers. Group interviews were capped at five participants and focus group discussions had 6-12 participants. Key informant interviews (KII) were conducted with former and current IP staff, national and municipal government staff, utility staff, SSD and/or MuniWASH-trained sanitation entrepreneurs, sanitation entrepreneurs not affiliated with either project, consumers of SSD and/or MuniWASH sanitation products, civil society, and participating microfinance agents. Non-consumers who live in the same area as consumers of SSD/MuniWASH products were identified in the selected municipalities and confirmed to have no connection to either activity before participating in interviews or Focus Group Discussions (FGDs).

The evaluation design proposed sampling in both Abidjan (Abobo and Yopougon), Côte d'Ivoire and in Cotonou and Abomey-Calavi, Benin, given the presence of interventions implemented by both SSD and MuniWASH in these locations. In addition, in each country, one location having received only SSD interventions was selected (Ifangni, Benin and Bouaflé, Côte d'Ivoire), one location having received only MuniWASH interventions was selected (Sô-Ava, Benin and San Pedro, Côte d'Ivoire), and one location where both activities have been implemented was also selected (Aplahoué, Benin and Bouaké, Côte d'Ivoire). Table I summarizes the details of data collection.

Table 1: Data collection summary

Stakeholder	Location	DATA COLLECTION METHOD	BENIN	CIV
USAID	Abidjan, Accra, Cotonou, DC, Kampala	KII	5	
Project Implementers	Abidjan, Cotonou, DC	idjan, Cotonou, DC KII		21
Entrepreneurs trained by SSD/MuniWASH	Abidjan, Bouaflé, Bouaké, San Pedro, Cotonou, Abomey-Calavi, Aplahoué, Avrankou, Ifangni	KII	12	13
Entrepreneurs not trained by either	Entrepreneurs not trained by Abomey-Calavi, Aplahoué, Abidjan, Bouaké either		2	3
Microfinance Institution Staff	ofinance Institution Abidjan, Cotonou		2	I
Utility Managers	Abidjan, Cotonou	KII/GI	2	I
Government (national and local)	ent (national andBenin, Côte d'Ivoire		13	17
AfWASA	Abidjan KII		0	I
Civil Society	l Society Abidjan, Cotonou, Abomey-Calavi		5	3
Consumers of Abidjan, Bouaflé, Bouaké, San Pedro, Cotonou, SSD/MuniWASH Products/Services Abomey-Calavi, Aplahoué, Ifangni		FGD	3	5*
Non-consumers of SSD/MuniWASH Products/Services	D/MuniVVASH		3*	6*
Observations	Abidjan, Bouaflé, Bouaké, San Pedro,	Consumers	9	П
	Abomey-Calavi, Aplahoué, Ifangni, Sô-Ava	Non- Consumers	2	8
Totals (KII + FGD only)			136	•

During data collection, the evaluation team worked in pairs. For almost all interviews, an interrogator and note-taker were present to allow the interrogator to focus on the questions while the note-taker captured the discussion. Almost all interviews were recorded. In four cases, online interviews were not recorded due to the platform used and, in three other cases, in-person interviews were not recorded due to refusal by participants. KIIs and FGDs were mostly conducted in French. In Aplahoué, where Adja is the predominant language, interviews were conducted in Adja; in Abomey-Calavi, the consumer FGD was conducted in Fon and French; and in Bouaké, the non-consumer FGD was conducted in Dioula and French.

DATA ANALYSIS

The ET took notes for all interviews in French. The assigned notetakers produced transcriptions for all interviews. The transcriptions were used to enter data into a Management Information System (MIS) based on Kobo Toolbox in the form of a questionnaire per type of interview. The MIS organizes the data in an Excel format that allows for simple searches of keywords and this data was analyzed to identify trends per the codes associated with each evaluation question. This analysis was triangulated with document review of the two activities and observations conducted in the field. Following data collection and analysis, the ET met remotely to finalize the analysis as a team.

LIMITATIONS

One of the limitations of this evaluation was the short period of time to conduct data collection in each country and the resulting tight timeline. To address this, the ET conducted on average three interviews per day per team, worked all Saturdays of data collection as well as on a national holiday (May I). Another limitation is the inclusion of Sô-Ava in the sample for Benin because the ET was not able to study a municipality in Benin that is only receiving MuniWASH interventions currently. Sô-Ava is an outlier in several ways, but it particularly does not have any active or former sanitation entrepreneurs. As agreed with USAID, it was important for the ET to study Sô-Ava due to its importance for future programming and the ongoing challenge it presents to the government of Benin as a result of the lacustrine environment and lack of a suitable sanitation product for the local context. This choice does mean there was less data collected on a current municipality receiving only MuniWASH with active entrepreneurs. Another limitation is that data collection overlapped with a USAID visit to Benin. While this was an opportunity in several ways, the ET did not learn that MuniWASH had requested entrepreneurs from all over Benin to come to Cotonou for this visit until after the field schedule was finalized. As a result, the ET was not able to visit the two Aplahoué-based entrepreneurs in Aplahoué and thus visit their sites while they were present. They were instead met in Cotonou prior to their return to Aplahoué. Another limitation is that the full evaluation team was not available during data collection, which was addressed by having the local WASH Specialist from Côte d'Ivoire extend her field time in Benin. Related to the SSD aspects of the evaluation, there was a risk that stakeholders have recollection bias during interviews due to the elapsed time since the activity closed. One of the strategies used by the ET to address this was to prepare examples of activities from the time period in question to help situate the respondent. A final limitation faced by the ET was organizing FGDs with both customers and non-customers of sanitation products of SSD and MuniWASH entrepreneurs. To address this challenge, the ET attempted to plan all FGDs several days in advance with a point person who had a good relationship with the target population to ensure a successful meeting. In several cases the point person would inform the ET ahead of time of challenges in finding a group of the target population that would be available at the agreed time. In such cases, the ET conducted an interview version of the FGD.

FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

This section of the report presents the findings and conclusions for each sub-evaluation question followed by the recommendations for the overall question.

EQI-MARKET FUNCTIONALITY (SSD)

- Ia) How much, if at all, has SSD affected the (i) sales trends, (ii) products and services affordability, access, and availability, (iii) number of Micro Small Medium Enterprises (or public sector) providers,
- (iv) profitability, (v) business viability, (vi) quality of WASH Products and services, (vii) other market dynamics for sanitation providers in the selected communities?

FINDINGS

<u>Sales trends-</u> Results in M&E documents received from SSD and MuniWASH confirmed that during Sanitation Service Delivery (SSD), approximately 39,000 sales of sanitation products were registered in Benin (WC Mimin) and around 14,000 sales were made in Côte d'Ivoire (SaniPlus). The sales were not limited to urban or peri-urban areas; they were also common in rural areas. Particularly in Côte d'Ivoire, sales teams operated in rural areas where the demand for sanitation products existed, in particular the latrine modifications with SATOPan (seated or squatting.) In both countries, entrepreneurs reported that the number of sales increased when trained and organized sales agents known as Community Sanitation Advisors (CCA in French) were active in the area, which was an element of SSD's marketing strategy.

The demand and the number of weekly desludging operations per vacuum truck operator appear to have been declining over the past decade, according to VTOs. This can be explained by the increase in the number of vacuum trucks active in Abidjan, Cotonou, and Abomey-Calavi. The decrease is similar to manual emptiers and those using motopumps (in CIV).

<u>Products and services affordability, access, and availability-</u> The highest number of products sold corresponds to the least expensive sanitation products. These were the toilet modifications in CIV, referred to as the pot in Benin, which sold for under 20,000 CFA/\$33.30° in both countries (84% of sales in Côte d'Ivoire, and 85% in Benin) as is shown in Table 2 below. Additional information on the prices of SSD & MuniWASH sanitation products are provided in annex VI.

Table 2: Sales during SSD

	Benin		Côte d'Ivoire	
Types of sanitation products sold	Number	% (APPROX.)	Number	% (APPROX.)
Double pit/pit latrine	5,964	15%	811	6%
Latrine modification with SATOPan	32,920	85%	12,006	84%
Soak pit	N/A	N/A	367	3%
Septic tank	N/A	N/A	1,078	8%

A proportion of households were unable to access the cheapest WC Mimin or SaniPlus products during SSD and remain unable to do so today. Several reasons were identified for this. Tenants often depend on landlords' investment decisions which is often complicated by shared ownership in urban areas. The limited available space for construction, or the high groundwater level, can also limit access to some sanitation technologies such as septic tanks. The ability and willingness to pay is limited in

 $^{^{9}}$ This report uses the conversion of 600 CFA=\$1 to give a rough estimate of the amount in USD.

¹⁰ Data source : SSD Final Report and Capitalisation of SSD (De l'ombre à la lumière) - September 2021

certain areas. For comparison, entrepreneurs outside the SSD program were selling simple toilet pans at 5,000 or 6000 CFA/\$8.30 or \$10, in both countries. These simple toilet pans can be associated with odors and insects (flies/cockroaches) for some customers. The sanitation products, including the SATOPan, were seen as a significant improvement by customers as they can stop odors and insects, and are also more durable, if installed well.

CCAs were responsible for demand creation of the different WC Mimin products and received a commission on products sold by SSD. In Benin, SSD's CCAs played a key role in creating demand:

"During the project, sales were good in Benin, but afterwards they dropped as there were no more agents in the field to increase sales." (Entrepreneur, Benin).

The existence of sanitation entrepreneurs' businesses and sanitation products (including WC Mimin and desludging) remains visible today in many geographical areas of Benin through posters, roadside point of sales, and flyers.. In Côte d'Ivoire, promotional activities were similar, but the presence of entrepreneurs is less visible as most entrepreneurs do not have visible production or selling points and have little promotional materials.

In Benin, desludging services are not affordable for all households, as the price of desludging for a 6 cubic meter septic tank in urban areas ranges from 20,000 to 40,000 CFA(\$33.30 to \$66.70). Instead of paying for the full service, customers with overflowing tanks have developed several methods. They will ask the desludger to remove an amount corresponding to the cash they have on hand, or they will remove the "liquid" themselves, using buckets. Technically, not all household toilets can be emptied by trucks or recognized companies due to lack of access or inability to remove the contents of the pits as a result of insufficient suction capacity of the trucks.. In Cotonou and Abomey-Calavi, some VTO work on an informal basis with manual emptiers who dig out the content manually (could be to dig out the remaining of sludge within a large septic tank after initial removal by the truck or it could be in a pit where the truck has no access or does not have the suction capacity to remove the sludge).

In Côte d'Ivoire, desludging can be done by individuals using motorized pumps (both the individuals and the activity are referred to as "motopumps") or manually (the individuals are referred to as "manual emptiers"). Those practices are common in lower income urban areas as they are less expensive for households. Depending on the size of the pit or tank, motopump emptying prices range from 15,000 to 35,000 CFA (\$25 to \$58.30) and mechanical desludging price ranges from 20,000 to 60,000 CFA (\$33.30 to \$100).

In both countries, most customers are reaching out to mechanical emptiers by phone, following past experiences, word of mouth or after reading the phone number written on a desludging truck passing by.

Number of Micro Small Medium Enterprises (MSME) - In Benin, 62 WC Mimin entrepreneurs were trained by SSD and by the end of the program, 32 remained active, as presented in Figure 3. Among them 17 were selected to continue to work under the MuniWASH program (and still are today.)

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¹¹ Further details on the current status of the desludging sector in Benin & Côte d'Ivoire are presented under EQ 4a.

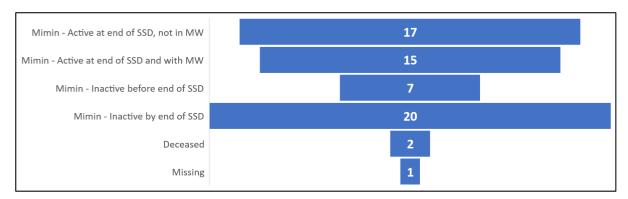


Figure 3: Status of SSD-trained entrepreneurs in Benin at project close

In Côte d'Ivoire, it is reported that over 400 entrepreneurs received training during SSD.¹² The project implementers took time to identify what type of stakeholders would be the most appropriate to produce and sell sanitation products. They initially interacted with a large national construction company, then interacted with and trained large local companies, then tried the same with well-established masons, and finally started to work with small enterprises). This explained in part why the project trained over 400 individuals. Some entrepreneurs joined the project very late (in the last few months) in order to compensate for certain departures and to meet the program's sales targets before the end of SSD. Most of these new entrepreneurs were former CCA from the project, eager to optimize their commissions. Towards the end of SSD, the program also trained entrepreneurs working for the Rural Sanitation Directorate (DAR in French):

"With the partnerships we have had with the sanitation department, ..., we were the ones who trained them. So, we were up to more than 100 entrepreneurs. But those that we managed ourselves were about 50." (Project implementer, about the last year of the program).

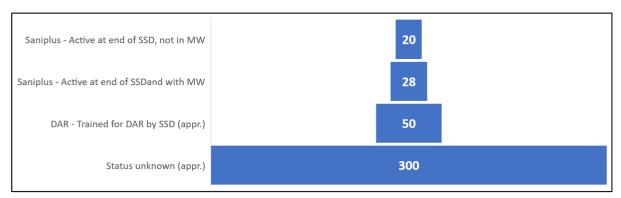


Figure 4: Status of SSD-trained entrepreneurs in Côte d'Ivoire at project close

Desludging in Benin: Forty-four emptiers are registered on the SSD and MuniWASH lists. At the end of SSD, more than a hundred trucks appear to be active in the expansive Cotonou/Abomey-Calavi area, managed by 80 or 90 companies of various sizes (a large number of entities with just a single truck (end of SSD estimate)).

Desludging in Côte d'Ivoire: Managers and operators working for 20 to 30 companies (with desludging trucks) were trained during the first years of SSD, mainly in large urban areas (Bouaké, Abidjan). The number of VTOs increased during the SSD years. There is also a high turnover of staff within the companies.¹³

¹² Capitalisation de SSD : LE MARCHÉ DE L'ASSAINISSEMENT : DE L'OMBRE À LA LUMIÈRE

¹³ Towards the end of SSD, the project supported call center was transferred to a private operator and the emptiers who worked previously with SSD all boycotted this transfer. It was difficult for the ET to determine exact numbers at the end of SSD for this reason. More info under EQIb

<u>Profitability-</u> The profitability of the WC Mimin and SaniPlus business seems to be influenced by the type of products sold (very low margin on the cheapest products), the ratio between the cost of demand creation activities, and the number of sales. The profit margin on each product declined during SSD due to the increase in some production costs (including inflation, and because the SATOPan were no longer offered for free by the program) and because the sale price was not increased.

Desludging: The multiplication in the number of players in desludging (between 2015 and 2021) suggests that the desludging sector may be profitable for those who own the trucks. While the market was described as profitable in the first years of SSD, the increase in the number of VTOs, without any significant increase in the customer base, seems to indicate a decline in profitability for each operator. Some entrepreneurs in Benin expressed the view that supply outstripped demand.

<u>Business viability</u>- Few WC Mimin and SaniPlus entrepreneurs were 100% dedicated to sanitation activities towards the end of the SSD program. A significant number of entrepreneurs gave priority to their original activities (e.g., masonry), while continuing to sell sanitation products on an ad hoc basis, for example to customers of their masonry business or on referral, they did not invest in sales forces and specific promotion of their sanitation activities. This is particularly true in Benin where entrepreneurs had rather well-developed activities prior to the SSD program.

Desludging: In both countries, the vacuum truck operators reported a drop in operating margins and a reduction in the average number of desludging operations per entrepreneur. A majority of desludging trucks were reaching the end of their functional lives, and there were also a majority of 6-cubic meter capacity trucks (fewer 12-cubic meter trucks), which limited the operational capacity of VTOs:

"Our trucks have capacities ranging from 6 and 8 m3 to 10 m3... Our trucks are in very old condition. They are often over 30 years old" (Entrepreneur, Côte d'Ivoire).

During SSD, the number of vacuum trucks and companies increased in Benin. Some entrepreneurs reported that, at the time, the then new director of the main disposal site owned by a private company was issuing a lot of new licenses/permits without many constraints, probably hoping to increase income of the site, as a dumping fee per entrance was added, increasing supply considerably. Faced with the decline in household customers, VTOs are seeking out public contracts, which are rarer but guarantee a more 'stable' and remunerative business. These markets are open to mechanical emptiers who can demonstrate a certain capacity (volume and number of trucks). In Côte d'Ivoire, additional operating constraints increased during SSD, including an increase of FSTPs fees, restricted times when vacuum trucks were allowed to circulate anywhere in the country (only between 9h-16h), FSTP operation hours (even if flexible) limited to between 7h-17h, and more traffic congestion impacting the maximum number of desludging trips a truck can perform daily.

Quality of WASH products and services- Both entrepreneurs and users recognized the added value of the SATOPan, commonly citing the features of reduced smells and reduction of insects. Very low returns on breakage were noted. All stakeholders and observations noted the quality of the SATOPan and its installation, as presented in Figure 5 below. In most observations carried out, the technology and its installation guaranteed the containment of excreta. In two observations, the trapdoor of the SATOPans were not fully closed, probably due to an imperfect counterweight.

Observation of facilities built by SSD-trained entrepreneurs indicated that some latrines do not guarantee the hygiene, privacy, and safety expected of sanitation facilities. The installation in itself was functioning but its maintenance, use, or immediate environment limited important function of the sanitation facility:

- Access In several cases, physical access to the latrine or the slab can be constrained by steps or high platforms (10 of 30 observed).
- Privacy and safety Absence of lighting, doors, and locks questions the privacy and security
 of some latrines. Absence of roofs in many cases, and several latrines without solid
 superstructure also impacted the comfort of the users.
- Hygiene While buckets of water were observed in several latrines (9 of 25 observed), there
 was almost a systematic absence of soap in the vicinity of all latrines observed (1 of 25
 observed).







Figure 5: Installation of SATOPan (from left to right: Bouaké, Yopougon, Calavi)

In Benin, stakeholders noted the difficulty in finding suitable products (technically and financially) for flood-prone areas. In Côte d'Ivoire, there was a positive general perception of soak pits in urban areas, but it is difficult to find suitable complete sanitation products (technically and financially) for urban areas (concessions/compound houses). In Abidjan, users prefer porcelain seats, and some remain reluctant to opt for a SATOPan.

Desludging: According to different stakeholders (government, entrepreneurs), the capacity building of the various players (entrepreneurs, operators, and drivers) in the desludging sector during SSD, as well as the provision of personal protective equipment and vaccinations, have raised the quality of the service. In both countries, the typical set up of a desludging company would have the owner managing one or two trucks with one driver and one or two operators per truck. Salaries for truck drivers and operators are often very low, and they are often not provided with personal protective equipment. Working conditions and salaries explain the high turnover for drivers and operators. Due to the high turnover rate in the desludging companies, some stakeholders (project implementers, VTOs, Local government representative) have questioned the long-term benefit of investing in VTOs training. This is because, after a certain time, the staff leave their jobs and a part of the investment "is lost" (project implementer). As a result of turnover, a high proportion of the staff operating the trucks at the end of SSD did not receive any training.

Some latrines cannot be emptied using existing truck technology because of difficult access (narrow roads) and insufficient suction capacity of the truck for pit latrines. However, the inclusion of non-truck emptiers (motopumps and manual emptiers) in the SSD program through training, for instance, was very low.

<u>ii)</u> Other market dynamics for sanitation providers in the selected communities?- Few testimonials on coordination between toilet providers and VTOs in both countries.

In Côte d'Ivoire, entrepreneurs working for DAR in different regions, and receiving free SATOPan (and other media), have been trained by SSD. SaniPlus entrepreneurs complain of unfair competition as those entrepreneurs are receiving in-kind support from DAR whereas they have to pay for SATOPans now.

CONCLUSIONS

In both countries: SaniPlus and WC Mimin products offered the best quality on the market, especially at the entry-level. The development of different technology, particularly the addition of SATOPan has led to very good customer feedback (no odor, no insects). The entrepreneurs have understood that SATOPan represents an added value to the traditional latrine. While septic tanks or the whole WC Mimin have been appreciated, a majority of sales correspond to the least expensive sanitation products (in addition to SATOPan.)

A large volume of sales, more than anticipated at the start, was made in rural areas. In Côte d'Ivoire, especially, it was easier to conduct promotional events and sell some adapted products. In most places, the best sales phases for sanitation products correspond with periods when sales teams were operational (trained, numerous).

For both latrine construction and desludging, stakeholders agreed that practices are more hygienic, and the quality of installation has improved. Training participants gave excellent feedback on technical training for entrepreneurs and sales forces.

Demand fell towards the end of SSD, and just after the end of the program. This highlights the importance of the sales force and promotional operations carried out by SSD. This is linked to the reduction in the number of sales agents, promotional events, and price reductions on SATOPans. This change was better anticipated in Benin, where some entrepreneurs developed some form of sales force, including several sales points and some communication materials (leaflets, billboards) as presented in Figure 6.





Figure 6: Selling and production points for entrepreneurs (from left to right: Bouaflé Côte d'Ivoire, Ifangni, Benin)

Some technical challenges were not resolved during SSD (flood-prone areas, compound houses with multiple owners) (e.g., Cotonou, Sô-Ava). Technical challenges related to the desludging of current pits and future emptying of Mimin latrines remain unanswered at the end of SSD. This was recognized in Benin by the project implementers and new technologies were proposed for adaptation and testing in flood prone areas under MuniWASH. A similar thing was proposed for the management of fecal sludge from Mimin latrines and potential reuse.

Ib) Was SSD's approach to reforming supporting functions (financing/coordination/technical innovation/supply chain) effective? If not, why? If yes, which factors or approaches (enacted by USAID, implementers, communities, or external entities) contributed to or impaired effectiveness of this

approach? Has the increase been sustained? Is there any difference in current MuniWASH intervention areas versus non-intervention?

FINDINGS

For both countries, innovations in supply chain and financing functions have supported market development. The strong impact of the SATOPan technology and the importance of SSD technical training workshops were commended by the majority of entrepreneurs as a great value addition to the SSD program. The technical training is also seen as a durable input for entrepreneurs who left SSD:

"Product quality improved with SSD support, and they transferred this skill to us" (Entrepreneur, Côte d'Ivoire). "Where I've installed SATOPan, no one has complained so far." (Entrepreneur, Benin).

Similar observations were made by desludging entrepreneurs pointing out the quality of technical training. Together with the training, the in-kind provision of molds, construction materials and SATOPans have reduced the investment cost of entrepreneurs and motivated a majority of them. SSD in both countries put a great focus in developing suitable and durable sanitation products not only through research and development, but also through training, monitoring of entrepreneurs and regular quality checks of products:

"They trained us in the practical side of things. How to do the installations. Afterwards, how to improve even the work, how to make money in the work. Really insist on the (quality of the) product so that it comes out well. Make sure you are doing the right doses to make sure you can earn a little money" (Entrepreneur, Côte d'Ivoire).

In parallel with technical innovation, demand creation was an important element of the SSD's sanitation marketing strategy. Entrepreneurs notice the correlation between the period with their best sales and the activity of a commercial team (CCA) supporting demand creation. In both countries, the main limitations to market development associated with supporting functions were:

- The cost of SATOPan increased for entrepreneurs towards the end of SSD, as the program stopped giving out the product for free. At some point, obtaining the product was also difficult for entrepreneurs as it involved payment to the bank then collecting the pan in another place, at an outlet point or distribution center.
- The supply of other construction material, such as sand, was also mentioned as a major difficulty due to the increasing price and the difficulty of delivery.

Limitations specific to Benin:

- Some entrepreneurs think that it can be more difficult to sell sanitation products in areas targeted by Community Led Total Sanitation (CLTS) as part of the population perceive latrines as a free good, or one that should not be very expensive in order to abandon OD.)
- Some desludging entrepreneurs complain of unfair competition as some of their colleagues
 were operating without paying tax or following basic hygiene rules and negotiated lower
 prices with households.

Limitations specific to Côte d'Ivoire:

• As described in EQIa, the capacity of certain entrepreneurs to innovate, invest, and communicate, was heterogenous and low for some. The overall context of entrepreneurship is different from Benin. "In Benin, the entrepreneurs were better organized, better established, they had a very good base compared to those in Côte d'Ivoire." (Project implementer)

Interviews and observations confirm that the majority of SaniPlus entrepreneurs do not currently have manufacturing or sales sites visible to the general public. There is also minimal advertising of these products. "In Benin, ...entrepreneurs had stores, they held exhibitions, and they were selling from their stores. On the other hand, not all of our entrepreneurs had manufacturing or storage facilities.

Some of our entrepreneurs were claustras manufacturers, toilet manufacturers and other masons. In Benin, they had stores, they built, they manufactured, they exhibited, and now they were off to sell. In Benin, they were entrepreneurs who had already recruited salespeople to promote their products. But back home, when we asked them to recruit, they were a bit slow on the uptake. Benin was quicker to achieve sustainability than Côte d'Ivoire. What boosted us was when we turned supervisors into technicians." (project implementer).

- Entrepreneurs are limited in their radius of action by the high cost of transport and the challenge to cover distances to make a sale or deliver a product or work on demand creation
- In order to streamline sales, SSD introduced a system of bonuses in addition to commissions. This system could be likened to babysitting:

"As an NGO, we provided them with everything, including money for each job done. Like babysitting. We wanted them to adopt the project. We gave them money for each project they carried out..." "Towards the end, we saw that the project was becoming more and more permanent, and we began to cut off financial support. And it became difficult, sales had more or less dropped. Those who had to carry on, we did. Many of the people we trained stopped, because they were in it for the money" (Project implementers.)

Call center in Benin: The call center set up by SSD helped the emptiers to get customers. They had the impression that calls received by the center were distributed to the emptiers in turn. The transfer to the private sector at the end of SSD did not work out well, although the operator "works" with MuniWASH; some of the emptiers say they no longer receive calls from Allô Bénin:

"At first, when the number was with Association Béninoise pour le Marketing Social (ABMS) there, it was good. Even when your customers do not call you, at least the call center will call you twice a week and that is good. But when [SSD transferred to] Allô-Bénin, it is over (the system was not good anymore). All he does is call his friends. He only associates with his friends. We made a contract with him; he took the contract with him, and we signed. We signed a contract with him, yet he doesn't call anyone."

Call center in Côte d'Ivoire: The call center set up by SSD helped the emptiers get customers, but at first it took a while to get the emptiers to agree on a fixed price. They ended up accepting a price on the lower end of what they had been receiving previously because the call center could offer regular jobs. When SSD made the transfer to a private company that added a percentage to the fixed price that the emptiers did not receive (it would go to the operating cost of the company), they boycotted the call center, and SSD/the private company were forced to look for new emptiers to work with. ONAD asked SSD to close the private call center to avoid competition with the ONAD-supported call center.

Loans for entrepreneurs - In both countries, entrepreneurs made a limited number of requests for loans. Some of them already had ongoing loans with financial institutions and some took out loans with other banks. For some entrepreneurs, the loan system offered by MFIs partners of SSD did not allow them to borrow an amount sufficient for large investments such as trucks or to rent a shop.

Household loans in Benin - During SSD, a partnership was set up with the Promotion of Community-Based Savings and Credit (PeBCo in French) who provided sanitation loans to 2,500 households for a value of approximately 150 million CFA (\$250,000)¹⁴ beginning in 2018. These loans allowed households to access the sanitation market: half of the 6000 toilets constructed during SSD in Benin benefited from sanitation credit. CCA presented the sanitation loan product to households and, if they were interested, a PeBCo agent would later visit the household as part of the process of determining eligibility and whether they had a viable income generating activity. While the first year was successful and saw close to 100% repayment rates, with time several problems with repayment and collusion developed, specifically in Abomey-Calavi.. Some entrepreneurs and sales agents refused to offer loans to households:

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¹⁴ PeBCo Note

"During the project, they had been thinking about the poorest households, so we built some for them, because the PeBCo loans came in the meantime and helped them. But at a certain point, we stopped. Because the first people to take out loans did not pay them back. They say it is a gift from the state to the population, but the people involved in the project are asking to be reimbursed; when we say project, we normally mean gift" (Entrepreneur, Benin).

The quality of the sanitation loan portfolio deteriorated rapidly, to the point where the repayment rate had fallen to 82% by May 2020 (communication from the MFI). Investigations revealed situations of collusion between CCA and MFI agents. The sales agents themselves managed the sanitation credits and paid a commission to the MFI agents so that they would not come to carry out the inspection visits but still inform PeBCo that they approved the household/landlord for the loan The MFI and SSD representatives admit that they did not study the loan application materials to determine eligibility properly before granting the loan: "The files were not studied properly. The wrong information was provided, pushing some customers towards sanitation loans without any commitment to repay" (MFI representative). SSD reacted to this problem by hiring a recovery officer and firing multiple agents. It also reduced the amount in commissions CCA could earn through the toilet sales, which contributed to their drive to encourage loans as well as commissions supervisors could earn based on their CCA's earnings, thus further tightening the identified weaknesses in the oversight loop. At the end of SSD in 2021, close to 10 million CFA (\$17,000) had not been recovered.

In Côte d'Ivoire, "\$10,155 U.S. was distributed to 32 beneficiaries through the partnership with IGITRUST. However, only 52% of loans were repaid compared to the expected 80%".\(^{15}\) After this experience, no other sanitation loan system for households was implemented by SSD in Côte d'Ivoire. SSD also explored the possibility of households taking out loans to pay for desludging, having identified finance as one of the barriers households or landlords face to desludging on a regular basis. It is difficult for entrepreneurs to imagine loans for household desludging:

"They have difficulties, household members can give loans to each other in the house. Personally, I do not know. But households cannot take out loans with microfinance companies to pay 35-40k for desludging" (Entrepreneur, Benin).

CONCLUSIONS

Overall, four key elements have helped create a sanitation market thanks to SSD's approach to reforming support functions:

- The new sanitation products, often associated with the appreciated key features of SATOPan, are well accepted by customers (excluding some urban customers in Abidjan) and praised by entrepreneurs.
- The quality of SSD training, in particular the technical ones, and their association with a regular monitoring of the entrepreneurs and quality monitoring of the products and services offered have raised the reputation of WC Mimin and SaniPlus.
- The materials (molds, construction materials) provided to entrepreneurs at the start, and the subsidized prices of SATOPan during the first part of the program reduced production costs for the entrepreneurs.
- The training, deployment, and motivation of CCA, as well as the organization of some sales events, both boosted demand creation and facilitated sales for entrepreneurs.

Unlike in Benin, a large number of entrepreneurs received training from SSD in Côte d'Ivoire without remaining in the program and a majority only joined during the final months of the program. While a larger number of individuals received basic technical skills, fewer entrepreneurs than in Benin had time to develop their activities due to late recruitment. In addition to the attrition of SSD-trained entrepreneurs, the Côte d'Ivoire office also experienced high levels of staff turnover on a managerial

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¹⁵ SSD FY19 annual report

level. This certainly had an impact on the institutional memory of the program and its ability to navigate common challenges.

Call centers have not been sustainable in either country: although they were successful when SSD was supporting them, they were not successful after they had been transferred to private entities. Due to a mixture of political and commercial reasons in Côte d'Ivoire, the management structures (ONAD, etc.) and some emptiers did not support the privatized version of the call center. In Benin, a trust issue developed between the emptiers and the call center after SSD transferred to Allô Benin. In both cases, the transfers were initiated in 2019 and finalized in 2020, before SSD knew it would be extended. Perhaps the transfers would have been more successful if SSD had supported the private entities for a longer period of time.

There was a limited impact of microfinance activities on entrepreneurs in both countries. Some formalized entrepreneurs had already taken out loans with different banking organizations. Some entrepreneurs requested more substantial loans to invest in heavier material (e.g., vacuum trucks) that they were not granted. The impacts of household sanitation loans in Benin are varied, particularly in terms of operationalization. The example of collusion between SSD implementing staff and the MFI staff had made repayment difficult in one area of Benin. Several entrepreneurs have preferred to carry on their business without relying on the microfinance options. This may have prevented some households from accessing the market. The ET learned that some entrepreneurs allowed customers to pay back in tranches, however these examples are not well documented. However, the MFIs involved have learned their lessons and are willing to work with MuniWASH.

The increase in reforming support functions (mainly through the technical innovation of the introduction of SATOPan modifications) during SSD, started decreasing after SSD closed due to the challenges around the supply chain and the discouragement of entrepreneurs, especially in Côte d'Ivoire, in having to pay for an input that was previously free, such as the SATOPan. Increases to technical innovation and quality monitoring, two examples of impacts on supporting functions, were stronger in current MuniWASH intervention areas due to the IP's presence and support of former SSD-trained entrepreneurs.

Ic) Was SSD's approach to advocating for rules, regulations, tariffs effective? If not, why? If yes, which factors or approaches (enacted by USAID, implementers, communities, or external entities) contributed to or impaired effectiveness of this approach? Has the increase been sustained? Is there any difference in current MuniWASH intervention areas versus none?

FINDINGS

The entrepreneurs have not underlined any changes of rules or regulations affecting their business through SSD's efforts in either Benin or Côte d'Ivoire.

In both countries, the program tried to convince authorities to reduce or remove some taxes on sanitation products. While the program was active, and because SATOPans were purchased by the NGOs running the program, the products were not taxed. In anticipation of the program ending, the main focus of SSD's advocacy was to remove or reduce taxes related to the importation of the SATOPan. In both countries, advocacy efforts for the government to reduce or remove taxes were inconclusive. With the ambition to sustain the SATOPan supply chain, SSD, before the end of the program, selected one enterprise in each country through a tender process, to manage distribution and importation of SATOPan to the entrepreneurs of the country. (Information on the current status of these relationships is provided under EQ2.)

For sanitation services and desludging, the situation is different. The program implementers in Benin reported pleading to ease the work of VTOs. Some were successful as the companies no longer pay tolls for excess volume. For a while, the Value-Added Tax (VAT) was partly removed but was later reinstated.

On another note, the desludging companies in Benin report that it was difficult to obtain agreement/licenses to operate during a period of SSD. Licenses were given by the director of the private company managing the treatment station, Sibeau, and several desludging companies complained about the process because it was difficult to obtain them. Licenses were easier to obtain once the director changed. Companies do not report on regular quality control operated by authorities. ABMS, as a part of their capacity building approach, was doing some quality control from time to time. Concerning desludging in Côte d'Ivoire, the program and ONAD had several projects in common at the start of SSD. Two projects illustrated their cooperation: the training of VTOs and a communication document about sludge disposal sites. The call center experience, described under EQ I b, had impacted the quality of the dialogue and further initiatives.

During product development and commercialization, PSI put a strong focus on standards and quality. Entrepreneurs were trained and monitored to ensure standards were respected to meet sanitation objectives and the product's reputation. The cost of monitoring sanitation product quality was always covered by the program. Towards the end of SSD, municipalities were involved in the quality check, but no clear systems were set up at the end of SSD to pursue and finance the quality control process.

Concerning quality and desludging services, Quality Control Supervision Committees were set up in Cotonou, involving the Ministry of Health, Environmental Health Officers, Commune, Sanitation Police. The 2020 SSD annual report informs that:

"In the space of 10 days, 187 houses out of 234 (80%) households whose latrine pits were full immediately called the emptying service. Regular raids on houses by the municipal police, the sanitation police and the republican police can lead house owners to become accustomed to emptying their latrine pits on time".

According to the 2019 SSD annual report, similar activities have been tested in Côte d'Ivoire:

"With SSD's support, some municipalities of Côte d'Ivoire have signed new bylaws to help enforce sanitation practices. It is reported that in Abidjan, under this new bylaw, the first police patrol identified 156 households with poor sanitation practices, including poor wastewater disposal and poor management of fecal sludge. These households were verbally encouraged to follow better practices, or face a penalty. Following this patrol, eight households contacted sales agents with the intent to buy improved sanitation products, with one household purchasing a soak away pit".

At the time of the evaluation, stakeholders did not report significant lasting impact made by these committees. SSD also worked with the national government in Benin prior to the finalization of the "National Strategy for Promoting Basic Hygiene and Sanitation in Urban and Peri-Urban Areas," which includes an expectation for sanitation entrepreneurs to play a role in developing and supporting hygiene and sanitation <u>marketing.</u>

CONCLUSIONS

The SSD program did not directly influence rules, regulations, or tariffs on sanitation products, in either Benin or Côte d'Ivoire, in a lasting manner. SSD has engaged with local authorities in both countries under different formats, including training, advocacy, and material support. It has contributed, together with initiatives from other agencies, to advance sanitation management (in the media, at political level). The advocacy initiatives of SSD brought mixed results. While it did not lead to the removal or deduction of import taxes on SATOPan, or bring favorable rules to toilet entrepreneurs, the efforts have raised the profile of sanitation entrepreneurs. Concerning desludging, engagements with authorities in Benin has led to the reduction of some operating costs. The good standards of sanitation products are confirmed by key stakeholders, although measures to continue monitoring product quality were not successfully implemented after SSD.

LESSONS LEARNED AND RECOMMENDATIONS

- Ia) With sufficient demand creation and appropriate targeting, SSD successfully introduced latrine modifications with SATOPan, which appeal to people with traditional latrines. More is needed to convince people to invest in constructing new latrines, because they represent a significant additional investment. In Benin, a WC Mimin costs at least 9 times more than a latrine modification with SATOPan. In Côte d'Ivoire, the smallest septic tank (I cubic meter) costs about 10 times more than a latrine modification (see Annex VI.) SSD's work to identify alternative solutions (double pit, affordable septic tanks) are at risk of being forgotten because they were not as successful.
- Ia) Training of desludging operators during SSD, was appreciated, but do not translate to long-term change because the sector is so unstable. SSD did not identify a way to encourage truck owners to invest in their staff, nor to secure investments to acquire better performing trucks. However, both of these areas remain important to the improvement of this sector in Benin and Côte d'Ivoire. Government support and involvement in securing investments is crucial. It is impossible for desludging to be performed 100% mechanically in both countries. Manual desludgers are an important part of the equation and should be integrated in efforts to improve the FSM sector.
- Ia) The incentive structure developed by SSD for CCA was a successful approach for a project to motivate staff to sell. It was learned through the experience of SSD that it is important to detach supervisor's payments from those of sales agents to ensure there is no temptation to protect them. It is also crucial to better anticipate the end of incentives and develop a demand creation system that could be supported fully by entrepreneurs or supported partially by institutions.
- Ib) The introduction of SATOPan modifications have been accepted and highly appreciated in periurban and rural areas as an alternative to traditional latrines.
- Ib) Financing sanitation investment for households was a barrier during SSD and remains so today. SSD's efforts to introduce sanitation credit was innovative and illustrated that some people are willing to pay, however the approach used during SSD was not sufficient to push a large number of customers to invest in new latrines.
- Ib) Technical training workshops addressed a gap in technical assistance in the sanitation sector in both countries and the need for such training/skill transfer is demonstrated in Côte d'Ivoire, for example, through the ongoing training by the DAR of masons. A quality monitoring system has been partially set up and relies mostly on entrepreneurs' associations.
- Ic) While SSD was able to work with municipal governments in some cases to establish decrees, these have not made a lasting impression on the majority of local governments.
- Ic) In the future, programs such as SSD should seek support or advice from activities like the <u>Partnership for Better Living</u> (PBL) on how to possibly influence importation taxes. The PBL is a cooperative agreement between USAID and LIXIL's social business, SATO: "the PBL is working with USAID to co-create country-level activities that will improve the availability and reliability of supply chains in countries of shared interest".

EQ2-MARKET FUNCTIONALITY (MUNIWASH)

2a) To what extent has MuniWASH increased the financial sustainability of water and sanitation utilities and entrepreneurs in Benin and Côte d'Ivoire? What are the factors contributing to this or barriers preventing this? Are we finding any difference in MuniWASH's impact in previous SSD intervention municipalities? What could be modified to better achieve results before activity closure? What else could be considered to better achieve results during future programming?

FINDINGS

Regarding financial sustainability of water and sanitation utilities, in Benin, MuniWASH helped SONEB produce a Performance Improvement Plan (PIP) through sub-contractor Segura Consulting. COVID slowed down the activity at the beginning because everything was done remotely. The main consultant supporting the PIP died suddenly during the activity. Segura used the World Bank's maturity model for water services to categorize SONEB in terms of capacity. They identified six core processes requiring particular attention. The PIP has worked well. Since SONEB began implementing the reform, the PIP has not moved. There is no connection with SSD municipalities as this activity is implemented at a national level. In Côte d'Ivoire, MuniWASH has established a working relationship with SODECI, the national water utility, however their activities are limited to MuniWASH seeking out data related to the Ivorian WASH sector rather than identifying capacity building activities to support the utility as in Benin.

For both countries, an important aspect of financial sustainability for private entrepreneurs is the ability to formulate performance improvement plans and increase capacity to invest. MuniWASH supports 17 of the 19 entrepreneurs selling sanitation products and 44 desludging entrepreneurs in Benin transferred from SSD. That is three times less than during SSD, although only 19 were active at the end of the project as illustrated in Figure 3 above, 7 entrepreneurs dropped out during SSD and 15 are no longer with MuniWASH due to change in geography. The type of support for entrepreneurs has changed between the two programs moving towards training focusing on business development and financial management. In terms of financial viability, MuniWASH offers training and support in financial management.

In 2022, MuniWASH carried out data collection using the Enterprise Capacity Building Tool (ECBT) in both countries. The self-assessment of MSMEs provide information on how the enterprises approach and improve their performance with six core functions: administration; human resources management; products and services; procurement, logistics and inventory management; marketing; accounting and financial management. The Enterprise Capacity Building Tool (ECBT) done in March and in August 2022 among 60 entrepreneurs (17 WC Mimin, 43 desludging entrepreneurs) indicates an increase of performance in most skills, as presented in Figure 7. According to the ECBT tool rating guide, the scores break down as follows:

- I Very little in place/needs a lot of support.
- 2 Some in place/needs support to start addressing shortcomings.
- 3 Much in place/needs targeted support.
- 4 Fully in place/needs no support.

Concerning the accounting and financial management function, the figures remain low, below 2, with an increase of 0.3. As an example,

"A good percentage of entrepreneurs have improved their bookkeeping skills, documenting their expenses, sales and stocks" (project implementer).

Entrepreneurs recognize the importance of improving their accounting and financial management:

"It was with MuniWASH that I took the GERME/SIYB training course, to better manage my business, staff, finance and equipment. It helps me enormously in managing my business. I have a sales book, a stock book, a receipt book too, a customer book" (entrepreneur Benin).

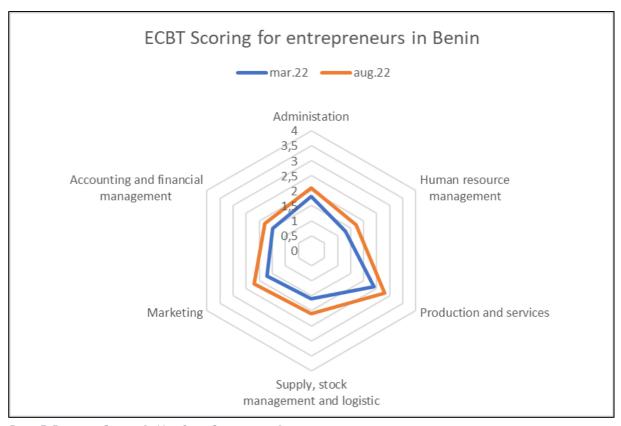


Figure 7: Enterprise Capacity Building Score Comparison in Benin

Project implementers and entrepreneurs in both countries recognize that many entrepreneurs do not separate personal and professional accounts. This negatively impacts savings for the company and the possibility of investing in or building a stock. The training is helping entrepreneurs to progressively change these practices:

"It helps me to manage my income, to also have my register which helps me do the accounting at the end of the month" (Entrepreneur, Benin).

Some of the entrepreneurs in Benin would like to be able to receive support from MFIs for larger loans, allowing them to buy trucks for transport of materials or larger and better vacuum trucks.

By May 2023, MuniWASH in Côte d'Ivoire was supporting 28 entrepreneurs, including 8 desludging entrepreneurs (23 entrepreneurs from SSD). In May and June 2023, a second group of entrepreneurs capable of producing sanitation products joined MuniWASH. Due to some late recruitments at the end of SSD and some new recruitment in May 2023, some SSD and MuniWASH staff think that there is a higher heterogeneity of administrative and financial skills among MuniWASH entrepreneurs in Côte d'Ivoire than in Benin. The ECBTs completed in March 2022 and in August 2022 indicate an increase in skills, as presented in Figure 7. However, scores remain low for administration and accounting, below 2 (out of 4) and with an increase of 0.1 between the two time periods. It was reported that less than five entrepreneurs are keeping their books regularly

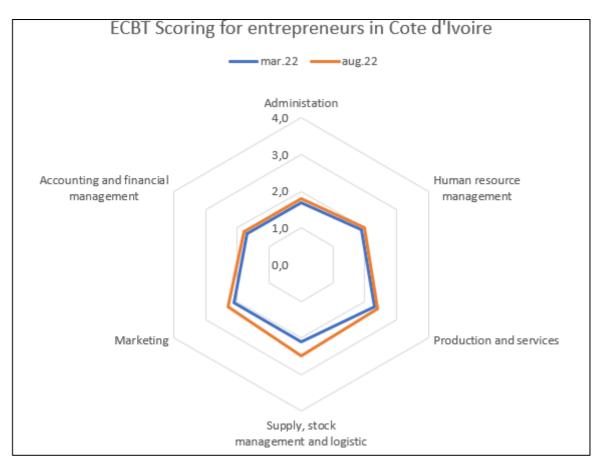


Figure 8: Enterprise Capacity Building Score Comparison in Côte d'Ivoire

In Côte d'Ivoire, training courses are underway to bring all of the entrepreneurs up to the same level. Entrepreneurs face different circumstances, depending on how long they have been in the program (SSD or not), but also on their geographical location, share of sanitation activities, and level of entrepreneurship. While the majority confirm that they received training in financial management, the majority provide little evidence of any improvement in financial viability. A MuniWASH staff explains the difficulties of changing the state of mind of some entrepreneurs:

"The companies that arrived from SSD were not entrepreneurs. They had not decided to create their own businesses. We got them into the swing of things, explained their interest and they said why not. Today, we need to get them out of the welfare system and make them aware that they need to learn to develop their own approaches and strategies and think as entrepreneurs" (project implementer).

In Côte d'Ivoire, MuniWASH is pursuing the efforts of SSD in supporting formalization of the entrepreneurs. One objective is to expand sanitation service providers' access to loans and lines of credit (the formalization process is described under EQ2b).

Some entrepreneurs in Côte d'Ivoire are asking for support in terms of financing to improve their mobility (i.e., use of tricycle, better vehicle for desludging, etc.), and their promotion (i.e., using communication campaign and brochures, among others). This is discussed further in the section covering EQ 2c (below), operational reliability.

CONCLUSIONS

MuniWASH has contributed to the financial sustainability of the SONEB in Benin through the work completed by Segura Consulting on the PIP. The project was not able to develop a capacity building activity with SODECI, but they do have a functional working relationship, which may be the most appropriate for the Ivorian context and for MuniWASH, given the many activities it works on.

MuniWASH provides numerous training courses for entrepreneurs on management aspects, including bookkeeping and ways to formalize. While skills of entrepreneurs have improved in Benin according to the ECBT over the past 6 months, the impact on the viability of sanitation companies has not (yet) been demonstrated. The realities differ from one entrepreneur to another (geography, sanitation activity share, size, services, date of arrival in the program, level of formalization), but the support requirements of a majority of these companies focus on material/logistical (transport, SATOPans), financial (cash flow) and commercial (communication, promotion) aspects of support. The addition of some new entrepreneurs towards the end of SSD, mainly in Côte d'Ivoire, complicates the possibility of bringing all SSD/MuniWASH-trained entrepreneurs to the same satisfactory level of being able to manage their businesses, generate better net revenues, and to be able to invest or take out loans.

2b) Have financial and investment opportunities increased for water and sanitation utilities/entrepreneurs under MuniWASH? If yes, how much and why? If not, why? Is there a difference under previous SSD municipalities?

FINDINGS

Under MuniWASH in both Benin and Côte d'Ivoire, financial and investment opportunities for public WASH services did not increase on a national level, but they did on a local level. MuniWASH has developed an Institutional Strengthening Index (ISI) in order to conduct a participatory evaluation of the municipal institution's performance on 5 functions (administration and financial management, human resources, monitoring and use of data, service delivery, planning and coordination), which group together its various activities. This participatory evaluation is actually a self-assessment conducted within the municipality, with the assistance of MuniWASH staff. Over a period of three days for the initial assessment and two days for the annual reviews, municipal staff from all sectors assess the municipality's capacities and performance (statements relating to the tasks/sub-activities making up each of the five functions of the municipal administration's competencies in relation to implementation) for the five main sectors of activity, awarding consensus scores on a scale of 1 to 4 for each sub-activity. The timing of the assessments is important so that enough time is allocated for the municipality in question to consider findings for their upcoming annual budget. Budgets are generally drafted starting in the month of August and therefore an exercise like ISI needs to take place several months prior. Through the ISI assessments, there has been an evolutionary trend in terms of communal budget lines dedicated to the WASH sector:

"In the time I've spent in this position, I haven't seen a budget go by. It is for 2023, it is on this budget that we have made a bit of an effort because we have provided enough resources, but it is to intervene in all the schools and administrations in the city of Cotonou to systematically empty the pits. So, unlike other years, the budget has practically tripled in this sector, because we were at 15 million CFA (\$25,000) and we have gone up to 40 million CFA (\$66,667) in 2023 to organize the emptying of all pits in schools, the municipal administration, everything that's school infrastructure" (Local Government, Benin).

These funds thus allocated to WASH activities come from resources specific to the town hall, resources allocated by the central government within the framework of the municipal budget, and also from partners intervening in the framework of decentralized cooperation. This is the case of the financing of a French association for 2 toilets in Soko and Hindé, whose connection to the SONEB water supply cost more than one million CFA/\$1667.

MuniWASH is supposed to work with national governments to raise \$88 million in investment for the water and sanitation sector (\$40M water infrastructure, \$40M sanitation infrastructure, \$8M small sanitation enterprises) in Benin and Côte d'Ivoire. MuniWASH adopted an appropriate approach to involve government players at national level first, in order to rally them to the fund-raising objective

envisaged. This involved approaching the relevant institutions before officially launching financing and investment discussions with potential investors, and raising funds on behalf of the governments of Benin and Côte d'Ivoire. However, in both countries, the authorities informed the Activity that they were unable to provide a letter delegating their mandate to the Activity. Once this stage had been completed, MuniWASH approached funding institutions, including the United Nations Capital Development Fund (UNCDF), which expressed a keen interest in participating in the financing of sanitation service providers through various instruments (e.g. grants, concessional loans, equity, etc.), and in joining forces to make progress towards mobilizing resources for municipalities. As part of this objective, MuniWASH has continued to identify grant opportunities available via a call for proposals, actively monitoring and identifying actors likely to participate and accompanying them throughout the process, from preparation to submission. However, after three years of implementation, MuniWASH has come to the realization that, despite considerable efforts, there have been difficulties in mobilizing resources to finance infrastructure. The main reason for the failure of these efforts is that, in both Benin and Côte d'Ivoire, the water sector receives a great deal of attention from the government, which itself manages the financing mechanism. As activities aimed at mobilizing the USD 80 million for water and sanitation infrastructure have not prospered, MuniWASH continues to make progress among small sanitation service providers in order to reach a total of USD 8 million invested by the end of the project.

At the national level in Benin, MuniWASH was unable to raise these funds for the WASH sector as planned. Unable to raise funds on behalf of the central government (because they did not comply with the rules), MuniWASH obtained permission from the Deposit and Consignment Office of Benin (CDCB in French) to raise funds on behalf of the communes. This was not possible because MuniWASH's partner communes did not sign up to the scheme. They did not think it was appropriate to contract debts on aspects of financing that the central government was already considering. In Côte d'Ivoire' MuniWASH recruited a consultant to carry out a study of the investment pipelines to identify projects awaiting funding. The consultant visited several institutions to gather information:

"We were supposed to present the results, we received an invitation from the Ministry, notably ONAD, DAUD and ONAD who told us that it wasn't our mandate and that raising the funds belongs to the government through the Presidency, it was the Office of the Prime Minister. That, informally, meant that it was not our mandate" (local government, Côte d'Ivoire).

Financial and investment opportunities have the possibility to increase for entrepreneurs under MuniWASH in Benin and Côte d'Ivoire through two initiatives:

- I) MuniWASH has provided training and support for some private sector entrepreneurs whose formalization could enable them to qualify for MFI financing.
- 2) In Benin, MuniWASH has been lobbying for the involvement of the National Microfinance Fund (FNM) in the promotion of sanitation loans:
 - "That's what we are doing today with the National Microfinance Fund (FNM), which today is a state structure committed to putting at least five hundred million on the table to support the sanitation market through the administration of sanitation credit. This will have an impact on all the communes, because the FNM's action does not just concern the MuniWASH communes, but all the country's communes. And it is going to involve several microfinance institutions, not just the two we work with, but much more than that. And so, with the work we are doing with the FNM, it is going to be a revolution, really, in the sanitation market. Means to enable demand to buy products from institutions capable of implementing these products and state supervision. Even if MuniWASH is not here yet, it is a product that is here to stay" (project implementer).
- 3) In Benin, two microfinance institutions (PeBCo and Africa Finance) have recently signed a partnership agreement with MuniWASH for sanitation loans, using lessons learned from SSD to develop more sustainable conditions than those applied to SSD. The sanitation loan product

will take two forms. The first will range from 30,000 to 500,000 CFA(\$50 to \$833), over 18 months, and the second from 500,000 to 25,000,000 CFA (\$833 to \$41,667), over 48 months, exclusively for entrepreneurs. The interest rate on these loans will be 1.6%, with a guarantee fund that will be reduced from 10% under the sanitation loan set up during the SSD project to 5% under MuniWASH, thanks to the partnership with FNM.

In Côte d'Ivoire, FIN'ELLE is following the same process as the two MFIs in Benin for sanitation loans, which will be launched shortly:

"We discovered this sector through the MuniWASH initiative, which introduced us to the various initiatives in this sector. With the MuniWASH initiative, we were able to identify them better, and today, we consider them to be an ideal target for promoting sanitation and all the good environmental practices associated with sanitation and waste management." (MFI Côte d'Ivoire)

No differences were observed between MuniWASH's non-SSD and SSD municipalities. This may be explained by the fact that the sources of opportunities recorded are collective/national initiatives and not specific to each municipality.

CONCLUSIONS

Financial and investment opportunities:

- Training and support for private entrepreneurs in formalization has enabled some to qualify for MFI

financing in Benin and Côte d'Ivoire.

- Memoranda of Understanding have been signed with 2 MFIs (PeBCo and Africa Finance) in Benin and with FIN'ELLE in Côte d'Ivoire for the provision of sanitation loans to entrepreneurs and households for sanitation products and services. The implementation of these credits will start very soon, but some adjustments will have to be made with regard to the loans available to households for the acquisition of sanitation products/services. Indeed, under SSD, the CCAs were quite involved in helping households to access sanitation credit. These CCAs having been replaced by advisors and business introducers who are now staff members of entrepreneurs under MuniWASH, it is now necessary to quickly establish an appropriate approach for granting sanitation credit to households that considers a few weak points recorded with PeBCo under SSD, so that these loans are granted with due diligence while MuniWASH is still being implemented.
- At town hall level, there has been an indirect increase in financial and investment opportunities for public services, which are gradually being put in place, although with some difficulty. Both in Benin and in Côte d'Ivoire, most municipalities that the ET interviewed have understood the need to pay more attention to financing WASH-related activities in their budget planning, following the institutional performance assessment exercises using the ISI tool. However, despite this awareness, they are still finding it difficult to allocate resources for this purpose. The reason often mentioned is the obligation to follow the budget framework which only allows for limited resources for the basic hygiene and sanitation budget line.
- The national fund-raising activity of \$88 million listed as an output for MuniWASH was not achieved in either Côte d'Ivoire or in Benin and should be reduced to USD 8 million for sanitation service providers.
- 2c) To what extent has MuniWASH improved the operational reliability of water and sanitation utilities and entrepreneurs in Benin & Côte d'Ivoire? What are the factors contributing to this or barriers preventing this? Are we finding any difference in MuniWASH's impact in previous SSD intervention municipalities versus non? What could be modified to better achieve results before activity closure? What else could be considered to better achieve results during future programming?

FINDINGS

Benin: Regarding operational reliability of water and sanitation utilities, MuniWASH is in the process of recruiting an entrepreneur to strengthen the capacity of SONEB's water quality laboratory. The process has been delayed like the PIP, but the Director General recently gave the go-ahead. The activity could start at the end of October if things continue to progress.

Entrepreneurs appreciate MuniWASH training on strategy, business management and marketing. The impact of these trainings on operational reliability is not clearly measurable at this stage by entrepreneurs.

Increase of operating cost — The SATOPan cost has also increased since SSD, as SSD was selling at the wholesale price of 3,030 CFA(\$5.05). According to data from interviews, two known distribution systems coexist as is presented in Figure 8 below. One is based on one private firm selected by ABMS at the end of SSD to manage their remaining stock and distribution of SATOPan. It is reported that they sell the SATOPan to entrepreneurs at 4,800 CFA(\$8.0) at retail price. The second system was pushed by the association of entrepreneurs. One of their members is importing SATOPan from Nigeria and can sell at a retail price of 4200 CFA(\$7). The association and entrepreneurs are requesting support to convince the government to reduce or remove the import tax.

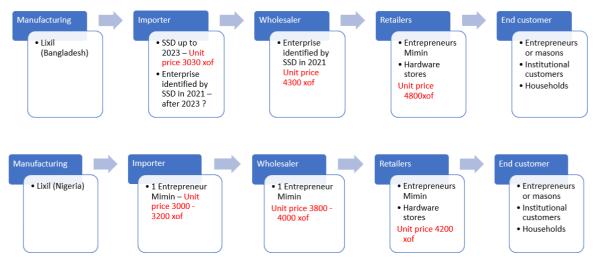


Figure 9: SATOPan Supply Chains in Benin 2023

Following the increasing cost of SATOPans, other construction material and fuel for transportation, most entrepreneurs have increased the price of their sanitation products by 10 to 20 percent since SSD closed. This does not cover the entire increase in construction costs. Despite being able to get demand, some entrepreneurs explain they had to reduce their margins: "now everything's expensive, it's really complicated, and as a result, profits have fallen, and margins have become very thin" (entrepreneur Benin). Entrepreneurs who are mainly getting their income from sanitation-related businesses would like access to more substantial loans, allowing them to buy larger vacuum trucks or transport trucks for getting better and cheaper construction material such as sand.

Reform of the desludging sector — The desludging sector is undergoing major changes in Benin, namely the pooling of small desludging companies into a dozen or so structures recognized by the authorities. The SGDS is also the new structure managing desludging and will be in charge of delivering licenses to desludging entrepreneurs. MuniWASH is supporting some entrepreneurs to anticipate the new desludging structures: "We've made the emptiers aware of the need to pool their investment in anticipation of the reforms. MuniWASH has begun to support and train emptiers to enable them to become viable partners" (project implementer).

MuniWASH supports the reform as it will enable the sector to have better structures with qualified staff, and therefore an approach where investments (such as training) will not be wasted as before.

For example, it is estimated by a project implementer staff in Côte d'Ivoire that 75% of the staff vaccinated against tetanus, meningitis, and typhoid fever during a joint campaign between the ministry of health and SSD have left the desludging sector now. Sector stakeholders consider that the government is more watchful concerning desludging operations. As mentioned above, in the future, the ministry will be giving licenses to operate as VTO through the SGDS. Therefore, MuniWASH continues to support enterprises in preparing this transition (reporting, quality of operation, accounting). MuniWASH is not supporting all entrepreneurs who are part of the mutualization/ pooling process:

"With the pooling that has taken place under the MuniWASH lead, and which is perfectly in line with the orientations of the government reforms led by the SGDS, there are among the establishments pooled into new companies, some of which were not partners of SSD and are not among the MuniWASH partners" (project implementer). The impact of the mutualization on the price of desludging for households is not known to date

Côte d'Ivoire: Regarding MuniWASH's impact on operational reliability of water utilities, they are not working with SODECI on this.

According to entrepreneurs, they have received training from MuniWASH, mainly on the subjects of strategy, business management and marketing. Some others have joined recently and are in the process of receiving initial training on formalization and bookkeeping. While MuniWASH delivers numerous training workshops to entrepreneurs, the prioritization of the training has been questioned by stakeholders (government, entrepreneurs, and staff). It has been pointed out, for instance, that a large number of entrepreneurs are illiterate and that the training is not sufficiently adapted to their needs. An ongoing priority is to strengthen their literacy and language skills to improve their comprehension. Another priority identified is to better explain to the entrepreneurs that they need to be proactive in, for example, creating demand, obtaining information important to their business (such as where to get SATOPan, formalization procedures, other opportunities for support), and having a stock of products.

Increase in operating costs

The average cost of sanitation products and services seems to be rising due to the high cost of living, expensive production equipment, high fuel prices, new fees at FSTPs, and the end of free SATOPans (pre and post SSD).

Focus on SATOPan distribution

The firm identified by SSD to distribute (and import) the SATO products explains the difficulties to work with sanitation entrepreneurs in Côte d'Ivoire:

"The problem was that at the start, entrepreneurs did not buy the SATO I, it was absolutely free. And a bit before the private sector took over, PSI started to sell the SATOPan at 3,500 CFA(\$5.80). But then, after demonstrating that the SATO was installed following the norms, they had bonuses for each installation. So now that PSI is gone, they are in a situation where a private company does not give bonuses and has increased the cost of SATOPan even further (4,500 CFA/\$7.50). As a result, most of them have given up, and most of them have started working part-time."

It is also explained that entrepreneurs are expecting per diem and allowance when called to attend business meetings as was the condition during SSD.

According to data from interviews, there is one main wholesaler of SATOPan as it is presented in Figure below. Some entrepreneurs know which company to contact and the cost and procedures to get SATOPan. Others explained they got them through some entrepreneurs and do not themselves have direct contact with the main importer/supplier in the country. Others explained that it is difficult to find the item in the country while few say that they can find SATOPan, but they do not want to explain how. Most entrepreneurs are unhappy with either the cost of SATOPan, or the distribution system, or both, and are waiting on MuniWASH for a solution. A few entrepreneurs would like

MuniWASH to help them become a relay outlet for SATOPans but seem unable or unwilling to contact the importer/supplier by themselves.

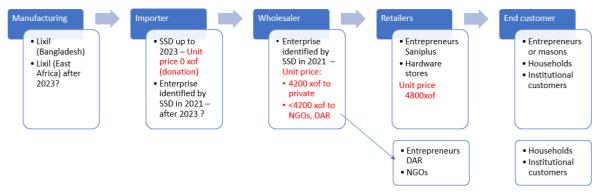


Figure 10: Representation of SATOPan Supply Chain in Côte d'Ivoire 2023

The number of monthly sales made by the SATOPan distributors is low compared to the number of toilets installed during the best years of SSD. According to the distributor, this can be explained by the decrease of demand, the lack of motivation of the entrepreneurs and the fact that some entrepreneurs received a large stock from PSI at SSD closure. The distributor is selling SATOPan to the DAR, to some NGOs and to the entrepreneurs trained by SSD and MuniWASH who still represent his larger share of sales. The average number of sales per month since taking over distribution of SATOPan in October 2021 is around 100 units. Between October 2021 and April 2023, 2,838 SATOPans, or 51.4%, have been sold out of the 5,520 received in October 2021.

Product and services innovations

In Benin, MuniWASH continues to test certain technical innovations such as biodigester¹⁶ to serve areas with a high-water table in order to fill certain SSD gaps. The product is not sufficiently developed and implemented to assess its adaptability, affordability, and impact.

In Côte d'Ivoire, to facilitate and perpetuate the deployment of HDPE septic tanks and their infiltration wells on the independent sanitation market, MuniWASH plans to carry out action research on these prototypes. The objective of the ongoing research is to assess the technical and financial feasibility, the acceptability to users and authorities, and the contours of future commercialization of the HDPE septic tanks, should the tests prove conclusive. During data collection, MuniWASH was in the process of identifying households to host the test HDPE septic tank.

One additional factor that was identified during data collection is that local populations in both countries have limited exposure to sanitation product options. Generally speaking, people are familiar with traditional latrines and since SSD/MuniWASH, some people are familiar with the SATOPan modifications, septic tanks, and soak pits; however, other options are not well known.

¹⁶ The biodigester being tested is a Biofil Digester, a type of decentralized wastewater treatment system that uses anaerobic digestion. https://www.engineeringforchange.org/solutions/product/the-biofil-digester/

CONCLUSIONS

MuniWASH has attempted to improve the operational reliability of SONEB through the actions identified by Segura Consulting, such as capacity building of the water quality testing laboratory. However, it will be difficult to show an impact, until more progress has been made. Major challenges affecting the operational reliability of the entrepreneurs include the decrease of demand for sanitation products and services, the difficulties to purchase SATOPan and hence to offer innovative and desirable sanitation products, and the lack of a rolling capital allowing entrepreneurs to build stocks or invest in promotion and new material. Some of the costs associated with operational reliability (SATOPan, product promotion and sales agents for some entrepreneurs) are now borne by the entrepreneurs, not SSD. Part of these costs are transferred to the product price (as shown in the price table in Annex VI), the other part to the entrepreneur's profit margin. Mainly in Côte d'Ivoire, as the demand is decreasing, the income of some entrepreneurs is getting smaller as is their motivation. There is a possibility that only the most organized and willing entrepreneurs will remain active in the sanitation market. MuniWASH has been able to build off of SSD's achievements with entrepreneurs in previous SSD zones, however the ET was not able to sample an example of a MuniWASH commune in Benin due to the decision to include Sô-Ava in the sample. In Côte d'Ivoire, MuniWASH benefitted from the relocation of former SSD entrepreneur and CCA to San Pedro, a current MuniWASH zone.

MuniWASH intends to provide technical solutions for a set of difficult contexts including flood prone areas in Benin and urban areas with limited space in Benin. However, most of the entrepreneurs' activities focused on rural areas since it is easier to make sales, even though the profit margin is lower. The development of a new technology adapted to the urban area may not be a priority as this will require dedicated and motivated entrepreneurs to focus in urban areas where it is more difficult to make sales. The experience of SSD shows that time is required to introduce new products.

RECOMMENDATIONS

- 2a) The improvement of financial sustainability needs to be better individualized. The ECBT system allows an understanding of the different skills of entrepreneurs. The network of ASTs will also support the identification of specific bookkeeping and financial training needs for each entrepreneur. Individual business coaching and training need to consider the realities of each entrepreneur (stage of development, entrepreneurial skills, geographical market realities, and the product to be sold).
- 2b) The objective of raising US\$88 million for the WASH sector in Benin and Côte "Ivoire should be reduced to USD 8 million for sanitation service providers.
- 2b) Accelerate, if not finalize, the process of registering current MFIs (PeBCo and AFRICA FINANCE in Benin and FIN'ELLE in Côte "Ivoire) on the platforms so that sanitation credit operations can begin effectively under MuniWASH.
- 2a/c) MuniWASH's work with SONEB has been appreciated but it has met a major roadblock since the company's Director changed and the reform became the utility's priority. MuniWASH should take a step back and decide on the minimum they are willing to accept in terms of accomplishments related to capacity building of the water quality laboratory. They should also work hard from the beginning of FY5 to identify all of the relevant stakeholders to inform them of this work on a national and international level, to ensure SONEB has future opportunities for similar support.
- 2c) It is necessary, mainly in Côte d'Ivoire, to clearly present the SATOPan distribution system to each entrepreneur and ensure better communication and understanding between entrepreneurs and the distributors. MuniWASH together with the association REAA-CI and other stakeholders shall consider enabling some entrepreneurs to set up sales outlets outside the capital city if the need and demand is confirmed. To better address these challenges, the PBL could provide direct advice on how to improve the distribution circuit for SATOPans (within 3 months).

EQ3 – SUSTAINABILITY AND INCLUSIVITY

3a) Did SSD contribute to a more inclusive sanitation market and/or increased access to improved sanitation & safe disposal of fecal waste in their intervention areas for the urban poor, underserved, women, differently abled? If yes, for which of these groups and how has it been sustained? If not, which of these groups and why? What are the barriers still remaining? What were the unintended consequences of SS's interventions, if any?

FINDINGS

In Benin, sanitation products have been made visible in former intervention zones through the SSD project. Respondents explained that prior to SSD, it was rare to find latrine pots on display by the roadside. SSD-promoted sanitation products have become accessible, namely the WC Mimin model, which is known for having « no smell, no insects » and is cheaper compared to modern WCs. In terms of accessibility, in both countries, users indicated a preference for the seated SATOPan toilet as opposed to squatting, especially for the elderly who tend to have leg pains. Consumers explained that with the models promoted by SSD, latrine construction times have become shorter, taking between two days to one week, for households to have a new functional latrine. In Côte d'Ivoire as well, SSD has introduced toilet modifications, septic tanks and soak pits that were promoted as accessible to the urban "poor". In Abidjan, this is more about soak pits and septic tanks due to the strong desire to have a modern (porcelain) toilet, whereas for peri-urban areas, toilet modifications with SATOPans were popular. While SSD spent considerable effort to study different types of business models, it appears that only the latrine product (toilet modification, septic tank, soak pits) were replicated after project close.

Entrepreneurs and the population identify several limits to the sanitation access of the most vulnerable in urban areas. While some point out that the population lacks awareness, income is listed by most of the stakeholders as the key limit. If SATOPan modification remains relatively affordable, households who do not have facilities from before still need to dig a pit, or build a tank, and provide a superstructure so total cost exceeds their resources. Most entrepreneurs explain that several customers would like to invest but cannot:

"Some households can't afford it. They can't buy Mimin. They are forced to stay in their state, because of poverty" (Entrepreneur, Benin).

"Most plan to build their own latrines. Some people don't have a pit at home, so they go to their neighbor's while waiting for them to build or complete their latrine. Some make the pit but don't have the money to buy the pot. But there are also cases of open defecation practices in the area" (Entrepreneur outside projects, Benin)

"I had a list of households in need. Many households were interested and in need. Sometimes I even offered works. I paid laborers or SATOPans myself (when I can)" (Entrepreneur, Côte d'Ivoire).

In Côte d'Ivoire, another issue mentioned is related to the landlord-tenants dynamics. In dwelling houses, landlords may be reluctant to invest, and tenants are not able to benefit from improved sanitation facilities.

"Courtyard (compound house) owners are not available: absent or deceased or out of town. Households pose the problem, but in a courtyard, no one is designated to bear the problem, to bear the costs. If the owner is there, the (financial) means are often what's missing" (Entrepreneur, Côte d'Ivoire).

Lack of urban planning together with lack of investments and financial resources from households is also pointed out by some local authorities:

"Despite all the awareness-raising, despite all the goodwill, people just don't have the means, so what do we do? Today, many people know very well that they need to improve their living environment, to clean up their living environment. Unfortunately, things haven't followed through in the actual constructions, and we have a whole armada of legal texts that haven't been followed through. (...)

A large part of this city was built without planning permission, the majority of courtyards were not built with building permits. So we're faced with faits accomplis, we even get into the courtyards, where there isn't even space to build the septic tank' (Local Government, Côte d'Ivoire).

Urban planning also influences desludging practices, as mentioned in the previous sections (EQI and EQ2). A representative of VTOs in a large city of Côte d'Ivoire explained that in some neighborhoods, the population does not rely on desludging trucks due to limitations by technical and financial reasons:

In terms of the breakdown of the whole city's population having full latrines and pits, 40% use emptying trucks, 40% use "manual emptiers" (houses not easily accessible to trucks) and 20% do nothing or do illicit emptying. (Entrepreneur, Côte d'Ivoire).

In both countries, an unintended consequence was the success of SSD products in rural areas. In Benin, communities that have benefited from the interventions of other projects or programs that promote the National Strategy to Promote Hygiene and Basic Sanitation with CLTS as a gateway to easily adopt the SATOPan and WC Mimin. In Côte d'Ivoire after the project, DAR used former SSD contractors to support a 0% open defecation program by 2030 in rural areas. A second unintended consequence from SSD is that many of the former SSD staff have continued to either sell or be involved in sanitation since the project, especially in Benin but also in Côte d'Ivoire.

CONCLUSIONS

It seems that SSD has had an impact on the sanitation market in Benin, but less so in Côte d'Ivoire. The SATOPan toilet modifications are appreciated for reducing odor and insects, as well as the seated version improving accessibility for the elderly. The sanitation market has been reinforced during SSD, promoting new products, improving the quality of desludging services, and reinforcing some mechanisms of coordination. However the impact on FSM was limited among the most vulnerable. They often rely on manual emptying services and the program did not sufficiently address this issue. Although SSD's areas of intervention were intended to focus on urban and peri-urban areas, its products have had and continue to have an impact on households in rural areas. The remaining barriers to sustainability are demand creation and financing.

3b) Under SSD and MuniWASH, what were the barriers and opportunities for women to become sanitation entrepreneurs (or technicians, etc.)? Which strategies to address these barriers appeared to be the most and least successful? Why?

FINDINGS

At least two times SSD launched a recruitment process to select new sanitation entrepreneurs that was open to both men and women. Once selected, the entrepreneurs were trained in the construction and manufacture of pots/toilet modifications by SSD. They were then given further training in business management. For several interviewees in Benin, the job of WC Mimin entrepreneur is likened to that of a mason, which is perceived as a man's job. At the end of SSD, there were two female entrepreneurs out of 32 active in Benin. There are several examples of women entrepreneurs or technicians in Côte d'Ivoire trained by SSD/MuniWASH. One who was a technician during SSD (meaning she was responsible for confirming the selection of the proposed sanitation products and then monitoring quality control as it was constructed) has since created a sanitation business that remains active today. Another example is that of a couple in Bouaké. Amongst the CCAs working with SSD were numerous women across Benin and Côte d'Ivoire. Another role in which it is more common to find women is the role of secretary or book-keeper working for a sanitation entrepreneur (often their wives.) One of the obstacles is for husbands to accept that his wife works in sanitation. Under MuniWASH, the first phase of training for a new batch of entrepreneurs was planned to begin shortly after the period of data collection for this evaluation. Several women are among the participants.

CONCLUSIONS

Both SSD and MuniWASH intentionally maintained recruitment for the position of sanitation entrepreneurs open to women. The job of sanitation entrepreneur is not a typical job for women in

either Benin or Côte d'Ivoire and one can imagine it would require an additional effort to interest women in particular in these positions, as well as additional support in some cases. Given priorities such as creating a sanitation market, ensuring the supply chain, developing appropriate sanitation products for challenging urban environments, and working with the government to increase funding in WASH on local and national scales, and their related challenges, either activity did not put in much effort to include women as entrepreneurs at the expense of another priority. However, the ET did find examples of CCAs and secretaries in sanitation businesses who are women .

3c) Within MuniWASH, how much did the utility capacity building and systems strengthening activities benefit women and other marginalized groups?

FINDINGS

MuniWASH has worked on strengthening the capacities of women through the Réseau Béninois des Femmes Professionnelles de "Eau et de "Assainissement, who come from various structures in charge of WASH in Benin. The network is affiliated with the SONEB. Activities have included training on gender, women's leadership, and visits to FSTPs. Only one woman is a member of AVIPRO, the association of desludgers that was set up with the help of SSD in Benin; she has been delegated by her husband to manage the business. In Côte d'Ivoire as well, MuniWASH is working with the Réseau Ivoirien des Femmes Professionnelles en Eau et en Assainissement, the network is affiliated with SODECI. MuniWASH has also designated WASH gender focal points in all sixteen communes of intervention. MuniWASH has strengthened the capacity of these structures in terms of the importance of gender sensitivity in WASH departments; this was highlighted in the ISI workshops conducted by MuniWASH.

CONCLUSIONS

MuniWASH is making efforts to support inclusion in both the public and private sector. This type of change takes time and is not easy to quantify. However general feedback through the evaluation has been positive.

RECOMMENDATIONS

- 3a) Lessons learned for SSD are shared for EQI and through prioritized recommendations at the end of this report.
- 3b) Moving the needle on the acceptance of women as sanitation entrepreneurs is a huge task. The approach that SSD and MuniWASH have taken that keeps their activities open to men as well as women seems like the most appropriate strategy when the market itself is not stable.
- 3c) Inclusion also needs to be targeted through education. MuniWASH, or future USAID-funded activities, should also consider how best to interest female students in studying subjects related to sanitation.

EQ4 – SUSTAINABILITY AND ENABLING ENVIRONMENT

4a) In terms of sanitation coverage, market creation, and business development, are we seeing similar impact from MuniWASH's interventions in the public and private sector? What are the factors contributing to this or barriers preventing this? Are we finding any difference in MuniWASH's impact in previous SSD intervention municipalities versus non? What could be modified to better achieve results before activity closure?

FINDINGS

The division of roles in terms of sanitation does not seem clear and understood by all. In Côte d'Ivoire, some municipalities do not see what their role should be when it comes to supporting sanitation entrepreneurs, essentially because they perceive entrepreneurs to be part of the private sector. Other communes do not collaborate directly with entrepreneurs except by awarding them one-off contracts (equipping school latrines or desludging toilets in public places). The management capacity of communes remains limited due to the weakness of WASH budget lines. Where they do exist, most sanitation budget lines are allocated to drainage, but not to develop the sanitation market.

MuniWASH is working with local authorities in Benin to enable them to take initiatives, particularly in connection with the new law on hygiene and sanitation. MuniWASH wants to explore the possibilities for the commune to use their resources, even if they are limited. The law on hygiene and sanitation deals with the role of households in sanitation and how the municipality enforces this. MuniWASH supports municipalities in explaining the law on hygiene and sanitation to households, as well as how to find solutions, and to use and buy sanitation services and products from entrepreneurs.

Sanitation coverage

Entrepreneurs indicated a decrease in the demand for SaniPlus and Mimin products, compared to during the SSD period. They are still selling sanitation products, but the average number of products sold per month per entrepreneur is around ten for MuniWASH entrepreneurs in Benin and around three for Côte d'Ivoire (five for Côte d'Ivoire during the first semester of 2023), as illustrated in Figure 10, between January 2022-March 2023.

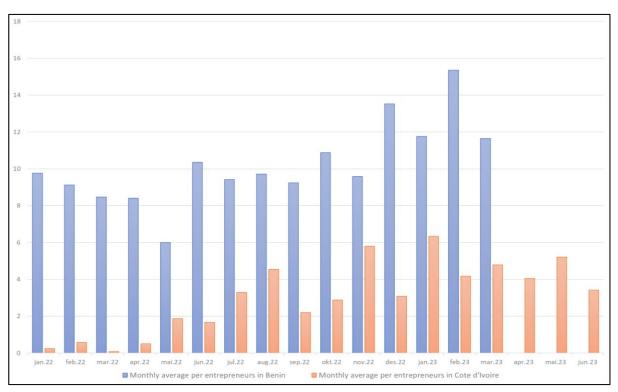


Figure 11: Average number of sanitation products sold by MuniWASH entrepreneurs in 2022 and early 2023

In Benin, an average of 170 sanitation products (mainly latrine modifications) were sold per month by the 23 MuniWASH entrepreneurs between January 2022 and March 2023. On average 73 sanitation products (mainly latrine modifications) were sold per month by the 24 MuniWASH entrepreneurs in CIV between January 2022 and June 23.Looking at the impact on sanitation coverage, a large portion of products sold are the pans (pot or modifications). This indicates that a large number of households buying SATOPan are already on the sanitation ladder. Buying and installing SATOpans improves the comfort and the sanitation experience of households but has a limited influence on the total number of new basic sanitation facilities and on overall latrine coverage. As a reminder, during SSD and MuniWASH, more than 85% of sales are modifications of latrines, not new facilities.

The sanitation chain has undergone a number of changes in Benin, with the construction of new FSTPs in Cotonou, and the ongoing reform of the desludging sector, with the SGDS taking charge of the treatment sector. However, the treatment plants do not cover all urban areas in the country. A large share of the sludge cannot be emptied by desludging trucks. Some sections of the septic tanks or some of the WC Mimin can only at this stage be emptied manually. Manual emptying is not recognized by authorities. MuniWASH has not been very involved in these aspects of the sanitation chain (treatment, reuse, or alternatives to mechanical desludging) but is now looking at the possible resource recovery of some waste, for instance the potential to reuse dried sludge from WC Mimin and its economic potential for pit emptiers.

In Côte d'Ivoire, the construction of FSTPs in San Pedro and in Bouaké have contributed to the increase of mechanical desludging in the area. However, a large number of stakeholders point out that a high portion of latrines and septic tanks in urban areas are not desludged by trucks. Sometimes, for financial reasons and sometimes for technical ones (including the type, age, and conditions of the trucks), households require the services of manual emptiers or motopump emptiers. This may be due to physical difficulties in accessing houses. Initial assessment reports from MuniWASH highlight their numbers and their roles. The different authorities (ONAD, MinHAS, and municipalities) do not encourage the activities of manual or motopump emptiers and want them to work with VTOs. Manual emptiers, mechanical emptiers, and authorities do not express similar views on the matter. It is unclear what portion of latrines and pits in urban areas can be emptied without the support of manual emptiers and motopumps. In Bouaké, for example, some mechanical emptiers think that the portion of manual emptying is relatively high:

"In terms of the breakdown of the population of Bouaké with full latrines and pits, 40 percent use emptying trucks, 40 percent use manual emptiers (houses not easily accessible to trucks) and 20 percent do nothing or practice illicit emptying" (entrepreneur Côte d'Ivoire).

Market creation

Unlike SSD, MuniWASH only recently began supporting demand creation. In Benin, MuniWASH adapted their approach to demand creation during the initial months of the program. Initially they encouraged entrepreneurs to have their own full-time sales agents. Some standard contracts were drafted. But it was not feasible for entrepreneurs to pay full-time sales agents, as there were too many constraints for the agents, and it was too expensive for the entrepreneurs. MuniWASH then advised the entrepreneurs to negotiate directly with the sales agents. The sales agents prefer to work on sales during their free time and to be paid through commission. At the same time, some entrepreneurs used passive agents, who are individuals managing points of sale (boutique, hardware store, hair salon) where products can be shown and promoted.

Promotion/demand creation was not mentioned as a major challenge by Benin entrepreneurs, but some have been more innovative and successful than others:

"I have mobilizers, I have former community sanitation advisors (CCA) who still work with me. I even have a former supervisor who works with me. I have around thirty sales outlets in Porto-Novo, Adjarra, Missérété and elsewhere" (Entrepreneur, Benin).

MuniWASH is now advising entrepreneurs to do promotion for all types of products and services they deliver and to not limit themselves to sanitation activities. This will support the idea that promotion and marketing should become a regular and more natural activity for entrepreneurs.

MuniWASH attempts to involve some municipalities to support the demand creation process. In some places, municipalities and entrepreneurs are working together. For example, in Allada, the municipality uses some of its resources to host and broadcast radio programs, inviting entrepreneurs, and creating educational talks. This initiative shall be multiplied according to MuniWASH staff.

In Côte d'Ivoire, a majority of entrepreneurs are discouraged by the absence of SS''s level of support and provision of startup material and do not necessarily see the added value of MuniWASH. Few have implemented demand generation operations. The majority of entrepreneurs are hoping to regain the support that existed before (sales agents paid by the project or other entities, getting free leaflets and other material). Unlike in Benin, there is a low visibility of SaniPlus products and of SaniPlus sanitation entrepreneurs in general in Côte d'Ivoire. Very few sales points are observed on the side of the road and very few billboards. The entrepreneurs have received some information at the end of SSD or at the start of MuniWASH about the importance of doing some promotion and the need to hire and manage some sales agents. A majority of entrepreneurs in Côte d'Ivoire express the difficulty of creating demand:

"You leave with three or four SATOPan (to do promotion in the village) but you are only going to sell one. You put the petrol in the motorcycle, you have to eat, feed whoever comes with you (the mason), it is not much" (Entrepreneur, Côte d'Ivoire).

"I's not working so well at the moment because there aren't any people on the ground to promote it" (Entrepreneur, Côte d'Ivoire).

"Leaflets are very useful, but I do not have any anymore. I am the one who has to do it. I have not tried it yet, but I have to. But really, leaflets are very good. When you take one, you put it in a corner, you put it for one day and then they call you" (Entrepreneur, Côte d'Ivoire).

Some entrepreneurs say they are more proactive and invest in promotion: "Sales teams no longer exist. We have our own sales teams. I have recruited two agents. It is difficult, but we manage to get by. It depends on sales, on the week. Some weeks we have 20,000, some weeks there is nothing. And then it is the entrepreneur who loses out because you have to pay for food and so on. They are not salaried. They are with me, and they are paid according to performance. They take a commission. It depends on sales" (Entrepreneur, Côte d'Ivoire).

"Everything on my own funds. I have a team. My strategy is to meet the authorities. Then, I recruit in the locality and give them contracts. They get a good commission based on sales" (Entrepreneur, Côte d'Ivoire).

Business development

In Benin, 17 of the 32 entrepreneurs active at the end of SSD were able to continue on MuniWASH because they were located in the activity's zone of intervention (different from SSD.) As presented in Figure 11, some of the existing entrepreneurs have continued to develop their businesses by recruiting staff (masons, secretaries), investing in promotion, or by creating new sales or production outlets.





Figure 12: Production and selling points for entrepreneurs (from left to right: Sales outlets in Benin, Leaflets produced by one entrepreneur in Benin)

In Côte d'Ivoire, the company distributing the SATOPan is anticipating a future increase in cost of SATOPan imports and a reduction in purchases by entrepreneurs:

"If we make the next import, we risk raising the price of the SATOPan to 6,000 CFA/\$10. Because the dollar has already gone up. And you see, now we buy the unit at \$3.14 from the factory in East Africa. Unlike PSI, we have to pay customs duties. So, with the imports (customs, freight, transport), we will have to sell the unit at 5,500, 6,000CFA/\$9.20 to \$10. So that is why we preferred to talk to LIXIL to find alternatives, such as working with hardware stores throughout the country."

The distributor wants to be able to sell SATOPan all across the country without being limited to SSD or MuniWASH entrepreneurs.

DAR Interest in SATOPan Availability

DAR has the objective to improve sanitation access for vulnerable populations in all rural areas of Côte d'Ivoire, specifically through a national 'latrinization' initiative to reduce open defecation by 2030. Towards the end of SSD, the program led a training of entrepreneurs working with the DAR on SSD sanitation products including latrines and latrine modifications using SATOPan with the intention of using these entrepreneurs to respond to household requests for latrines either when they obtain a construction permit or after an intervention from the Regional Directorate of MinHAS requiring them to build a latrine. Both DAR-affiliated and SSD/MuniWASH entrepreneurs are therefore active consumers of SATOPan in Côte d'Ivoire.

CONCLUSIONS

The impact of MuniWASH on sanitation coverage, market creation, and business development is greater on the private sector than the public sector. MuniWASH is allowing some entrepreneurs to continue their business development through adapted advice on management of resources and the development of demand creation strategies. Overall, the demand creation initiatives are more

pronounced in Benin, where a stronger visual presence of sanitation entrepreneurs has been inherited from SSD. MuniWASH has been able to adapt their support and advice to entrepreneurs on demand creation. Sales started later in Côte d'Ivoire during SSD and some entrepreneurs were selected during the last months of SSD. The program team had less time to anticipate the end of SSD support and to prepare entrepreneurs on, for instance, demand creation. Many entrepreneurs lack proactivity in terms of sales creation (lack of funds, no clear sales strategy, no established communication channels). Demand creation initiatives remain different from one situation to another as some entrepreneurs in both countries have better anticipated the end of SSD and are investing more in promotion. However, this has been observed more in Benin as compared to Côte d'Ivoire. In Côte d'Ivoire, the entrepreneurs supported by the DAR have lower operating costs and technical constraints which, according to the other entrepreneurs, is unfair competition negatively impacting their activity.

One performance target of MuniWASH is to increase public engagement in water and sanitation delivery. In this case, few examples of demand creation initiatives by municipalities have been documented. The number and impact of these activities remains low in most municipalities in both countries.

It is difficult for all stakeholders to understand the roles and contributions of the other players. A majority of entrepreneurs do not see the municipality as an entity able (or willing) to support them with, for instance, demand creation. Some municipalities may provide contracts to some selected entrepreneurs, but they are not necessarily used to creating an environment that enables or encourages sanitation marketing. The impact of each stakeholder on the sanitation chain and on sanitation coverage is unknown or poorly understood for many stakeholders, for example the role of manual emptiers described above. An important caveat to this conclusion is that MuniWASH's impact on sanitation coverage, market creation, and business development in the private sector is in part due to interventions the activity has been able to develop further thanks to SSD's presence. The impact on the public sector in general, which will be presented in more detail under EQ5a, is likely to take more time to develop and demonstrate itself.

4b) Have the steps taken by MuniWASH to sustain the changes from SSD to WASH services been effective? If yes, what factors have facilitated this? If not, what barriers have arisen? How much of these changes have been sustained over time (especially in areas where SSD but not MuniWASH operate)?

FINDINGS

In both Benin and Côte d'Ivoire, the effectiveness of MuniWASH's capacity-building activities for town councils and sanitation entrepreneurs was acknowledged during interviews. For example, in Benin:

"It was with MuniWASH that I took the SIYB training course, to better manage my business, personnel, finance and equipment. It helps me enormously in managing my business. I have a sales book, a stock book, a receipt book too, a customer book, even the entrepreneurs who buy SATOPan".

"Yes, I had support from the MuniWASH project on accounting but not on SSD, on Customer Management also on MuniWASH. Yes, the skills help, I even have the document with me, and it is very useful. In my opinion, it has helped me to manage my income, to have these registers that help me to do the accounting at the end of the month or if it is every three months, I take my register, I reread what I have done, what I have done, in any case it has clarified a lot of things for me". (Entrepreneur, Benin)

In Côte d'Ivoire: "Training is an important contribution for us. If there are trained companies, all the sanitation works in the country will be of high quality. They appreciated the training they received. They have asked for further sessions." (government, Côte d'Ivoire)

With regard to the sustainability of sanitation product promotion activities since the transfer from CCAs that were recruited and paid by SSD to those fully supported by sanitation product entrepreneurs under the MuniWASH model, two observations can be made:

The case specifically in Benin, where entrepreneurs have taken on board the current sustainability vision:

"I'm selling the SATOPan now, and I've started by doing radio broadcasts, here in Porto-Novo. I have asked the other entrepreneurs in the Mono department and others to contact their radio stations so that I can get the price from them to let people know about the advantages of the WC Mimin. So, the more I do this, the more people will know about the product, and it will evolve. To promote the product, I use some of the money generated to do radio programs to publicize the product. I also do community activities; we call the neighborhood chiefs, and they bring people together to talk about the benefits of the product" (Entrepreneur, Benin).

Another result, the opposite of the previous one, highlights that

"The sales agents were motivated at the time of the SSD project, but after the project it was up to the entrepreneurs to do their own marketing, to take charge of the sales agents, to develop other strategies to make themselves known, to ensure durability and sustainability. When there was project support, it worked, but the post-project sustainability actions did not work. People need to have the information, to understand the advantages, the cost advantages, the convenience advantages, that these prefabricated SSD products and services offer. If they do not have the information, we can install these artisans everywhere, but people will not know about the prefabs. So, what's left is information, lots of information" (national government Benin).

One of MuniWASH's key activities, in both Benin and Côte d'Ivoire, is to support the formalization of entrepreneurs, whether their business focuses on sanitation products or sanitation services. However, as is being demonstrated through a few cases in Benin, this activity is encountering difficulties because some entrepreneurs do not feel the need to formalize their activities because they do not want to pay regular taxes. In Côte d'Ivoire, entrepreneurs operating outside Abidjan do not have the advantage of filing all their formalization files with the Ivorian Center for the Promotion of Investment (CEPICI in French).

"There will be more difficulties for entrepreneurs wishing to formalize in the interior of the country, as they are obliged to go to several institutions. So, they prefer to come to Abidjan rather than have to go to two or three different institutions to file the required documents. The project has a good approach in terms of formalization. It has involved the right structure".

Factors that have favored this evolution:

- the methods of the MuniWASH teams in Benin and Côte d'Ivoire, in conjunction with the USAID monitoring team, which provided the necessary support for municipal players and private entrepreneurs to achieve results.
- the need at household and community level for the products and services provided through the MuniWASH project.
- the commitment of some entrepreneurs in Benin to engage in the sustainable promotion of the sanitation market by taking successful promotional initiatives.

Obstacles that have arisen include:

• the lack of commitment on the part of some entrepreneurs to the objective of taking charge of the marketing aspect of their products.

CONCLUSIONS

MuniWASH has worked hard to formalize private entrepreneurs of sanitation products and services, an essential condition for their development and access to financing. This has made it possible to bring together a number of emptying structures to create strong companies with the necessary accreditation to access fecal sludge treatment plants and the financing required to develop the market. In Benin, however, the reforms underway in the field of fecal sludge treatment make it difficult to foresee the possible results of MuniWASH's actions. What level of adaptation can be expected? The promotion of sanitation products and services could be strengthened. More emphasis needs to be placed on the cost advantage, the convenience advantage, and the information to be provided through diversified

and appropriate channels. The project has a good approach in terms of formalization. But it is easier to formalize in Abidjan due to the presence of CEPICI. In the interior of Côte d'Ivoire, entrepreneurs have to go to several institutions for formalization.

RECOMMENDATIONS

- 4a) Make shitflow diagrams in all current MuniWASH communes, in a participatory process with all key sanitation stakeholders. It will allow stakeholders to better understand the sanitation chain and the impact on each actor at different points in the chain. It will also allow stakeholders to measure progress and coverage when the process is repeated (eventually at the end of MuniWASH).
- 4a) Entrepreneurs must understand their roles in demand creation better. Mainly in Côte d'Ivoire, MuniWASH should consider technical and eventually financial support to enable entrepreneurs to produce their own brochures. It is important to enable entrepreneurs to develop one or more points of sale to make their products visible (roadside shops, posters, and/or information boards). Overall, demand creation efforts need to also consider customer characteristics and how to match the ideal products with suitable promotion based on a particular context. It also needs to include the seasonality of income of potential customers and ability to pay for sanitation products (e.g., focus promotional campaigns at the time of cocoa and cashew harvests when people will have more money).
- 4b) If possible, a closer look should be taken at the difficulty reported in the process of formalizing businesses outside the district of Abidjan in Côte d'Ivoire, with the concern raised in terms of the numerous institutions where it would be necessary to present oneself to deposit the various documents during the process.

EQ5 - WASH SYSTEM STRENGTHENING

5a) To what extent have the capacities of local institutions been developed under MuniWASH that can contribute to advancing WASH market and sector development activities in Benin and Côte d'Ivoire?

FINDINGS

As presented under EQ2b, MuniWASH has been conducting ISI assessments with municipalities. Institutional strengthening plans (ISP) were drawn up by the municipalities with MuniWASH support after each ISI assessment. Implementation of the recommendations contained in the ISP have been carried out in various ways. It should be noted that the implementation of some ISP recommendations may be delayed, especially if the ISP resulting from the ISI assessment is available after the preparation of the communal budget for year n+1. It is therefore preferable for ISI assessments to be carried out preferably during the first quarter, so that the ISPs are available before the communes start drawing up their budgets. The MuniWASH focal point for the Sô-Ava commune gave the following assessment of the ISI tool: "Using the ISI tool, the commune assessed itself during a 3-day workshop. It wasn't easy, but we ended up with a score of 1.2. In fact, when we assessed ourselves, we realized that what we thought was wrong. It was a hot debate between advisors, managers, and civil society, and if you tackle a point before everyone else makes a choice, it's not easy. It was a new school for us, and it paid off. In the end, we drew up a reinforcement plan."

The effects of certain measures taken after the initial assessment with the ISI tool resulted in the scores in the table below. The annual review of municipal capacity conducted from June to August 2022 in the eight target municipalities showed an increase in their performance as measured by ISI on the I-4 rating scale. Using the ISI tool as part of the participatory evaluation of the municipal institution's performance in the WASH sub-sector, scores are assigned to characterize operations through cross-analysis based on characteristic function and sub-activity items. Consensus scores range from I for the lowest level of municipal capacity to 4 for the highest in the cross-analysis against the tasks identified for each of the 4 functions (Planning, coordination and cooperation, Service delivery, Administration and financial management and Monitoring and data use) with the five (5) areas of activity of the municipal administration (Human resources/staff skills, Policies and procedures, Facilities, equipment, technology, Citizen engagement and Systems and procedures). In other words I is low performing, 2 is a basic level of performance, 3 shows that the municipality needs assistance with specific areas only and 4 indicates the municipality does not require support. The ISI score assigned to the municipality is the average of the scores for the 5 areas of activity.

Table 3: Comparison of Benin ISI Scores 2021 vs 2022

No.	Municipalities	ISI 2021	ISI 2022	DIFFERENCE
I	Sô-Ava	1.2	1.8	0.6
2	Bohicon	1.2	1.6	0.4
3	Aplahoué	1.5	1.8	0.3
4	Allada	1.4	1.6	0.2
5	Cotonou	1.6	1.9	0.3
6	Ouidah	1.7	2.0	0.3
7	Abomey-Calavi	1.4	2.0	0.6
8	Avrankou	1.4	1.9	0.5
AVERAGE		1.4	1.8	0.4

¹⁷ MuniWASH – Annual review of municipal capacity ISI

Table 4: Comparison of Côte d'Ivoire ISI Scores 2021 vs 2022

No.	MUNICIPALITIES	ISI 2021	ISI 2022	DIFFERENCE
I	Abengourou	1.4	1.8	0.4
2	Abobo	1.2	1.9	0.7
3	Bouaké	1.6	2.0	0.4
4	Gagnoa	1.3	1.8	0.5
5	San Pedro	1.3	1.8	0.5
6	Soubré	1.3	1.9	0.6
7	Yamoussoukro	1.3	1.8	0.5
8	Yopougon	1.3	1.8	0.5
AVERAGE		1.3	1.9	0.5

MuniWASH supported the implementation of the ISI tools and the ISP update workshops in all partner municipalities. ISPs drawn up after the development of the ISI tool at municipal level have contributed to the improvement of the latter's performance on several aspects. It is the synthesis of the scores recorded that gives the overall evolution of the municipality's score from one year to the next. All eight municipalities in Benin improved their scores, increasing by at least 0.2 points and more than 0.5 points on the four-point ISI scale. In Côte d'Ivoire, all six municipalities improved their scores, increasing by at least 0.4 points and by more than 0.7 points on the four-point ISI scale.

Table x below gives an example of the evolution of funds allocated to the WASH sector in Benin's MuniWASH communes from 2020 to 2021.

Table 5: An example of the evolution of funds allocated to the WASH sector in Benin's MuniWASH communes from 2020 to 2021

Municipalities	WASH Budget (%)		Difference
	2020	2021	
Abomey-Calavi	1.50	2.81	1.31
Allada	6.41	10.98	4.57
Aplahoué	0.70	7.67	6.97
Avrankou	3.38	4.60	1.23
Bohicon	1.77	2.16	0.38
Cotonou	4.03	2.64	-1.39
Ouidah	4.50	6.29	1.79
Sô-Ava	0.79	9.14	8.35
Total	2.90	3.88	0.98

Source: MuniWASH - Annual monitoring of municipal WASH budget

¹⁸ MuniWASH – Annual review of municipal capacity ISI

In the 2022 annual report, MuniWASH presented the evolution of the portion of activities related to the WASH sector in Benin's MuniWASH municipalities. Apart from Cotonou, where the proportion of funding for the sector has fallen, the proportion has risen in the other municipalities, with the following specific features:

- Sô-Ava saw the highest rate of increase, at 8.3%, followed by those of Aplahoué and Allada with 6.97 and 4.57 respectively.
- Abomey-Calavi and Ouidah had a low rate of growth in WASH funding, due to their high overall municipal budgets.

Municipalities see the ISI tool as an annual self-assessment tool: "In the context of this project, what I retain is that MuniWASH has triggered a process, which did not exist in the municipality. For example, continuous capacity-building for agents did not exist at the town hall. This was one of the observations made during the evaluation of the ISI tool in Bouaké, i.e., that today there are many training courses available for our staff. This is one of the recommendations of the MuniWASH project. We did not have a procedures manual. Last week I was in Yakro for the validation of a procedures manual that will govern the community, and that is another MuniWASH recommendation. Then there's results-based management. We benefited from this training" (local government, CIV).

Through the ISI reviews, MuniWASH identified an ineffective implementation monitoring system as one of the main weaknesses of the municipalities. In response, MuniWASH implemented corrective measures by setting up monitoring committees within the municipalities and a plan for organizing biannual reviews. Municipal teams recognized the ISI tool as a useful means of discussing and identifying their own strengths and weaknesses. It is worth pointing out that assessing the performance of municipalities using the ISI tool, followed by the drafting of ISPs, is much appreciated by managers and elected representatives, as it enables them to discover their own performance and become aware of the major efforts they need to make progressively to move towards operational excellence. It is one thing to know, and another to be able to act to make the necessary corrections. Periodic evaluations will show the progress made by each municipality, based on the new scores recorded. The next round of ISI assessments was scheduled for July 2023.

In Côte d'Ivoire, a pilot study called the WASH collaboration framework was carried out by a MuniWASH consultant for the Bouaké and San Pedro town halls. The study first included an institutional assessment and then, using GIS, a status update on the situation of water and sanitation access in both communes. The studies resulted in the proposal of work plans that were presented to all stakeholders who are considered part of the framework, which are now awaiting implementation: "The consultant presented a 2 or 3-year plan, and we, the town council and as deconcentrated services, are left to choose the actions we deem relevant, but MuniWASH doesn't impose on us. Other projects all impose on us, but here, we are allowed to choose. We selected the actions but did not yet submit them to MuniWASH and needed to fine-tune them. We were able to put a figure on them. The main actions are related to training for the craftsmen and town hall teams and others; and concerned the intermediate link with emptying companies (maintenance, hygiene...) and the awareness-raising actions on the importance of emptying" (local government, CIV). "It was hoped" that MuniWASH would help the Bouaké FSTP manager find outlets for the compost, a by-product of FS treatment.

Some controversial issues were also recorded by MuniWASH partner institutions. For example, a national institution in Côte d'Ivoire complained of the targeting of the activity itself: "In the case of MuniWASH, the project does not comply with national regulations. In Côte d'Ivoire, responsibility for sanitation has not been transferred to the communes. And here we have a project where we are asking to build the capacities of players in areas of competence that have not been transferred to them". (national government, Côte d'Ivoire)

CONCLUSIONS

The ISI tool exercise that MuniWASH conducts with municipalities encourages them to reflect on their performance and to improve. Collaboration between the town halls and MuniWASH has

strengthened the capacity of the town halls concerned to participate in the development of the sanitation market in their municipalities. MuniWASH has created WASH collaboration frameworks in the communes of Bouaké and San Pédro between actors in the water and sanitation sector in each commune. These are very relevant experiences, but the impact of the achievements resulting from this capacity building of town halls on the WASH sector is sometimes limited. Indeed, town halls often do not have or do not provide themselves with the human and financial resources to implement, on the one hand, the measures provided for in the institutional strengthening plans and their sovereign activities for the WASH sector. It would be necessary to examine with the town halls how they could secure more resources to improve their functioning and the sustainability of actions to promote the WASH sector. At the start of its activities, MuniWASH took stock of the sanitation market in MuniWASH municipalities, enabling it to draw up a strategy for its actions with the various players in the WASH sector, which is now successfully underway in both Benin and Côte d'Ivoire. However, several national players did not fully appreciate the adjustments made by MuniWASH in the implementation of the project to take account of the limited powers of town halls in the field of water, hygiene, and sanitation in Côte d'Ivoire. In fact, strengthening the skills of town councils to support entrepreneurs of sanitation products and services, and to help households adopt good sanitation practices, should not require them to have the skills in question.

5b) What are the remaining institutional capacity building gaps that should be addressed by MuniWASH and during future programming and how should they be prioritized based on USAID's comparative advantage?

FINDINGS

In both countries, MuniWASH works with the national communal associations, the National Communal Association of Benin (ANCB in French) and the Union of Towns and Communes of Côte d'Ivoire (UVICOCI in French). However, to date there is no clear plan for how MuniWASH's role will be transferred at project close, which apparently both organizations have thoughts on: "I think that ANCB will be able to take over the application of the ISI tool from the municipalities. Today, the ANCB is naturally involved in everything MuniWASH does. MuniWASH is there to work with the municipalities that belong to the association. The ANCB knows these tools very well and in terms of sustainability, after MuniWASH, they will always be in their role" (civil society Benin). "Think UVICOCI well that at the end of the project, there will be a capitalization workshop, and we may bring out points on which he thinks we should support. And to see what we can do to take over from them in terms of what they have identified as points for improvement at Côte d'Ivoire and commune level" (civil society CIV). The role of the local associations of entrepreneurs and emptiers may also need to be better defined in the future. Municipal actors have also expressed the limits to their abilities to increase accessible funds, despite best intentions to implement recommendations identified with MuniWASH through the ISI exercise.

CONCLUSIONS

As part of its sustainability plan, MuniWASH should already be working with institutions and partners to identify the structures that will take over from it once the project is completed in each country. This is the case with ANCB and UVICOCI for Benin and Côte d'Ivoire, whom according to reports, seem to be identified and have received attention from MuniWASH. MuniWASH can become more involved in the sustainability of WASH through the effective positioning of associations in the monitoring and control of their members' services. MuniWASH relies a little too much on the municipal actor to achieve its objectives, without taking a close look at the limits of this actor in terms of functional capacities and financial commitments to reach its objectives.

5c) Under MuniWASH, have relationships between key WASH stakeholders (government, private sector, civil society) been strengthened for planning, budgeting, and monitoring WASH service delivery? If so, how? If not, what are the barriers preventing this?

FINDINGS

In Benin, MuniWASH participates in the Water and Sanitation Sectoral Group, mainly in the annual sector reviews, and their participation has been increasing recently. There is limited communication at this stage between the private sector and the civil society in Benin, although SSD/MuniWASH trained entrepreneurs are members of the association of sanitation entrepreneurs, UNEAM. In Côte d'Ivoire also, SSD/MuniWASH trained entrepreneurs are members of the "network of entrepreneurs in autonomous sanitation" of Côte d'Ivoire, REAA-CI. The introduction of the WASH collaboration framework (San Pedro, Bouaké) enables all the players involved in the framework to discuss the provision of WASH services. The study of the current situation of access to water and sanitation, which was a key part of setting up the collaboration frameworks in both cities, was particularly appreciated in Bouaké (a former SSD city). In San Pedro (where SSD was not active), MuniWASH was still working to establish its relationship with local government at the time of data collection. MuniWASH does not have local staff present in the different communes of interventions, however there are data collector-coaches (AST in French) who work with the entrepreneurs.

CONCLUSIONS

In Benin, MuniWASH has been working with the local government on the ISI tool and offering trainings to build capacity. It has been working with a national government entity, the National MicroFinance Fund (FNM), to create a preferential interest rate for the sanitation loans that will be available through PeBCo and Africa Finance. The Activity also works with the private sector, mainly sanitation entrepreneurs (products + FSM), to strengthen their business practices, and with the SONEB through the support provided to create a PIP. However, in Benin, apart from participation in the Water and Sanitation Sectoral Group, the relationships between these different entities have not been reinforced by MuniWASH to lead to improved planning, budgeting, or monitoring. Considering that type of change takes years to make and is most likely to come from an actor internal to Benin, not supported by a foreign government, this makes sense.

In Côte d'Ivoire MuniWASH has also been working with the local government on the ISI tool and offering training to build capacity. As mentioned under the Findings for EQ2b, local government/municipalities do not hold the power to make decisions related to budgeting - they rather have to present their needs to the central government in order to receive funds. MuniWASH has not been able to work as much with the Ivorian national government because the key WASH players believe it is their role to push the changes MuniWASH hoped to work on. The Activity also works with the private sector, mainly sanitation entrepreneurs (products + FSM), to strengthen their business practices. They do not work with SODECI. One of the major differences in Côte d'Ivoire is the creation of the WASH collaboration framework, which is a format with significant potential to help actors coordinate investment and sectoral needs.

5d) What other opportunities exist for more interventions in the water sector in Benin and Côte d'Ivoire? What technical assistance could USAID provide to the governments and other actors in Benin and Côte d'Ivoire? What is USAID's comparative advantage?

FINDINGS

Other potential interventions in the water sector in Benin and Côte d'Ivoire include:

- addressing the water access and water quality issues in areas of need (Aplahoué, San Pedro)
- additional support to SONEB (WQ capacity building or other actions identified in PIP)
- working with customers in lower income neighborhoods to understand they pay more with vendors than by connecting to the SODECI network
- setting up WASH collaboration frameworks in more cities and seconding staff to local
 government to build knowledge and capacity of water data use for decision-making. Setting
 these up in the first year of an activity so there is sufficient time to build capacity and habits
 will be critical for sustainability.

CONCLUSIONS

Specific to the water sector, several needs were expressed during data collection. These span infrastructure needs, capacity building needs, awareness raising and general coordination. The particular advantage for USAID in supporting collaboration frameworks for the WASH sector on a municipal level would be the increased understanding of the country's needs. There is often a challenge for USAID to obtain up-to-date statistics on access levels or other government data, however if a USAID-funded activity were conducting the studies on a municipal level, they would not have this problem. It would also help with other indicators that are important to the health teams, both of whom have considerable portfolios in Benin and Côte d'Ivoire.

RECOMMENDATIONS

- 5a) SWOT analysis of communes' implementation of their responsibilities, in terms of local governance of the WASH sector, should continue to be carried out to better equip communes to face the challenges of the WASH sector during the ISI exercises. MuniWASH's capacity-building activities for WASH actors at the municipal level should also include research into activities to promote sanitation products and services that are better adapted to their challenges.
- 5a) It may be helpful to further clarify MuniWASH's current activities in the communes of Côte d'Ivoire and the overall goals of the activity in order to respond to the questions raised about the non-conformity with the regulatory framework of Côte d'Ivoire.
- 5a) It is desirable that MuniWASH, in support of the collaboration frameworks created with the communes, define a communication and information strategy adapted to each region for the promotion of sanitation products and services.
- 5b) Seek ways and means of empowering MuniWASH beneficiary municipalities in Benin and Côte d'Ivoire, so that they can truly assume their responsibilities.
- 5b) Focus resolutely on the search for a model sanitation facility at reasonable cost, adapted to the lacustrine environment.
- 5c) MuniWASH should continue to support coordination across the WASH sector, but USAID needs to have the understanding that it is not realistic for MuniWASH to change this with the time remaining in the activity.
- 5c) It is imperative that the WASH collaboration frameworks in San Pedro and Bouaké are closely monitored and supported by a dedicated staff throughout the remainder of MuniWASH.

EQ6 - LEARNING

6a) Was SSD effective in dissemination of learning on market-based approaches to the provision of sanitation services throughout West Africa? If yes, which methods were effective? If not, what were the barriers and how could future USAID-funded projects disseminate learning more effectively?

FINDINGS

SSD's third outcome was "Regional learning to inform market-based approaches for sanitation programs throughout West Africa." The approach taken to share learning was outlined in the activity's Knowledge Management (KM) Strategy 2016-2019 and further in its Communications Framework. SSD measured dissemination of "470 communications via social media outlets, including 327 Facebook posts, 129 Twitter posts, 14 program updates on Sustainable Sanitation Alliance (SuSanA), and eight newsletters. This represents a 103% completion of the program target." In quarterly reports, the Facebook posts were analyzed by number of page views, number of clicks on a post, estimated age of subscribers, and gender disaggregation of likes per quarter. SSD staff also participated in learning events like the annual Water and Health Conference at the University of North Carolina (UNC), the annual Water and Engineering Development Centre Conference at Loughborough University, FSM, and the Africa Sanitation (AfricaSan) conferences. The Activity shared success stories via AfWASA's newsletter and the SSD Facebook page remains accessible today. The official manual for Benin's desludging entrepreneurs was written by two former SSD staff; in Côte d'Ivoire, SSD collaborated with the DAR to produce an Improved Toilets Construction Manual. The ET also learned that former stakeholders felt that limited learning was shared with municipalities.

CONCLUSIONS

These methods have reached an international scale and follow what is outlined in the KM strategy. SSD spent considerable effort on studying different business models and technical solutions to increase access to sanitation, as well as in finance. They shared these learnings through participation in the learning events mentioned above, as well as through webinars. There is no hard evidence that they have affected West Africa more than elsewhere, however the fact that MuniWASH is using a similar approach to working with sanitation entrepreneurs indicates that the market-based approach promoted by SSD was successfully shared regionally.

6b) To what extent has MuniWASH increased regional learning and knowledge sharing to replicate successful approaches in Benin and Côte d'Ivoire? What are the factors contributing to this or barriers preventing this? What could be modified to better achieve results before activity closure and for future programming?

FINDINGS

MuniWASH's theory of change, located in Annex I, is constituted of the Activity's four intermediate results (IR). The fourth IR and hypothesis is that if regional learning and knowledge sharing to replicate successful approaches increases, then (along with the three preceding IRs) municipal water and sanitation service delivery will improve, especially for the poor and underserved. Learning is therefore one of the four key results guiding MuniWASH's interventions. The Activity's approach to learning is guided by the Activity's Monitoring, Evaluation and Learning Plan (MELP), which places importance on using both the quantitative aspects of the MELP with the qualitative aspects, namely the Activity's Learning Agenda, to learn and then share this externally. The Learning Agenda is intended to play a key role in helping the activity process the different issues that are being studied through implementation. MuniWASH's primary outlets for knowledge management and sharing its learning is via "learning notes" and participation in learning events. The learning notes are written in French, translated into English for approval, and then shared in English and French through AfWASA's knowledge management platform. Several, but not all, of these are also shared on USAID's GW site, on Ps-Eau and on the SuSanA websites. To date, MuniWASH has written eleven learning notes.

¹⁹ SSD Final Project Report - April 21, 2022, FINAL

It is not easy to locate AfWASA's knowledge management platform; there is no link to it from AfWASA's website, nor any mention of MuniWASH as one of the highlighted programs it is implementing on its site. A quick search for MuniWASH on AfWASA's website yields eleven results, four of which are labeled under the AfriCAP program (also USAID-funded.) A review of users accessing MuniWASH's content on GW indicates that of the top five locations where users are based, only one of them is in West Africa (unknown, India, France, Benin, UK.) MuniWASH does not request user statistics from GW on their content. MuniWASH has also organized and participated in numerous national as well as regional learning events such as the sixth edition of the FSM conference during Year 2, the 9th World Water Forum in Dakar, Senegal, UNC and in AfWASA's first digital forum during Year 3. The Activity also explored and pursued the idea of a webinar with ANCB on "Experience of implementing gender points in municipalities: the example of the ANCB."

CONCLUSIONS

Although MuniWASH produces and shares learning notes via AfWASA's KM platform, given the limited traffic of the site due to its accessibility, MuniWASH is not getting optimal exposure for its learning products. The target for these notes is primarily viewers of international or US sites, however it may help MuniWASH to reach a more regional audience by also posting the notes on websites based in Benin and Côte d'Ivoire, for example via ANCB or UVICOCI or more regionally on the African Minister Council on Water's (AMCOW) website. The use of AfWASA's KM site should be reviewed to determine if the learning notes could also be posted on AfWASA's regular site, or elsewhere. MuniWASH's participation in and organization of learning events is appropriate and a cumulative learning event in each country would be a practical way to begin the activity's closeout.

RECOMMENDATIONS

At this stage of MuniWASH's implementation, the Activity will have to be selective regarding what it attempts to take on. The ET suggests the following:

- I) It is apparent that a better forum for sharing learning notes has to be identified and this can be in addition to AfWASA's KM site.
- 2) USAID should continue to support AfWASA and MuniWASH's contributions to regional WASH learning as an example of locally-led capacity development.
- 3) In terms of overall learning, MuniWASH could make some quick wins by connecting with other USAID-funded activities in West Africa using similar technologies (i.e. SATOPan, DigniLoo, biodigester) and sharing these experiences with interested municipalities in Benin and Côte d'Ivoire. Municipal and national leaders seemed eager to learn more about innovations in the WASH sector, whether these be regional or international examples.

EQ7 - COVID-19 IMPACT ON PROGRAMMING

COVID-19 was declared an international epidemic on March 11, 2020, the same date as when the first case in Côte d'Ivoire was confirmed, while the first case in Benin followed a few days later on March 16. In both countries of implementation, borders were closed (Côte d'Ivoire closed March 22, 2020; Benin closed March 30, 2020) and movement was restricted from March to August 2020.

What impact did COVID-19 have on SSD and MuniWASH's performances? What strategies were developed by SSD and MuniWASH and their respective stakeholders to mitigate the impacts on activity implementation?

FINDINGS

When Benin and Côte d'Ivoire announced restrictions, SSD was in its sixth year of implementation, having been awarded a \$2 million costed extension to continue operations in Benin and Côte d'Ivoire only (ending the activity in Ghana) from October 2019-September 2020, instead of closing in September 2019. PSI instructed staff to begin teleworking at the end of March in both countries. The activity had to quickly develop an "emergency plan" to shift activities at this point, such as switching to tele coaching of entrepreneurs in order to continue some already planned activities. In Côte d'Ivoire, field activities were generally suspended from April-June, 60% of staff were placed on leave, while the remainder shifted to telework, and the contracts of 90 sales agents and supervisors were terminated. In-person meetings with partners and external stakeholders were also suspended during this period. In Benin, field activities were not allowed due to the government's restriction of movement. Some staff were also placed on leave. During the pandemic, SSD developed and promoted three types of handwashing stations. Communication material such as flyers was also produced. The call center in Benin was able to promote the handwashing station as well as connect households with VTOs through 279 calls received during April-June 2020. Some entrepreneurs and CCAs were trained to produce and sell handwashing stations. Schools and institutions were an important customer segment for these products. Towards the end of the pandemic, these products became less popular (source CCA Abomey, entrepreneurs CIV). In both countries, work was able to resume once these restrictions were lifted and sales appeared to have quickly picked up.

The MuniWASH Activity started in October 2019. When the epidemic was announced, MuniWASH was still recruiting staff and developing partnerships with key stakeholders. TetraTech instructed staff to work from home from March 30 to September 14, 2020. In-person gatherings were limited in the total number of participants able to attend, which restricted the number of stakeholders with whom the activity could engage at a time. Several precise examples were shared with the ET, indicating how this impacted MuniWASH's performance. First of all, as mentioned above, MuniWASH was still recruiting staff when COVID-19 struck. Some candidates applied to MuniWASH during this period because they could not travel internationally and work with large international organizations due to the travel bans. Then, once the countries opened again to travel, they switched back to international work and MuniWASH had to look for these profiles again. This forced MuniWASH to restart the hiring process for several positions which were not easy to fill. COVID-19 also caused a delay in the execution of their feasibility studies (Finance and& Investment, Enabling Environment, Market Landscape, Financial and Organizational Performance). These studies took a year and a half to execute; without COVID-19, it would have been faster. Another example is from Benin, where MuniWASH's subcontractor, SEGURA Consulting, first worked with SONEB on the Organizational and Capacity Development study and then also developed the Performance Improvement Plan for SONEB. Their work began in August 2020, and they started completely remotely, which is not ideal for trying to assess the staff of a water utility or observe its activities. In terms of strategies, the MuniWASH team adjusted their workplan to accommodate this new reality and kept USAID informed of these changes.

CONCLUSIONS

For both SSD and MuniWASH activities, COVID-19 caused a delay in implementation, especially for activities that are conducted in the field. Both activities were able to adapt their workplans and their programming to remain productive during the period of time when the governments of Benin and

Côte d'Ivoire restricted movement. The delay that MuniWASH experienced is more difficult to quantify because it impacted the initial relationships the activity was developing in both countries.

RECOMMENDATIONS

I) USAID should take the delay caused by COVID-19 into account when considering MuniWASH's progress.

EQ8 - ENVIRONMENTAL COMPLIANCE

How have SSD and MuniWASH monitored environmental compliance of their interventions? Are/were there any environmental issues/concerns due to SSD or MuniWASH interventions? If yes, what steps were taken to address these issues or concerns? Were these steps sufficient to resolve the stated issue/concern?

FINDINGS

Per PSI's cooperative agreement with USAID and the relevant Automatic Directive System (ADS) guidelines, SSD produced an Initial Environmental Evaluation (IEE) that "did not identify any planned activities as having a negative determination." The activity went on to develop an Environmental Mitigation and Monitoring Plan (EMMP) that was approved by USAID in 2015 and revised in 2017, which outlined the program's overall approach to maintaining environmental compliance while implementing in Benin, Côte d'Ivoire, and Ghana. These mitigation activities were also included in the activity's Monitoring, Evaluation and Learning Plan (MELP). For example, project staff regularly collected toilet quality control records and conducted quality control visits per the EMMP. This quality control was mentioned in numerous interviews to the ET as well as the related documentation that was shared via the activity's MIS with PSI. Staff were trained in environmental compliance and safe FSM practices. No issues were reported during data collection to indicate that the SSD did not successfully monitor environmental compliance of its interventions.

MuniWASH is a Task Order under the Making Cities Work Indefinite Delivery Indefinite Quantity (IDIQ) contract. Regarding environmental compliance, it is authorized under Amendments I and 2 to the previously existing West Africa Water Supply, Sanitation and Hygiene Program IEE in the form of a negative determination with conditions. This IEE was originally created in 2014 for the time period 2014-18; under Amendment I, it was extended until 2020. Under Amendment 2, it was further extended through December 2024. The majority of interventions under the MuniWASH Activity are excluded from environmental review according to the appropriate Reg 216 citations. However, the two technologies that MuniWASH is testing, namely the biodigester and the HDPE septic tank, are subject to further environmental review. As such, MuniWASH has developed site-specific EMMPs assessing both the biodigester and the HDPE tank that have been approved by USAID and are updated annually. The ET has received all versions of the EMMP and is aware the fourth and final version will be submitted to USAID in August 2023. MuniWASH has also conducted the Climate Risk Management screening and provides updates on this in the activity's MELP. MuniWASH also submits an annual Environmental Mitigation and Monitoring Report (EMMR) per the EMMP in order to provide updates on the biodigesters. To date, only one issue has been identified through the EMMRs; that of an unprotected pit located close to the biodigester that is installed in Abomey-Calavi and may present a safety hazard to people in the vicinity. This issue was addressed by MuniWASH and USAID has since been informed. This will be documented in the next EMMR.



Figure 13: Images of the Test Biodigester in Abomey-Calavi

CONCLUSIONS

The SSD activity successfully monitored environmental compliance of its interventions. MuniWASH also followed all procedures required to monitor and ensure environmental compliance of its interventions. Due to both projects' compliance with USAID requirements and procedures, no significant environmental risks have resulted from either project to date.

RECOMMENDATION

1) MuniWASH should continue to follow USAID guidelines related to environmental compliance.

EQ9 - THEORY OF CHANGE (TOC)

9a) Was the focus of SSD's revised ToC on increasing demand and supply for sanitation products, reforming support functions, advocating for rules, regulations, and tariffs appropriate to reach the activity's stated goals? If not, how would one improve sanitation market functionality in Benin and Côte d'Ivoire if the ToC were rewritten now? How has thinking related to sanitation markets changed since the original ToC design?

FINDINGS

SSD began in 2014 with a challenging four objectives to accomplish during the course of a five-year activity:

- 1. 1,000,000 people gain access to improved/adequate sanitation.
- 2. 1,000,000 people gain access to safe management of fecal waste.
- 3. 25% of those gaining access to improved sanitation and safe management of fecal waste in the lowest poverty quartile.
- 4. Dissemination of learning on market-based approaches to the provision of sanitation services throughout West Africa.

By 2017, SSD had revised these objectives as follows:

- 1. 864,681 people gain access to basic sanitation and a further 233,347 people gain access to better improved sanitation.
- 2. 527,902 people gain access to safe excreta management.
- 3. 25% of those gaining access to basic sanitation and safe management of fecal waste in the two lowest poverty quintiles²⁰.
- 4. Dissemination of learning on market-based approaches to the provision of sanitation services throughout West Africa.

SSD's full ToC is located in Annex I, which demonstrates a focus to improved access for the urban poor. The first three years of the activity, which SSD refers to as the pilot phase, were primarily spent studying the sanitation market in each country and working to identify sanitation products at acceptable prices that would appeal to local populations. As explained during data collection, SSD then began to train entrepreneurs, identify strategies to increase demand for sanitation products, and work with local governments. Through the course of the activity, sales of SSD sanitation products were highest in peri-urban or rural areas. In Benin, there are higher levels of open defecation in Cotonou and Abomey-Calavi and the SATOPan modified toilet is accepted. However, in Abidjan, the modern toilet is much preferred and there is a smaller market for the SATOPan.

SSD was implemented in three countries: Ghana, Benin, and Côte d'Ivoire by three organizations. In Benin, PSI was housed in ABMS and had a consistent staff group: several key staff are currently working with MuniWASH. In Côte d'Ivoire, there were higher levels of staff turnover on a management level. The reforming support functions, as presented under EQI, were limited, as was advocating for rules, regulations, and tariffs.

CONCLUSIONS

SSD was an ambitious project that had to adjust its objectives mid-project. Not only did it reduce the one million toilets goal, but it also had to shift towards focusing on basic instead of improved sanitation. The Activity did manage to provide 751,812 people with access to basic sanitation and 565,593 people with access to safe fecal management. Through the guidance of the ToC, SSD introduced a sanitation product that is appreciated by customers. Based on the success of the SATOPan modifications in

²⁰ SSD used the Equity Tool to determine wealth quintiles.

peri-urban and rural areas, future activities should keep the geographic focus more open instead of suggesting a focus on urban areas only. Demand creation, which is discussed under EQ4, plays a major role in the success of the sanitation market, and remains one of the weaker aspects of sustaining SSD's approach.

If a new project were to be designed now for Benin and Côte d'Ivoire, to focus on increasing demand and supply of sanitation products with the end goal of increasing access to basic sanitation for a certain number of people, it would be important to tailor strategies as much as possible to both national and local realities. In other words, how best to impact demand creation, how to ensure supply of the SATOPan, how to support entrepreneurs to increase their business, and how to assist fecal sludge emptiers to access improved material.

9b) To what extent is MuniWASH's ToC focus on improving financial sustainability and operational reliability of WASH utilities/service providers, governance and management capacity at the subnational level, regional learning and knowledge sharing effective to reach the activity's goals? What should future ToCs focus on to better improve municipal water and sanitation service delivery, especially for the poor and underserved, in USAID's future programming?

FINDINGS

The objective of MuniWASH is to support city governments, national directorates and agencies, utilities, and service providers to sustain and expand city-wide water, sanitation, and hygiene (WASH) services and fill critical needs that reach poor²¹ and underserved community members in priority municipalities. This objective does not directly address any need to improve or strengthen the current sanitation market in either country. As has been presented under EQ2, demand creation and financing remain two of the biggest obstacles for the current sanitation markets in Benin and Côte d'Ivoire. As demonstrated through EQ 2, MuniWASH has been able to work with the water utility SONEB in Benin but not SODECI in Côte d'Ivoire. The project has had different results with entrepreneurs regarding financial sustainability and operational reliability in the two countries: the results were better in Benin than in Côte d'Ivoire, largely due to the legacy of SSD. The ISI tool that is being used with municipal governments is appreciated, although the focus on the municipality in Côte d'Ivoire is contested and it is not yet clear who will continue to use this tool after the project closes.

Regarding critical needs of the poor, MuniWASH is working with the poor and underserved however it is not reaching the poorest of the poor in either country, nor will it be able to during its implementation, because the sanitation products promoted and produced by the entrepreneurs require households to have a minimum income and the sanitation services (FS removal) are also beyond the means of a vulnerable household. To reach vulnerable populations MuniWASH would have to be taking aggressive pro-poor measures, which would be highly localized depending on the municipality. To reach the poor and underserved via the SONEB, MuniWASH would need to address issues specific to those populations (limited water access, cuts in provision, etc). In Côte d'Ivoire the SODECI shared that the underserved in their geographic areas could benefit from understanding the cost structure of their services as many are paying more by going to a neighborhood standpipe than if they had a tap access at home.

CONCLUSIONS

The ToC may be appropriate for some countries, but it does not make sense with the reality of the WASH sector in either Benin or Côte d'Ivoire. Both countries have nascent sanitation markets that still require support on both supply and demand creation. The ToC assumes a greater level of stability of utilities and entrepreneurs than what is found on the ground. It also assumes that the utilities will be open to collaboration, which was not found to be the case in Côte d'Ivoire. If the theory of change were instead: **IF** the water and sanitation market exists, is stable and demand creation is consistent **AND** financial sustainability of water and sanitation utilities/service providers increases (IRI) **AND** the operational reliability of water and sanitation utilities/service providers improves (IR2) **AND** water

²¹ MuniWASH uses the Equity Tool to determine wealth quintiles.

and sanitation sector governance and management capacity at the subnational level are enhanced in coordination with the water and sanitation utilities/service providers (IR3) **AND** local and regional learning and knowledge sharing to replicate successful approaches increases (IR4), **THEN** municipal water and sanitation service delivery will improve locally. Additional measures should be taken to address specific needs of the poor and underserved.

This would help explain why MuniWASH is training a new batch of entrepreneurs and would indicate the need to focus specifically on supporting the sanitation market, namely the support functions that SSD had tried to address. It would also help to show that the market in peri-urban Benin (which is essentially rural) is very different than that of urban Abidjan. Project approaches should be tailored as much as possible to the different context. Coordination across actors in the WASH sector is important for the governance to be understood by all players and to identify solutions to some of the common problems each country is facing. An emphasis should be put on including VTOs and manual emptiers in the conversation as the situation of FSM needs attention in both countries. Alternatively, a project like MuniWASH should be implemented alongside a project like SSD that focuses specifically on identifying technical solutions to water and sanitation problems, while MuniWASH focuses on institutional capacity building.

RECOMMENDATIONS AND LESSONS LEARNED

PRIORITIZED RECOMMENDATIONS/ LESSONS LEARNED FOR SSD IMPLEMENTER

- I. SSD was an innovative and ambitious project, one of few examples that has worked on FSM in Francophone African countries.
- 2. The definition of urban poor, or the bottom 40%, is not clear enough.
- 3. SSD's time management was off balance. Future activities that intend to study, test, pilot and scale should start the testing earlier. The ET's understanding is that implementation under SSD did not really start until the last quarter of FY3, leaving extremely limited time to create and develop the market for a five-year project. This also posed challenges for SSD to have enough time to affect other aspects of the market, like reforming support functions and advocacy with local government.
- 4. SSD did not find a solution to the urban sanitation problem. SATOPan modifications appeal in parts of Cotonou/ Abomey-Calavi but they are less appreciated in Abidjan, where there are fewer people with traditional latrines that will be satisfied with just the addition of a seated/standing SATOPan. SSD tested prefabricated septic tanks, among other ideas, but did not find an affordable sanitation solution for an urban setting. The higher number of sales of SATOPan modifications in peri-urban or rural areas is an indicator of this.
- 5. Although SSD benefited from the creation of MuniWASH in that it has an obvious actor to whom they can pass the baton, this is not the case in the municipalities where MuniWASH is not present. Future activities need to begin the process earlier of identifying a focal point to take over after the project closes and work with them for at least two years prior to closing.

PRIORITIZED RECOMMENDATIONS FOR MUNIWASH

- I. MuniWASH should revise the activity target to raise \$88 million in WASH investment for Benin and Côte d'Ivoire. It is not yielding results and the activity has too many other priorities.
- 2. MuniWASH should determine a way to work with DAR on the Ivorian government's initiative for rural toilets by 2030 in order to ensure the SATOPan supply chain is sustained after project close. They may also want to address the issue of different norms for latrines with DAR.
- 3. MuniWASH should draft a sustainability plan, including transfer to local government and institutions by the end of the first quarter of FY5. This will help ensure that local stakeholders such as ANCB and UVICOCI take ownership before the activity ends.
- 4. MuniWASH Benin should work with their pool of entrepreneurs to make sure they understand how the PeBCO and Africa Finance loans work so that they can take advantage of these financing possibilities while MuniWASH is still active. They should also determine what exactly will happen in terms of support for the loans after MuniWASH closes.
- 5. MuniWASH could leverage the current work they are doing with the local government to ensure they all make a financial commitment to monitor sanitation products in their vicinities (inspired by a project in Benin).
- 6. In addition to the technical assistance MuniWASH has sought through the engagement of Whitten & Roy Partnership to train additional MuniWASH staff on demand creation, the activity should support the entrepreneurs with demand creation, as much as possible. The ideal solution would be to help plan and conduct a major demand creation campaign between September and October in order to push sales in November and December. Determine if entrepreneurs need startup capital to begin producing in anticipation of sales, or at least that there is sufficient SATO in stock. Work with the local government on demand creation, considering differences between Benin and Côte d'Ivoire.

7. In Benin, MuniWASH should continue to support desludging entrepreneurs through the mutualization process. In Côte d'Ivoire, MuniWASH should discuss training needs for desludging operators with ONAD. MuniWASH should also work with the ministries related to FSM (Ministères Transport/ Environnement).

PRIORITIZED RECOMMENDATIONS FOR USAID

- I. The ET learned that in the early years of SSD, there was limited exchange of technical information due to language barriers that hindered communication. USAID should take into consideration the likely obstacles programs may face due to funding sources and ensure a management approach is proposed by IPs from the beginning that will allow key stakeholders to thrive. Occasional check-ins on how management is playing out may also help mitigate this challenge, especially for programs implemented in multiple countries.
- 2. Request a map of where sanitation products have been purchased under MuniWASH in Benin and Côte d'Ivoire. Start requesting these maps on a quarterly basis from MuniWASH and ensure that they are also shared with the local government so officials can see where the demand is.
- 3. Facilitate conversation between PBL and MuniWASH so the latter can ensure SATOPan distribution in Benin and Côte d'Ivoire after project close. Ensure that all TPE understand where to buy SATOPan in each country and see if they can reduce import tax.
- 4. In Côte d'Ivoire, a future program could work with ONAD to examine possibilities to modernize the truck fleet, similar to the model used by TetraTech's Water, Sanitation and Hygiene Finance (WASH-Fin) in Senegal.

ANNEXES

ANNEX I: EVALUATION STATEMENT OF WORK

1.0 INTRODUCTION

USAID, through its WASH portfolio, focuses on creating a WASH-enabling environment in West Africa, including capacity building of a regional WASH institution, private sector engagement in urban and periurban sanitation services, WASH system strengthening and improving regional communication and coordination on Water, Sanitation and Hygiene (WASH) best practices.

The USAID/West Africa (WA) Water, Sanitation and Hygiene (WASH) portfolio to be evaluated includes two (2) mechanisms intended to achieve the goals of increasing access to improved water supply and sanitation services: first, Sanitation Service Delivery (SSD) - a cooperative agreement with Population Services International (PSI) to provide improved sanitation service delivery in West Africa; and second, Municipal WASH (MuniWASH) - a direct contract to Tetra Tech, ARD Inc to provide support to city governments and utilities to improve and expand their water and sanitation services to fill critical needs and reach unserved populations in targeted communities in Bénin and Côte d'Ivoire.

2.0 PROJECT BACKGROUND

2.1 DESCRIPTION OF SSD ACTIVITY

SSD was implemented in Bénin and Côte d'Ivoire from October I, 2014, to September 30, 2021. This included the second-year program extension, requested because of the time delay impact of the COVID-19 pandemic. This extension year focused on COVID-19 prevention activities alongside sanitation activities in Bénin and Côte d'Ivoire.

Based on analysis of their urban sanitation markets, each country developed and implemented sanitation products and service delivery models designed to address the locally specific sanitation challenges. SSD developed and tested scalable, market-based models that directly contributed to the achievement of overall program outcomes (2014–2020) and Year 7 results (2020–2021):

Program Objectives (2014–2020)

- Increase use of improved sanitation
- Increase use of safe disposal of fecal waste
- Disseminate learning on market-based approaches Year 7 Results (2020–2021)
- Affordable product offerings through the existing supply chain
- Promotion of handwashing and hygiene practices among water, sanitation, and hygiene (WASH) service providers and informal sector water suppliers
- Economic opportunities for microentrepreneurs

SSD theory of change:

The SSD theory of change presents a high-level framework showing how interventions to influence the sanitation market system can lead to increased access to and use of sanitation and safe disposal and/or reuse of fecal waste among the urban poor. Ultimately it was expected that increased use will lead to positive health and well-being impacts. The theory of change guided the research, analysis, intervention design and monitoring and evaluation of the project. In the diagram below, sanitation is an overall term that includes both sanitation and fecal sludge management.

Health impact Impact at Individual / Household More poor people access Level improved sanitation (and use it) in target urban areas More poor people have access to improved sanitation in target urban areas Impact at Enterprise Level Better Performance of **Enterprises** More efficient and inclusive sanitation market system system for urban poor change Reform of Advocacy on rules, supporting functions Increased demand and regulations, tariffs and Interventions [Financing, supply [Product, Price, public-private coordination, Place and Promotion] partnerships technology innovation]

Figure 1: SSD Theory of Change

DESCRIPTION OF MUNIWASH ACTIVITY:

MuniWASH is a five-year (9/2019 - 9/2024), \$18.3 million USAID/West Africa regional activity operating in Bénin and Côte d'Ivoire. Tetra Tech is the lead implementing partner with PSI and SEGURA Consulting LLC operating as sub-awardees.

The objective of MuniWASH is to support city governments, national directorates and agencies, utilities, and service providers to sustain and expand city-wide water, sanitation, and hygiene (WASH) services and fill critical needs that reach poor and underserved community members in priority municipalities.

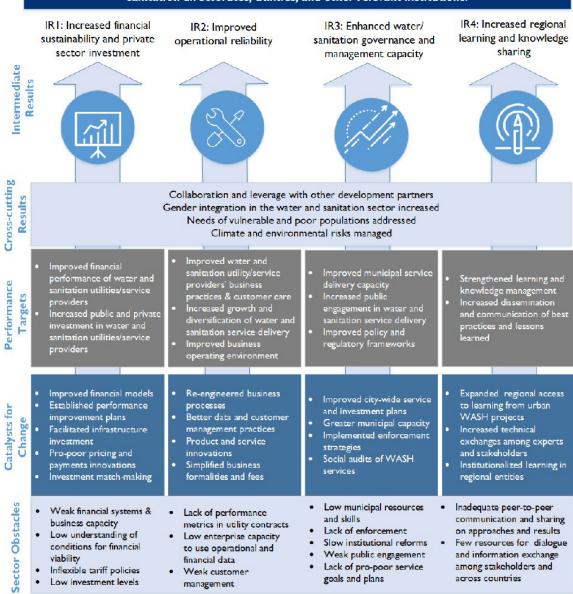
MuniWASH theory of change:

MuniWASH's TOC hypothesizes that:

IF the financial sustainability of water and sanitation utilities and service providers increases, AND IF the operational reliability of water and sanitation utilities and services providers improves, AND IF water and sanitation sector governance and management capacity at the subnational level are enhanced, AND IF regional learning and knowledge sharing to replicate successful approaches increase, THEN municipal water and sanitation service delivery will improve, especially for the poor and underserved.

Figure 2. USAID MuniWASH Theory of Change

Result: Improved and expanded urban water and sanitation services in Benin and Cote d'Ivoire that fill critical needs and reach poor and underserved populations through support to city governments, sanitation directorates, utilities, and other relevant institutions.



3.0 EVALUATION PURPOSE

This evaluation will assess the performance of SSD Activity from October 2017 to September 2021 to determine how the SSD activity affected the sanitation market; in other words, the evaluation will ascertain if SSD Activity has contributed to a more functional, inclusive, and sustainable sanitation market system for the urban poor and increased their sustainable access to improved sanitation and safe disposal of fecal waste as well as improving enterprise viability.

Of equal importance, this evaluation will assess the progress to date made by the MuniWASH Activity since implementation began in 2019, identify areas for improvements that will facilitate the attainment of

planned results, and inform potential course corrective actions for the remaining period of MuniWASH performance through 2024. Finally, the evaluation will document the findings and lessons learned from both SSD and MuniWASH Activities to inform decisions about current and future WASH programming.

4.0 EVALUATION QUESTIONS

ASSESS will, at a minimum, address the following questions and develop recommendations for both USAID and the activity to inform future program design and implementation.

MARKET FUNCTIONALITY

1- To what extent did SSD improve sanitation market functionality and improve enterprise viability?

- a- How much, if at all, has SSD affected the (1) sales trends, (2) business viability, (3) number of Micro Small Medium Enterprises (or public sector) providers, (4) profitability, (5) quality of WASH Products and services, (6) Products and services affordability, access, and availability (7) other market dynamics for sanitation providers in the selected communities? Was SSD's approach to increasing demand & supply for sanitation products effective? If not, why? If yes, which factors or approaches (enacted by USAID, implementers, communities, or external entities) contributed to or impaired effectiveness of this approach? Has the increase been sustained?
- b- Was SSD's approach to reforming supporting functions (financing/coordination/technical innovation/supply chain) effective? If not, why? If yes, which factors or approaches (enacted by USAID, implementers, communities, or external entities) contributed to or impaired effectiveness of this approach? Has the increase been sustained? Is there any difference in current MuniWASH intervention areas versus non-intervention? How are private sector companies taking ownership of the importation of sanitation products (i.e., SATO pan)? If not, what are the existing barriers to them doing so and how can these be overcome?
- c- Was SSD's approach to advocating for rules, regulations, tariffs effective? If not, why? If yes, which factors or approaches (enacted by USAID, implementers, communities, or external entities) contributed to or impaired effectiveness of this approach? Has the increase been sustained? Is there any difference in current MuniWASH intervention areas versus none?

2- To what extent has MuniWASH increased the financial sustainability and operational reliability of water and sanitation utilities and entrepreneurs in Benin & CIV?

- a- To what extent has MuniWASH increased the financial sustainability of water and sanitation utilities and entrepreneurs in Benin & CIV? What are the factors contributing to this or barriers preventing this? Are we finding any difference in MuniWASH's impact in previous SSD intervention municipalities? What could be modified to better achieve results before activity closure? What else could be considered to better achieve results during future programming?
- b- Have financial and investment opportunities increased for WASH public utilities/private service providers under MuniWASH? If yes, how much and why? If not, why? Is there a difference under previous SSD municipalities?

c- Are we finding any difference in MuniWASH's impact in previous SSD intervention municipalities versus non? What could be modified to better achieve results before activity closure? What else could be considered to better achieve results during future programming? What other opportunities exist for more interventions in the water sector in Benin and CDI. What technical assistance could USAID provide to the governments and other actors in Benin and CDI? What is USAID's comparative advantage?

2.2 SUSTAINABILITY AND INCLUSIVITY

- 3- How are SSD and MuniWASH contributing to a more inclusive and sustainable sanitation market?
- a- Did SSD contribute to a more inclusive sanitation market and/or increased access to improved sanitation & safe disposal of fecal waste in their intervention areas for the urban poor, underserved, women, differently abled? If yes, for which of these groups and how it has been sustained? If not, which of these groups and why? What are the barriers remaining? What were the unintended consequences of SSD's interventions, if any?
- b- Under SSD and MuniWASH, what were the barriers and opportunities for women to becoming sanitation entrepreneurs (or technicians, etc.)? Which strategies to address these barriers appeared to be the most and least successful? Why?
- c- Within MuniWASH, how much did the utility capacity building and systems strengthening activities benefit women and other marginalized groups?

2.3 SUSTAINABILITY AND ENABLING ENVIRONNEMENT

- 4- To what extent has MuniWASH enhanced water and sanitation sector governance and management capacity at the subnational level in Benin & CIV?
- a- In terms of sanitation coverage, market creation, and business development, are we seeing similar impact from MuniWASH's interventions in the public and private sector? What are the factors contributing to this or barriers preventing this? Are we finding any difference in MuniWASH's impact in previous SSD intervention municipalities versus non? What could be modified to better achieve results before activity closure?
- b- Have the steps taken by MuniWASH to sustain the changes from SSD to WASH services been effective? If yes, what factors have facilitated this? If not, what barriers have arisen? How much of these changes have been sustained over time (especially in areas where SSD but not MuniWASH operate)?

4.4. WASH SYSTEM STRENGTHENING

- 5- To what extent is MuniWASH contributing to WASH systems strengthening in Benin and in Côte d'Ivoire?
- a- To what extent have the capacities of local institutions been developed under MuniWASH that can contribute to advancing WASH market and sector development activities in Benin and Côte d'Ivoire?
- b- What are the remaining institutional capacity building gaps that should be addressed by MuniWASH and during future programming and how should they be prioritized based on USAID's comparative advantage? How have relationships between key WASH stakeholders (government, private sector, civil society) been strengthened for planning, budgeting, and monitoring WASH service delivery?
- c- Have relationships between key WASH stakeholders (government, private sector, civil society) been strengthened for planning, budgeting, and monitoring WASH service delivery? If so, how? If not, what are the barriers preventing this?
- d- What other opportunities exist for more interventions in the water sector in Benin and Côte d'Ivoire? What technical assistance could USAID provide to the governments and other actors in Benin and Côte d'Ivoire? What is USAID's comparative advantage?

4.5. LEARNING:

6- To what extent have SSD and MuniWASH influenced regional learning and knowledge sharing in West Africa?

- a- Was SSD effective in dissemination of learning on market-based approaches to the provision of sanitation services throughout West Africa? If yes, which methods were effective? If not, what were the barriers and how could future USAID-funded projects disseminate learning more effectively?
- b- To what extent has MuniWASH increased regional learning and knowledge sharing to replicate successful approaches in Benin & CIV? What are the factors contributing to this or barriers preventing this? What could be modified to better achieve results before activity closure and for future programming

4.6 COVID - 19 IMPACT ON PROGRAMMING

7- What impact did COVID-19 have on SSD & MuniWASH's performance? What strategies were developed by SSD and MuniWASH and their respective stakeholders to mitigate the impacts on activity implementation?

4.7. ENVIRONMENTAL COMPLIANCE

- **8-** How have SSD & MuniWASH programs monitored environmental compliance of their interventions?
- a- Are/were there any environmental issues/concerns due to SSD or MuniWASH interventions?
- b- If yes, what steps were taken to address these issues or concerns? Were these steps sufficient to resolve the stated issue/concern?

4.8 - THEORY OF CHANGE

- 9- How have intervention approaches of either SSD or MuniWASH impacted effectiveness as is intended in the activity's Theory of Change?
- a- Was the focus of SSD's revised ToC on increasing demand & supply for sanitation products, reforming support functions, advocating for rules, regulations, tariffs, and public-private partnerships appropriate to reach the activity's stated goals? If not, how would one improve sanitation market functionality in Benin & Côte d'Ivoire if the ToC was rewritten now? How has thinking related to sanitation markets changed since the original ToC design?
- b- To what extent is MuniWASH's ToC focus on improving financial sustainability and operational reliability of WASH utilities/service providers, governance and management capacity at the subnational level, regional learning and knowledge sharing effective to reach the activity's goals? What should future ToCs focus on to better improve municipal water and sanitation service delivery, especially for the poor and underserved, in USAID's future programming?
- NB: For SSD, the evaluation is intended to capture SSD overall performance during the required evaluation period (2017-2021) versus now. Sustainability questions (above) will measure changes from 2021 to now.

The recommendations will be based on findings and conclusions and developed in collaboration with USAID to ensure the most relevant and feasible recommendations possible.

5.0 ASSESS KEY TASKS

ASSESS will perform the following tasks as part of this scope of work:

- 1. Initial debriefing
- 2. Kick off meeting
- 3. Draft inception report that contains evaluation work plan, evaluation design and evaluation design report
- 4. Develop the evaluation methodology (part of inception report)
- 5. Test and verify the evaluation methodology
- 6. Inception presentation
- 7. Deployment of Evaluation Team for Fieldwork
- 8. Interim/Progress briefings on the status of fieldwork (After two weeks of fieldwork)
- 9. Collect the relevant data to inform the evaluation
- 10. Conduct oral debrief meetings with USAID on the preliminary findings of the evaluation
- II. Draft Evaluation Report
- 12. Host a learning event to present the draft evaluation findings for their validation and inputs
- 13. Draft Learning Event Report
- 14. Final Reports (Evaluation and Learning Event)
- 15. Submission of Contracting Officer's Representative (COR) approved final report to the DEC
- 5. I. RESULTS: DELIVERABLES AND OUTPUTS

Assignment Launch/in-brief with USAID/Benin: Within three to four working days of approving the response SOW, the evaluation team will meet with the USAID/West Africa environment team and the USAID POC of each country for introductions and to discuss the team's understanding of the assignment, initial assumptions, evaluation questions, methodology, and work plan, and/or to adjust the SOW, if necessary. This kick-off meeting will be held remotely, and the evaluation team will then proceed to work on all required deliverables of the assignment.

ASSESS will submit the following deliverables and reports to USAID:

5.1.1 INCEPTION REPORT

ASSESS will produce an Inception Report consisting of the following sub-deliverables: the evaluation work plan, evaluation design and evaluation design report.

Evaluation Work Plan:

The work plan will include:

- Draft schedule and logistical arrangements,
- Evaluation questions,
- Data collection strategy, sampling frame, and selection criteria,

- Data analysis plan describing procedures that will be used to analyze qualitative and quantitative data,
- Data and resource requirements,
- Data collection instruments,
- Members of the evaluation team, delineated by roles and responsibilities,
- Evaluation milestones.
- Anticipated schedule of evaluation team data collection efforts,
- Locations and dates for piloting data collection efforts,
- Proposed evaluation methodology including selection criteria for comparison groups; and
- Evaluation Report outline (if different from the attached template).

Evaluation Design:

The evaluation design will include:

Detailed evaluation design matrix that links the Evaluation Questions from the SOW (in their finalized form) to data sources, methods, and the data analysis plan.

- Draft questionnaires and other data collection instruments or a description of their key features.
- List of potential interviewees and sites to be visited and proposed selection criteria and/or sampling plan (must include sampling methodology and methods, including a justification of sample size and any applicable calculations).
- Limitations to the evaluation design; and
- Dissemination plan (designed in collaboration with USAID).

Unless exempted from doing so by the AOR/COR, the evaluation design will be shared with partner country stakeholders as well as with the implementing partners for comment before being finalized.

The data analysis plan should clearly describe the evaluation team's approach for analyzing quantitative and qualitative data (as applicable), including proposed sample sizes, specific data analysis tools, and any software proposed to be used, with an explanation of how/why these selections will be useful in answering the evaluation questions for this task. Qualitative data should be coded as part of the analysis approach, and the coding used should be included in the appendix of the final report. Gender, geographic, and role (beneficiary, implementer, government official, NGO, etc.) disaggregation must be included in the data analysis where applicable.

All dissemination plans should be developed with USAID and include information on audiences, activities, and deliverables, including any data visualizations, multimedia products, or events to help communicate evaluation [findings/conclusions/recommendations]. See the <u>Evaluation Toolkit</u> for guidance on <u>Developing</u> an Evaluation Dissemination Plan.

If applicable, based on the <u>Disclosure of Conflict of Interests Forms</u> submitted with the awardee's proposal, the evaluation design will include a conflict of interest mitigation plan.

USAID offices and relevant stakeholders are asked to take up to [number] working days to review and consolidate comments through the AOR/COR. Once the evaluation team receives the consolidated comments on the initial evaluation design and work plan, they are expected to return with a revised evaluation design and work plan within [number] working days.

- **USAID** and **Stakeholder Briefings** The Evaluation Team Lead (TL) will brief the USAID POC weekly or biweekly to discuss progress. As preliminary findings arise, the Evaluation TL will share these during the routine briefing, and in an email.
- Fieldwork: Site Visits and Data Collection The Evaluation Team will conduct site visits for data collection. Selection of sites to be visited will be finalized during the In-Briefing and team planning meeting in consultation with USAID. The Evaluation Team will outline and schedule key meetings and site visits prior to departing to the field. The evaluation team must comply with the country's COVID-19 guideline.
- Debriefing meeting for Recommendations Development The evaluation team will hold a preliminary meeting to discuss the summary of findings and conclusions with USAID as well as any requested recommendations for USAID review, inputs, suggestions, and modification if necessary. This meeting must provide a summary of any analytical results, discuss challenges, failures, successes, and way forward. The evaluators must deliver a PowerPoint Presentation of the evaluation findings, conclusions, and recommendations for each question to USAID, prior to finalizing the draft evaluation report. The Evaluation team will incorporate comments received from USAID during the debrief in the assignment report. (Note: preliminary findings are not final and as more data sources are developed and analyzed these findings may change.)

The team leader of the evaluation team will be required to routinely update the evaluation point of contact on the progress of the evaluation.

This meeting will be scheduled as agreed upon during the in-briefing.

Evaluation Design Report

The evaluation design report must describe the conceptual framework the evaluator will use to undertake the evaluation and the justification for selecting this approach. It must detail the evaluation methodology (i.e., how each question will be answered through data collection methods and analysis). The report will address each of the questions identified in the SOW and any other issues the team considers having a bearing on the objectives of the evaluation. Any such issues can be included in the report only after consultation with USAID.

USAID/West Africa will review this evaluation design report and the evaluator must receive approval from the AOR/COR of the evaluation design report before it begins implementing the evaluation plan. The evaluation design report must clearly document and discuss how gender analysis will be integrated into the design of the evaluation.

The evaluation design report must at least contain the following:

- a. Discussion of the overall approach of the evaluation, highlighting the conceptual model(s) adopted. This must incorporate an analysis of the intervention logic of the program.
- b. Complete set of evaluation questions, with sub-questions defined, as necessary.
- c. Any questions added during the contract negotiations must be clearly indicated and any deleted questions must be mentioned with a reason as to their exclusion as well as any revisions to questions.
- d. Detailed discussion of the data collection and data analysis methods that will be used for each question. This should include how different secondary sources of data collected by SSD and MuniWASH will be utilized to answer the evaluation questions. The evaluators must propose how sampling will be done and propose the appropriate sample sizes required to ensure scientific rigor. The data analysis plan must be summarized in an evaluation planning matrix (See Table 2)

Once the initial evaluation design report is submitted, USAID will have to review and provide comments after which the AOR/COR will submit the consolidated comments to the evaluation team. The evaluation team will then be asked to submit a revised final evaluation design report for USAID approval. The deadline for USAID review and evaluator submission are included in table 3 related to performance evaluation schedule.

5.1.2 INCEPTION REPORT PRESENTATION

Upon receipt of USAID's comments on the Inception report, ASSESS will organize a presentation to USAID/West Africa environment team and the USAID POC of each country in Accra to discuss the team's understanding of the assignment, initial assumptions, evaluation questions, methodology, and work plan, and/or to adjust the SOW, if necessary. The final Inception Report will be submitted to USAID after this meeting for their approval.

5.1.3 INITIAL DRAFT OF EVALUATION REPORT

After the field work and data analysis, ASSESS will hold a debriefing session with USAID on progress on the preliminary findings and key recommendations. Afterward, he will submit the initial draft of the Evaluation Report to USAID for review and comments.

The process is the same as defined above in the evaluation design report session.

5.1.3 FINAL EVALUATION REPORT

ASSESS will submit a final evaluation report that is based on analyzed facts and evidence and fully addresses all the evaluation questions.

The deadline for USAID review and evaluator submission are included in table 3 related to performance evaluation schedule.

5.1.4 TWO-PAGER SUMMARY

The evaluation team will summarize the evaluation findings and recommendations in a two-pager, for dissemination to stakeholders.

5.1.5 OTHER EVALUATION DELIVERABLES

Submission of Dataset(s) to the Development Data Library:

Per USAID's Open Data policy (see <u>ADS 579, USAID Development Data</u>) the contractor must also submit to the AOR/COR and the Development Data Library (DDL), at <u>www.usaid.gov/data</u>, in a machine- readable, non-proprietary format, a copy of any dataset created or obtained in performance of this award, if applicable. The dataset should be organized and documented for use by those not fully familiar with the intervention or evaluation.

Submission of Final Evaluation Report to the Development Experience Clearinghouse:

Per USAID policy (<u>ADS 201.3.6.9</u>) the contractor must submit the evaluation final report and its summary or summaries to the <u>Development Experience Clearinghouse</u> (DEC) within three months of final approval by USAID.

5.1.6 LEARNING WORKSHOP AND REPORT

In support of Agency collaboration learning and adaptation methodologies, ASSESS will seek USAID's approval to organize a learning workshop. The focus of the workshop is to generate varied and diverse learning points including useful and actionable suggestions or proposals for addressing recurrent development challenges (based on the outcomes of the evaluation) in the West African context with the end goal being to enhance achievement of USAID objectives.

The workshop will bring together key stakeholders jointly identified by ASSESS, USAID and activity beneficiaries to stimulate discussion around the evaluation topics. Inclusion of a wide array of stakeholders is expected to bring to bear different contextual experiences to broaden the learning base, share best practices, exchange knowledge on critical activity lessons, evaluation results, discuss barriers, and recommend approaches to further enrich learning and the success of USAID activities. This will inform operational, tactical, and strategic decisions into other on-going programs and the planning of future programs, as well as capture a broad array of stakeholder thought processes.

The workshop is planned to be a two-day event. The two-day duration is intended for the multiple stakeholders to have adequate time to discuss relevant findings from the evaluation and its implication for future programming. ASSESS will make provision for a simultaneous translation²² at the learning event. The final learning event report will also be translated into French and will be shared with stakeholders in both Bénin and Côte d'Ivoire. The event will also have a virtual or call-in option for stakeholders who wish to participate remotely. ASSESS will work closely with the Environment team to obtain details of participants who will be attending in-person and remotely and ensure the necessary logistics arrangements are made for that purpose.

ASSESS will be responsible for documenting the actionable learning points that will emanate from the discussions and knowledge sharing. These will be appropriately captured in a learning report that will be shared with USAID, workshop participants and other targeted audiences no later than two-weeks after completion of the workshop. ASSESS will be responsible for managing logistics including but not limited to invitations, agenda, facilitation, coffee breaks, lunch, appropriate branding materials and all other aspects for the two-days.

6.0 EVALUATION METHODOLOGY

The performance evaluation will utilize the mixed methods research design employing both quantitative and qualitative methods to strengthen the validity of the findings and provide room for data triangulation. ASSESS will describe and document the methodological approach that will be used, and this will follow USAID Evaluation best practices. The model will include an evaluation framework and assessment tools for each evaluation question, highlight the conceptual model(s), and specify the measurement criteria to be used to respond to each question. It will discuss any risks and limitations that may undermine the reliability and validity of the evaluation results.

To ensure the maximum value for learning and use, a description of the proposed evaluation methodology will include the following, at a minimum:

²² From French to English and vice versa.

- i. **Data collection methods and tools**: ASSESS will clearly highlight the different methods and tools that will be used to collect data, such as structured questionnaires for beneficiary interviews, analysis of secondary data/outputs from performance monitoring system, focus group discussions with market actors, key informant interviews with USAID staff, implementing partners, local and national government, and other relevant stakeholders as appropriate.
- ii. **Sampling**: ASSESS will propose how sampling will be done and the appropriate sample sizes required to ensure scientific rigor. The proposed sampling will be representative of the intervention municipalities in Bénin and the CDI to include municipalities that are joint SSD and MuniWASH municipalities, municipalities that are MuniWASH-only, and municipalities that are SSD-only. For the sample size, ASSESS will incorporate the MuniWASH municipalities (16) and for municipalities that are SSD-only, completeness should be sought so that SSD municipalities are represented. In case there are more municipalities in these categories than needed, ASSESS should make stratified random selection of the municipalities within each category.
- iii. **Data analysis**: ASSESS will provide the plan for analysis of all qualitative and quantitative data collected. This will include how different secondary sources of data collected by the performance monitoring system, etc. will be utilized to answer the evaluation questions. The data analysis plan will be summarized in an evaluation design matrix (See Table 1).
- iv. **Gender Considerations:** In line with USAID's Gender Equality and Female Empowerment Policy and Automated Directives System 203.3.1.5, the evaluation will consider gender-specific and differential effects of SSD and MuniWASH activities. For example, the evaluation team may investigate whether SSD and MuniWASH have considered gender differences in accessing their WASH service delivery models. Any quantitative or qualitative data collected under this evaluation will be gender-disaggregated to identify gender differences with respect to benefits and outcomes. The evaluation team will conduct further inquiry on gender themes as they emerge during data analysis. The evaluation team will be expected to apply gender-sensitive methods while conducting interviews to ensure that accurate data is collected.
- v. **Environmental Compliance and Climate Change:** The evaluation should also assess whether the projects have been compliant with USAID environmental regulations and identify opportunities to further mitigate potential negative impacts on the environment. The team should identify any new or unforeseen environmental consequences arising during implementation that were not identified and reviewed in accordance with 22 CFR 216 and how such newly identified issues, if any, will be corrected in a timely manner.

The U.S. Government recognizes that climate change is an existential threat and USAID will play a central role in supporting climate action across countries and activities in West Africa. USAID released its 2022

- 2030 climate change strategy in April 2021. In response to the call for the unprecedented "whole-of-Government" approach to address climate change, the evaluation team should assess and propose concrete opportunities and feasible recommendations for mainstreaming climate change into our current WASH portfolio and for developing a future climate resilient and low emission water, sanitation, and hygiene development program. Any recommendations on how to address climate change adaptation and mitigation will be very helpful. The evaluation team, in collaboration with USAID, will finalize the evaluation methods before fieldwork begins.

6.1. DATA COLLECTION AND ANALYSIS

ASSESS will complete the following Evaluation Design Matrix as part of its detailed design and evaluation plan which will be presented in the Evaluation Inception Report.

Table I: Evaluation Design Matrix

Questions	Suggested Data Sources	Suggested Data Collection Methods	Suggested Data Analysis Methods
I.[Evaluation Question]			
2. [Evaluation Question]			
3. [Evaluation Question]			

7.0 SCOPE OF THE ACTIVITY

ASSESS will assist USAID/West Africa, with the Environment team as lead, throughout the Performance Evaluation process. ASSESS will:

- 1. Recruit the required experts to:
- a. Conduct a performance evaluation of USAID/West Africa WASH Portfolio in Bénin and Côte d'Ivoire.
- b. Draft an Evaluation Report.
- 2. Facilitate the logistics for convening stakeholders for a two-day Learning Event after approval of the Final Evaluation Report. The specific objectives of the learning event are:
- a. To disseminate findings and recommendations from the assessment.
- b. To review in-depth key lessons and their implication for future programs; and
- c. Most importantly, to engage stakeholders on the evaluation topic, to share lessons learned, barriers, successes, discuss recommendations and to generate a dialogue that captures stakeholder input, thoughts, and ideas on the technical approach used to achieve activity results as presented.
- 3. Draft a Learning Report that captures the learning dialogue, discussion surrounding key findings, conclusions, and recommendations.

8.0 PLACE AND PERIOD OF PERFORMANCE

The place of performance includes Bénin and Côte d'Ivoire. The extent of travel will be determined by the evaluation design and data needs as agreed between ASSESS and USAID/West Africa.

In the event that the evaluation team is unable to conduct in-person interviews due to COVID-19, budget and/or other internal and/or external factors, ASSESS will work with the final USAID approved Evaluation Team to develop a virtual interview schedule guide with options for Google Meet, Zoom or Microsoft Teams. Focus group discussions will be scheduled and hosted by

ASSESS as part of its risk mitigation strategy. The risk and mitigation strategy will be included in the inception report.

The performance evaluation is expected to take approximately six months between January 2023 and June 2023. A designated contact person from USAID/West Africa will serve as the primary Point of Contact and Contracting Officer's Representative (COR) for the Performance Evaluation.

The below schedule and estimated LOE is illustrative and will be updated in collaboration with USAID prior to finalization of the work plan.

Table 3: Performance Evaluation Schedule

Tasks/Deliverables	lines & Deadlines (estimated)	[Important Considerations]
Assignment Launch/in-brief with USAID/Benin	Week I of evaluation launch	Virtual Meeting
Document review/desk review	Week 2	
Preparation of the work plan and evaluation report design	Week 3	[Local holidays, season/weather, transport availability]
In-briefing and team planning meeting	Week4	[Availability in the Mission or OU]
Test tools, methodology, and data collection	Week4	[Number of sites,methods, sectors, etc.]
Workplan submission (includes assignment questions, methods, timeline, data analysis plan, and data collection instruments)	Week5	
Review and approval of the evaluation report design, methodology, data collection tools, and sampling by the Benin and Cote d'Ivoire Government Institutions (Ministry of Health/Sanitation and National Institute of Statistics and Economic Analysis)	Week 6-8	[Availability in the Mission or OU, governments institutions]
Fieldwork in Benin: site visits and data collection	Week 8-10	[Number of sites,methods, sectors, etc.]
Fieldwork in Cote d'Ivoire: site visits and data collection	Week II-13	[Number of sites,methods, sectors, etc.]
Draft Report submission to USAID	Węckly/Bijweekly	
USAID review of draft report	Week 18-21	[Length of time for all relevant stakeholders to read and provide feedback]
Incorporate USAID comments and prepare fina report	Week 22	[Length of time to reconcile feedback from varying stakeholders and comply with formatting requirements]
Final submission to USAID	Week 23	
USAID final approval of the report	Week 24	

Submit dataset(s) to Development Data Library	Week 24 (following report approval)	[Length of time to convert data to machine-readable format]
Submit final report to Development Experience Clearinghouse	Week 24 (following report approval)	[Length of time for final review and approval by AOR/COR]
Hold weekly or biweekly update meeting with USAID		
Data analysis	Week 13-15	[Amount and type of data]
Debrief with USAID with PowerPoint presentation on progress of the evaluation and preliminary findings	Week16	
Report writing	Week 16-17	[Length of time to meet report requirements and any additional requests/products]

Table 4 Estimated Level of Effort (LOE) in days by activity for a team of [number]

		· · · · · · · · · · · · · · · · · · ·		
LOE for Team Lead	LOE for Team Member I	LOE for Team Member 2	LOE for Team Member 3	
I	1	I	2	
0.5	0,5	0,5	0.5	
5	3	3		
5	3	3		
3	3	3	2	
2	2	2	2	
I				
2,5	2,5	2,5	2,5	
15	15	15	15	
15	15	15	15	
3				
10	10	10		
3	3	3	3	
10	10	10		
5	3	3		
80	70	70	40	
80	70	70	80	
	Lead I 0.5 5 5 3 2 I 2,5 I5 I5 3 I0 3 I0 5 80	Team Member	LOE for Team Lead Team Member I Team Member 2 I I I 0.5 0.5 0.5 5 3 3 3 3 3 2 2 2 1 15 15 15 15 15 3 3 3 10 10 10 3 3 3 10 10 10 5 3 3 80 70 70	

NB: based on this estimated Level of Effort (LOE), the contractor will submit a financial/budget proposal for USAID approval prior to commencing with the SOW.

ANNEX II: DATA COLLECTION INSTRUMENTS

Interview Guide: Water and Sanitation

Utility Ia. Position held? Since when?

- Ib. Knowledge of the SSD project
- Ic. Knowledge of the MuniWASH project
- 2. What type of support has MuniWASH provided to your company to strengthen its financial viability? What type of support has MuniWASH provided to other companies/entrepreneurs supplying water and sanitation products/services to build financial sustainability? (2.1)
- 3. How does this support help companies? (2.2)
- 4. What are the factors that contribute to it or the obstacles that prevent it? (2.3)
- 5. Do we see a difference in the impact of MuniWASH in previous SSD intervention municipalities? (2.4)
- 6. What could be changed to better achieve the results before the activity closes? (2.5)
- 7. Has your company had access to new investment opportunities since 2021? Is this a consequence of MuniWASH, specify? Have other water and sanitation companies and entrepreneurs had access to new investment opportunities since 2021? Is this a consequence of MuniWASH, specify? What types of investment have been made? (2.6)
- 8. What are the opportunities and obstacles in terms of investment for your company? Are there differences between the public and private sector, which ones? How can investment capacities be improved? (2.7)
- 9. What type of support does MuniWASH provide to companies/Entrepreneurs to enhance operational reliability? (2.8)
- 10. To what extent does this support help companies/entrepreneurs? What measures supporting operations are missing, desirable? (2.9)
- 11. What are the factors that contribute to it or the obstacles that prevent it? (2.10)
- 12. What could be changed to better achieve the results before the activity closes? (2.12)
- 13. How has the sanitation market evolved in your geographic area over the past five years? Do you think low-income city dwellers have better/easier access to sanitation? For what ? (3.1)
- 14. What are the particular opportunities and challenges in serving low-income populations/communities? (3.3)
- 15. What is missing for all/some low-income households, and other marginalized groups, to access the sanitation market? (3.4)
- 16. (Ministry of Health and Ministry of Living Environment and Sustainable Development only). How has the sanitation market evolved in the areas covered by SSD/MuniWASH and in Benin over the last five years?
- 17. What are the factors facilitating or limiting the role of women and other marginalized groups in the WASH sector? (3.11)
- 18. How does MuniWASH influence the place of women and other marginalized groups in the sector? (3.12)
- 19. To what extent has MuniWASH improved governance of the WASH sector (roles, responsibilities,
-)? What are the factors that contribute to it or the obstacles that prevent it? (4.1)

- 20. To what extent has MuniWASH improved the management capacity (technical planning, financial planning, budget lines) of the WASH sector in Benin/CIV? What are the factors that contribute to it or the obstacles that prevent it? (4.2)
- 21. In terms of sanitation coverage, market creation and business development, is there a similar impact of MuniWASH in the public sectors? (4.3)
- 22. In terms of sanitation coverage, market creation and business development, is there a similar impact of MuniWASH in the private sectors? (4.4)
- 23. What are the expectations in terms of action that MuniWASH can take to improve sanitation coverage, market creation and business development? (4.5)
- 24. To what extent does MuniWASH contribute to improving the regulatory and institutional frameworks at the sub-national level in Benin and in CIV? What are the factors that contribute to it or the obstacles that prevent it? (4.6)
- 25. Is there a difference in the impact of MuniWASH in municipalities that have already benefited from an SSD intervention compared to those that have not? What could be changed to better achieve the results before the activity closes? (4.7)
- 26. To what extent has MuniWASH strengthened the engagement of local institutions in the provision of water and sanitation services? (4.1)
- 27. What are the remaining institutional capacity building gaps that should be addressed by MuniWASH / and in future programming? (5.6)
- 28. How would you prioritize them? (Based on USAID's comparative advantage)? (5.7)

Focus Group Discussion Guide: Consumers of SSD or MuniWASH products/non-consumers

- I. Can we go around the table to introduce ourselves? Tell us your first name, household (and concession) size, how long have you lived in the neighborhood, and if you own your house? (0-1)
- 2. In terms of sanitation, how would you rate your neighborhood? What types of toilets do people use? Do they use dump services? What is the proportion of the population with access to sanitation services? (0-2)
- 3. How would you characterize the demand for sanitation services and products? Who are the main customers? Who buys what types of products? (1.2)
- 4. Has the price of sanitation products and services changed over the past five years? How (give examples)? (1.1)
- 5. How would you describe the supply of sanitation services and products in your geographical area? (1.3)
- 6. How do you rate the quality of products and services? (1.5)
- 7. How do customers discover / learn about products and services? (1-4)
- 8. Do you think the urban poor/women/people with disabilities have better/easier access to sanitation? If yes, why? If not, what are the barriers? (3-1)
- 8a). Why do some households not buy sanitation products or use sanitation services (compared to their neighbors who have changed their practices in recent years)? Why do some households buy them? (3-2)
- 8b). What are the particular opportunities and challenges of serving low-income populations/communities? (3-3)
- 8c). What are low-income households missing to access the sanitation market in this area? (3-4)
- 9 What are your recent experiences with emptying (cost, efficiency, relationship with provider) (0-3)

- 10. How did you choose and contact the emptier? (10.13)
- II. Did households have access to financing that helped them purchase your sanitation services/products? (I-I5)
- 13. What is the share of women in sanitation companies? How do you perceive their role and evolution within the sector? Have these roles changed in recent years? (3-7)
- 14. What has been the impact of COVID-19 on your purchases or prospects for purchasing sanitation services and products? (7-1)
- 15. Other comments

Interview Guide: Entrepreneurs trained by SSD or MuniWASH (latrines/emptying companies)

- 1. Can you present your company / business- (size, geographical area, seniority, sector of activity)? (0.1)
- Ia). What part of your activities are related to the sanitation sector? Is this share changing? What are your other activities? (0-2)
- 2. (Beyond your business,) how would you describe the supply of sanitation services and products in your geographical area? (Formal/informal, diversity/monopoly, mediocre or good quality...) What has been the evolution in recent years? (1-3)
- 2a) How do you rate the quality and range of products and services? How has it evolved over the past five years? (1-5)
- 2c) Has the price of sanitation products and services changed over the past five years? How? (I-I) What do you think this is due to? (I-I)
- 3. How would you characterize the demand for your sanitation services and products? (1.2)
- 4. How do customers know about your products and services? How have you done and are you promoting your products and services? Does this promotion influence the purchase of products and services? (1-4)
- 5. Do you think the urban poor have better/easier access to sanitation? the women? disabled people? If yes, why? If not, what are the barriers? (3-1)
- 5a). What are the particular opportunities and challenges of serving low-income populations/communities? (3-3)
- 5b). What are low-income households missing to access the sanitation market in this area? (3-4)
- 6a). What are/were the barriers and challenges to starting the business? How did you respond to these challenges? With what media? (I-9)
- 6b). What are/were the obstacles and challenges related to the development/sustainability of the activity? How did you respond to these challenges? With what media? (1-10)
- 6c). What are the factors that have favored the development of the company in recent years (coordination, technological innovation, financing, import of SATOPan-type product, donation of molds, etc.), give clear examples.(I-II)
- 6d). are the factors that have hindered the development of the company in recent years (coordination, technological innovation, financing, import of SATOPan-type product, donation of molds, etc.), give clear examples. (1-12)
- 7a). How do these profits evolve? How do you measure these profits (which tools) and how do you reinvest them? (1.6)
- 7b). Has the viability of (your) sanitation enterprise(s) improved over the past five years? How and why (not)? Influence of SSD/MuniWASH (1-8)

- 7c). What are the external factors that have influenced the viability of the business? (1-7)
- 8a). related to financial aspects (e.g., finance, accounting, etc.) (2-1)?
- 8b). in connection with operational aspects (technical, customer management, etc.) (2.8)?
- 8c). How do you use these different training courses on a daily basis? Which is the most useful to you? Provide specific examples demonstrating the added value of training or the lack of added value. (2-2)
- 9. What skills would you like to be able to develop or continue to develop as part of your sanitation activities? (5-8)
- 10. Have you benefited from loans developed by SSD/MuniWASH to develop your sanitation business, if so, what type? If not, why? What types of financial support do you have access to? What are the access limits? Is there an evolution in terms of access to financing? (1-13)
- 10b). Is this loan system accessible to all entrepreneurs? Has it helped sanitation enterprises to reach disadvantaged groups? (1-14)
- 10c). What are the different tax mechanisms to promote the growth and development of sanitation enterprises? What makes one mechanism more appropriate than another? (1.20)
- I Ia). How did or did loan systems not support sanitation activities among marginalized groups? (I-15)
- 12. How are laws enforced in the sanitation sector? (1-17)
- 12b). To what extent are manufacturing standards known and applied? Do these standards facilitate or limit the development of the offer? (1-18)
- 13. What is your current legal status, has it changed (e.g., formalization)? What are the consequences of this status in terms of profit, activities, and other facilities...? (1-19)
- 14a). What is the percentage of women in your company? (3-7)
- 14b). What are the factors facilitating or limiting the role of women in Sanitation (and WASH) enterprises in Benin/Côte d'Ivoire? (3-8)
- 15a). What has the impact of COVID-19 on your performance and your sanitation business? (7-1)
- 15b). What strategies have been developed by SSD / MuniWASH and their stakeholders to mitigate the impacts on the implementation of the activity? (7.2)
- 16. How would you rate the contribution of the SSD / MuniWASH / SSD+MuniWASH program to increasing (if any) sustainable access to sanitation and safe fecal waste disposal in your area ? (4-4)
- 17. What is the role of the call center, how do you judge its operation? What is the added value for your business? What is the relationship between the call center and your business? (4-2)
- 18. How do you access the unloading station? how do you rate its operation? What is the relationship between the managers of the unloading station and your company and how has it evolved? (4-2)
- 19. What is the genesis of the association? (10-0)
- 20. What is its current status? And what are these objectives (representativeness, commercial, profit, etc.)?(10-1)
- 21. How many members are there? What are the access conditions? What is the geographical coverage? What are the benefits of being a member of the association? (10-2)
- 22. With which organizations/actors does the association interact the most? What is the nature of these interactions? (e.g., local government, customers, unloading station, call center, etc.) (10-3)
- 23. From the association's point of view, what are the current factors that encourage optimism for better sanitation in the country? (10-4)

- 24. From the association's point of view, what are the current factors that lead to pessimism for better sanitation in the country? (10-5)
- 25. As an XXX association, how would you rate the contribution of the SSD / MuniWASH / SSD+MuniWASH program to increasing (if any) sustainable access to sanitation and elimination? of fecal waste in your area? (10-6)
- 26. What is the history of the call center? (10-8)
- 27. What is its current status? And what are these goals? What mode of operation? (10-9)
- 28. How many cleaners are there working with the call center? What are the access conditions? What is the geographical coverage? What are the benefits of being a call center referral member? Can an emptier work independently of the call center? (10-10)
- 29. How many staff work in the call center and with which assignments? How is the call center financed? What are the prospects for the future? (10-11)
- 30. How does the call center work with consumers in terms of promotion? (10-12)
- 31. What is the call volume? What other qualitative statistics are available to you? (10-13)
- 32. With which organizations/actors does the call center interact the most? What is the nature of these interactions? (e.g., local government, customers, unloading station,) (10-14)

Interview Guide: Local government (commune)

- I. What position do you hold in the municipality (X)/structure (X)? What are your responsibilities with respect to EHA? How long have you held this position?
- 2. Are you familiar with the SSD or MuniWASH projects? If yes, in what context? Or ?
- 3. Situation of access to sanitation in your municipality? What sanitation products and services are available? I. Has the price of sanitation products and services changed over the past five years? How (give examples)? Is it as a result of SSD/MuniWASH? (I.I) 2. How do you rate the quality of the products? Have you observed a change in the quality and range of products? What challenges remain to improve product quality in your area? (I.5) 3. How do you rate the quality of services? Have you observed a change in the quality and range of services? What challenges remain to improve the quality of services in your area? (I.5)
- 4. How has the demand for sanitation services and products evolved over the past 5 years? Who are the main customers? What percentage of the population already has access to latrines? What percentage uses them? (1.2)
- 5. Assessment of the supply of sanitation services and products (1.3) a. How would you rate the supply of sanitation products in your geographic area (formal/informal, diversity/monopoly, poor or good quality)? What has been the evolution in recent years? Do you see a significant increase in the volume of products sold? b. How would you describe the supply of sanitation services in your geographical area? (formal/informal, diversity/monopoly, mediocre or good quality,)
- 6. How do customers discover / learn about products and services? How do vendors/sales agents promote their products and services? Does this promotion influence the purchase of products and services? (1.4)
- 7. To what extent are manufacturing standards known and applied? Do these standards facilitate or limit the development of the offer? (1.18)
- 8. What are the factors that have favored the development of a sanitation business over the last 5 years (coordination, technological innovation, financing), give clear examples. (1.11)
- 9. What are the factors that have hindered the development of a company for the last 5 years (coordination, technological innovation, financing), give clear examples. (1.12)

- 10. Why do some households not buy sanitation products or use sanitation services (compared to their neighbors who have changed their practices in recent years)? Why do some buy it? (3.2)
- 11. Do you think low-income city dwellers have better/easier access to sanitation? For what ? (3.1)
- 12. What are the particular opportunities and challenges in serving low-income populations/communities? (3.3)
- 13. What are low-income households and other marginalized groups missing from accessing the sanitation market? (3.4)
- 14. What should USAID prioritize to improve access to sanitation for low-income households and other marginalized groups in this area? (3.5)
- 15. What is the capacity of local institutions and entrepreneurs to build demand for WASH products and services? What are the main limitations encountered by stakeholders and how can they be overcome? (3.6)
- 16. What is the share of women and marginalized groups in public services (WASH)? and within the WASH sector? (3.10)
- 17. What are the facilitating or limiting factors for the role of these groups in the WASH sector? (3.11)
- 18. How does MuniWASH influence the place of women and other marginalized groups in the sector? (3.12)
- 19. How are laws/regulations enforced in the sanitation sector? Are there fines for offenders? (1.17)
- 20. Are you aware of any changes in the legal status of entrepreneurs of sanitation products and services? If yes, what evolution? (e.g., formalization)? What are the consequences of this status in terms of profit, activities, and other facilities? (1.19)
- 21. Have SSD actions influenced these measures (regulation, law, tax, formalization, standard, etc.)? (1.22)
- 22. What type of support does MuniWASH provide to companies/entrepreneurs to build financial sustainability? (2.1)
- 23. How does this support help companies/entrepreneurs? (2.2)
- 24. What are the factors that contribute to it or the obstacles that prevent it? (2.3)
- 25. To what extent has MuniWASH improved governance of the WASH sector (roles, responsibilities)
- ? What are the factors that contribute to it or the obstacles that prevent it? (4.1)
- 26. To what extent has MuniWASH improved the management capacity (technical planning, financial planning, budget lines) of the WASH sector in Benin/CIV? What are the factors that contribute to it or the obstacles that prevent it?
- 27. In terms of sanitation coverage, market creation and business development, is there a similar impact of MuniWASH (/SSD) in the public sectors?
- 28. In terms of sanitation coverage, market creation and business development, is there a similar impact of MuniWASH (/SSD) in the private sectors? (4.4)
- 29. What are the expectations in terms of action that MuniWASH can take to improve sanitation coverage, market creation and business development? (4.5)
- 30. To what extent does MuniWASH contribute to improving the regulatory and institutional frameworks at the sub-national level in Benin and in CIV? What are the factors that contribute to it or the obstacles that prevent it? (4.6)

- 31. Is there a difference in the impact of MuniWASH in municipalities that have already benefited from an SSD intervention compared to those that have not? What could be changed to better achieve the results before the activity closes? (4.7)
- 32. To what extent has MuniWASH strengthened the engagement of local institutions in the provision of water and sanitation services? (4.1)
- 33. What are the remaining institutional capacity building gaps that should be addressed by MuniWASH / and in future programming? (5.6)
- 34. How would you prioritize them? (Based on USAID's comparative advantage)? (5.7)
- 35. Have there been any environmental issues due to SSD or MuniWASH interventions? (8.1)
- 36. Other Comments/Questions

Interview Guide: National institutions

- 1. What position do you hold in the ministry (X) / structure (X)? How long have you held this position?
- 2. Are you familiar with the SSD or MuniWASH projects? If yes, in what context? Or ?
- 3. Do you have an idea of the population access rate to sanitation in Benin or Côte d'Ivoire? How do people access sanitation?
- 4. Has the price of sanitation products and services changed over the past five years? How (give examples)? Is it accordingly SSD / MuniWASH projects? (I-I)
- 5. How would you characterize the demand for sanitation services and products? Who are the main customers? Is there a "critical mass" of customers in your geographic area? (1-2)
- 6. How would you describe the supply of sanitation services and products in your geographical area? (formal/informal, diversity/monopoly, mediocre or good quality...) What has been the evolution in recent years? (1-3)
- 7. How do customers discover / learn about products and services? How do vendors/sales agents promote their products and services? To. Does this promotion influence the purchase of products and services? (1-4)
- 8. How do you rate the quality of sanitation products and services? Have you observed a change in the quality and range of products and services? What challenges remain to improve the quality of products and services in your area? (1-5)
- 9. How has the profitability of sanitation companies evolved over the last 5 years? How do entrepreneurs in the sanitation sector measure and use profitability data (investment, savings etc.)?
- 10. What are the factors that have favored the development of a sanitation business over the last 5 years (particularly on the aspects of coordination, technological innovation, financing), give clear examples. (I-II)
- II. What are the factors that have hindered the development of a company in the last 5 years (coordination, technological innovation, financing), give clear examples. (I-I2)
- 12. Under what conditions should entrepreneurs involved in sanitation products and services benefit from financial credit within the framework of their activities on MuniWASH projects?
- 13. Is this loan system accessible to all entrepreneurs? Has it helped sanitation enterprises to reach disadvantaged groups? (1-14)
- 14. What are the different fiscal mechanisms to promote the growth and development of sanitation enterprises in the country? What makes one mechanism more appropriate than another? (1-20)

- 15. Have recent policies or reforms (last 3 years) promoted or inhibited the sanitation market (provide an appropriate example to spark discussion), which ones? Why did some of these initiatives work? And why not? (1-16)
- 16. How are laws/regulations enforced in the sanitation sector? Are there fines for offenders? (1-17)
- 17. To what extent are manufacturing standards known and applied? Do these standards facilitate or limit the development of the offer? (I-18)
- 18. How has SSD influenced support measures (regulation, law, tax, formalization, standard...) (1-22)
- 19. What type of support does MuniWASH provide to companies/Entrepreneurs to enhance operational reliability? (2-8)
- 20. To what extent does this support help companies/entrepreneurs? What measures supporting operations are missing, desirable? (2-9)
- 21. What are the factors that contribute to it or the obstacles that prevent it? (2-10)
- 22. Do we see a difference in the impact of MuniWASH in the communes of intervention of the previous SSD project? (2-11)
- 23. What could be changed to better achieve results before MuniWASH closes? (2-12)
- 24. How has the sanitation market evolved in your geographic area over the past five years? Do you think low-income city dwellers have better/easier access to sanitation? For what? (3-1)
- 25. Why do some households not buy sanitation products or use sanitation services (compared to their neighbors who have changed their practices in recent years)? Why do some people buy? (3-2)
- 26. What are the particular opportunities and challenges related to serving low-income populations/communities? (3-3)
- 27. What are low-income households and other marginalized groups missing to access the sanitation market? (3-4)
- 28. What should USAID prioritize to help improve access to sanitation for low-income households and other marginalized groups in Benin? (3-5)
- 29. What is the capacity of local institutions and entrepreneurs to build demand for WASH products and services? What are the main limitations encountered by stakeholders and how can they be overcome? (3-6)
- 30. What is the share of women and marginalized groups in public services (WASH)? and within the WASH sector (municipalities...) (3-10)
- 31. What are the facilitating or limiting factors for the role of these groups in the WASH sector? (3-11)
- 32. How does MuniWASH influence the place of women and other marginalized groups in the sector? (3-12)
- 33. To what extent has MuniWASH improved governance of the WASH sector (roles, responsibilities)? What are the factors that contribute to it or the obstacles that prevent it? (4-1)
- 34. To what extent has MuniWASH improved the management capacity (technical planning, financial planning, budget lines) of the WASH sector in Benin? What are the factors that contribute to it or the obstacles that prevent it? (4-2)
- 35. In terms of sanitation coverage, market creation and business development, is there a similar impact of MuniWASH in the public sectors? (4-3)

- 36. What are the expectations of potential beneficiaries in terms of sanitation credit facility under the FNM and MuniWASH collaboration? action that MuniWASH can take to improve sanitation coverage, market creation and business development? (4-5)
- 37. To what extent do national MuniWASH policies contribute to improving the access of women and marginalized groups to micro-credit the regulatory and institutional frameworks at the subnational level in Benin and in CIV? What are the factors that contribute to it or the obstacles that prevent it? (4-6)
- 38. Is there a difference in the impact of MuniWASH in municipalities that have already benefited from an SSD intervention compared to those that have not? What could be changed to better achieve the results before the activity closes? (4-7)
- 39. To what extent has MuniWASH strengthened the engagement of local institutions in the provision of water and sanitation services? (5-1)
- 40. What are the remaining gaps in institutional capacity building that should be addressed by MuniWASH / and in future USAID interventions? (5-6)
- 41. How would you prioritize them? (Based on USAID's comparative advantage)? (5-7) What are the factors that contribute to it or the obstacles that prevent it?
- 42. To your knowledge, are/were there any environmental problems due to SSD or MuniWASH interventions? (8-1)
- 43. How did the SSD and MuniWASH programs monitor the environmental compliance of their interventions? (8-2)

Interview Guide: Implementing Partner MuniWASH

- I. What is your role at MuniWASH? From when to when? Which country?
- 2. How has the sanitation market evolved in your areas of intervention over the past five years? Do you think low-income city dwellers/women have better/easier access to sanitation? For what? (3.1)
- 3. Why do some households not buy sanitation products or use sanitation services (compared to their neighbors who have changed their practices in recent years)? Why do some buy? (3.2)
- 4. What are low-income households and other marginalized groups missing to access the sanitation market? (3.4)
- 5. What should USAID prioritize to improve access to sanitation for low-income households and other marginalized groups in this area? (3.5)
- 6. What is the capacity of local institutions and entrepreneurs to build demand for WASH products and services? What are the main limitations encountered by stakeholders and how can they be overcome? (3.6)
- 7. What type of support does MuniWASH provide to companies/entrepreneurs to build financial sustainability? What contributed/inhibited this? (2.1)
- 8. To what extent does this support help companies/entrepreneurs? (2.2)
- 9. What are the factors that contribute to it or the obstacles that prevent it? (2.3)
- 10. Are we seeing a difference in the impact of MuniWASH in the SSD intervention municipalities? (2.4)
- 11. What could be changed to better achieve the results before the activity closes? (2.5) Is it easy for MuniWASH to modify these interventions etc?
- 12. Have financial and investment opportunities increased for public water, sanitation, and hygiene (WASH) utilities and private service providers under MuniWASH? If so, to what extent and why? If not, why not? Is there a difference with previous SSD municipalities? (2.6)

- 13. What are the opportunities and obstacles in terms of investment? Are there differences between the public and private sector, which ones? How can investment capacities be improved? (2.7)
- 14. What type of support does MuniWASH provide to companies/Entrepreneurs to build operational reliability? (2.8)
- 15. To what extent does this support help companies/entrepreneurs? What measures supporting operations are missing, desirable? (2.9)
- 16. What are the factors that contribute to it or the obstacles that prevent it? (2.10)
- 17. Are we seeing a difference in the impact of MuniWASH in previous SSD intervention municipalities? (2.11)
- 18. What could be changed to better achieve the results before the activity closes? (2.12)
- 19. What is the share of women and marginalized groups in public services (WASH)? and within the WASH sector (municipalities...)? (3.10)
- 20. What are the facilitating or limiting factors for the role of these groups in the WASH sector? (3.11)
- 21. How does MuniWASH influence the place of women and other marginalized groups in the sector? (3.12)
- 22. Other Comments/Questions

Interview Guide: Implementing Partner SSD

- I. What was your role at SSD? From when to when ? (Search in detail their activities on SSD)
- 2. What went well? What were the challenges?
- 3. How has the sanitation market evolved in your areas of intervention over the past five years? Do you think low-income city dwellers/women have better/easier access to sanitation? For what ? (3.1)
- 4. Why do some households not buy sanitation products or use sanitation services (compared to their neighbors who have changed their practices in recent years)? Why do some people buy? (3.2) Is it as a result of SSD activities? If yes, how?
- 5. How do customers discover / learn about products and services? How do vendors/sales agents promote their products and services? Does this promotion influence the purchase of products and services? (1.4) How SSD supported the promotion of products and services? Who in the project was involved?
- 6. How do you rate the quality of products and services? Have you observed a change in the quality and range of products and services during SSD? What challenges remain to improve the quality of products and services in your area? (1.5)
- 7. What, if any, external factors have influenced the viability of the enterprises? (1.6)
- 8. What are/were the barriers and challenges to starting a sanitation business? (prompt) (1.9)
- 9. What are/were the barriers and challenges to developing/sustaining a sanitation business? (1.10) Did SSD work on this?
- 10. What are the factors that have favored the development of a sanitation business over the last 10 years (coordination, technological innovation/, financing), give clear examples. (1.11)
- II. What are the factors that have hindered the development of a company in the last 10 years (coordination, technological innovation/, financing), give clear examples. (1.12)
- 12. How did or did loan schemes not support sanitation activities among marginalized groups? (1.13) What did SSD do for this?

- 13. Have recent policies or reforms (last 10 years) promoted or inhibited the sanitation market (provide an appropriate example for the country concerned
- 14. How are laws/regulations enforced in the sanitation sector? Are there fines for offenders? (1.17)
- 15. To what extent are manufacturing standards known and applied? Do these standards facilitate or limit the development of the offer? (1.18)
- 16. How has the legal status of entrepreneurs evolved (e.g., formalization)? What are the consequences of this status in terms of profit, activities, and other facilities ? (1.19)
- 17. What are the different tax mechanisms/exemptions to promote the growth and development of sanitation enterprises in the country? What makes one mechanism more appropriate than another? (1.20)
- 18. How has SSD influenced support measures (regulation, law, tax, formalization, standard.) How has SSD succeeded (or not) in influencing these measures? For what? (1.21)
- 19. What are low-income households and other marginalized groups missing from accessing the sanitation market? (3.4)
- 20. What should USAID prioritize to improve access to sanitation for low-income households and other marginalized groups in this area? (3.5)
- 21. What is the capacity of local institutions and entrepreneurs to build demand for WASH products and services? What are the main limitations encountered by stakeholders and how can they be overcome? (3.6)
- 22. What are the opportunities and obstacles in terms of investment? Are there differences between the public and private sector, which ones? How can investment capacities be improved? (2.7) What did SSD do to it?
- 23. What is the share of women and marginalized groups in public services (WASH)? and within the WASH sector (municipalities)? (3.10)
- 24. How has SSD influenced the place of women in sanitation companies? (3.9)
- 25. Has SSD been effective in disseminating learning on market-based approaches to sanitation service delivery across West Africa? (6.1) If yes, what methods were effective? (6.2) If not, what were the obstacles? (6.3)
- 26. What has the impact of COVID-19 on SSD performance has? (7.1) What strategies have been developed by SSD and their stakeholders to mitigate impacts on activity implementation? (7.2)
- 27. To your knowledge, are/were there any environmental problems as a result of SSD interventions? (8.1) How did the SSD program monitor the environmental compliance of its interventions? (8.2)
- 28. Was SSD's theory of change appropriate to achieve the project's stated objectives between 2014 and 2019? How helpful was it in developing the program? (9.1)
- 29. Other Comments/Questions

Interview Guide: MFI agents / MFI institutions

- 1. Can you present your organization (size, geographical area, seniority, type of services/products? (0-1) How long have you worked there?
- 2. What are your interactions with sanitation activities? Since when and why do you interact with the sanitation sector? (0-2)
- 3. Can you estimate the share of your activities related to the drinking water and sanitation sector? Is this share changing? (0-3)

- 4. (PeBCo only) How would you describe the supply of sanitation services and products in your geographical area (city or district)? (Formal/informal, diversity/monopoly, mediocre or good quality...) What has been the evolution in recent years? (1-4)
- 5. Are there specificities for credit linked to sanitation? Do you know of sanitation products that may require the use of credit? What are the different tax mechanisms to promote sanitation purchases for households? What are the characteristics of these systems (e.g., conditions of access, reimbursement, etc.)? What makes one mechanism more appropriate than another? (I-II)
- 6. What are the different tax mechanisms/exemptions that can be used to promote the growth and development of sanitation enterprises? What are the characteristics of these systems (e.g., conditions of access, reimbursement, etc.)? What makes one mechanism more appropriate than another? (1-12)
- 7. What has been the recent evolution of these financial support systems (IMF)? Have new systems been created or completed, with what motivation? (I-I3)
- 8. How are sanitation finance packages (for households and businesses) promoted? (Promotion system, training, communication...) (11-0)
- 9. How have loan schemes or not supported sanitation activities among marginalized groups? (1-15)
 - 10. Have recent policies or reforms (last 3 years) facilitated or inhibited access to credit for vulnerable people? Is this also the case for sanitation (provide an appropriate example for the country concerned in order to stimulate discussion), which ones? Why did some of these initiatives work? And why not? (1-16)
 - 11. Is the formalization of sanitation enterprises beneficial to entrepreneurs in terms of profits, activities, and other facilities? (1-19)
 - 12. Are there different fiscal mechanisms (led by local or national government) to promote the growth and development of sanitation enterprises in the country? What makes one mechanism more appropriate than another?(1-20)
- 14. Has your structure worked with SSD? If so, on what? What was your involvement at the time?
 - 15. From your microfinance perspective, how would you rate the SSD program's contribution to increasing (if any) sustainable access to sanitation and safe fecal waste disposal? (3-1) 15a). In your opinion, what are the main features of the program that have contributed to this result? 15b). What were the unintended consequences of SSD interventions, if any?
- 16. Does your structure work with MuniWASH? If so on what?
 - 17. What type of support does MuniWASH provide to companies/entrepreneurs to build financial sustainability? (2-1) 17a). To what extent could this support help companies/entrepreneurs? (2-2) 17b). What are the factors that would have contributed or the obstacles that would prevent it? (2-3)
 - 18. To what extent could MuniWASH improve the financial performance of water and sanitation companies/Entrepreneurs? (2-6)
 - 19. What could be the opportunities and obstacles in terms of investment? Are there differences between the public and private sector, which ones? How can investment capacities be improved? (2-7)
- 20. Other Comments/Questions

Interview Guide: Civil society

- I. What is the name of your organization? What is your role in your organization? Since when?
 - 2. What does your organization do for the water and sanitation sector? Have you heard of the SSD/MuniWASH projects? If yes, the functional relationship between SSD/MuniWASH and your organization?

- 3. What sanitation products and services are you aware of in the sanitation market?
- 4. Has the price of sanitation products and services changed over the past five years? How (give examples)? Is it as a result of SSD/MuniWASH? (I-I)
- 5. How do you rate the quality of products and services? Have you observed a change in the quality and range of products and services? What challenges remain to improve the quality of products and services in your area? (1-5)
- 6. Is there a loan system (sanitation credit) for sanitation entrepreneurs? If so, is it accessible to all entrepreneurs? Has it helped sanitation enterprises to reach disadvantaged groups? (1-14)
- 7. How did or did loan systems not support sanitation activities among marginalized groups? (1-15)
- 8. How are laws/regulations enforced in the sanitation sector? Are there fines for offenders? (1-17)
- 9. To what extent are manufacturing standards known and applied? Do these standards facilitate or limit the development of the offer? (1-18)
- 10. What type of support does MuniWASH provide to companies/entrepreneurs to build financial sustainability? (2-1)
- 11. What could be changed to better achieve results before the end of MuniWASH? (2-5)
- 12. How has the sanitation market evolved in your geographic area over the past five years? Do you think low-income city dwellers have better/easier access to sanitation? For what? (3-1)
- 13. Why do some households not buy sanitation products or use sanitation services (compared to their neighbors who have changed their practices in recent years)? Why do some buy? (3-2)
- 14. What are low-income households and other marginalized groups missing to access the sanitation market? (3-4)
- 15. What should USAID prioritize to improve access to sanitation for low-income households and other marginalized groups? (3-5)
- 16. What is the capacity of local institutions and entrepreneurs to build demand for WASH products and services? What are the main limitations encountered by stakeholders and how can they be overcome? (3-6)
- 17. What is the share of women in sanitation companies? How do you perceive their role and evolution within the sector? Have these roles evolved over the last (5) years? (3-7)
- 18. What are the factors facilitating or limiting the role of women in Sanitation (and WASH) enterprises? (3-8)
- 19. How has SSD influenced the place of women in sanitation companies? (3-9)
- 20. What is the share of women and marginalized groups in public services (WASH)? and within the WASH sector (municipalities...) (3-10)
- 21. What are the facilitating or limiting factors for the role of these groups in the WASH sector? (3-11)
- 22. How does MuniWASH influence the place of women and other marginalized groups in the sector? (3-12)
- 23. To what extent has MuniWASH improved governance of the WASH sector (roles, responsibilities)? What are the factors that contribute to it or the obstacles that prevent it? (4-1)
- 24. To what extent has MuniWASH improved the management capacity (technical planning, financial planning, budget lines) of the WASH sector in Benin/CIV? What are the factors that contribute to it or the obstacles that prevent it? (4-2)

- 25. In terms of sanitation coverage, market creation and business development, is there a similar impact of MuniWASH in the public sectors? (4-3)
- 26. In terms of sanitation coverage, market creation and business development, is there a similar impact of MuniWASH in the private sectors? (4-4)
- 27. What are the expectations in terms of action that MuniWASH can take to improve sanitation coverage, market creation and business development? (4-5)
- 28. To what extent MuniWASH contributes to improved regulatory and institutional frameworks at the sub-national level in Benin and CIV? What are the factors that contribute to it or the obstacles that prevent it? (4-6)
- 29. To what extent has MuniWASH strengthened the engagement of local institutions in the provision of water and sanitation services? (5-1)
- 30. What are the remaining institutional capacity building gaps that should be addressed by MuniWASH / and in future programming? (5-6)
- 31. How would you prioritize them? (5-7)
- 32. Other Comments/Questions

Interview Guide: USAID

- I. What is your role at USAID? Since when
- 2. What was/is your role in relation to SSD? at MuniWASH? Since when do you know each of the projects?
- 3. What can you tell me about SSD's activities and achievements? What are the achievements of SSD? What were the challenges?
- 4. How have strategies to reach the urban poor evolved during the SSD program?
- 5. What were the lessons learned?
- 6. What works well with MuniWASH (diff BE/CIV?)
- 7. What are the challenges?
- 8. Have the definitions of an urban and rural area changed over the course of MuniWASH?
- 9. Concerning all that is environmental compliance for the 2 projects everything in order?
- 10. Any other reflections to share?

ANNEX III: LIST OF PERSONS INTERVIEWED

Date Municipality		у Метно	Name	GENDE	R	STAKEHOLDER GROUP	Organization
		D		MALE	FEMALE		
25 April, 2023	Calavi	KII	PIERRE AKOI	I		Entrepreneur	Entrepreneur Mimin
25 April, 2023	Cotonou	KII	YADJIDE ADISSOBA		T	project implementer MuniWASH	TetraTech
25 April, 2023	Cotonou	KII	BERNICE BOKONONHOUI		T	project implementer SSD	PSI
25 April, 2023	Cotonou	KII	WILFRIED DJIMAHLOUÉ	T		Entrepreneur	Call center
			JESSICA GAUTHE		T		
25 April, 2023	Cotonou	KII	YVAN NOE	I		project implementer Both	TetraTech
26 April, 2023	Cotonou	KII	BABALOLA DARIUS	I		Gouv natl	SGDS
			TCHEDJI LEA		I		
26 April, 2023	Cotonou	KII	ERIC GBAGUIDI	1		Gouv natl	DGDU
26 April, 2023	Cotonou	KII	FIOGBE JEAN-PIERRE MELON	T		Gouv natl	DG EAU
26 April, 2023	Cotonou	KII	VODOUNON ELYSÉE	I		Entrepreneur	WC Mimin
26 April, 2023	Calavi	KII	MARCAIRE ATACHI	T		Entrepreneur / Societe civile	Vidangeur /Assoc vid.
27 April, 2023	Calavi	KII	ROMUALD AHOUANGONOU	1		Project Implementer SSD	Ancien PSI-CCA
27 April, 2023	Cotonou	KII	FRANÇOIS AZIMBLIGBO	1		Project Implementer MuniWASH	Finance
27 April, 2023	Cotonou	KII	KOUNNOU PASCAL	1		Gouv natl	Fond National des Microfinance
28 April, 2023	Ifangni	KII	FRANÇOIS HOUNKANRIN	1		Gouv local	Municipalité Ifangni
			BIENVENU ROMEO	I			

			POLICE SANITAIRE	I			
28 April, 2023	Avrankou	KII	ISMAEL AMOU	ı		Entrepreneur	Entrepreneur Mimin
28 April, 2023	Ifangni	KII	OGOUGBE BRUNO	I		Entrepreneur	Entrepreneur Mimin
			TCHEGOUN YÉDÉNOU	I			
28 April, 2023	Misserete	KII	GANI ABIBATOU		1	Project implementer SSD	SSD ancien CCA
28 April, 2023	Cotonou	KII	ALPHONSE SEGO	1		project implementer MuniWASH	TetraTech
			STEPHENE QUENUM	I		project implementer MuniWASH	TetraTech
28 April, 2023	Online meeting	KII	BERNARD ELEGBE	I		Project Implementer SSD	PSI
28 April, 2023	Online meeting	KII	JOHN SAUER	I		Project Implementer SSD	SSD PSI
29 April, 2023	Ifangni	FGD		3	5	Client	
29 April, 2023	Ifangni	FGD		7	T	Non-Client	
I May, 2023	Cotonou	KII	DONATIEN DAH-AGBANDE	I		Entrepreneur/vidangeur	Entreprise la depeche service
I May, 2023	Online meeting	KII	ZACH, KEVAL, ANNIE	2	I	Project Implementer MuniWASH	TetraTech HQ
2 May, 2023	Cotonou	KII	PASCAL TAMEGNON	I		IMF	PeBCo
			CYRILLE HOUNSOU	I			
			BERNARD ASSOGBA	I			
2 May, 2023	Cotonou	KII	FRANCOISE COMLANVI		I	Gouv natl	Ministère de la Santé
2 May, 2023	Cotonou	KII	TCHABI TOM WILFRIED	I		Gouv natl	Ministère de la Décentralisation et de la Gouvernance Locale
2 May, 2023	Cotonou	KII	FIFAMÈ VODOHE		1	Project implementer SSD	SSD ancien CCA
2 May, 2023	Aplahoué	KII	JUCONDE YANNICK MONWANOU		I	Gouv local	Municipalité

			ABEL SAGBO	I			
3 May, 2023	Aplahoué	FGD		5	4	Client	
3 May, 2023	Aplahoué	FGD		7	I	Non-Client	
3 May, 2023	Aplahoué	KII	ERIC	I		Entrepreneur non-SSD	
4 May, 2023	Cotonou	KII	MOUMOILATE HADJIBI		T	Société civile	Réseau Béninoise des Femmes Professionnelles en WASH
4 May, 2023	Cotonou	KII	AIMÉE		I	Entrepreneur	Aplahoué
16 May, 2023	Online meeting	KII	CAROLLE AKOTONDJI		I	Project implementer SSD	ancien PSI-S/E
4 May, 2023	Cotonou	KII	MR SOSSOU JEAN-MARIE	1		Compagnies d'Eau	SONEB
			MR DOSSOU-YOVO STANISLAS	1			
			HOUNTONDJI AURÉLIEN	1		head of marketing	
4 May, 2023	Cotonou	KII	ANDRE TOGNANHOU	1		Entrepreneur SSD	Mojec service le bonheur
5 May, 2023	Cotonou	KII	FÉLIX ADEYINKA	1		Societe civile	CANEA
			ANDRÉ ZOGO	1			
			ALAIN TOSOUNON	1			
5 May, 2023	Cotonou	KII	ANDRE ZOGO	1	I	Societe civile	PNE
5 May, 2023	Abomey Calavi	FGD		2	2	Clients	
5 May, 2023	Abomey Calavi	KII	MARGUERITE AGUIAR		I	Non-clients	Non-clients Mimin
5 May, 2023	Cotonou	KII	GILDAS VIWOSSIN DEGBOE	I		Project implementer MuniWASH	TetraTech
6 May, 2023	Abomey Calavi	KII	ASSOGBA VICTOR	I		Entrepreneur non-SSD/MuniWASH	
6 May, 2023	Abomey Calavi	KII	MOISE HOUNKPALIN	I		Vidange manuelle	

6 May, 2023	Cotonou	KII	DAVID TOGAN	1		Project implementer MuniWASH	TetraTech	
8 May, 2023	Abomey Calavi	KII	MAGBONDE EMMA		I	Gouv local	Commune Abomey-Calavi	
			APPOLINE ASSOGBADJO	I		Gouv local	Chef division Eau et Assainissement depuis 202 l	
8 May, 2023	Cotonou	KII	MARCEL ADJAMAIDOTOME	1		Project Implementer MuniWASH	TetraTech	
8 May, 2023	Abomey Calavi	KII	SEGLA LIHOUSSOU	I		Société civile	ANCB	
8 May, 2023	So-ava	KII	AMINOU ATINDEKOUN	I		Gouv local	Municipalité	
8 May, 2023	So-ava	KII	RICHARD OUSSA	I		Société civile	ACTE ONG	
			GERARD VIDEGNON	I				
9 May, 2023	Cotonou	KII	ALEXINE ATIOUKPE		I	Gouv local	Municipalité Cotonou	
9 May, 2023	Cotonou	KII	ADOUKONOU VALENTINE		T	Finance	Africa Finance	
9 May, 2023	Cotonou	KII	JAMES DJOMAKON	I		Project implementer SSD	Ancien superviseur	
9 May, 2023	Cotonou	KII	ATCHAGBA GUILLAUME	I		Entrepreneur non-SSD/MuniWASH	Entreprise DJROMAHUTON Alafia	
			OSSENI ISMAEL	I				
11 May, 2023	Online Meeting	KII	AKIBOU OSSENI	I		Gouv national	Chef Service de l'Hygiène et de l'Assainissement de Base	
23 May, 2023	Online Meeting	KII	SEGURA CONSULTING	2	T	Project implementer MuniWASH	SONEB/PAP	
2 May, 2023	Online Meeting	KII	EMERY NKURUNZIZA	1		Project implementer SSD	ABMS/PSI	
2 May, 2023	Online Meeting	KII	ALFRED NEKOUA	I		Gouv local	Municipalité Cotonou	
11 May, 2023	Abidjan	KII	SÉRAPHIN KOUADIO	T		Gvt Nat	DGDDL	
			KOUMOUE LEOCADIE		1	1		

	1	T	T	1		T.	l
				I	2		
11 May, 2023	Abidjan Plateau	KII	MME HÉLÈNE BRAGORI		I	Gvt Nat	DAR
			BENTO ARMEL CIRIAC	1			
			ATSE RAISSA		I		
			SOBRIN FRANCK	1			
11 May, 2023	Abidjan Cocody Vallon	KII	BILÉ JOSEPH AMON	I		Gvt Nat	ONEP
11 May, 2023	Cocody II Plateaux	KII	EUGÉNIE GAGNE	5	2	Gvt Nat	
11 May, 2023	Abidjan	KII	Sylla mamadou	1		Gvt Nat	
			M. COULIBALY BRAHIMA	I			
			soro sounanga coulibaly	I			
			SORO PERIGNAN AMAL	1			
			KONE N'PIE	1			DAUD
			SILUE NANGA LACINA	1			
11 May, 2023	Yopougon	KII	SOUEMY DAVID	T		Entrepreneur Sani Plus actif MuniWASH	SSD + MuniWASH
12 May, 2023	Pullman	KII	OLIVIER KOUASSI	1		Project Implementer SSD/MuniWASH	TetraTech
12 May, 2023	Marcory	KII	BAKARY DEGOGA	I		Société civile	FIAA
12 May, 2023	Online	KII	TOUSSAINT KOUADIO	1		Project Implementer SSD	Ancien PSI

12 May, 2023	Abidjan	KII	emmanuel Kouassi	1		Project Implementer MuniWASH	TetraTech	
12 May, 2023	Abidjan Angré	KII	RAPHAELLE KOUASSI		I	Project Implementer MuniWASH	TetraTech	
12 May, 2023	Abidjan Angré	KII	MAMBO VIANNEY	I		Project Implementer MuniWASH	TetraTech	
13 May, 2023	Bassam	KII	SALIFOU COMPAORE	I		Project Implementer SSD	Ancien PSI/CoP	
13 May, 2023	Yopougon	KII	BAKAYOKO SEYDOU	I		Entrepreneur	Entrepreneur Sani Plus acti MuniWASH	
13 May, 2023	Abidjan Abobo	KII	DIOMANDE MAMADOU	I		Entrepreneur	Vidangeur MuniWASH	
13 May, 2023	Abidjan Abobo	KII	TINTA BRAHIMA	I		Entrepreneur	Vidangeur SSD, inactif	
13 May, 2023	Abidjan Abobo	KII	MAREKO MAMADOU	I		Entrepreneur Sani plus, ex SSD	Entrepreneur Sani plus, ex SSD	
15 May, 2023	Abidjan	KII	MAMADOU OUATTARA	I		Project Implementer MuniWASH	TetraTech	
15 May, 2023	Abidjan	KII	SIMÉON KENFACK	I		Project Implementer MuniWASH	AfWASA	
			GILLES DJAGOUN	I				
15 May, 2023	Abidjan	KII	OUSMANE SOW	2		Project Implementer MuniWASH	TetraTech	
			HERVÉ KOUADIO					
15 May, 2023	Bouaflé	KII	YAO JEAN LUC KONAN	I		Gvt Local - Municipalité	Mairie Bouaflé/DT	
15 May, 2023	Bouaflé	KII	MENAN YAO ELOI	I		Entrepreneur	Entrepreneur Sani Plus actif SSD	
15 May, 2023	Bouaflé	KII	BALLO SIRIKI	I		Entrepreneur	Entrepreneur Sani plus, ex SSD	
16 May, 2023	Bouaflé	KII	N'GUESSAN FELIX	I		Project Implementer SSD	Agent de vente	
16 May, 2023	Bouaflé	KII	STEPHANE OUATTARA	I		Entrepreneur	ex vidangeur manoeuvre	
17 May, 2023	Bouaké	KII	MAMADOU KONE	I		Gouv local	DR MINHAS	
17 May, 2023	Bouaké	KII	TRAORÉ FRANÇOIS	I		Project Implementer MuniWASH	AST	

17 May, 2023	Bouaké	KII	TOURE MORICOUNADI	I		Gvt local - Municipalité	Mairie Bouaké/DT
17 May, 2023	Bouaké	KII	ALPHA BALDE	I		Entrepreneur SSD/MuniWASH	Entrepreneur SSD/MuniWASH
17 May, 2023	Bouaké	FGD	NON-CLIENTS	5	6	Non-clients	
17 May, 2023	Bouaké	KII	NARCISSE KRA	I	T	Gouv natl	ONAD - STBV
18 May, 2023	Bouaké	KII	KONE DAOUDA	2		Entrepreneur	Vidangeur
18 May, 2023	Bouaké	KII	AMADOU KAGAMATE	I	T	Entrepreneur	Entrepreneur SSD/MuniWASH
18 May, 2023	Bouaké	KII	lassina konate	I		Project implementer SSD	Ancien superviseur SSD
18 May, 2023	Bouaké	KII	DAOUDA DIARRA	I		Clients	SaniPlus Client
18 May, 2023	Bouaké	KII	BRUNO KIN	I	I	Clients	SaniPlus Client
18 May, 2023	Bouaké	KII	GOLI ADJOUA MARIE COLOMBE SEBASTIENNE N'GORAN		T	Project implementer SSD	Ancienne agent de vente SSD
19 May, 2023	Bouaflé	KII	BALLO SIRIKI	I		Entrepreneur	Entrepreneur (briquetier) hors projet
19 May, 2023	Bouaflé	KII	ZAMBLÉ I ZAMBLÉ	I		Project implementer SSD	CCA / Entrepreneur (Agent de vente, Superviseur et Tpe)
19 May, 2023	Bouaflé	KII	EUGÈNE	I		Non clients	
19 May, 2023	Bouaflé	FGD	CLIENTS	4	I	Clients	
20 May, 2023	Abidjan	KII	THEOPHILE GNAGNE	I		Project Implementer MuniWASH	Consultant/WASH Collaboration Framework
20 May, 2023	Online	KII	HALLA LINGOU	I		Project Implementer SSD	Ancien PSI
20 May, 2023	Abidjan	KII	AYE BODOU	I	T	Entrepreneur	Entrepreneur hors projet
20 May, 2023	Abidjan(port bouet)	KII	DANE PAKENDAM	I		Secteur privé	SIG

22 May, 2023	San Pedro	KII	GOUANOU BLAISE	1		Gouv local	Municipalité San Pédro/DT
22 May, 2023	San Pedro	KII	ATTOUOMAN OI ATTOUOMAN	2		Gouv local	DR Minhas San Pédro
22 May, 2023	San Pedro	KII	KOFFI INNOCENT	T		Project implementer MuniWASH	ast MuniWASH
22 May, 2023	San Pedro	KII	ALPHA DIALLO	I	I	Gouv natl	ONAD - STBV
22 May, 2023	San Pedro	KII	AMBROISE TIEMOKO	I		Entrepreneur Sani plus MuniWASH	Agent de Vente, superviseur, TPE
22 May, 2023	Online meeting	KII	SAFAA FAKOREDE	I		Project implementer MuniWASH	TetraTech
23 May, 2023	San Pedro	KII	DRIGBE AUDREY		I	Entrepreneur Sani Plus passif	Ancien PSI
23 May, 2023	San Pedro	FGD	CLIENTS	7	I	Clients	
23 May, 2023	San Pedro	FGD	NON-CLIENTS	7		Non clients	
23 May, 2023	Abidjan	KII	LASSINA TOGOLA	T		Project Implementer SSD	Ancien PSI
24 May, 2023	Abidjan	KII	KOUAMÉ ANDRÉ NGUESSAN	T	I	Gouv natl	ONAD
24 May, 2023	Abidjan	KII	GEORGES YAO	T		Project implementer MuniWASH	TetraTech
24 May, 2023	Abidjan Cocody	KII	MARIE LAURE ALLIOU		I	Gouv natl	CEPICI
24 May, 2023	Abidjan	KII	GONDOUÉ LIDY		I	Clients	SaniPlus Client
24 May, 2023	Abidjan	KII	DIABAGATÉ NAWETA		2	non clients	non clients
24 May, 2023	Abidjan	KII	KANE SAMA	T		non clients	non clients
24 May, 2023	Abidjan	KII	YEO ADAMA	T		Gouv local	Mairie Yopougon
25 May, 2023	Abidjan	KII	DENIS ALLOU	3		Gouv local	Mairie Abobo
			OLIVIER GNAGNE				
			SOUS DIRECTEUR COMMUNICATIONS				

25 May, 2023	Abidjan	KII	ALAIN ASSA	I		Société civile	CODINORM
25 May, 2023	Abidjan	KII	PIERRETTE KOUAKOU		T	Finance	FIN'ELLE
			MAHOUA KONE		T		
25 May, 2023	Abidjan	KII	OLIVIER GNANKPA	I		Project Implementer SSD	Ancien SSD/PSI-Microfinance
26 May, 2023	Abidjan	KII	KONAN JULIEN	I		Gouv natl	CNMCI
26 May, 2023	Abidjan (Angré 8e tranche)	KII	YVETTE KONAN		T	Project Implementer SSD	Ancien PSI
			DANIELLE AMANGOUA		T	Project Implementer SSD	Ancien PSI
26 May, 2023	Abidjan	KII	AIME LOUKOU	I		Compagnie d'Eau	SODECI
26 May, 2023	Abidjan	KII	KETCHO TOURE	I		Société civile	UVICOCI
30 May, 2023	Online	KII	GUIGUI PYTHAGORE LEGBRÉ CHARLES	I		USAID	USAID/CÔTE D'IVOIRE
30 May, 2023	Online	KII	JULES HOUNTONDJI	I		USAID	USAID/WEST AFRICA
			AMINATA DIARRA		T		
30 May, 2023	Online	KII	JAMES WINTER	I		USAID	USAID/GLOBAL HEALTH
31 May, 2023	Online	KII	MAGGIE MCMORROW		T	USAID	usaid/uganda
31 May, 2023	Online	KII	JESSE SHAPIRO	I		USAID	USAID/GLOBAL HEALTH

ANNEX IV: SUMMARY INFORMATION ABOUT TEAM MEMBERS

Annette Fay, Team Lead and WASH Evaluation Expert: Ms. Annette Fay has a Dual Degree master's in public Affairs from Columbia University and Sciences Po. She has led multiple evaluations for USAID across sub-Saharan Africa and Asia, with over 17 years of experience leading monitoring and evaluation (M&E) activities, including strategic planning, performance and adaptive management, midterm, final and ex-post evaluations. She has extensive experience with quantitative and qualitative methodologies, which she has applied to evaluation design and the development of different types of data collection tools. She has been working in West Africa since 2004 (Ghana, Senegal, Mali, Niger, Guinea, Côte d'Ivoire, Benin, Burkina Faso) and has conducted primary data collection in both urban and rural contexts in numerous countries. She has been working in WASH since 2006.

Her previous evaluations have included both performance and impact evaluations. She recently collaborated with Aguaconsult on a study of regulation of water and sanitation sectors in seven Francophone African countries. She has worked as an implementer on USAID-funded activities (West Africa Water Initiative, Sahel Collaboration and Communication), an evaluator of USAID-funded projects and within USAID.

Adrien Mazeau, Sanitation Marketing Specialist: Dr. Mazeau holds a PhD in Urban Sanitation from the University of Loughborough and has about 20 years of experience in the WASH sector. His consultancy portfolio consists of over 30 assignments across iNGOs, social businesses, and research and training centers. Skills and experience include situation analysis, formative research, strategy development, project design, evaluation, and training program development in the field of environmental health, behavior change, and sanitation. He has worked on the development of sanitation marketing strategies (Haiti, Tajikistan, DR Congo, Sierra Leone), the evaluation of container-based sanitation solutions in urban contexts, and research on barriers and opportunities for sanitation enterprises in West Africa.

Idelphonse Elegbe, WASH Governance Expert: As an agricultural engineer with a specialization in economics and rural sociology, Mr. Elegbe has accumulated more than 25 years of practical experience in social engineering in various fields. From July 2001 to September 2020, he was a technical assistant in community development and institutional support for the Water, Hygiene and Sanitation programs with the Danish international consulting firm COWI for the Ministry in charge of Water and the Ministry in charge of Hygiene and Sanitation in Benin, as well as the position of Backstop for the Swiss Cooperation Office in Cotonou. During the same period, he carried out more than 13 short missions on Water, Hygiene and Sanitation projects related to (i) final or mid-term evaluation, (ii) capitalization of project results, (iii) IWRM, and (iv) the development of strategy documents. He has experience in support for the sustainable management of the public water service management of the public water and sanitation service, support for rural and semi-urban of rural and semi-urban populations in terms of behavioral change, support for the implementation and the management of CLTS and the management of fecal sludge in urban and peri-urban areas, advice to local authorities, capacity building of local government executives and capacity building for local government officials and NGO teams, and institutional support and capacity building for actors in the water, hygiene and sanitation sector.

Sopie Madeleine Aonon, Côte d'Ivoire Local WASH Specialist: Ms. Aonon is a WASH specialist from Côte d'Ivoire with 25 years of experience in the sector. She holds a master's degree in water science and technology of water from the former University of Abobo-Adjamé, now University Nangui Abrogoua of Abidjan. In 2001, she obtained a DESS in Sanitary Engineering, equivalent to the engineering diploma of Sanitary Engineering at the former Inter-State School of Rural Equipment Engineers (EIER), now the Institute of Water and Environment (2iE) in Ouagadougou, Burkina Faso. She has also completed several training courses to strengthen her capacities in consulting, project engineering, environmental assessments, and administrative writing. She started working in the WASH sector as a Sanitary Engineer in 2001, first at SODECI Sanitation from 2001 to 2002, then at the Ministry in charge of Sanitation from 2005. She is currently the Regional Director of Sanitation and Hygiene at the Ministry of Hydraulics, Sanitation and Hygiene (MINHAS), a position she has held since

May 2019. In the field of monitoring and evaluation of projects, she has been the Focal Point, Planning and Monitoring and Evaluation of projects in all the Directorates where she has worked since 2005 in the Ivorian Public Administration.

Emenique Alladatin, Benin Local WASH Specialist: Ms. Alladatin is a water and sanitation specialist with a master's degree from the International Institute of Water and Environmental Engineering (2IE) Ouagadougou, Burkina Faso. She has over eight (8) years of experience working on water supply and sanitation issues. She served as water sanitation and hygiene technical assistant at SNV Burkina Faso in 2014. She joined the Benin Red Cross in 2015 as water sanitation and hygiene project manager for three years. She served as water sanitation and hygiene consultant for UNICEF Benin in 2017. She joined the national association of Benin's municipalities as water supply and sanitation technical advisor in 2018 and was promoted to the water sanitation and infrastructures thematic committee reporter. She contributed to the organization of the 9th World Water Forum (2020 to 2022) on priority 2: water for rural development as 2B Action Group coordinator on the theme: Ensure universal access to sanitation and hygiene in rural areas. She successfully provided technical and operational support to twenty-six municipalities on OmiDelta program (2018 to 2022) to identify key issues and actions affecting program implementation and developed solutions which improved program performance.

ANNEX V: BIBLIOGRAPHY

UN Habitat Country Page for Benin, 2018. https://unhabitat.org/sites/default/files/2022/07/benin fr.pdf

Solid Waste Management Company (SGDS) of Benin. https://www.sgds-gn.bj/presentation/

World Bank Urban Population Statistics. Côte d'Ivoire.

https://donnees.banquemondiale.org/indicator/SP.URB.TOTL.IN.ZS?locations=Cl

UN Habitat Country Report Côte d'Ivoire. 2023.

https://unhabitat.org/sites/default/files/2023/07/presentation_programme_cote_d

ivoire fr.pdf

Valorisation Des Boues De Vidange : 20 Stations Bientôt Disponibles Dans 17 Villes De La Cote D'Ivoire. February 2023. Government of Côte d'Ivoire (ONAD). https://www.gouv.ci/_actualite-article.php?recordID=14801&d=3

Capitalisation de SSD. Le marché de l'assainissement : De l'ombre à la lumière.

Population Services International. 2021.

SSD FY19 annual report. PSI. 2020.

ANNEX VI: LIST OF SANITATION PRODUCTS AND SERVICES PRICES DURING SSD AND MUNIWASH

Country	Product type (fr)	Product type (eng)	Price 1 (CFA)	Price 2 (CFA)	Price 3 (CFA)	Price 4 (CFA)
	Pot 1	Latrine seat with SATOPan,	8 000	9 000	10 000	
		type 1	Rapp. Capitalisation 2021	ECBT 2022	ECBT 2022	
	Pot 2	Latrine seat with SATOPan,	10 000	13 000	14 000	
		type 2	Rapp. Capitalisation 2021	KII	KII	
	Pot 3	Latrine seat with SATOPan,	12 000	10 000	14 000	16 000
		type 3	Rapp. Capitalisation 2021	ECBT 2022	ECBT 2022	KII
	DLV	Double ventilated ventilated	61 500	60 000	65 000	
			Rapp. Capitalisation 2021	ECBT 2022	ECBT 2022	
Benin	WC Mimin	WC Mimin	94 250			
bellill			Rapp. Capitalisation 2021			
	TCM	Toilet flush (2 cubicles)	119 500	120 000		
			ECBT 2022	ECBT 2022		
	Vidange 6m cubic	Desludging 6m cubic	35 000	20 000 - 40 000		
			ECBT 2022	KII		
	Vidange 12m cubic	Desludging 12m cubic	70 000			
			ECBT 2022			
	Vidange 18m cubic	Desludging 18m cubic	105 000			
			ECBT 2022			
	Double fosses 2 buses	Double pit (2 rings)	132 000	100 000		
			Rapp. Capitalisation 2021	KII		
	Double fosses 4 buses	Double pit (4 rings)	160 000	200 000	225 000	
			Rapp. Capitalisation 2021	KII	KII	
	Fosse septique 1 cubic	Septic tank 1 cubic	201 600			
			Rapp. Capitalisation 2021			
	Fosse septique 3 cubic	Septic tank 3 cubic	372 000	500 000		
			Rapp. Capitalisation 2021	KII		
	Fosse septique 6 cubic	Septic tank 6 cubic	435 600	600 000	800 000	
Cote			Rapp. Capitalisation 2021	KII	KII	
d'Ivoire	Puit perdus	Soak pits	150 000	170 000	250 000	
			KII	KII	KII	
	DLP	Direct latrine pit	40 000			
			Rapp. Capitalisation 2021			
	Interface position assise	Modification latrine with	25 000	20 000	20 000 - 30 000	
		SATOPan, sitting position	Rapp. Capitalisation 2021	KII	KII	
	Interface position	Modification latrine with	15 000	10 000		
	accroupie	SATOPan, squatting position	Rapp. Capitalisation 2021	KII		
	Vidange	Desludging	25 000	20 000		
			KII	KII		

ANNEX VII: DISCLOSURE OF CONFLICT OF INTEREST

USAID Disclosure of Real or Potential Conflict of Interest for External Evaluation Team Members

Name	Annette Fay
Title	Team Leader
Organization	Independent Consultant
Evaluation Position	x Team Leader Team member
Evaluation Award Number (contract or other instrument)	
USAID Activity(s) Evaluated (Include activity name(s), implementer name(s) and award number(s), if applicable)	Sanitation Service Delivery, PSI & West Africa Municipal Water, Sanitation and Hygiene, TetraTech
I have real or potential conflicts of interest to disclose.	
If yes answered above, I disclose the following facts:	
Real or potential conflicts of interest may include, but are not limited to:	
I. Close family member who is an employee of the USAID operating unit managing the activity(s) being evaluated or the implementing organization(s) whose activity(s) are being evaluated.	
2. Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose activities are being evaluated or in the outcome of the evaluation.	
3. Current or previous direct or significant though indirect experience with the activity(s) being evaluated, including involvement in the	

activity design or previous iterations of the activity.	
CONTINUED	
If yes answered above, I disclose the following facts:	
Real or potential conflicts of interest may include, but are not limited to:	
4. Current or previous work experience or seeking employment with the USAID operating unit managing the evaluation or the implementing organization(s) whose activity(s) are being evaluated.	
5. Current or previous work experience with an organization that may be seen as an industry competitor with the implementing organization(s) whose activity(s) are being evaluated.	
6. Preconceived ideas toward individuals, groups, organizations, or objectives of the particular activities and organizations being evaluated that could bias the evaluation.	

Date	30/06/23
Signature	At the second of

Name	ELEGBE Idelphonse Medard
Title	URBAN SANITATION SPECIALIST
Organization	ASSESS
Evaluation Position	☐ Team Leader Team member
Evaluation Award Number (contract or other instrument)	
USAID Activity(s) Evaluated (Include activity name(s), implementer name(s) and award number(s), if applicable)	
I have real or potential conflicts of interest to disclose.	□ Yes x No
If yes answered above, I disclose the following facts: Real or potential conflicts of interest may include, but are not limited to: I. Close family member who is an employee of the USAID operating unit managing the activity(s) being evaluated or the implementing organization(s) whose activity(s) are being	No
evaluated.2. Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose activities are being	

3.	evaluated or in the outcome of the evaluation. Current or previous direct or significant though indirect experience with the activity(s) being evaluated, including involvement in the activity design or previous iterations of the activity.	
CC	ONTINUED	No
- "	res answered above, I disclose the following	
	al or potential conflicts of interest may include, but not limited to:	
4.	Current or previous work experience or seeking employment with the USAID operating unit managing the evaluation or the implementing organization(s) whose activity(s) are being evaluated.	
5.	Current or previous work experience with an organization that may be seen as an industry competitor with the implementing organization(s) whose activity(s) are being evaluated.	
6.	Preconceived ideas toward individuals, groups, organizations, or objectives of the particular activities and organizations being evaluated that could bias the evaluation.	

Date	30/06/2023
Signature	renf?rf

TEMPLATE: USAID Disclosure of Real or Potential Conflict of Interest for External Evaluation Team Members

Name	D' Abaien Mazon
Title	CUNSULTANG. EXPENT SHNITAGION MHAKET
Organization	INSTRUMBANT FOR ASSESS
Evaluation Position	□ Team Leader ☑ Team member
Evaluation Award Number (contract or other instrument)	ASSESSC4-FYZ3- & 002
USAID Activity(s) Evaluated (Include activity name(s), implementer name(s) and award number(s), if applicable)	EVALUATION OF USAID WEST AFFILEA WASH POPTFOLIS IN BERM AND CORE B'WOINT
I have real or potential conflicts of interest to disclose.	☐ Yes ☐ No
If yes answered above, I disclose the following facts: Real or potential conflicts of interest may include, but are not limited to:	
Close family member who is an employee of the USAID operating unit managing the activity(s) being evaluated or the implementing organization(s) whose activity(s) are being evaluated.	
2. Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose activities are being evaluated or in the outcome of the evaluation.	
S. Current or previous direct or significant though indirect experience with the activity(s) being evaluated, including involvement in the activity design or previous iterations of the activity.	

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DISCLOSURE OF REAL OR POTENTIAL CONFLICT OF INTEREST

CONTINUED

If yes answered above, I disclose the following facts:

Real or potential conflicts of interest may include, but are not limited to:

- Current or previous work experience or seeking employment with the USAID operating unit managing the evaluation or the implementing organization(s) whose activity(s) are being evaluated.
- Current or previous work experience with an organization that may be seen as an industry competitor with the implementing organization(s) whose activity(s) are being evaluated.
- Preconceived ideas toward individuals, groups, organizations, or objectives of the particular activities and organizations being evaluated that could bias the evaluation.

I certify (1) that I have completed this disclosure form fully and to the best of my ability and (2) that I will update this disclosure form promptly if relevant circumstances change. If I gain access to proprietary information of other companies, then I agree to protect their information from unauthorized use or disclosure for as long as it remains proprietary and refrain from using the information for any purpose other than that for which it was furnished.

Date	30/06/23
Signature	Despuis

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Name	ALLADATIN M. EMENIQUE
Title	Local WASH Expert Bénin
Organization	ASSESS
Evaluation Position	Team Leader Team member
Evaluation Award Number	Agreement ASSESSCA-FY23-E004
(contract or other instrument)	
USAID Activity(s) Evaluated (Include activity name(s), implementer name(s) and award number(s), if applicable)	Performance Evaluation of USAID West Africa Wash Portfolio in Benin and Cote D'Ivoire.
I have real or potential conflicts of interest to disclose.	
If yes answered above, I	
disclose the following facts:	
Real or potential conflicts of interest may include, but are not limited to:	
I. Close family member who is an employee of the USAID operating unit managing the activity(s) being evaluated or the implementing organization(s) whose activity(s) are being evaluated.	
2. Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose activities are being evaluated or in the outcome of the evaluation.	
3. Current or previous direct or significant though indirect experience with the activity(s) being evaluated, including involvement in the activity	

	design or previous iterations of the activity.	
CC	ONTINUED	
lf y	ves answered above, I	
dis	close the following facts:	
	l or potential conflicts of interest may ude, but are not limited to:	
4.	Current or previous work experience or seeking employment with the USAID operating unit managing the evaluation or the implementing organization(s) whose activity(s) are being evaluated.	
5.	Current or previous work experience with an organization that may be seen as an industry competitor with the implementing organization(s) whose activity(s) are being evaluated.	
6.	Preconceived ideas toward individuals, groups,	
	organizations, or objectives of the particular activities and organizations being evaluated that could bias the evaluation.	

Date	03/07/2023
Signature	

Na	me	KOI Sopie Madeleine wife AONON
Title		LOCAL WASH EXPERT (CÔTE D'IVOIRE)
Organization		ASSESS
Eva	aluation Position	☐ Team Leader Team member
	aluation Award Number (contract or other rument)	Performance Evaluation Of USAID/West Africa WASH Portfolio in Benin and Cote D'Ivoire.
nam	AID Activity(s) Evaluated (Include activity ne(s), implementer name(s) and award number(s), oplicable)	 Activity name(s) I. Sanitation Service Delivery: Assess the performance of SSD Activity from October 2017 to September 2021 2. MuniWASH: Assess the performance of MuniWASH Activity from September 2021to now
	ave real or potential conflicts of interest to close.	□ Yes x No
If y	res answered above, I disclose the following	
	I or potential conflicts of interest may include, but are limited to:	
1.	Close family member who is an employee of the USAID operating unit managing the activity(s) being evaluated or the implementing organization(s) whose activity(s) are being evaluated.	
2.	Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose activities are being evaluated or in the outcome of the evaluation.	
3.	Current or previous direct or significant though indirect experience with the activity(s) being evaluated, including involvement in the activity design or previous iterations of the activity.	
СО	ONTINUED	

If yes answered above, I disclose the following facts:

Real or potential conflicts of interest may include, but are not limited to:

- 4. Current or previous work experience or seeking employment with the USAID operating unit managing the evaluation or the implementing organization(s) whose activity(s) are being evaluated.
- 5. Current or previous work experience with an organization that may be seen as an industry competitor with the implementing organization(s) whose activity(s) are being evaluated.
- 6. Preconceived ideas toward individuals, groups, organizations, or objectives of the particular activities and organizations being evaluated that could bias the evaluation.

Date	28/06/2023
Signature	HadoIngy