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EVALUATION

Midterm Evaluation of the Sanitation Service Delivery (SSD) Project

Final Report

August 2017

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ACRONYMS

ABMS	:	Association Béninoise pour le Marketing Social (PSI Bénin)
AfWA	:	African Water Association
ASSESS	:	Analytical Support Services and Evaluations for Sustainable Systems
BM	:	Business Model
CLTS		Community-Led Total Sanitation
DNSP	:	National Direction of Public Health (Benin)
DST	:	Direction des Services Techniques
ECOWAS	:	Economic Community of West African States
EHO	:	Environmental Health Officers (Ghana)
EHSD	:	Environmental Health and Sanitation Department
FGD	:	Focus Group Discussion
FSM	:	Fecal Sludge Management
GWMA	:	Ga West Municipal Authority
HH	:	Households
IECD	:	Institut Européen de Coopération et de Développement
KAP	:	Knowledge Attitudes and Practice
MDGs	:	Millennium Development Goals
MEL	:	Monitoring, Evaluation and Learning Plan
MFIs	:	Micro Finance Institutions
MHM	:	Menstrual Hygiene Management
MMT	:	Market Monitoring Tools
MoH	:	Ministry of Health
MTE	:	Mid-Term Evaluation
ONAD	:	Office National de l'Assainissement et du Drainage (Cote d'Ivoire)
PATH	:	Program for Appropriate Technology in Health
PLBs	:	Public Latrine Blocks
PSI	:	Population Services International
RDCS	:	Regional Development and Cooperation Strategy
REGO	:	Regional Economic Growth Office
ROECCR	:	Regional Office of Environment and Climate Change Resiliency
SSD	:	Sanitation Service Delivery Program
SDGs	:	Sustainable Development Goals
SMEs	:	Small and Medium Enterprises
SWOT	:	Strengths, Weaknesses, Opportunities, and Threats Analysis

TOC	:	Theory of Change
TSA	:	Toilet Sales Agents
USAID/WA	:	United States Agency for International Development/West Africa
VTO	:	Vacuum Truck Operator
WASH	:	Water Sanitation and Hygiene
WSSCC		Water Supply and Sanitation Collaborative Council
WSUP	:	Water and Sanitation for the Urban Poor

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EXECUTIVE SUMMARY

This report constitutes the Mid-term Evaluation (MTE) of the USAID West Africa (WA) Sanitation Service Delivery (SSD) Program carried out by the Analytical Support Services and Evaluations for Sustainable Systems (ASSESS) project.

The objectives of the SSD are to increase use of improved sanitation, safe treatment and reuse of fecal waste, and to disseminate learning on market-based approaches through the development and sharing of at least six market-based business models (BMs) for the provision of improved sanitation services. The program concentrates on three West African countries: Ghana, Benin, and Cote d'Ivoire which have low sanitation coverage. The program is expected to enable one million people to gain access to improved sanitation and another one million people to safe disposal and/or reuse of fecal waste services (25% of whom should be in the lowest poverty quartile) within its' five-year implementation period.

This midterm performance evaluation assessed the effectiveness of the processes used to select BMs for the scale-up phase of the program, the effectiveness and relevance of the Lean Start-Up approach in identifying the models, and the way knowledge sharing impacted stakeholders in the sanitation sector.

The evaluation used a mixed-method approach consisting of both qualitative and quantitative data collection and analysis. Data from program documents was triangulated with data from interviews and Focus Group Discussions (FGD) with sampled stakeholders including the IP teams, private sector operators, Micro Finance Institutions (MFIs), governmental actors, civil society and program partners. This allowed the evaluation team to address the evaluation questions, state evidence-based findings, and draw conclusions and recommendations for each question from the findings. The evaluation team provided recommendations addressing: 1.) program management and strategy, 2.) operational aspects to enhance scaling up, 3.) approach and methodology for the future program (IP), and 4.) future programming (USAID).

Question 1: To what extent did the pilot phase result in the identification of appropriate models to be used in the scale phase?

The evaluation team identified seven sanitation BMs, two in Benin, two in Côte d'Ivoire and three in Ghana. Three BMs address improved sanitation at household level through the provision of sanitation products (latrines and containment systems): the Artisans' Business scale up in Ghana, the Healthy Compound in Côte d'Ivoire, and the Latrines BM in Benin. Three BMs address Fecal Sludge Management (FSM) services: Professionalization of Public Latrine Blocks (PLBs) and Vacuum Truck Operators (VTOs) in Ghana, Vidange Plus in Côte d'Ivoire and Vidange Mime in Benin. Additionally, the Clean Team BM in Ghana tested a mobile money system under the SSD program.

At present, not all BMs have been piloted. The designs of the seven market-based sanitation models appear to be relevant and responsive to the market's needs because they address the four key elements required for sanitation business success referred to in the program's terminology as "enabling environment." These elements are demand, supply (private sector), financing and government engagement. The main challenge identified by the evaluation team was related to the capacity of the IP to bring the BM to scale considering contextual factors and the operational approach adopted. Moreover, for the BMs that have not been piloted, it was not possible to assess if the economic model is sustainable and if the companies will be able to generate profit while keeping products and services affordable to the population.

Question 1 a: What were the differences across countries and gender, if any, between successful business models, developed?

The enabling conditions of demand, supply, finance, and government engagement were most favorable in Ghana, mainly because WSUP, the IP of SSD in this country, has been involved in sanitation businesses in Ga-West and Kumasi for several years prior to SSD. Consequently, the level of demand was high, the private sector was more structured, offering a range of appropriate sanitation

products, and municipal governments' buy-in and commitments were high. The presence of several development partners supporting the financing sector also made access to loans easier, as financing arrangements and negotiated interest rates were in place. Despite this condition, the team finds that finance remains a weak link and the entrepreneurs need further capacity development in order to scale up the supply of household sanitation.

The team finds that contextual factors were challenging in Côte d'Ivoire and Benin. Although demand for sanitation exists, it is not at the level required for scaling up. Willingness to invest in sanitation seems to be lower in these countries than in Ghana, although the lack of a solid baseline study does not allow a strict comparison. In terms of supply, VTOs exist and are operational in both countries, but the FSM BMs have not yet been piloted. The context is less favorable for household sanitation because of a lack of affordable good quality latrine and containment products on the market and a lack of "sanitation entrepreneurs" such as masons or metal workers able to offer complete sanitation services. The interest of the government to engage in sanitation at the national level exists in both countries prior to SSD, but the engagement of municipalities was limited in Benin and null in Côte d'Ivoire. The team finds that microfinance institutions in both countries had past experience in financing sanitation projects, but no loans had yet been provided at the time of the evaluation.

With regard to gender, the models did not specifically explore the needs of women in the research phase because gender was not perceived by the IPs as a key contextual factor likely to enhance or hinder the success of the BMs. All beneficiary women interviewed expressed satisfaction with the latrines and treatment systems built within the program, showing the desirability of the products developed. The BMs did not involve any women entrepreneurs, except in the management of public latrines, because the sector is traditionally male-dominated and the approach adopted by the IPs did not focus on gender.

Question 1 b: What were the differences, if any, between the most successful business models implemented in the different project target areas?

It was difficult to compare the BMs in terms of success, as they are at various stages of implementation, from a rough prototype to full piloting. The models in Ghana are advanced compared to Benin and Cote d'Ivoire in the sense that all components have been tested and are operational. The project did not establish a set of indicators and ratios to assess the level of success of the models such as systematic data on the economic development of the entrepreneurs throughout the project. The team assessed the extent to which the business models were likely to be successful considering contextual factors and the extent to which each BM was likely to create structural changes opening opportunities for scaling up.

In terms of private sector strengthening, the team notes that one of the BMs proposed in the research phase, the Toilet Accelerator, was dropped (i.e., pivoted) although it seemed to be appropriate and likely to contribute significantly to scaling up household and compound sanitation in Ghana. Sanitation service providers showed several strengths, but there is a clear and pressing need for further support in business development, provision of logistical tools, and capital investment to develop the capacity to reach more HHs. The PLB and VTO BMs are well supported by owners and operators, but the improvement of PLBs requires financial assistance backed by municipal commitment.

All household sanitation BMs address demand. However, behavioral change activities, key to creating demand for sanitation markets are lacking. Technologies developed are relevant in Ghana and Benin although current prices do not make them accessible to the poorest quartile. It is too early to assess whether technology developed in Côte d'Ivoire is appropriate and affordable. The team finds that the marketing strategy in the three countries needs improvement as sales rates are low compared to the efforts of the sales agents and entrepreneurs. This was identified as a main barrier in the scaling-up process and could be addressed by separating the awareness-raising and social marketing activities.

The financing component has been addressed through mobilization of micro-finance institutions in the three countries, especially in Ghana, but this has not led to the expected results as finance remains one of the main barriers to sanitation access despite growing demand.

Government engagement was effectively conducted at the municipal level in Ghana and at the national level in Benin and Côte d'Ivoire.

The primary recommendations for the IPs to facilitate scaling up include[1]:

1. Consider piloting and scaling up the four HH BMs (three HH BMs and the Clean Team BM) at country and regional levels to offer a BM mix or a technological and economic mix to address the heterogeneity within the urban areas and the needs of a large number of urban users (REC 13). Additionally, the IPs should consider developing the Clean Team and Toilet Accelerator BMs, which were dropped. They seem to be very relevant and potentially effective to significantly contribute to scaling up sanitation.
2. Set up a monitoring and evaluation system of project outcomes (not outputs only), including indicators that track the progression and assess the success of the BMs and other factors such as gender (REC 4).
3. Increase effort in providing the private sector (or entrepreneurs) with technical and business development assistance, but also with logistic support until the end of the project (REC 8).
4. Conduct behavior change activities independent of the sanitation marketing activities (REC 14) and support the entrepreneurs in strengthening their sales force (REC 22).
5. Strengthen and sustain current arrangements with MFIs through the provision of guarantee funds while exploring other financial solutions because loans provided by MFIs remain inaccessible to the poorest quartile (REC 26).
6. Engage the government at the national level to trigger their commitment to support the SSD project in the three countries and use Ghana's experience at the municipal level as a benchmark for Benin and Côte d'Ivoire (REC 9 and 25).

Question 2: How effective was the "lean" start-up approach in identifying models to be implemented during the scale-up phase of the project?

The evaluation team finds that the use of the Lean Start-Up approach in identifying models for scale-up was not effective. First, the approach did not address the core components required for a scalable model. These are appropriate technology (affordable and acceptable), financing arrangements that work for the intended beneficiaries, the creation of effective demand, and the creation of a vibrant private sector to supply latrines and latrine components. Second, the Lean Start-Up approach was time-consuming, with many processes and cumbersome documentation. There are still outstanding questions on the technologies selected, financing arrangements, and readiness of the private sector to provide the latrines. At the time of evaluation, the proposed financing mechanisms had not yet been piloted in Benin and Cote d'Ivoire, as no loans had been provided. In Ghana, the customers complained about the high-interest rates from microfinance institutions. Third, the start-up process was complex, and country teams found it difficult to provide a clear explanation of its operationalization.

The team finds that a pre-requisite for the use of the Lean Start-Up approach should be the presence of the fundamental requirements for a market-based approach (effective demand creation, financing arrangements for households latrines, and an enabling environment for the private sector to thrive).

Question 2 a: To what extent were the criteria followed for making decisions about whether to pivot or proceed with models tested? What were these criteria and were they appropriate?

The criteria for making decisions about whether to pivot or proceed with models tested were based on viability (business), desirability (human), and feasibility (technical) of the technologies. The criteria to prioritize or select BMs was based on impact and viability. Decision-making was through a review process at each stage to confirm the need to continue with the process, pivot, persevere, or stop. The review process, which was initially carried out by the project's technical advisors based outside the

[1] See Annex IX for all recommendations

project countries, brought about frustrations with the country teams when there were differences in opinion. Furthermore, the model testing process was long, using the stage gating process (six stages).

Though criteria for decision-making were appropriate, the but the process was time-consuming and complex. As a result, the original decision-making process was stopped in August 2016. After that country teams were asked to select the appropriate models. This represented a shift from a centralized (top-down) decision-making approach to a decentralized approach (bottom-up), which eventually worked.

Question 2 b: Explain and detail how model-testing was used during this phase, and assess whether this testing process was rigorous enough to justify scaling.

The model testing process started with the identification of market-based urban sanitation models for scale-up through research studies conducted by the SSD team in 2015. The research informed initial identification of possible models. Additional potential models were identified in the course of the project, described as "new opportunities" or "cool ideas" (e.g., the Earth Auger). In all, 16 potential models were initially identified for consideration. Testing of the value proposition of the potential models was conducted through the Business Model Canvas (BMC) and the Product Development Canvas (PDC). Model testing with users and stakeholders was based on the Build-Measure-Learn feedback loop from Lean Start-Up, which was integrated into the Stage Gate process with six stages: Early Opportunities, Research, Rough Prototype, Live Prototype, Pilot, and Scale. Decision-making was through a review progress at each stage to confirm the need to continue with the process, pivot, persevere, or stop.

The model testing process was rigorous enough to justify scaling, but due to delay, the testing process has not been completed. The financing mechanisms for HH to buy and own latrines have not been tested in Benin and Côte d'Ivoire, as the testing process involved only a few stakeholders (households and private sector).

The primary recommendations for the IP include:

1. Include active involvement of sanitary engineers, local universities, entrepreneurs and business women in the research and testing phases for future programming (REC 21, 29, and 12)
2. Address the four pillars of market-based sanitation in a balanced manner from the research and testing phase, with strong attention to testing various financial options, strong involvement of the private sector, enhancing commitment from local and national government institutions and testing behavior change strategies. Consider producing a strategy document that will guide the country teams to implement market-based urban sanitation service delivery (REC 10 and 30)
3. Revise the SSD theory of change to explain how the project will effect the changes: enabling environment, support the private sector, financing mechanisms, and affordable toilets, so as to guide project implementation and inform monitoring and evaluation (REC 33).
4. Set up a strong monitoring system, tracking concrete achievements of the four pillars and especially of the private sector (REC 4).
5. Consider establishing a country advisory board with the main players in the sector that can support the process of creating a market-based approach to addressing the four pillars and ensure institutionalization within country systems and sustainability beyond the end of the project. (REC 34)
6. For future programs, consider empowering country teams with sufficient autonomy and demand accountability for results in line with agreed criteria and decision-making processes. Involve local engineers and local universities in the identification of affordable toilet technologies.

Question 3: To what extent has project knowledge translated into action on the part of host-country governments, market actors, investors and other partners?

The SSD project shared information and knowledge with all national stakeholders using multiple channels, including meetings with key officials, training workshops, social media, and brochures. The process of translating project knowledge into action has started with the municipalities, microfinance institutions, and sanitation entrepreneurs in the three countries. In Ghana, for example, there is an enforcement (by-laws, moratorium, prosecution, Environmental Health Office) and an increase of property tax at the municipal level. In Côte d'Ivoire, the national institution in charge of sanitation (ONAD) sees the IP as a strategic partner in executing its mandate to have efficient FSM. In Benin, the municipality of Porto Novo allocated financial support to sanitation (5 million CFA). The sanitation entrepreneurs in the three countries gave very positive feedback on the knowledge they gained through training that led several of them to diversify their activities in the sanitation sector.

In conclusion, there is a lot of knowledge-sharing in the project countries, which is creating the enabling environment for sanitation. However, the rate at which the BMs evolved among project countries, affected the quality of information and knowledge available for sharing. The knowledge and information from all the models, especially the more successful PLBs and VTOs, should have been shared among countries to reinforce mutual learning processes as SSD is a regional project and not three independent country-based projects.

Recommendations for the IP to enhance knowledge sharing and trigger action include:

1. More knowledge-sharing regarding lessons learned on BMs among the country teams. A strong regional collaboration is critical for success (REC 35).
2. Knowledge-sharing with operational and institutional stakeholders must be done continuously and even in a less formal way than it is done at the international level (REC 37).
3. In Côte d'Ivoire, seize the opportunity of having AfWA in the same country to reinforce their partnership to increase SSD's visibility and ease the scale-up of findings and lessons learned from countries (REC 41).
4. Strengthen the leadership of the project coordination at the regional level to ensure smooth and coherent implementation of the project.

1. INTRODUCTION AND BACKGROUND

1.1. BACKGROUND

The USAID/West Africa regional mission is responsible for providing development assistance and technical support across the West Africa region. Its mission-wide goal is social and economic well-being advanced by West Africans. This goal articulates USAID/WA's commitment to support African-led regional development by building the capacity of diverse partners in the region – not only the leaders of regional and national institutions but other relevant development actors in civil society and the private sector with the potential to help drive development in the region. West Africa currently has a population of approximately 367 million and is expected to more than double (to 909 million) by 2050. This rapidly growing population has created a youth bulge with over 60 percent of West Africans under the age of 25. The region is rapidly urbanizing leading to increased stresses on already weak basic urban infrastructure, such as water supply, sanitation, and power (USAID 2015b). However, access to improved sanitation is critical to health, environment, and economic growth.

Despite progress towards achieving the Millennium Development Goals (MDGs) for water access, sanitation coverage in West Africa remains among the lowest in the world. Among West African countries, Ghana, Benin, and Cote d'Ivoire have poor sanitation coverage at only 13%, 14%, and 28% respectively[2]. In urban areas, improvements in access to sanitation have been outpaced by urbanization. Further, there are minimal services for safe disposal and treatment of waste, meaning that, even if safely captured, fecal sludge soon returns to the environment. Of the few options for safe disposal and treatment, most are not affordable and appropriate for low-income households. Indeed, many households are not connected to sewerage. Few treatment plants are operating and those that function at sub-optimal levels. The rapidly growing urban populations of each country will continue to put further pressure on already strained sanitation infrastructure.

In response to these challenges, USAID/WA developed the Sanitation Service Delivery (SSD) project, a five-year cooperative agreement with Population Services International (PSI) that began in October 2014. PSI is implementing this project in collaboration with PATH and Water and Sanitation for the Urban Poor (WSUP).

1.2. SSD PROJECT OBJECTIVES AND RESULTS

The SSD project aims to catalyze the private sector to expand access to improved sanitation and FSM in support of West Africa's sanitation Sustainable Development Goals (SDGs) targets. It also seeks to increase access to and use of sanitation services by developing and testing scalable, market-based models that contribute to structural change within the region's sanitation sector. That will include building the capacity of private enterprises and the public sector and strengthening linkages between the two to create a sustainable sanitation marketplace in West Africa.

By doing these, the project will support achievement of Development Objective 3, "*Utilization of Quality Health Services Increased through West African Partners*," of the West Africa Regional Development and Cooperation Strategy (RDCS) (USAID, 2015b, pp. 44-45). This development objective is consonant with the overall purpose of the ECOWAS Environmental Policy, which is "*to reverse environmental degradation and depletion of natural resources, ameliorate the quality of the living environment, conserve biological diversity, with a view to ensuring a healthy and productive environment; thereby improving the well-being of the ecosystem and the population of the sub-region*" and specifically Strategic Line No. 3: "*Organizing the struggle against Pollution and Nuisance, urban wastes and the control of transboundary movements of hazardous products into the sub-regional economy*"; and 4: "*Promotion of information, education, and communication for a healthy environment*" (ECOWAS, 2008, pp. 16&23).

[2] Evaluation Scope of Work (see Annex)

By acting as a catalyst and working through the private sector, governments, communities, and civil society the project initially aimed to achieve objectives and results, some of which were revised in March 2017's MEL report (draft version, see **Table 1**).

Table 1. SSD Project's Objectives and Results

Objectives	**Results in Year 5 at the onset of SSD**	**Revised expected results as of March 2017 (not approved)**
Increase use of improved sanitation;	1 million people gain access to improved sanitation in targeted areas through toilet products and services purchased from project supported enterprises	133,000
Increase use of safe disposal and reuse of fecal waste	1 million people gain access to safe disposal and/or reuse of fecal waste service in targeted areas from project supported enterprises	162,000
	25 % of those gaining access to an improved sanitation and safe disposal or reuse of fecal waste service are in the lowest poverty quartile	
Disseminate learning on market-based approaches.	At least 6 market-based models for provision of sanitation services shared regionally	

Source: SSD Program MEL (2017)

2. EVALUATION SCOPE, QUESTIONS, AND METHODS

The evaluation statement of work is presented in Annex II. This section of the report clarifies the evaluation scope and the methodology. The evaluation questions and the methodology are described in an evaluation matrix presented in Annex IV.

2.1. EVALUATION SCOPE

USAID is committed to measuring and documenting the achievements and outcomes of projects to assess the return on investment in development activities while providing the best available empirical evidence to improve program implementation and generate new learning for the wider community. To achieve the two primary purposes of evaluations, learning, and accountability, USAID/WA commissioned ASSESS to conduct a mid-term performance evaluation of the SSD Program to determine if activities are leading to the realization of project objectives and if the project is well positioned to achieve success in increasing access to improved sanitation and FSM.

The main objective of this evaluation is to assess and document the extent to which SSD achieved its objectives, focusing on the process they have undertaken and the knowledge that has been generated. In doing so, ASSESS evaluated whether the sanitation models identified during the pilot phase of the program were appropriate to scale up during the next phase of the program. In addition, ASSESS was requested to examine why certain models were acceptable in the different contexts and among different users.

Specifically, the performance evaluation addressed the following:

1. Document any successes, best practices, lessons learned, and challenges the activity encountered.
2. Determine the effectiveness and relevancy of the approaches used to meet activity objectives and document any lessons learned, best practices and challenges to inform future programming.
3. Identify any internal and external factors that affected the implementation of the activity to date.
4. Propose any recommendations based on the findings that would help inform the remaining years of SSD and future programming.

The evaluation assessed the project in five areas in three countries: Ga West and Kumasi in Ghana; Abomey Calavi and Cotonou in Benin; and Abidjan in Côte d'Ivoire.

2.2. EVALUATION QUESTIONS

This midterm performance evaluation of the SSD Program, which is in its pilot phase, seeks to understand the effectiveness of the processes used to select models for the scale-up phase of the program, the effectiveness and relevance of the Lean Start-Up approach in identifying models and how knowledge sharing impacted stakeholders in the sanitation sector. Consequently, issues of efficiency and sustainability are not addressed in the current evaluation.

Prior to implementing the evaluation, ASSESS provided its understanding of the evaluation questions in a detailed Inception Report, to present the evaluation methodology and approach (see Table 2 below). In the evaluation matrix (see Annex IV: Evaluation Matrix), for each question and sub-question ASSESS detailed the indicators, their corresponding variables, and the evaluation's data sources.

Table 2. ASSESS Understanding of the Evaluation Questions

Questions and Sub-questions	Understanding of the evaluation questions and criteria
1. To what extent did the pilot phase result in the identification of appropriate models to be used in the scale phase?	This question seeks to assess key learnings on the successful sanitation business models identified in the pilot phase to be used in the scale phase aiming at increasing use of improved sanitation, use of safe disposal and reuse of fecal waste.
	Relevance and scalability: It aims at understanding if the approach used by PSI to select and introduce the models in the WA region is relevant and responds to the needs of the market with a regional (West Africa) perspective.
a. What were the differences across countries and gender, if any, between successful business models, developed?	This question seeks to examine the influence of the context on the likelihood of the models to succeed.
	Relevance (the ability of the models to address existing context): It aims at characterizing the differences of the target areas of the sanitation market across countries that explain the success of selected business models. Similarly, the question explores any differences across gender that may explain why certain models were successful or not.
b. What were the differences, if any, between the most successful business models implemented in the different project target areas?	This question aims to assess the extent to which specific characteristics of each model contributed to their success in the different project target areas, i.e., across the dimensions of the market. Some models might be more successful in strengthening specific dimensions (e.g., product innovation, or demand creation).
	Here, the corresponding criteria are the **relevance** of the models (capacity to address the strengths and challenges of the market) and their **effectiveness** (how successful they are).
2. How effective was the "lean" start-up approach in identifying models to be implemented during the scale-up phase of the project?	This question seeks to examine the effectiveness of the 'Lean Start-Up' approach used in identifying models for scale-up in the next phase. It explores the identification and preparation process, i.e. the rationale for selecting models; a. The decision-making process to select models to be piloted; b. The model testing process adopted by the project. c. The relevance of applying the lean startup method to the sanitation market in the three countries and its scalability in West Africa.
	Efficiency Adopting a global perspective and keeping in mind future programming and scaling up, the efficiency of the Lean Start-Up approach will also be assessed compared to other methods used in piloting market-based approaches.
a. To what extent were the criteria followed for making decisions about whether to pivot or proceed with models tested? What were these criteria and were they appropriate?	Decision-making process (**Effectiveness**) This question seeks to assess the validity and rigor of the processes used in making decisions on the piloted models.
b. Explain and detail how model-testing was used during this phase, and assess whether this testing process was rigorous enough to justify	**Model testing process** This step of the evaluation does not focus on the model itself but the quality and effectiveness the model testing process.
	Effectiveness This question seeks to establish the extent to which scientific and evidence-

Questions and Sub-questions	Understanding of the evaluation questions and criteria
scaling?	based methods were applied in making conclusions on the field-tested models for the scale-up phase.
	Relevance As the model testing is specific in the Lean Start-Up approach, because it involves capacity building activities, the relevance will be evaluated to assess if the activities conducted within this phase addressed appropriately the needs of the market and stakeholders involved.
[Added by ASSESS]. How relevant and effective was the process of identification of the models to be piloted?	**Identification and preparation process** This question aims at assessing the preparation process which led to pilot prototypes. It also aims at assessing the effectiveness of the approach and its relevance considering the specific context of the sanitation market in the countries.
3. To what extent has the project generated, documented and shared learning about new models for urban sanitation?	One of the SSD Project results emphasizes sharing of market-based models in West Africa. Limited data in the region have hampered efforts to coordinate and improve sanitation service delivery at the regional level.
	Effectiveness and impact This evaluation question aims to assess the effectiveness of SSD's knowledge management plan but also the impact it had on the market development itself.
a. To what extent has project knowledge translated into action on the part of host-country governments, market actors, investors and other partners	This evaluation question aims to assess: - Whether the project put in place knowledge, information and learning systems and approaches to ensure that field-tested models and relevant sanitation lessons are shared with stakeholders, and - How these systems have helped the stakeholders to translate the learning and information into action plans, strategies and policy decisions in the sanitation sector.

2.3. EVALUATION APPROACH AND METHODS

Consistent with USAID's Automated Directive System (ADS) 201 Program Cycle and Operational Policy and its accompanying Technical Note (USAID, 2013a; USAID, 2016) a Mixed-Method Approach consisting of both qualitative and quantitative (M&E data) methods for data collection and analysis was used in this evaluation. The data collected were analyzed and triangulated to ensure accuracy and validity prior to stating findings and drawing conclusions on the evaluation questions.

2.3.1. Methods for Data Collection and Analysis

The team did a longitudinal documentation review during the entire evaluation period and a transversal field data collection from 21st March to 8th April 2017 in the three countries using different methods. These were: 1.) semi-structured interviews and staff team meetings, 2.) focus group discussions (FGD), 3.) field observations & informal discussions, and 4.) M&E data collection and analysis.

Sampling: In total, 163 stakeholders (125 men and 38 women) were met during the evaluation mission in Ghana (53 persons), Côte d'Ivoire (49 persons), Benin (58 persons) and remotely (3 persons). The difference between the number of men and women interviewed is explained by the fact that most implementing partners and actors in the sanitation market are men, be it supply, finance, or the enabling environment.

Ten working meetings or interviews were conducted with the IPs, 18 FGDs, 19 in-depth interviews, and eight field visits, including approximately 20 random interviews. For each FGD, a specific target group of the sanitation market was concerned. Participants were selected within available individuals, with a female preference if any (See Annex VI: List of Interviewees and Participants in the FGDs).

The evaluation team met stakeholders involved in the four key components of sanitation markets: entrepreneurs and toilet sales agents (supply), microfinance institutions (finance), customers and potential users (demand), local and national government representatives (enabling environment) as shown in the table below. In each country, data collection was done in parallel by the evaluation team together with the ASSESS Activity Manager-Evaluation Specialist. Annex V presents the evaluation field schedule.

Table 3. Samples of the evaluation

Assessment Criteria	Type of stakeholders	Number of stakeholders interviewed
IP	Implementing partner (WSUP, PSI, ABMS, PATH)	28
Enabling environment	Government (Local and National)	17
Supply	Entrepreneurs (toilet builders, VTOs, PLBs, masons, etc.	63
	TSA/ Pioneer	12
Finance	MFI	4
Demand	Consumers (landlords, users, potential users)	38
Other	International organization	1
Total number of stakeholders met		**163**
	Random interviews (PLB owner, EHOs, users, neighbors, etc.)	20

Source: SSD Program Evaluation (2017)

Documentation Review: The team reviewed relevant program documents to generate information on the objectives of the SSD program, the planned methodology and activities, the expected results, M&E strategy and, on the achievements of the program and the effectiveness and robustness of the business models' selection and testing processes. This information together with the evaluation questions, and following the USAID ADS 201 regulations and directives for performance evaluation (USAID, 2016), helped design the data collection tools.

Key program documents reviewed include:

- SSD Program Technical Proposal
- SSD Program Description
- Performance Management Plan (PMP) or Monitoring, Evaluation and Learning Plan (MEL)
- Indicator Tracking Tables
- Gender Strategy
- Market and landscaping studies
- Communication Strategy
- Quarterly and Annual reports
- SSD special studies and reports
- SSD Activities' reports
- Business Models Assessment Tools

In addition to reviewing the program documents, the evaluation team also examined relevant scientific articles and publications on the sanitation sector to give context to evaluation findings (Annex I: List of Documents Reviewed).

Semi-structured Interviews and meetings with SSD Staff: Semi-structured interview guides corresponding to the evaluation questions were developed (Annex VII: Data Collection Instruments). Key informants were selected based on their role and responsibility in program implementation, from the main implementing partners (SSD Staff at PSI, WSUP, ABMS) to beneficiaries in each country at local (community, municipalities, private sector) and national (ministry) levels.

The team interviewed 16 key informants in the three countries, three key stakeholders through Skype, and conducted 10 working meetings and interviews with the SSD country teams. Interviews and meetings were recorded when possible, and notes were taken at the same time. Interviews were

conducted in English, French, and local languages (with the support of local translators).

The semi-structured interviews with the SSD staff and some key informants in each country were followed by field visits and informal on-site observations and discussions. The visits were made to complement the interviews, allowing the evaluation team to assess and verify the responses through robust triangulation. Observation guides were not elaborated prior to these visits. However, photos were taken for illustration. Eight field visits were conducted, which led to approximately 20 random or unplanned interviews during the visits.

Focus Group Discussions: 18 FGDs were conducted on wide-ranging topics within the 4 pillars of market-based sanitation. The main objective was to understand group issues, including how a group of actors was involved in the SSD program, what they learned, what are the successes and weaknesses they have observed, among others. The number of participants per FGD was between a minimum of 6 and a maximum 12. Participants were selected within available individuals, with a female preference because of the low number of women among the actors. In situations where there were no female participants, the evaluation team requested to meet women groups or actors for interviews. The team used a method as described by Dawson and Manderson (1993) for the use of focus groups[3]. FGDs were conducted using already developed FGD guides. Discussions were recorded when possible, and notes were taken using the FGD guide.

M&E data collection and analysis: The team obtained aggregated monitoring data on the stakeholders involved in the research and testing phase in the three countries. A monitoring framework exists for public latrine evaluation in Ghana, and the team obtained the monitoring data for the November 2015 evaluation. The team could not get the monitoring framework and consolidated data to track the evolution of indicators from the beginning of the project with baseline information.

Quantitative data on the number of households prospected, number of sanitation systems sold, number of loans granted, number of entrepreneurs involved in the project, number of toilets sold etc., had to be collected during the meetings with the project staff, during the interviews and the FGDs, in the form of secondary data collection.

Data quality check and analysis: All qualitative data from documentation review, semi-structured interviews, and FGDs were entered using a Microsoft Excel sheet and a content analysis was done as per the three evaluation questions and sub-questions. An analysis matrix was developed for each country and for each business model, indicating the main information gathered from the data collected, the related evidence based on evaluation team analysis, and the conclusions and recommendations drawn from the evidence.

Quantitative data from the project M&E system was analyzed to determine the level of achievement of the indicators (such as number of consultations organized for the selection of the business models, the number of stakeholders in the value chain, etc.). This M&E information was triangulated with the information obtained from qualitative data analyses. However, the data collection and analysis focused on project activities rather than on the projects' outcomes related to business model selection and testing processes. The data contained in the monitoring documents did not facilitate comparative analyses to identify the differences across countries, between successful business models developed, and between successful business models implemented in the project target areas.

2.3.2. Evaluation Limitations

This section presents limitations that might affect the quality of the evaluation together with the measures taken to mitigate their effects. They are related to, 1.) the methods used and, 2.) the field work and existing information.

The Methods Used: The qualitative data collection methods used (semi-structured interviews and FGD) are not intended for drawing general conclusions as the information gathered is related to the persons interviewed. Respondents' willingness to tell the truth, is an important factor that can affect

[3] http://archive.unu.edu/unupress/food2/UIN03E/UIN03E00.HTM

an interview and which the researcher cannot entirely control. Information gathered in an FGD, for example, may slightly change if the participants from the same targeted group change. In fact, the mode of establishing the group might not be representative of the target population. Also, some participants in an FGD may be reluctant to express their personal ideas. A semblance of groupthink can become a source of the blockage. The M&E data collected are also related to the willingness of the program implementers to give true information and may potentially contain some wrong information.

To minimize these limitations and potential sources of bias, the evaluation team avoided hierarchical or conflicting relationships among participants during FGD. The triangulation analysis helped to avoid, or correct potential wrong information gathered from semi-structured interviews and the M&E system.

Field Work and Existing Information: SSD teams in the three countries – WSUP and PSI in Ghana, PSI in Côte d'Ivoire, and ABMS in Benin – were cooperative in organizing meetings, FGDs, and in participating in working sessions. The evaluation team received additional information upon request. The lack of synthesized information and the lack of comparable documents across the three countries did not facilitate comparative analysis. For example, the product scan in Ghana focused on entrepreneurs and products while in Cote d'Ivoire the product scan centered on landlords and users with no information on entrepreneurs and products.

The M&E and communication consultant of PSI in Ghana played the role of the focal point for the evaluation team and provided considerable effort to support the team's work. However, at the time of the evaluation, he had just joined the project and so was not involved in the research phase of the project which was a focus of the assessment.

The lack of a monitoring framework with indicators on the four pillars of market development and the lack of data which can be tracked annually significantly limited the quantitative analysis the evaluation team could provide.

3. FINDINGS AND RECOMMENDATIONS

3.1. BUSINESS MODELS DEVELOPED

3.1.1. Definition of BM

A business model (BM) is the description of how a company makes a profit based on an outline the main partners, activities and resources to be employed, customer segments and relationships, value propositions to consumers and private sector partners, as well as delivery channels and cost and revenue projections (Teece, 2009). In the context of the SSD project, the scope of BMs goes beyond one company to reach the sanitation sector as a whole to trigger the creation of businesses or strengthen existing private sector actors to make a profit by providing sustainable sanitation products and services for customers, including the poor.

As described in the project proposal, considering the specific context of both sanitation and economic development in the countries at stake, to be sustainable and scalable, BMs will contribute to structural changes within the sanitation sector (scalable to WA) and to strengthening demand, supply, finance, and enabling environment.

3.1.2. Business Models Developed in Ghana

1- The Artisan Business scale-up aims to develop a compound BM using a series of options including the provision of septic tanks or digester toilets. It involves building artisans and SMEs capacity to scale and market toilets to low-income urban communities (See **Figure 1** for the types of toilet facilities in the project zones).

This model leverages existing structures put in place by the Compound Sanitation Project in both Kumasi and Accra to support households' access to improved sanitation. This BM is a scaled-down version of a previously developed BM called "The Toilet Accelerator," which was pivoted, and involves increasing production skills of artisan/SME businesses, testing and investigating new financing approaches and supporting the marketing and sales.

The approach actively involves local public actors (municipalities) and MFIs to support the funding component and enhance collaboration between private, public and financing actors in the WASH sector. The compound sanitation BM on which the Artisan Business scale up relies consists of providing innovative storage/treatment options such as septic tanks (cement or duraplast) or bio-digesters associated with pour flush, micro-flush, or full flush systems. It relies on existing users' interface with retailers. Treatment systems cost around 1000 USD each for a single household.

Figure 1. Types of toilet facilities

Traditional VIP latrine in Ga West *Septic tanks in Kumasi* *Biodigester in Ga West*

Photo Credit: ASSESS, SSD Evaluation (2017)

2-A Vacuum Truck Operators (VTO) business model was set up in the three countries to build the capacity of VTOs to better respond to consumers' demand by developing higher quality services, increase efficiency, and ensure price flexibility. In Ghana, the VTO BM was associated with improving Public Latrine Blocks (PLBs) and was named Professionalization of PLBs and VTOs. The PLBs component of the BM seeks to improve the quality of public toilets in Ga West and Kumasi by professionalizing the operations of public latrines (See **Figure 2** for an example of a public latrine). It involves ensuring adoption of best practices such as the provision of basic hygiene facilities (hand wash basins, soap, etc.) as well as better organization and management practices that benefit both operators/owners and clients. The improvement in the quality of service is key to improved sanitation. It includes PLB operators training workshops, annual awards for the best public latrine, and advertising. The PLBs' and VTOs' work with WSUP started before SSD. It was based on the need to improve public toilets, which are predominant in Ghana. This model, therefore, addresses the emptying and transport segment of the sanitation chain (through the VTO component), including household sanitation as it leads to a definite improvement of sanitation conditions for households that are not likely to gain access to individual or compound sanitation in the short term.

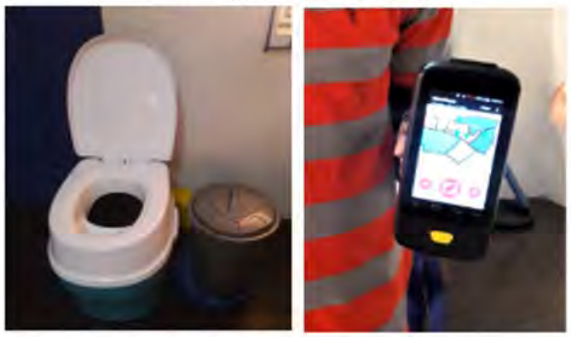
Figure 2. A public latrine in Kumasi

Photo Credit: ASSESS, SSD Evaluation (2017)

Activities implemented to benchmark the business capacity of existing VTOs entailed development of a partnership with high performing VTOs, design and provision of a business training course, design of loan products, supply chain research for compressors and hoses, testing service contracts, and the design of a technology platform (call center) for route planning.

3- Mobile money (Clean Team business model): The mobile money is a technological innovation of the Clean Team BM developed in Kumasi by WSUP before SSD. The Clean Team BM is a social enterprise owned by WSUP which provides container based toilets (or mobile toilets) to households in poor areas. The technology is a urine diversion toilet provided by the Japanese company Lixil. Treated wood chips are added by users after defecation. Urine is diverted and washed away with gray water, whereas the cartridge containing feces is collected several times a week. This BM addresses specifically the poor who pay a small weekly fee for the collection service instead of making a large down payment. The cost amounts to $100 per year for a family of five. This model has been very successful. Over 1,500 HH have signed up in Kumasi with demand still growing. It is innovative in the sense that it is the only model which is affordable for the poorest quartile of the population.

Figure 3. Urine diversion toilet (left) and hand scanner prototype (right)



Urine diversion toilet used in the Clean Team Model (Brand Lixil, cost 200 USD) and hand scanner prototype (to monitor payment and collection).
Photo Credit: ASSESS, SSD Evaluation

The mobile money which is part of the SSD project is not a BM in itself, but a technological innovation which allows customers to make service payments at their own pace (daily, weekly, or

monthly) via mobile phone. This technology can be very relevant and cost efficient for many sanitation BMs. It contributes to Clean Team BM cost efficiency because a significant part of the expense is related to the cost of cash collections. By allowing mobile payment, the BM significantly reduces costs and integrates monitoring of customers' payment and service provision.

The testing phase of the model involved the development of the technology and rough and live prototypes. One hundred percent customer migration to mobile payments is expected by September 2017. This technological innovation is extremely relevant to any BM which involves regular payment, such as loan repayment, and has great potential to reduce the operating costs of MFIs who provide mobile banking services.

3.1.3. Business Models Developed in Côte d'Ivoire

1- The healthy compound business model is a complete offer of a toilet superstructure, a toilet interface, a septic tank, and a soak-away pit. It provides the customer with a choice of the toilet superstructure and interfaces and offers a new technology, ferro cement, for the construction of the septic tank (See **Figure 4**). The septic tank is linked to a soak away pit for underground infiltration. The ferro cement septic tank technology is new in Côte d'Ivoire and provides an added value for the customer compared to existing options with regard to the quality of the product (improved) and construction cost. It is supported by a financing mechanism that relies on loans accessed from MFIs. However, this mechanism has not yet been effectively implemented.

Figure 4. Compound latrine in Yopougon

Photo Credit: ASSESS, SSD Evaluation (2017)

With regard to governmental engagement, the National Department of Sanitation and Drainage (ONAD) was involved in the development process, and the project has just started engaging the municipal authorities. The private sector has also just been involved in this new technology through effective participation in the construction of the first live prototype on a compound house, which benefits 8t households and 40 people. While preliminary feedback from users has been positive, the entrepreneurs involved in the project remain to be convinced of market opportunities.

The cost of the ferro-cement septic tank is estimated at $300 for a compound (30 to 60 users) and is modular depending on the number of HH.

2- The VTO Business Model in Côte d'Ivoire is "Vidange Plus." This BM addresses the existing demand from customers and proposes a solution to decrease operational costs of the VTOs. The model meets the priorities of ONAD, the institution in charge of sanitation in Côte d'Ivoire. SSD has developed a fleet management proposal to support ONAD in operationalizing 22 high-pressure desludging trucks purchased with public funds (See **Figure 5**). Capacity building was undertaken in partnership with a professional service provider (*Institut Européen de Coopération et de Développement* or *IECD*) specialized in capacity building for small businesses through business management training and training to improve the quality of service provided to the customers. The training also supported several VTOs to develop their business plans. PSI/SSD adopted a holistic approach by inviting key stakeholders – VTOs, ONAD, and MFIs – to workshops, to strengthen mutual understanding and trust. SSD plans on developing a call center based on existing success in Senegal and ONAD is currently contributing to the development of a certification process. The live prototype has not yet been implemented. The country team intends to start piloting in April – May 2017 in Yopougon.

Figure 5. VTO's truck in Côte d'Ivoire and desludging station

Photo Credit: ASSESS, SSD Evaluation (2017)

3.1.4. Business Model Developed in Benin

1- The "latrines" or "pour flush with double pit" BM consists of a toilet seat locally made of concrete with an integrated SaToPan device and two pits made of prefabricated concrete rings used alternately. This BM integrated another BM called "Importing and selling SaToPan and toilet seats" which was presented separately during the research phase. The system is suitable for pour flush and full flush use. Different models are proposed for locally made superstructures (metal, concrete, and wood) (**Figure 6**). This BM is currently going through the live prototype stage. It was built for a demonstration in three compounds serving seven households (See **Figure 7**). At the time of the evaluation, one household had also self-financed the construction of one latrine and a few additional latrines were in the early stage of construction (excavation).

Figure 6. Pour flush latrines, Abomey Calavi

Pour flush latrines, Abomey Calavy, Benin (Photo Credit: ASSESS, SSD Evaluation)

The integration of the SaToPan device in locally made concrete seats is new in Benin and provides an added value for customers in terms of comfort and cost, as well as for the environment by requiring less volume of water. The containment technology with alternating concept is also an interesting innovation in terms of environmental protection and sanitation chain management. The model is positively perceived by users and entrepreneurs who have been associated with the design of the interface. It is supported by an innovative savings and loan financing mechanism currently being developed with MFIs. This mechanism has not yet been effectively implemented.

Figure 7. SaToPan device inserted in a sitting pan in a demonstration toilet

Photo Credit: ASSESS, SSD Evaluation (2017)

With regard to government engagement, the national authority has shown keen interest in the project, but this did not translate into an active commitment to support development at scale. Municipal buy-in to support sanitation is very positive.

The cost of a complete system for one HH is $300 without the superstructure.

2- In Benin, the VTO BM is referred to "Vidange Mimé." This BM intends to create a VTO hotline or "ligne verte" enabling households to easily access information on available VTO services such as septic tank rehabilitation and cleaning services.

At the time of the evaluation, VTOs had been recruited, and a first workshop had been organized in December 2016 to present and explain the objectives of the project. MFIs were approached to connect them with VTOs and other artisans in the latrine market. The BM has, therefore, been designed and prototyped but has not gone through the live prototype stage yet.

3.1.5. Summary of Business Model Status in April 2017

Table 4 below was compiled based on the data collected in the field and in the latest reports. It aims to show the current achievements in each business model regarding number of households and users.

Table 4. Status of BM developed - March 2017[4]

Country	Name of BM	Development Stage	Number of beneficiaries			Current status	Target (scale up)
			Units	Number of Units	Number of Users		
Household and Compound Sanitation							
Ghana	Artisan business scale up	Piloting	Toilet (Ga West)	162	1,327	Scaling up	Users: 15,000
			Toilet (Kumasi)	122	2,193		
Ghana	Clean Team (mobile money)	Piloting	Household (Kumasi)	1,500		Full piloting	Reach financial autonomy
Côte d'Ivoire	Healthy compound	Live prototype	Household	9	40	Piloting (Target: 90 HH)	Users: 500,000 Units: 35,000
Benin	Latrines	Live prototype	Household	7		Piloting	Users: 200,000
Desludging and Transport (and Public Toilets)							
Ghana	Professionalization of PLBs and VTOs	Pilot phase	PLBs	458		Full scale	Good ongoing process. Quite ready for scaling up. Need of loans at low-interest rate
			VTOs and Owners	108			
Côte d'Ivoire	Vidange plus	Rough prototype	VTOs	16		Rough prototype	Good ongoing process but asked to drop out by PATH. Local implementing partners want to continue

[4] All drawings are sourced from sswm.info

Country	Name of BM	Development Stage	Number of beneficiaries			Current status	Target (scale up)
			Units	Number of Units	Number of Users		
Benin	Vidange Mime	Rough proto-type				Rough pro-totype	Early starting stage. VTO recruit-ed and MFI contacted and informed, but nothing else was done
Financing: number of loans provided							
Ghana			Individuals	71		Scaling up	71 for indi-viduals and 26 for the private sector including PLBs.
			Private Sector In-cluding PLBs	26			
Côte d'Ivoire					1	Launching May 2015	
Benin					0	Launching	

Source: SSD Evaluation (2017)

The table shows that Ghana is well ahead in the development of the BMs and in providing sanitation. This is due to the existence of an entirely different context at the start of the project. This was known from the beginning as Ghana's pre-existing experience in market approaches to sanitation was integrated into the development of the SSD proposal. It is also important to note that SSD is only one of the "projects" or sources of funding that enables WSUP to conduct its market-based sanitation activities in Ghana. While SSD contributed to the development of the artisan business scale-up and the VTOs and PLBs BMs, the level of achievement of these BMs is also the result of previous actions and other sources of funding.

Given that the BMs are at an early stage of testing in Benin and Côte d'Ivoire, it is early to draw solid conclusions on factors of success and scalability, especially for the desludging and transport BMs and the financing component. Hence, the evaluation team's approach was to adopt a comparative perspective to identify differences and similarities in the approach among the three countries.

3.2. RELEVANCE AND SCALABILITY OF BM

3.2.1 How to assess the success of a BM?

Question 1: To what extent did the pilot phase result in the identification of appropriate models to be used in the scale phase?

To assess the relevance and scalability of the BMs, the team undertook an analysis of the key contextual factors existing at the beginning of SSD and how the BMs addressed these factors. The qualitative methodology used by the evaluation team served as the basis for an evidence-based analysis. However, assessing the success of the BMs was challenging for four main reasons.

Table 5. Comparison between the targets of SSD and other projects

Comparison Area	SSD	WA-WASH	RWSSP 2
Funding	USAID	USAID	Asian Dev. Bank
Duration	2014 – 2019 (research phase 2 years, implementation 5 years)	2011 – 2015 (implementation phase 5 years)	2017 – 2020 (3 years, following RWSSP 1)
Budget	$ 15.8 million	$ 20 million	$ 17 million
Countries	Ghana, Benin, Côte d'Ivoire	Ghana, Niger, Burkina Faso	Cambodia
Setting	Urban	Rural	Rural
Target (number of beneficiaries	Improved sanitation: 1 million Improved emptying practices 1 million New targets (03/2017): 133,000 (sanitation) / 162,000 (emptying practices)	Sanitation: 39,124 Water supply: 57,700 Food security: 1,000 No target in terms of safe desludging/transport/treatment	Sanitation: 172,800 Water supply: 201,500 No target in terms of safe desludging/transport/treatment
Conditions	Market based approach: no subsidies, no financial / in kind support to the private sector	Subsidies allowed In kind support: tools, material, vehicles donated to the entrepreneurs	Subsidized (34,500 grants for the poor)
Technologies	Technological innovation research Several technologies for the latrines + desludging and transport+ initially treatment	Single pit VIP latrines No provision for pit emptying / transport / treatment	Double pit latrines Pilot for pit emptying and flooded areas (+ USD 1,5 million)

Source: SSD Evaluation (2017)

First was the status of implementation in Côte d'Ivoire and Benin, which is summarized in **Table 3**. At the time of the evaluation, none of the BMs developed in these two countries had gone beyond the provision of demonstration units to the step of piloting the model. The team also noted the absence of a baseline study at the beginning of the project and the lack of an effective monitoring and evaluation system to periodically (quarterly/annually) track crucial indicators such as budget allocations for sanitation at the national and local levels, business development indicators of the entrepreneurs and consumer indicators (e.g., number of latrines built), among others. This would enable the monitoring of changes and provide evidence-based indicators for managing the project and for sound learning and decision-making processes.

Second was the initial intended targets set by SSD, which according to the IPs were too high. Comparing SSD with another USAID-funded regional project, the West Africa WASH program (WA-WASH), and another project with a similar budget and duration in Asia indicates that the initial targets were not realistic, especially given the adopted market-based approach which discourages the provision of subsidies to the users (**Table 5**).

The evaluation team finds that the initial target of one million beneficiaries was not realistic and that the success of the BMs and of SSD should not be measured against reaching this target. The approach of the project should also be taken into account since a market-based approach is less likely to quickly reach a large number of users, but more likely to be sustainable and to create structural changes in the long term. New targets (although not yet approved by USAID) recently identified by the IPs for access to sanitation (133,000) and improved emptying practices (162,000) should be based on evidence.

Third was the SDGs monitoring system, which does not take into account:

- **Improvements to existing sanitation systems** (for HH which already have access to sanitation): significant improvements to existing dry pit latrines could be achieved through the installation of the SaToPan device on existing users' interface, but this is not taken into account in the SDGs criteria;

- **Shared sanitation:** while many poor people are relying on public toilets or shared toilet facilities within the same compound (especially in Ghana), improving public facilities is also not taken into account by the SDGs. This does not allow the complete assessment of important impacts the project may have contributed to. For example, improvement of PLBs and improvement of HH sanitation by increasing the number of toilets in a compound, resulting in fewer users per toilet. The team finds that projects should not be hindered by complete alignment with SDG indicators. On the contrary, they should choose the best approach to improve sanitation and use evidence-based lessons learned to influence SDGs criteria and to advocate for shared sanitation and composting toilets. The team also recommends conducting surveys of PLB users to determine their satisfaction and the impact of the PLB BM on improving sanitation.
- **Composting toilets:** Since bucket toilets are not considered as improved sanitation by the SDGs, it is "not possible" to promote the use of straightforward and safe technologies such as composting toilets using sawdust or wood chips for container-based sanitation (interview with Clean Team Manager/Mobile Money BM). While this type of technology is low cost and can be manufactured locally, the Clean Team had to resort to imported urine diversion toilets using chemically treated sawdust, increasing the price and complexity of container based sanitation. The effort of the team in Benin during the research phase centered on testing the desirability of different types of container-based systems in order to by-pass the constraint established by the SDG. The team finds that there is a need to engage in a reflection and debate on this issue at the international level.

Fourth was the broad scope of the project. SSD targets the whole sanitation chain, including user interface, containment, transport, treatment, and reuse. This is an excellent practice and is in line with the latest recommendations in the sanitation sector as a whole and with the SDG objectives, but aiming to reach all sanitation segments at the same time may be too ambitious for a single project.

The evaluation team noted lack of clarity on the issue of fecal sludge treatment. All the documents provided by the IP (initial project proposal, quarterly and annual report) clearly show that treatment is included in the project and that intense research was conducted in this field in Ghana and in Benin. However, treatment was pivoted in July 2016 because it was "not part of the scope of SSD". There is a clear communication gap between the USAID Environment Team and the IP regarding this issue.

Based on these facts and findings, the team recommends:

REC1	*The USAID/WA Environment Team should conduct a comparative study of country-based and regional projects including budgets, implementation periods, intended and valid targets regarding beneficiaries, approach, and sustainability in the medium term (e.g. five years after project completion) to be able to set realistic targets in future programming.*
REC 2	*The IPs should undertake a baseline study at the beginning of any project and to set context based targets during the inception phase, including demand analysis, consumption analysis, data and the factors triggering behavior change.*
REC 3	*The IPs should provide evidence for the newly set targets including a country breakdown, and agree with the USAID/WA Environment Team on monitoring criteria including the number of users who benefit from improved shared sanitation at household and public latrines.*
REC 4	*The team recommends the IP to establish a clear monitoring framework with accurate indicators related to the four pillars of a market-based project and to monitor progress at least on a quarterly basis*
REC 5	*The IPs and the USAID/WA Environmental Team should communicate with other sanitation stakeholders at a regional and global level to engage in a reflection on shared sanitation and composting toilets.*

3.2.2. Key contextual factors impacting the success of business models

Question 1 a: What were the differences across countries and gender, if any, between successful business models, developed?

The BMs developed in the three countries built upon contextual characteristics, which had or may have an influence on the performance of each model and on their feasibility for scale up.

3.2.2.1. The Demand Side: existing demand

The team noted that demand for sanitation services is a critical factor contributing to the success of a BM. Informed citizens who demand, participate, and pay for sanitation services are the first prerequisite to determining the growth of a sanitation market in any environment. The team explored how SSD evaluated existing demand at the beginning of the project to design successful BMs.

Ga West Municipal Authority (GWMA) reports that there is high demand for compound sanitation in Ga West as the number of applicants for toilets is greater than the capacity of the entrepreneurs to deliver services. Although figures are not available, the municipality's health department reports receiving several phone calls daily to enquire about how to access sanitation. Eentrepreneurs are solicited to provide estimates, which unfortunately do not always translate into purchase due to limited access to financing solutions. Entrepreneurs, Toilet Sales Agents, and Community Pioneers (CPs) are not very positive about existing demand. According to the entrepreneurs, many of the households they prospect have not heard about the importance of sanitation to the extent that they would make it a priority: "*if people have not heard it on the radio, then it is not true*," reports one of the entrepreneurs in Kumasi. The team concludes that it is difficult to assess if the market is ripe regarding sanitation demand, but that **there is a need for stronger efforts in terms of sanitation awareness and behavior change campaigns**.

The level of demand in Ga West was strengthened by a cholera outbreak in 2014 that resulted in 1,315 cases and eight deaths. Contrary to "*silent killers*" such as diarrhea, the occurrence of cholera created a relative awareness in the population about the risks related to water-borne diseases and triggered municipal involvement through the implementation of an awareness campaign supported by WSUP Rapid Results Team (Interview with GWMA). Demand was further strengthened by GWMA's active participation following the sanitary crisis: "*The results were good, we have had no case of cholera since then, but we felt we needed to shake people that is why we issued the moratorium [on prosecution]*." (D. Opare, Head of Environmental Health Department, GWMA). This makes municipal engagement another key factor in enhancing the demand for sanitation.

In Ghana, a significant share of the population relies on Public Toilets and demand for better quality toilets exists (hygiene, heat, odor, waiting time, access to other services such as shower and laundry). **In Benin**, many low-income households use paid public toilets as their primary toilet, and the landscape study also revealed the deplorable condition of public toilets and high environmental impact in coastal areas (hanging latrines with direct discharge in waterways). This was confirmed by all users interviewed. Despite this situation, the team noted that the project in Benin did not target improvement of PLBs. This is because shared sanitation is not included in the indicators for improved sanitation in the SDGs' monitoring system.

In Benin, landlords are generally interested in providing toilets in their compounds and receive pressure from their tenants, but clearly expressed that there are other pressing needs such as access to electricity, water supply, roof and door repairs (SSD PROGRAM, 2015f). So, there is demand for sanitation from landlords, but it does not necessarily rank as a priority.

In Côte d'Ivoire, the research highlighted tenants' and landlords' satisfaction with existing sanitation products and services, as well as their aspirations for individual seated, flush toilets, and their understanding of the link between health and sanitation (SSD Program, 2015g). The regulatory framework allows landlords to raise the rent following the improvement of the premises rented, but

there is a lack of awareness about this issue. One of the main findings of the research phase was also that there was high demand for improved desludging services regarding access, price, and operations as customers are not satisfied with current services.

The team finds that in the three countries, demand for sanitation exists as it leads to improving living conditions in general, just as demand exists for other household improvements and other services valued by people such as education and health care. The critical issue lies in the way households prioritize these demands and where sanitation ranks compared to other needs when it comes to translating desirability into action. The team also finds that demand for toilets in Ghana was higher than in the two other countries, although barriers are high, in particular in financing, to translate demand into effective access to sanitation.

Extensive research was undertaken in the three countries through landscaping studies, product scans, and finance scans. However, the team finds that there was a gap in terms of analyzing existing demand at the beginning of the project. SSD concentrated extensively on market development, which is positive, but overlooked the traditional demand analysis, demand creation, and behavior change actions during the research phase. Household surveys (Knowledge Attitude and Practice (KAP) surveys) and FGD were not conducted to identify precisely the level of demand, but also the key determinants of behavior change, in order to design an awareness campaign which would support the development of BMs. With regard to desludging and transport, demand exists because landlords have no choice but to proceed to pit emptying when pits and tanks are overflowing.

The findings reinforce REC 2: Implement a baseline study in the research phase at the beginning of the project, which includes a demand analysis. This would help to:

1. Characterize demand for household sanitation including individual and shared toilets at compound level.
2. Characterize demand for public toilets.
3. Characterize demand for container-based sanitation (Clean Team model).
4. Identify key behavior factors.

REC 6	*The evaluation team is aware the research phase did include elements of analysis related to demand characterization, but the results appear in different reports and in various forms. As a regional project, the team recommends that IPS use a more structured and systematic methodology across the three countries to enable the use of comparative data as a guide for decision-making.*

3.2.2.2. The demand side: socio-economic conditions

Wealth generation at the national level and income at the household level are likely to impact the success of the BMs significantly since they are important factors which determine the financial capacity of governments to engage in sanitation, and the ability of HH to access sanitation products and services and loans from MFIs, respectively. In addition to the willingness to spend money on sanitation, which was explored above, the ability to pay for sanitation is one of the key factors required to ensure the success of the BM developed.

The team noted that affordability was one of the key criteria used by SSD to develop the BMs across the three countries. The spotlight tool was used to assess possible technological options and to compare the price of the products on the market, and the price people are ready to pay. The same methodology was used to assess people's satisfaction with the price of desludging septic tanks. Affordability was also significantly taken into account during the testing phase (e.g., Clean Team model and earth auger in Benin).

In the end, the BMs related to HH in the three countries integrate technological options with different prices and the team analyzed the extent to which the existing socio-economic conditions would enable customers to purchase these products and ensure the success of the BMs.

The cost of technological options in the three countries can be summarized as follows:

- $500 (digester for 8 users) to $1200 (Duraplast septic tank) in Ghana,
- $100(5 persons) to $186 per year for the Clean Team in Ghana,
- $300 (ferro-cement septic tank) in Côte d'Ivoire (construction costs need to be confirmed),
- $300 USD (toilet seat integrating a SaToPan and double pit made of cement ring).

The technological choice and associated cost in Ghana derives from a thorough research of existing prices of sanitation on the market (SSD Program, 2015e) through a review of entrepreneurs and the products and services they offer. In Benin, the team noted that affordability and ability to pay for sanitation were analyzed through a qualitative methodology by asking selected landlords how much they were willing to borrow and their monthly loan repayment capacity to calculate the maximum price for a sanitation system (140,000 CFA, $300). ABMS in Côte d'Ivoire based their analysis of traditional septic tank's building costs, on the price for desludging and on feedback from the landlords who claimed this price was too high. The mismatch between the price of the products and financial capacity of customers was confirmed by the entrepreneurs (FGD). However, perceived prices of existing septic tanks and proposed technological solution differ greatly between institutional stakeholders, entrepreneurs, and the project country team.

Socio-economic conditions are addressed through the development of financing initiatives with MFIs, which is relevant but does not tackle the poorest consumers especially when it comes to providing loans for non-economic activities. In Benin however, the financing system was designed to enable the poorest quintile to access loans through the integration of a "tontine" (daily savings and repayments) arrangement. The BMs developed in Ghana and Benin for HH sanitation strived to propose high quality and low-cost solutions through a qualitative approach described above. Despite this, in Ga West, the entrepreneurs interviewed expressed their concern about not serving the poor population since the products they are selling are not affordable for them. The Clean Team Model developed in Kumasi is the least cost solution and aims at further reducing operational costs to achieve financial autonomy (the BM is still subsidized). This BM is so far the only one accessible to the largest population in terms of cost.

Another challenge to analyzing the potential impact of socio-economic conditions on the development of BMs in the three countries is the lack of a systematic comparative perspective across the project. Some studies are conducted in parallel such as the finance scans in Ghana and Côte d'Ivoire but have components that examine different socio-economic characteristics. In Côte d'Ivoire, ABMS implemented two studies on landlords, but these studies do not exist in Ghana and Benin. In any case, the team could not find any analytical document that compares the socio-economic conditions, the level of rent, property tax, HH income, current expenses of HH for water supply, sanitation, socioeconomic groups, the population in the lowest-poverty quartile, etc., and cost of proposed sanitation solutions.

The team finds that the capacity of different socio-economic groups to pay could have been characterized in order to identify more precisely what percentage of the targeted population might effectively adopt the BMs and to determine the support needed for different socio-economic groups of potential customers. Affordability criterion in the field of water and wastewater is usually set between 2% and 5% of household income. For example, GIZ's definition of access to water and sanitation is as follows: "*A person is counted as having access to water and sanitation if, amongst other factors sanitation together with costs for water are preferably not exceeding 5% of monthly household income*" (GIZ, 2011). Again, the team finds that the lack of a baseline study involving a quantitative survey along with an analysis of economic indicators limited the level of analysis and development of a wider array of solutions tailored to national, municipal, and different socio-economic groups.

Applying this calculation in the design phase of the BMs would have been useful to identify the potential number of customers, to define a support strategy for different socio-economic groups, to elaborate the social marketing strategy, and to potentially consider a financial inclusion strategy for tenants in sanitation (which should be between 2% and 5% of their income including water or which could be equivalent or less than sanitation expenditures prior to the project). In the current configuration, the assumption is that landlords will be able to raise the rent in the future if they invest in sanitation, but different financial arrangements could be explored for the purpose of speeding up

access. Understanding the various economic groups would also increase efficiency during implementation. The efforts and resources of SSD should be specific and tailored to different socio-economic groups.

The team concludes that all research activities, which focused on the main consumers in the market (landlords) and assessed the affordability of the BMs, did not effectively address the socio-economic conditions of the poor. The qualitative approach adopted by the IPs reveals good efforts to design BMs based on contextual factors and on customers' buy-in. The Clean Team BM stands out for providing a solution affordable to the poorest socio-economic groups.

These findings reinforce REC 2: *Conduct a baseline study, including an economic analysis and a sectoral analysis of producers/retailers. This economic analysis could be implemented using surveys of landlords and tenants, along with key economic indicators. The results of the analysis could be used to define different customers' socio-economic groups and to develop corresponding sanitation products based on the 2% to 5% benchmark for water and sanitation expenditures. In a regional project, the team recommends conducting the economic analysis using the same methodology across the three countries to obtain comparable results for development of BMs.*

3.2.2.3. The Supply Side: characteristics of the private sector and existing technological options

A functioning and enabling sanitation market where the private sector is providing quality products and services at an affordable price is a critical factor in market-based approaches. The strength of the private sector in which business models are developed in the initial stage of the project is, therefore, likely to affect significantly the chances of success of the BMs developed.

The team noted that the product scan **in Côte d'Ivoire** addressed users and VTOs. The private sector was approached through a visit to the market. Customer satisfaction analysis about existing technologies showed that existing construction techniques are poor. Issues include inappropriate dimensions of septic tanks and poor quality materials resulting in collapse and difficulties for desludging. The weak capacity of entrepreneurs was confirmed during the FGD with masons and metal workers who are confused about the prices of different technologies. In fact, entrepreneurs in Côte d'Ivoire (and to some extent in Benin) usually gave customers the list of materials needed to build a traditional septic tank and requested the HH to buy the equipment themselves. While this arrangement is supposed to enhance trust between the entrepreneur and the customer, it also reveals the lack of ability to provide a comprehensive service, to compare different prices and make the best offer to the client. It also prevents the private sector from having any leverage on the price of materials (no capacity to negotiate if they buy large quantities).

The entrepreneurs were not involved in the research phase to develop the BMs. In fact, the entrepreneurs met by the evaluation team explained that they were contacted for the first time by the SSD project in January 2017. A similar situation is found in Benin. Little is known about the capacity of the entrepreneurs at the beginning of SSD. The product scan in Benin does not entail a review of entrepreneurs and products, except for a visit to ecological sanitation toilets with an NGO (Shongai). The team noted that the capacity of the entrepreneurs' was not taken into account in the development of HH sanitation BMs. When questioned about this situation the country team explained that this is part of the project approach: "*The rough prototype does not involve meeting the entrepreneurs. It is on paper, and it is about desirability*."

However, in Côte d'Ivoire the product scan carried out a more thorough analysis of the situation of the VTOs and led to partnering with a vocational training organization to strengthen their skills. The team also noted that both in Benin and Côte d'Ivoire, the entrepreneurs involved in the compound business models are a very small size or one-man companies due to the lack of interest by large construction companies (working session with ABMS).

In Ghana, the team noted that the product scan addressed entrepreneurs and technologies and revealed that small and medium size enterprises (SMEs) existed before the launch of the project. Some of these were previously supported by NGOs or by WSUP, offering a range of sanitation

technologies (duraplast, septic tanks, biofil). This was also confirmed during a meeting with the entrepreneurs both in Ga West and Kumasi. The development of the BM is based on the capacity building of entrepreneurs (BM Artisan Business Scale up). In Benin and Côte d'Ivoire, the assessment of users' satisfaction seemed to show that none of the existing technologies were satisfactory (smell, poor quality of septic tanks, need to desludge too frequent, etc.). This constitutes a challenge as none of the existing technologies seemed to be appropriate. At the same time, the team noted that no research was done on ways to improve existing technologies.

Unfortunately, **there is no effective monitoring and evaluation system in the SSD program** (based on consolidated performance indicators) which would allow a thorough comparison of the vitality of the private sector across countries and on a yearly basis throughout the development of the project (number of companies offering sanitation services, number of employees, number of customers, sanitation provision costs, income from sanitation, net margin etc.). The only indicator available at the time of the evaluation (indicator No. 9) is the "*Number of Entrepreneurs/value chain actors who received support to develop sanitation products/services linked to the models*."

Development of the mobile money BM relies on existing technologies which are accessible in Kumasi as mobile money services in the country expand. The BM relies on the phone company as a service provider. It seems that the necessary technological skills exist for the development of the BM in Ghana with a corresponding capacity and habit of the customers to use this kind of service.

In short, the team finds that despite the lack of solid and comparable data enabling rigorous characterization of the vitality of sanitation entrepreneurs, it appears that the capacity of small entrepreneurs in the sanitation sector in Ghana was higher than that of sanitation entrepreneurs in Côte d'Ivoire and Benin from the beginning of the project. The team finds that the business development and management skills of these entrepreneurs were low, especially in Côte d'Ivoire as most of them were struggling and did not manage to calculate the cost of a traditional septic tank. While the initial context for the development of the BMs was, therefore, more favorable in Ghana than in the two other countries, entrepreneurs in the three countries revealed a great need for capacity building and capacity to envision business growth. The size of the companies (maximum ten employees) and their resources are very limited. None of the entrepreneurs met by the evaluators own a truck. This constitutes a significant challenge in the perspective of scaling-up.

The team finds that the approach of SSD during the research phase was not consistent in the three countries and across BMs. The fact that the research phase leading to the development of scalable business models for HH sanitation in Côte d'Ivoire and Benin did not entail an active participation of the private sector is surprising for a market-based project given that private entrepreneurs should be the core of BM development. In Ghana, on the contrary, the diagnosis of poor capacity greatly influenced the development of the artisan business scale-up model.

In Côte d'Ivoire, the team finds that SSD considered and upgraded the capacity of the VTOs early in the project. To make a link with the analysis of the approach, this situation confirms that the team in Côte d'Ivoire identified desludging, transport, and treatment as a key priority in the sanitation sector (which is in line with the government's and the municipality's priority) and directed their efforts to address this segment of the sanitation chain. Consequently, the IP put in a lot of effort in analyzing the needs of the stakeholders in this segment of the sanitation chain, developing a joint strategy with ONAD, and in upgrading the capacity of the VTOs. Hence, it was not surprising that the top-down decision-making process within the SSD project, which resulted in making this BM a second priority for the project, was not very well accepted by the country team.

The team concludes that the lack of involvement of the private sector in the design of the HH sanitation BMs in Côte d'Ivoire and Benin is likely to affect the chances of success of the BMs negatively. On the contrary, the involvement of the VTOs from the onset of the project in Côte d'Ivoire and of the SMEs in Ghana should positively affect the future development of these BMs.

The team recommends:

REC 7	*IPS should place entrepreneurs at the core of landscaping analyses and product scans in market development projects, from the research phase to the testing, piloting and*

	scaling up phases. "Sweet ideas" and "cool propositions" (cf. section on the approach) should come from the business sector in priority. The private sector should be involved in the process before technological choices are made and participate in technological development
REC 8	*IPS should prioritize the capacity building of the entrepreneurs and empower them as the initial context shows their capacity was one of the most crucial issues to ensure the success of the BMs.*

Additionally, related to REC 4 (M&E system), *the team recommends IPS should include accurate indicators from the beginning of the process, to monitor the capacity of the entrepreneurs. This initial analysis should greatly influence the design of BMs and the efforts which should be dedicated to capacity building.*

3.2.2.4. Enabling environment: existing governments' engagement

Municipal involvement is a key factor influencing access to sanitation as they have the leverage to create a supportive policy and regulatory framework, to facilitate market access to the private sector, to participate in creating awareness, and to create a momentum to improve the dignity and the living conditions of their citizens. Existing municipal engagement is therefore likely to affect positively or negatively the success of the BMs, whether they address compound sanitation, desludging, and transport, public latrines or finance.

The team noted that the initial landscaping studies did not entail a review of governance structure and share of responsibilities at national and local levels, although the three country teams met many stakeholders and developed strong partnerships. The following information results from interviews and the literature review.

The team notes that the enabling environment with regard to municipal engagement is very different between the three countries at the beginning of the project. In Ghana, the responsibility of sanitation is defined at the municipal level and lies with the Environmental Health and Sanitation Department (EHSD) both in GWMA and in KMA. WSUP has significantly contributed to strengthening and supporting municipal engagement and capacity prior to the project. For example, WSUP participated in establishing the KMA's Toilets in every compound strategy. Both municipalities had a specific budget line for sanitation prior to SSD, relying on government transfers and donor support. Human resources, in the form of Environmental Health Officers (EHOs), are dedicated to promoting and enforcing sanitation laws.

In addition, WSUP obtained two years of funding outside of SSD funding to work on how to influence municipal financial allocations for sanitation. WSUP supported GA West municipality (which had already allocated $50,000 [5] to sanitation in 2014) to boost the municipality's tax collection capacity and to dedicate a percentage of extra revenue raised to improving pro-poor sanitation[6], although there is no clear ring-fencing of a proportion of the total (interview with GWMA).

In Côte d'Ivoire, the effective[7] sanitation responsibilities are at the national level with ONAD which has a clear mandate to improve on-site sanitation management and has financial means. The municipality of Yopougon claimed to not have institutional responsibility nor leverage on the regulatory framework, limited human resources, and absence of funds for sanitation and expressed that these issues should be dealt with at national level (Interview with DST).

Finally, **in Benin**, the decentralization law and national strategy for sanitation give municipalities the responsibility for drinking water supply and sanitation and hygiene. However, these prerogatives are

[5] The composite budget of the Ga West District Assembly for the 2014 fiscal year.
[6] Source practice note No. 23, Increasing municipal finance for sanitation: support for property tax collection in Ga West, May 2016, WSUP.
[7] Following the decentralization laws of 2003, sanitation falls into the responsibility of the municipalities but current institutional and financial settings prevent it from being effective.

not always fully exercised by local authorities because of lack of implementing legislation, transfer of financial resources and skilled human resources.

The team finds that the enabling environment in Ga West and Kumasi is likely to impact favorably the development of the two BMs developed in Ghana (the healthy compound and the PLB and VTO BMs). It should be acknowledged that existing municipal engagement results from a favorable context, given decentralization is more effective in Ghana than in the two other countries, but also from the clear vision of WSUP on key influential factors backed by relevant actions.

The team concludes that the enabling environment at the local level was most challenging in Côte d'Ivoire and Benin given that the municipalities do not have a clear mandate to take responsibilities for sanitation (especially in Yopougon). They also do not have previous experience in this field. Actions undertaken by WSUP prior to SSD or outside of the SSD project scope provide a great benchmark for action and valuable lessons learned to engage municipalities in the two other countries. The ream recommends:

REC 9	*IPs should use WSUP's experience in Ghana as a benchmark to strengthen the engagement of municipalities in the two other countries with adaptation to local governance schemes.*

3.2.2.5. Existing financing context

Facilitating access to finance to enable citizens to pay for sanitation services and entrepreneurs to provide sanitation products and services is critical for households to build their latrines and allows entrepreneurs to meet the demand of a growing market.

Landscape studies and finance scans were conducted in the three countries in 2015 to gain an understanding of the role and operations of finance organizations, as well as opportunities to involve them in the sanitation sector. The studies showed that, in the three countries, sanitation financing prior to the development of SSD was a challenge in several ways including poor customer demand (HH and private sector), high contractual risk as properties are given as collateral, high commercial interest rates, poor loan-taking culture of customers and entrepreneurs who prefer to save than to borrow, absence of consumption loans in general (loans are given for income generating activities), and limitations from banks and MFIs, which consider sanitation finance to be risky.

Figure 8. Poster from GAMA

Poster from GAMA, GWMA (Photo Credit: ASSESS, SSD Evaluation - 2017)

The financing market showed differences among the three countries. **In Ghana,** existing interest rates are high (up to 60% of commercial loans), but the sector is supported by donors (the Dutch SNV, the British Opportunity International and the World Bank GAMA project, See **Figure 8**) who undertook loan demonstration projects to open near term opportunities from which the SSD program in Ghana could benefit. **In Côte d'Ivoire**, the study showed that the financial sector was open to lending to trucking businesses, opening opportunities for the VTO BMs. Although several MFIs have experience and knowledge lending money for toilet construction, this occurred because there were prerequisite guarantee funds. Similarly, **in Benin**, some MFIs have experience providing consumer loans for sanitation products prior to SSD. However, these occurred under a subsidies regime from NGOs and donors, which led to low-interest rates (15%) and a reasonable cost ($250 to $400).

The team noted that access to finance was a crucial factor influencing the performance of the BMs from both a demand and a supply perspective. **In Benin and Côte d'Ivoire,** the stage of development of SSD does not yet allow for assessment of the impact of finance on the development of the latrine BM, but lessons can be learned from Ghana. **In Ghana**, several initiatives were developed by WSUP and other development partners to facilitate access to credit for households. Results were mitigated

according to the entrepreneurs in Ga West and Kumasi (it was not possible to meet MFIs in Ga West as they were not available). They reported meeting "*so many poor people but are not able to service them*."

The GAMA project provides a 50% subsidy to households. Households pay 50% of the sanitation system, and GAMA pays the remaining 50% directly to the entrepreneur. This puts pressure on the entrepreneurs because they are obliged to wait for a guarantee period after construction before being paid. The same system is used by SNV-supported MFIs with a 70%-30% system. The GAMA project also affects consumers' willingness to pay for the full price of a sanitation system as customers are "*waiting for GAMA to reach Kumasi*" (FGD with entrepreneurs in Kumasi). Entrepreneurs also stated that it is important to come up with low cost solutions to facilitate access to sanitation by the poor and that they could reduce prices if they could have access to trucks and logistical support to undertake their activities.

The team concludes that the financing environment related to MFIs and traditional banks was a limiting factor at the beginning of the project in the three countries. Other financing arrangements were not explored during the research phase of the project. For future programming, the same amount of effort should be put into developing the financing sector as into the other pillars of a market-based approach. In a context where other stakeholders indirectly subsidize the sanitation market – through support to financial institutions, USAID should harmonize and coordinate with other donors operating in the sanitation sector to avoid duplication of efforts, working at cross purposes, and double counting of results.

The team recommends:

REC 10	*IPs should balance development and innovation efforts between the four pillars of the market-based sanitation approach during the research phase, which translates here to providing more effort in researching, testing and developing several financing options in the research phase.*

3.2.2.6. Gender dimension across countries

In the project design, SSD is committed to applying a gender approach to ensure women's needs are integrated throughout the project, spanning program management, product development, implementation, policy development, advocacy, and financing. Additionally, the gender strategy established in 2016 aims at being gender transformative, promoting female training and entrepreneurship, inviting female entrepreneurs for brainstorming sessions, adopting gender transformative business models by entrepreneurs, and establishing metrics to monitor solutions (SSD Program, 2016e).

Actions were undertaken to ensure that the development of project activities and management involve women. As a result, country teams are more or less gender balanced.

On the demand side, there was some evidence of women's participation in events organized by the project (e.g., participation in durbars on the mobile money BM in Kumasi). Ladies also showed strong interest in access to sanitation as they reportedly suffered significantly from the use of PLBs (contracting diseases). In Côte d'Ivoire, the healthy compound BM relies on individual toilets (vs. shared compound toilets) to respond to the desire expressed by women in the landscaping study to have individual toilets. It is a very positive point that the toilet infrastructure is also designed for showering in response to an expressed need. All the female users interviewed in the three countries expressed satisfaction with their new toilet facilities (health, privacy, dignity, and time). However, the women claimed that they were not consulted about their preference of user interface (FGD with women tenants of M. Kone's compound, live prototype in Abomey Calavi), nor about their specific needs as women with regard to Menstrual Hygiene Management (MHM).

For the private sector, the team finds that SSD integrated women in the BMs to the extent that they were already involved in the sanitation sector. For example, out of 485 PLB owners and operators in Ghana, 137 are women. In Benin, out of 16 VTO businesses, 2 are owned by women who inherited

the business from their husband and sustained it and are integrated into the partnership with SSD. In Ghana, four women entrepreneurs were recruited to participate in the training, but this did not result in business creation (FGD with entrepreneurs in Ga West), and an effort was made to recruit female TSAs who eventually dropped out. In Kumasi, the cash collectors of the Clean Team BM are all women. Finally, in Benin, the 5 TSA include three women.

Few data exist related to loans (no monitoring data readily available). An interview with Sinapi Aba in Kumasi showed that out of the 80 loans granted, 47 were granted to men and 33 to women. Among the customers who built toilets and sanitation systems in Ghana, the team also noted that many were women landowners who occasionally contracted a loan. This could mean that female landowners attach more importance to providing sanitation facilities on their compounds than their male counterparts. In FGDs held with users or potential users, both men and women declared that decisions are usually taken through a consensus between the spouses.

SSD had the initial ambition to create structural changes in the sanitation market, and therefore it was expected that the project would take actions to ensure that women actively participate in developing the sanitation market and that men and women work together. The team finds that in this regard, the gender strategy was not effectively implemented. This is partly due to contextual factors. The absence of women entrepreneurs to develop the BMs reflects the reality of a sector that is male-dominated (interview with SSD, FGD with the entrepreneurs). It is not easy to create the opportunity for women to have a central role, and one-size-fits-all solutions do not exist in this situation. The team in Benin explained that their approach was not gender-blind but that the BMs focus was on supporting existing entrepreneurs and not on creating new businesses just to give women roles they may not be interested in. In the research phase, gender was not identified as a key influential factor to determine the success of the business (interview with WSUP, FGD with PSI), although there is not much evidence that gender aspects were deeply explored.

The team did not find evidence of triggering a new approach and changes among the stakeholders on gender integration. There may have been some opportunity using the human-centered design approach, to create an innovative arrangement or generate creative ideas to involve women in the BMs not as users but as catalysts of the market. It was not possible to obtain a clear answer on this issue (interviews with PATH).

The team finds that while the idea of incentivizing and investing in women-owned businesses and women leaders in water and sanitation seems to be a compelling approach, very few successful examples exist in reality. Among the few examples is the *"Women in Water Empowerment Programme"* launched in South Africa in 2016 by the Minister for Water and Sanitation. In addition, the team finds that SSD already faced ambitious challenges in terms of research and development of an innovative approach and that adding a strong gender component without a dedicated gender specialist may be too much for the project.

In short, SSD did not specifically explore women's needs in the research phase, but all women expressed their satisfaction with the sanitation BMs at HH level, which is a very good factor for the desirability of the sanitation systems selected. On the supply side, the BMs involved women entrepreneurs proportionally to existing characteristics of a sector which is male-dominated. Key issues identified for business development in this project go beyond gender, which is not identified as a key contextual factor likely to enhance or hinder the success of the BMs.

The team recommends:

REC 11	In the M&E system (*REC* 4) IPs could monitor a set of indicators related to gender in order to track the impact of the project on males and females as users *(e.g. impact of PLB improvement on men and women)* and business owners for the purpose of lessons learned (minimum requirement). *In future projects, IPs should include gender needs (and other special needs) in the technology assessments, including MHM which aims at facilitating washing, drying and disposing of sanitary materials safely and facilitating personal hygiene for women (cf. WEDC resources on this topic).*

REC 12	*If the project decides to move forward with implementation of a gender strategy (this may not be a priority considering gender is not considered as a critical success factor of the BMs), the following are a few suggestions to pursue this goal concretely:* *a. Reflect on ways to promote women's participation in a proactive manner, not only as users but also as actors in the sanitation sector;* *b. Engage this reflection internally first. It was noted that the project on several occasions hired external consultants to undertake specific tasks, and the team finds that this is not the best method for ownership.* *c. Consult businesswomen, business women's groups, female users, female graduates and male entrepreneurs to come up with practical ways to engage women in the sanitation sector with the aim of strengthening the momentum for sanitation.*

3.2.2.7. Urban, environmental and social conditions

The team notes that the types of settlements – compound houses, or individual houses – impacted on the kind of fecal storage/treatment proposed. For example, in Côte d'Ivoire, in low-income areas, the majority of residents live in compounds ("cours") owned by a single landlord with several tenants ("portes"), which led to shared containment (septic tank for several households with a modular size) as the containment solution. In Benin, the HHs are not gathered around a common compound, and the attitude of the users towards sharing a septic tank was negative. This led to the choice of individual solutions. In Ghana, the bio-digester was implemented several years ago during the construction of a dam, as there were no services for desludging. In Côte d'Ivoire, SSD also found that it was not possible to select containment solutions for several compounds as this was also considered negatively by the landlords although that might have been a lower cost option.

The geophysical characteristics, in particular, the level of underground water were also external factors which impacted the technological research. As the water table is high in Abidjan, the project team preferred to opt for the watertight septic tank. The low level of the water table in some areas in Benin made it possible to propose the double pit alternating system which is cheaper but cannot be proposed when the underground water level is high. In Benin, there is also an aspiration of wet sanitation (with automatic flush toilets being the most desirable option) together with the habits of using dry pits and limited water supply (deep wells). The solution developed in Benin is therefore quite smart in that it combines the use of a minimal quantity of water to flush and clean the toilets, and it is compatible with dry pits and addresses the major source of complaints related to insects and odors. The team finds that the technological choice was very relevant to the context.

Another environmental challenge, common to all three countries, is the limited number of facilities and capacity for fecal sludge transport and treatment. Although SSD addresses this issue through the development of the VTO BM, sanitation systems generating important volumes of fecal sludge, in particular through the use of water-based toilets, create other challenges: logistical (for desludging and transport), environmental (for treatment, since a large percentage of fecal sludge often goes untreated into the environment) (Lavender Hill in Ga West, Laguna in Abidjan, and the sea in Benin), and financial (as both segments generate costs and expenses to the individual and the public).

In short, the team finds that the combination of these factors, in addition to the different socio-economic conditions are challenging for replication of BMs across the urban environment and for scaling-up. The team finds that SSD made a special effort to develop demand-driven and technical solutions adapted to the context and that the differences between the urban settings, the environmental conditions, and the socio-economic situation may limit the replicability and scalability of each model universally.

REC 13	*The BMs developed to address the different contexts across the three countries – urban, environmental, and social – provide a mix of solutions for household sanitation. IPs should consider piloting and scaling up the 4 HH BMs (3HH BMs and the Clean Team BM) at country and regional level.*

3.2.2.8. Conclusion on main contextual factors in relation to key challenges addressed by the BM

Contextual factors and project's orientations to develop business models are closely linked. In each country, the likeliness of the BM to succeed lies in the capacity of the project to address the weaknesses of the four pillars of the market-based sanitation approach, as well as other influential factors, and to build on existing strengths.

Table 6 below summarizes the key contextual factors and relates them to key design features needed to enhance the success of the BMs developed.

Table 6. Key contextual factors and key business model orientations

Market segment	CONTEXT Impact of existing context on the design of the BM and likeliness to succeed	DIFFERENCES ACROSS COUNTRIES AT THE BEGINNING OF THE PROJECT	BUSINESS MODELS To what extent were the BMs able to address the context
Demand	Existing demand	**Ghana**: medium for HH sanitation. High for improving PLBs. High among the poor for CBS (Clean Team) **Côte d'Ivoire:** low for HH sanitation, high for improvement of desludging services **Benin:** low for HH sanitation, high for improvement of existing products	Demand creation (awareness campaigns, behavioral change activities and legal enforcement)
	Socio economic context	Difficult to analyze. GDP/cap similar in Ghana and Côte d'Ivoire GDP low in Benin	Offer affordable products and financing schemes
Supply	Characteristics of the private sector	**Ghana:** 8 companies provide sanitation services for HH in Ga West. Capacity building needed. **Côte d'Ivoire and Benin:** limited capacity of small entrepreneurs	Capacity building of the private sector to provide services at scale
	Existing technological options	**Ghana:** 3 technological options exist **Benin and Côte d'Ivoire:** existing options for HH sanitation are not satisfactory	Capacity to innovate and offer new affordable technologies Improvement of existing options
Enabling environment	Government's engagement (national and municipal)	**Ghana:** good level of municipal involvement **Côte d'Ivoire:** no municipal involvement **Benin:** interest of municipalities	Influence on governments' commitment
Finance	Existing financing schemes	**Ghana:** extremely high-interest rates but MFIs supported by donors **Côte d'Ivoire and Benin:** interest rates are lower **In the three countries:** limited access and no culture of borrowing for consumption	Offer financing options including pro-poor
Other factors			
Environment, urban setting, and customers'	Environmental and urban characteristics, customers' aspirations		BM appropriate for the environment and urban setting, combined with desirable options

Market segment	CONTEXT Impact of existing context on the design of the BM and likeliness to succeed	DIFFERENCES ACROSS COUNTRIES AT THE BEGINNING OF THE PROJECT	BUSINESS MODELS To what extent were the BMs able to address the context
aspirations			
Gender	Gender (users and businesses)	In the 3 countries: customers' needs and desires identified but not gender based. The sector is male-dominated. More women own and operate PLBS.	Using gender as a catalyzer of the market

Source: SSD Evaluation (2017)

3.2.3. Key design features impacting the success of the business models

Question 1 b: What were the differences, if any, between the most successful business models implemented in the different project target areas?

In this section, the evaluation identified the extent to which the BMs developed were successful in addressing the key influential factors likely to enhance the development of the sanitation market, in relation to the contextual strengths and weaknesses identified.

3.2.3.1. Enhancing demand for sanitation

In Ghana, the process of demand creation relies on cooperation with municipalities through the regulatory framework (by-laws) and initiatives towards enforcement (moratorium on prosecution and a dedicated day in court for sanitation) which had a positive impact on transforming demand into the purchase of sanitation systems. Several respondents claimed that they made the decision to build latrines for fear of being prosecuted after they received a visit from the EHOs. The absence of an effective prosecution after the end of the moratorium in 2016 was perceived as a limitation to its effectiveness as people were initially afraid and eventually found out the by-law was not enforced (FGD with entrepreneurs). GWMA claimed that the 2016 general elections made the political climate unconducive for enforcement of the by-laws, but it will be effective soon. Recent news (40 'Convicts' Build Household Toilets, 2017) revealed that 40 landlords were fined in Sissala District in the Upper West region of Ghana for failing to put up household toilets, forcing their tenants to ease themselves in the open. This will hopefully create a precedent for enforcement, leading to demand for sanitation within the SSD Project.

Figure 9. GWMA Leaflet on Sanitation by-laws and moratorium on sanitation (2016)

Photo Credit: ASSESS, SSD Evaluation (2017)

The activities (including communication tools such as posters) of other donors and sanitation projects (such as the GAMA project) could create positive externalities, which will strengthen demand for sanitation. The municipality, with the support from WSUP, also produced tee-shirts and publicized regulatory reforms. These activities contribute to strengthening awareness on the importance of having toilets and create momentum in favor of sanitation. WSUP has participated in this demand creation prior to the start of SSD. This created favorable conditions for further development of the BMs in Ghana. The capacity of the entrepreneurs to market their product through visible advertisement in the two municipalities also contributes to demand creation.

Despite this effort, all FGDs and interviews conducted with entrepreneurs, TSAs, and CPs in Ga West and Kumasi highlighted that demand remains the main challenge. Entrepreneurs identify the lack of public awareness as a major barrier to market development. They declared that they do not have the leverage to impact demand significantly and requested effort at the project and municipal levels to

launch a strong awareness campaign, especially through the radio and to enforce the bye-law.

Figure 10. Strategies and campaigns

The vibrant color or the latrines in Côte d'Ivoire participate in promoting sanitation

In Abomey Calavy (Benin), Chimène would be happy to recommend the toilets to her neighbors but she does not have the phone number of the entrepreneurs

In Kumasi, the entrepreneurs have invested in sanitation marketing tools and request massive radio campaign to strengthen the demand. In Ga West, they demand effective enforcement of the moratorium and more awareness campaign.

Photo Credit: SSD Evaluation (2017)

Social marketing actions which are currently undertaken would be much more efficient if they built upon awareness and behavior change campaigns using mass and interpersonal communication organized at the project level but also at the national and/or municipal level. In Côte d'Ivoire and Benin, the team noted that in spite of the poor demand, the BMs did not integrate specific actions for demand creation in the research phase of the project and that this is likely to impact the pace of piloting and the scaling-up process negatively. For example, the TSAs in Benin have the hard task to undertake door-to-door toilet promotion and social marketing, while potential customers have not massively or recently heard about the importance of purchasing toilets, neither from the radio nor the government. As a result, sales rates are extremely low (5 TSA visits to over 500 HH in 2 months led to the construction of only one toilet with four in the process), and demand creation tools are strongly needed.

User satisfaction with the BM is also a key factor in assessing user buy-in and the model's likeliness to go to scale. The team noted that in the three countries, users showed great satisfaction not only in accessing individual sanitation but also in the technologies proposed. The possible impact on demand generation is limited by the price and access to finance (such as in Ghana). In Benin and Côte d'Ivoire, the impact on demand generation is limited because the systems were provided for free (in Benin, there was a financial/in-kind participation in building the superstructure). In this case, beneficiaries are unable to provide necessary cost information to interested visitors and do not have the contact details of the entrepreneurs. Names of entrepreneurs should be written on the facilities built to provide immediate information to interested users.

The gratuity involved in the live prototype process in Côte d'Ivoire might hinder the piloting stage intended to be implemented in the neighborhood as neighbors are also expecting a gratuity.

The team noted that demand for the Clean Team model appeared to exist in the three countries (SSD Program, 2015d & 2015e; interview with PATH). This model is successful and is currently being strengthened in Ghana through the Mobile Money which will enable it to go scale. However, in Côte d'Ivoire and Benin, this model was not retained after the July 2016 Partners meeting for reasons not related to demand. The evaluation team finds that the methodology used to assess container based system toilets in Benin was not appropriate as the rough prototype, and products assessment relied on imported technologies which the interviewees had to assess based on pictures. The team finds that there was a missed opportunity to test a BM which is successful in Ghana and may have also been successful in the two other countries. In addition, this BM is the only model which is affordable for the poorest population.

Based on these findings and analysis, the team recommends:

REC 14	*The IP should develop an awareness campaign and a behavior change strategy to strengthen demand. IPs should consult TSA, community pioneers, municipalities, and other stakeholders in the WASH sector to define one or two key messages and to select a limited number of channels to convey messages (radio, TV, text messages, flyers, posters). For implementation, IPs should establish partnerships with government at national level, influential stakeholders at a municipal level such as the municipal councils and chef de quartiers in Benin, civil society (local associations in Côte d'Ivoire and international NGOs) to raise awareness and create stronger enabling conditions for social marketing. The task of awareness raising should not be the responsibility of TSAs and community pioneers.*
REC 15	*The IP should share the lessons learned from Ghana with municipalities in Benin and national/municipal level in Côte d'Ivoire to influence them to engage in legal enforcement (together with accompanying measures).*

3.2.3.2. Supply side: strengthening the private sector

In this section, the team explored the extent to which the BMs contributed to strengthening the private sector to provide appropriate products and services in each country and build their capacity to provide services at scale.

VTO and PLB business models

In each of the countries, a VTO BM was set up within the SSD to build the capacity of VTOs to make better the business more efficient by improving operations and customer service with the aim of reducing prices and unlocking latent demand.

In Ghana, the team noted that VTOs were involved in SSD from the beginning of the project and have benefited from regular training to provide quality service to clients which resulted in improvement of service, especially the cleaning of premises after desludging, and contributed to an increase in patronage. Unfortunately, there is no M&E system to document this evidence and to track progress.

The quality of service the trainers (WSUP) are requesting from PLBs requires a financial investment, which PLB owners claim they do not have. While municipalities believe that the PLB business is profitable, operators and managers of PLBs stated that their activity has not been lucrative enough to make such investment. PLBs were also connected to MFIs to enable them to secure loans to improve their services. However, they have not actively sought loans because the interest rate was too high (interview with PLBs in Kumasi). A PLB operator in Ga West explained that they funded the extension of their facilities from the revenues of a more profitable economic activity. The challenge remains to find a sustainable financing scheme for PLBs and VTOs (SSD Program Report, 2016d, p23).

According to the PLBs (interview in Ga West), training had a positive impact because the improved quality of service increased the number of customers (satisfaction), with little (e.g., 40 to 50 pesewas) or no increase in price. This generated higher benefits as the time and money spent for improvement was recovered by the increase in the number of customers. A similar impact was noted according to the VTOs interviewed in Kumasi. They reported that increased satisfaction and stable prices led to an increased number of customers and positive financial impact. The training also resulted in improvement of safety protection practices for the VTOs. The team noted that links were established with MFIs who attended the training of both the PLBs and the VTOs. The same modus operandi was noted for the compound BM where direct links were established between MFIs and entrepreneurs through their participation in common events.

The concern that improvement in PLBs might become a disincentive to for HH latrine programs was raised with PLB owners and with the SSD team in Ghana. In Ga West, stakeholders claimed that the sanitation market and the needs are enormous and, therefore, there is no risk of competition (FGD). In

fact, concentrating on both PLBs and compound sanitation is a strong point as both programs reinforce each other and enable both the average income earner and the poor to benefit from improvement in the short term. The buy-in of all PLBs needs to be ensured (e.g. in Kumasi a PLB owner interviewed does not want to participate in the PLB program and is not happy with an increased number of HH accessing sanitation).

In Côte d'Ivoire, the team noted that VTOs were contacted early, during the research phase. Efforts were made to identify their needs and constraints and those of their customers, as well as to improve relationships with ONAD and to build their capacity with a professional vocational training center (*Institut Européen de Cooperation et de Développement - IECD*) which targets business management for entrepreneurs. The team noted that there is a major misunderstanding as VTOs developed their business plans with the assumption that they would be provided with trucks recently purchased by ONAD. This is unlikely to occur.

The training had a very positive impact on VTOs' services (transparency in price, cleaning the compound after service delivery), on their safety practices (gloves, proper outfit), and in the management of their business (an increase in profit through rationalization of practices and improved financial management). SSD also developed a common vision to move forward with ONAD with plans for certification and establishment of a call center.

Finally, the team noted that much attention was given to the testing phase, using tools provided by PATH, which led to a strong, rough prototype – "Olivier Vidange." This prototype is likely to address the needs of users and VTOs and is also in line with priorities at the national level (interviews with the country team, with ONAD, with the VTOs and with IECD).

In Benin, the BM intends to create a VTO hotline where HH may call to enquire and obtain information regarding VTOs and operators associated with ABMS providing latrine rehabilitation and cleaning services (SSD Program Report 2016d, p. 52). The model is relevant because FSM is identified at both municipal and national levels as a priority (interview with Yopougon municipality and with the MoH).

VTOs have been recruited, and a first workshop was organized in December 2016 to present and explain the objectives of the project. MFIs were approached to connect them with VTOs and other artisans in the latrine market (interviews with VTOs and MFIs). This BM was at a very early stage, so it is difficult to draw a conclusion on its likeliness to succeed and its scalability or to make recommendations.

The team finds that a focus on VTOs in the three countries is relevant as it addresses needs of the private sector and users as well as priorities at municipal and national levels. In Ghana and Côte d'Ivoire, the strength of the BM lies in building the capacity of operators and developing the models in close cooperation with appropriate institutional authorities (a municipality in Ghana and ONAD in Côte d'Ivoire).

The weakness of the models is inherent to the sector and results from high maintenance cost and the VTOs' need to invest in the expensive material to scale-up their activities. However, the BMs developed by SSD (VTO and HH sanitation) both facilitate an increase in the number of customers and revenues. In Côte d'Ivoire, the team finds that there is a misunderstanding about the possibility of the VTOs to access trucks through a special arrangement with ONAD. SSD has established an excellent partnership with ONAD but is confronted with ONAD's lack of decision to grant the trucks in spite of a detailed fleet management strategy developed by the country team. VTOs face difficulties in accessing finance due to high interest rates, short repayment period, and the need for a guarantee fund by the MFIs or traditional banking institutions. The team finds that there is a conflict between the need to decrease the price of desludging (fixed prices set by KMA are not respected by the VTOs) and the need for the VTOs to make profits for reinvestment. However, there is still the need to rationalize FSM in Ghana to decrease cost.

The team finds that addressing PLBs in Ghana has been a very successful step to improving sanitation, although as pointed out by the municipalities, there is a need for infrastructure rehabilitation which is at the moment difficult to realize because of difficulties in accessing finance.

Municipalities have already invested time and human resources to improve services, but the financing sector is not willing to provide the needed investment. If the municipalities want to upgrade PLBs further, they should commit to the BM, for example backing the PLBs with a guarantee fund to facilitate access to credit.

In Benin, the team finds that the VTO business model has not started, except for the organization of a meeting. The team concluded that the development of a BM addressing VTOs is relevant. However, the team questions the capacity of the country team to start the VTO business model from scratch while at the same time piloting and scaling up HH sanitation. Additionally, the BM for HH sanitation was designed in a way that traditional desludging with a pumping device will not be needed. It might be coherent to direct effort at establishing an organization and capacity building to safely empty dry pits rather than concentrating on wet pit emptying.

FSM treatment is beyond the scope of the SSD project. However, there is an urgent need to address this component as in both Côte d'Ivoire and Benin. Collected sludge goes untreated into the sea. SSD is already raising awareness at the national level about this need and ONAD is working on building a new treatment station in Abidjan.

In short, the team finds that the monitoring indicators do not reflect the improvement of sanitation services and the positive impact on the poor (PLB users), on compound dwellers (safer and better desludging services), for the entrepreneurs (more customers, better profit), and on the government (better relationships with private sector actors). It is unfortunate as these are valuable outputs of the project which contribute either directly in improving sanitation services or indirectly in creating favorable conditions for the development of BMs in general.

At the project level, the team recommends:

REC 16	*IPs in Côte d'Ivoire should pursue the capacity building process (REC 8) until the end of the project to strengthen existing skills and to include more operators in the process (six VTOS trained in Côte d'Ivoire) and to share outputs with the two other countries (in particular the trainings provided by IECD) and to involve national or municipal level actors to facilitate access to truck/loans to purchase trucks through leasing, guarantee funds, or other suitable arrangements (Ghana and Côte d'Ivoire)*
REC 17	*The Country team in Benin has just begun to engage with the VTOs. Since VTO is one of their BMs, they should engage them as soon as possible. The Country team in Benin should also support the government in the development of guidelines and capacity building on emptying the content of dry pits and disposal /reuse of compost.*
The findings complement REC 4 (M&E system) to include indicators to monitor the impact of VTO and PLB related activities until the end of the project.	

Household latrines business models

Price and technology proposed are among the critical factors to ensure the development of this BM.

In Ghana, the BM relies on a variety of technologies including Duraplast, septic tanks, and bio-digesters, combined with micro-flush, pour flush or full flush systems. The price of the technologies does not make it accessible to low-income populations, but both the Clean Team and PLB BMs target the poor.

The team finds that the approach comprising the development of three business models targeting three socio-economic groups is very relevant and appropriate. The HH BM addresses the middle-income population, supported by a financing scheme, and the Clean Team and PLB BMs address poorer populations. The team recommends:

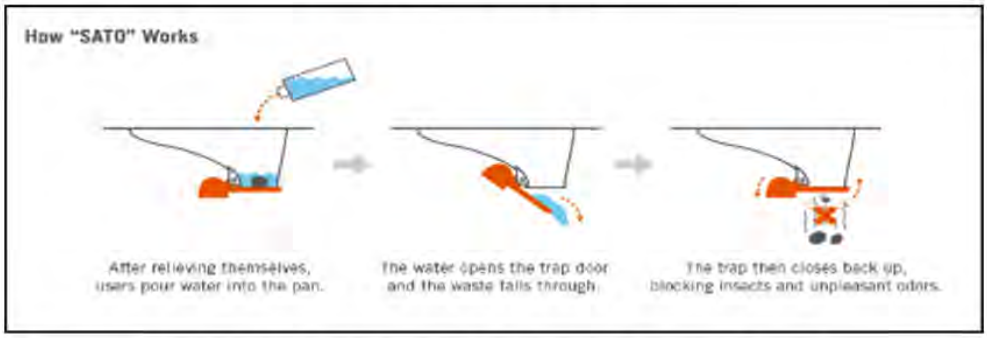
REC 18a	*IPs and the USAID environmental office should consider the combination of BMs (or a BM mix) as an appropriate practice to address sanitation in West Africa. Considering that the price of technologies will most likely be lowered to some extent, and given finance remains a weak link, design, and implementation of three business models*

provides a smart approach to enable different socio-economic groups to improve access to sanitation. This approach should be shared among the three countries and be used as a benchmark for future programming in West Africa.

In Benin, The BM relies on a single technological option, SaToPan and double pit, for compound sanitation. The technology proposed derives from the testing process, as the SaToPan was tested by two entrepreneurs and 13 users with excellent feedback from both the users and the entrepreneurs. The interface is relevant to the context (price and environment since little water is needed) and the problems encountered by users. It is suitable for both washers and wipers.

The team finds the BM developed uses an appropriate and relevant technology for the user interface and containment. The team noted that SaToPan is currently a growing low-cost technology around the world with one million units sold and that local production has started in several countries (Bangladesh and the "stool" toilet will go into production in Kenya and Nigeria in July 2017). Moreover, the installation of SaToPan on existing pits would be an improvement for existing pit toilets users who were highly dissatisfied by the sanitary conditions of their facilities. The entrepreneur who sold the 13 SaToPan claimed there is a huge demand from customers for this product. Interviews and recommendations from PATH (SSD Program, 2015) also revealed that there may be a market opportunity for the seated (stool) version of the SaToPan, to upgrade toilets of poor to middle-income customers and disabled users.

Figure 11. How the SATO works



Source: Lixil website quoted in SuSanA's discussion forum[8]

Figure 12. Different types of SaTopan

From left to right: Satopan installed in Benin and in Côte d'Ivoire and locally made squatting pan in Côte d'Ivoire. (Photo Credit: ASSESS, SSD Evaluation 2017)

The team concludes that the SaToPan along with the double alternating pit is a relevant technology in the local context and is likely to be successful for scaling-up if the necessary supporting functions are appropriately developed in parallel (commercialization, support from the government, access to finance and training on pit emptying and management).

The team recommends,

	IPs should pilot and scale up both the SaToPan and double pit technologies for HH sanitation, and consider scaling up this BM in Ghana and Côte d'Ivoire.
REC 18b	*IPs should monitor SaToPan sales, including upgrades to existing toilets (this reinforces REC 4 related to monitoring framework and REC 5 related to advocating for tracking toilet improvement)*

In Côte d'Ivoire, the ferro cement tank technology was in the early testing phase, so it was difficult to assess its appropriateness for scaling-up. The IP chose the ferro-cement technology because of its price which is supposedly lower than traditional technologies. The team finds that this was not yet proven (FGD with entrepreneurs, interview with PATH, interview with the IP) as none of the stakeholders agreed on the price of existing and current technologies. The entrepreneurs interviewed in Côte d'Ivoire believed that "ferro cement is too expensive: I would not advise a HH to do it." At the same time, the team noted that the entrepreneurs had no knowledge of the price of materials used, even for the septic tanks they regularly build. Entrepreneurs also stated that because of limited financial resources customers always prioritize price over quality. The key issue to trigger demand is, therefore, the capacity of SSD to come up with a lower price for the ferro-cement septic tank compared to traditional systems or opt to promote other low-cost technologies.

According to PATH, contextual factors that facilitated lower prices in India do not exist in Côte d'Ivoire. Moreover, the team finds that entrepreneurs lack skills to provide the complete set of services results in a lack of leverage to negotiate lower material prices with suppliers as they have no contact with them. This situation is due to a lack of capacity and a lack of trust between customers and entrepreneurs. Any activity geared towards addressing this deficiency (accountability, capacity to make estimates and negotiate prices with material suppliers, and improving trust between suppliers and artisans) will facilitate market development. With regard to the interface, the different solutions tested by the IPs are appropriate as they rely on both imported technology (SaToPan) and locally made squatting pans.

The team recommends the following in Côte d'Ivoire:

	The IP should identify a price for the ferro-cement technology as quickly as possible, communicate this information to the entrepreneurs, and train them to develop the cost of their activities and provide estimates to their clients.
REC 19	The finding reinforces REC 8: the IP should build the capacity of the entrepreneurs in business management to enable them to offer a full service including the purchase of materials and to negotiate prices with their suppliers. These new skills should contribute to increasing trust between entrepreneurs and customers. Entrepreneurs should also be trained in accountability. The IP should consider other HH BM using the sanitation technologies developed in the two other countries and improve existing technologies in parallel to offer a wider range of options and prices to the end users. This reinforces REC 18 to offer a BM mix or a technological mix to address the needs of a large number of users.
REC 20	*PSI and its partners should run a comparative cost study for small-scale collective sanitation such as shallow sewers in densely populated urban areas like Yopougon.*
REC 21	*IPs and its partners should involve local resources, engineers, and local universities in the research phase and engage them in making proposals and designs for low-cost technologies. Much time was spent in Benin and Côte d'Ivoire in testing and reflecting on technologies coming from foreign universities or used in the north or imported without being able to come up with a new affordable technology for poor HH.*

Capacity of the private sector

In Ghana, the HH latrine BM addressed the need to build the capacity of the private sector to meet growing demand. The Artisan Business Scale up is a light version of the Toilet Accelerator, a BM initially designed to provide support to sanitation businesses based on in-depth market research and specific business requirements. The Toilet Accelerator BM sought to offer performance-based financing to businesses and mentorship in achieving objectives over a period of 6 to 12 months. It also included the provision of a capital amount corresponding to the number of toilets needed to be built. The idea was to have a revolving fund so the entrepreneurs could pre-finance the construction of the toilets and enable customers to repay the entrepreneur in installments. The Toilet Accelerator was projected to support 28 businesses reaching 15,000 users with improved sanitation and services. This BM is in line with the analysis of the entrepreneurs in Ga West who estimated 20 to 30 companies were needed to meet the needs (there were currently eight operating companies). However, this BM was surprisingly pivoted because "it was not aligned with SSD objectives" (business model table provided by the IPs).

The artisan business scale-up BM addressed needs for capacity building through training 23 entrepreneurs on toilet construction and 18 entrepreneurs on business development and financial development. Ten entrepreneurs were still active and provided toilets. As a result, by March 2017, 284 sanitation systems were built for 3,520 users with a diversity of technologies including Duraplast septic tank, bio composter (digester toilets), concrete septic tank with blocks and enviro loo.

Figure 13. Entrepreneurs in Kumasi

Photo Credit: ASSESS, SSD Evaluation (2017)

In Côte d'Ivoire, capacity building was done by involving masons and metal workers in the live prototype at M. Kone's compound. In Benin, the fact that so many technologies were reviewed before contacting the entrepreneurs delayed their active participation in the project. ABMS has been building the capacity of the manufacturers of the concrete ring and seats (pots de defecation) since March 2016.

The team finds that the overall capacity of entrepreneurs was technically good in Ghana. Some of them resorted to other capacity building activities by taking courses at KNUST (EcoCycle in Kumasi) or by getting employment for a year in an established company. For example, Pup Master set up his company after getting a one-year contract with Samalex in Ga West. In Benin, the technical capacity of the entrepreneurs was also good as the technology chosen for the BM relies on existing skills (cement seats and cement rings). In Côte d'Ivoire, the technical capacity of the entrepreneurs was not yet well developed as they just got acquainted with the ferro cement technology.

The team finds that although entrepreneurs' capacity was much higher in Ghana than in the two other countries, there is a need for the entrepreneurs to build their capacity in all aspects of the sanitation business. The capacity of the entrepreneurs to go at scale was significantly hindered by their lack of business development skills, material and in particular the lack of access to trucks. They were relying on rented trucks, which were expensive and not always available. The team also finds that the entrepreneurs in Kumasi and Accra were facing a difficult challenge in reaching out to potential customers scattered all around the municipalities. This affects their capacity to supervise several construction sites at the same time.

To address the logistical issue, the country teams could use geographical segmentation in the scaling up strategy in Ghana, where SSD already intends to segment communities into blocks of 20 houses, as well as in the other two countries. This means targeting one or two areas of the municipality at a time, enhancing entrepreneurs' supervision during the construction of sanitation facilities.

The findings reinforce REC 23: *The IPs should put a major focus on entrepreneurs' training in the three countries and provide logistical support*. For example, the entrepreneurs in Ghana, need better access to trucks which could be provided by SSD by renting or buying one or several trucks which the entrepreneurs could pay to use. It would strongly support the development of their activity for scaling up (Ghana). In Côte d'Ivoire and Benin, the IPs should use the artisan business model as an example of good practice and put greater effort into supporting artisans in business management (planning, calculating costs) and in developing a complete offer for sanitation system. The market is too segmented at the moment, and entrepreneurs' knowledge is deficient (especially in Côte d'Ivoire).

The IPs should support the entrepreneurs in business planning by helping them to identify the production/installation capacity they can achieve within the next 24 months and to determine if this capacity is adequate to reach the million toilets target. The project needs to build the capacity of the entrepreneurs to enable them to provide full service to clients and not only labor. The project could also support entrepreneurs to negotiate their prices with raw material supplies to decrease product costs.

The IPs should link up with municipal or governmental agencies to set up an entrepreneur training center that could continue after the end of the project. If the objective is a structural change of the sanitation market, there must be a structural change in the vocational training sector.

For future programming, the team recommends:

The finding reinforces REC 8 related to capacity building of entrepreneurs: *The IP should consider a financial provision in the project budget to support the entrepreneurs.* If past approaches to sanitation have concluded that direct subsidies to HH have failed, this does not mean that no money should be spent through direct support to the entrepreneurs in the form of providing tools, facilitating or providing logistical means (such as in this case renting a truck) and in testing ideas such as granting a revolving fund to the entrepreneurs so they have enough cash flow to allow their customers to pay them in instalments. In fact, the Toilet Accelerator BM seemed to be perfectly relevant to address the needs of the private sector in order to be able to go to scale. The team does not understand why this BM was pivoted and why "it does not align with SSD objectives."

Marketing strategy

The marketing strategy has been implemented in Ghana for over a year but was just starting in Benin with the recruitment of TSA in March 2017. In Côte d'Ivoire, the marketing will also start soon with the piloting of the BM. The team noted that in theory the awareness campaign (benefits and obligation to have toilets) and the social marketing (selling the sanitation systems) are separated in Ghana as marketing campaign activities are run by Environmental Health Officers (EHOs) and community pioneers (CPs) to create a channel of demand. However, in practice, TSAs and community pioneers are responsible for promoting sanitation and selling toilets. The same situation is found in Benin with the TSAs, who were recruited two months prior to the SSD performance evaluation.

Although results were better in Ghana, the team finds that sales efficiency was extremely low given TSAs/CPs need to make repeated sales pitches, sometimes up to four times, before a HH began to request estimates. In Ga West, 5 out of 10 TSAs resigned because of lack of opportunity to make a decent living, and some TSA are entrepreneurs at the same time. In Kumasi, the CP hardly sell any toilets and agreements with entrepreneurs (% of sales) are not clear. In Benin, the team finds that the success rate of the TSA was very low and was not efficient. In two months 5 TSAs visited over 500 HH resulting in one toilet built and four in the process. This situation is not different from what was observed in Ghana, where TSAs, CPs, and entrepreneurs provided similar results. To build 10 sanitation systems, entrepreneurs visit hundreds of households. This poor efficiency needs to be improved to be able to go to scale, even in Ghana.

Social marketing tools exist in Ghana. Entrepreneurs have developed tools such as flyers (Pup Master), websites, and Facebook pages (EcoCycle) and large boards promoting their products (AFCO, Maulvy) (**Figure 14** and **Figure 15**). In Benin, the marketing tools for Latrines BM were rudimentary (photocopied documents of small posters, tee-shirts from other projects, and no list of prices and entrepreneurs) as the marketing phase has just started. To date, no events have been organized to strengthen demand. The demand creation system relies so far on TSA's visiting households. It is understandable as this is only a start, but the project needs to speed up with the development of the tools.

Figure 14. Entrepreneurs in tee-shirts

Entrepreneurs in Kumasi wearing tee-shirts with the logo "Own a toilet now", reminding the "toilet in every compound" municipal strategy: "The project has given us an identity"

Additionally, the TSAs and CPs need further support from the project as their role is key to developing the market and scaling up. Currently, they need adequate means of transportation (motorbikes), communication tools (phone and load), promotion tools (flyers, lists of entrepreneurs with phone numbers, tee-shirts), and adequate incentives. The team finds it interesting to see that the provision of tee-shirts in Ga West and Kumasi, with logos of MFIs and the by-line of the municipal strategy, had a very good impact on the motivation and confidence of the entrepreneurs and households' trust.

The team finds that the awareness campaign and the social marketing actions should be conducted separately and through different channels, in particular through radio campaigns at the municipal level. As reflected in the section related to demand, there is a strong need to create demand for sanitation prior to the visit of toilet sales agents. The commercial links between each of the actors also need to be clarified, especially in Kumasi where CPs earn nothing but pride in the process.

Figure 15. Social marketing tools for toilet entrepreneurs

Entrepreneur's leaflet in Ghana (Ga West) | *Project leaflet in Benin (not used yet by the TSAs)* | *Clean Team promotion leaflet in Ghana (Kumasi)*

Photo Credit: ASSESS, SSD Evaluation (2017)

Another finding is that the sales forces should not be associated with an NGO because it automatically puts consumers in the position of beneficiaries and they tend to expect a subsidy or gratuity (according to the TSA in Benin). "Some of them want it for free. As we are an NGO, they think that it is free and that we are trying to *hold them for* ransom." (FGD with TSA). TSAs are the sales force of entrepreneurs and should directly depend on them. The team finds, especially in the case of Benin, that the project is not linking entrepreneurs and customers directly enough. For example, the TSAs are selling the idea of the SaToPan and double pit toilets but do not have a list of suppliers and entrepreneurs ready for the potential customer to call. The idea of developing a hotline (cf. latrine chigan poster, Figure 15) is excellent, but customers should also be able to contact the entrepreneurs

directly. The team finds that the sales strategy could be more efficient if TSA's were linked to or employed directly by the entrepreneurs.

The team recommends:

REC 22	*The IPs should separate the awareness raising (conducted by municipalities and SSD) from the social marketing (undertaken directly by the entrepreneurs and supported by SSD). This means the entrepreneurs should employ directly their sales agents (some entrepreneurs in Kumasi and Ga West already do it, and they are more successful).*
REC 23	*The IPs should adopt a segmentation strategy and apply a systematic methodology entailing an awareness campaign and the visit of EHOs to mobilize HH and enforce the obligation to have sanitation, followed by the social marketing of the entrepreneurs in the same zone.* *The IPs should include in the M&E, the success rate of social marketing (REC 4)* *The IPs should integrate further the social marketing and access to finance (this will be elaborated further in the finance section below).*

3.2.3.3. Enabling environment: engaging municipal and country governments

As stated in the SSD Program Report (2015d), "*for market-based approaches to flourish, the public sector needs to create demand for sanitation through effective behavior change communications (BCC), provide a link to carefully targeted subsidies specifically for the poorest consumers, create/modify laws that enforce better sanitation and develop policies that are favorable to businesses. This requires strong partnerships with the government, but also a broader strategy that strengthens local government through capacity building and improved funding*." The team noted that government's engagement was addressed during the first phase of the project through a set of actions at the national and municipal level.

In Ghana, efforts were made to engage the municipality in sanitation. Considering WSUP is running a sanitation program with different sources of funding, it is not easy to identify precisely which activities were undertaken under SSD and which activities are funded separately.

WSUP has supported Ga West, and Kumasi Metropolitan Assembly (KMA) to develop a compound sanitation strategy and professionalization of the operations and maintenance of PLBs. WSUP and GWMA had also signed a Partnership Agreement to implement these strategies before the launch of SSD.

WSUP also worked closely with both municipalities to streamline sanitation-related by-laws, covering different aspects such as solid waste, poultry in compounds, and sanitation. The approach centers on enforcement, making it an obligation for the landlords to "*construct household toilets and catch-pits, to collect all fecal matter and domestic water*" and to "*maintain the facilities*." Penalties were defined, a moratorium on prosecution was issued in 2016, and a specific day was selected to address sanitation issues at the municipal court. The regulatory framework is also supportive as it states that EHSD would support house owners to "*acquire appropriate sanitation facilities that they can afford through the services of the private sector*." Additionally, a monitoring system is established, and the by-law lays down a "*property tax incentive if all household members have access to installing toilets*."

Both municipalities have an established budget line for sanitation activities. In Ga West, the municipality regrets that financial support provided by WSUP does not pass through the financial department as this would enable them to be aware of the amount spent on activities for future direct implementation by the municipality and to compare SSD with other WASH programs.

As stated earlier, WSUP also worked with GWMA to increase property tax collection and to ring-fence a percentage of the extra amount collected for sanitation projects. The counterpart fund is agreed through a protocol (10% of property tax), but it is yet to be provided.

WSUP also supported the municipalities to improve PLBs through a robust monitoring and control system (See **Figure 16**). EHOs conducted weekly assessments of the facilities and developed an award system using a star rating (similar to hotels) to motivate further PLBs in improving the services they provide. GWMA is very satisfied because they initially thought that PLBs were not important but are impressed with the results. FSM (initially included in the model testing) also ranks high in the priorities of the municipality.

GWMA noted that there are other sanitation projects which support access to sanitation, in particular, the GAMA project which provides a 50% subsidy to households to access sanitation, and acknowledged that WSUP greatly supported this project when it was established. The municipality was extremely satisfied with the support they received by WSUP, including capacity building, knowledge sharing with other countries, and participation in international conferences.

At the national level, the Ministry of Sanitation and Water reported that they had not been involved in the SSD project, but they participated in workshops (inception and learning). They were not entirely aware of the pilot phase working towards the development of scalable market-based models in Ghana and the sub-region. The Ministry of Sanitation was interested in learning more about the project and reported that there are ways to collaborate further given the national level WASH programs being implemented.

In Côte d'Ivoire, the municipality has not been involved in the research phase of the project, but the national agency was closely associated with the development of the project. At the project level, SSD team intended to work more with the municipality but explained that strong advocacy to encourage engagement of the municipality could only be done once the project knows where it is heading and has made a decision in terms of the model. Municipal involvement was recently launched as they will participate in an upcoming workshop.

Regarding sanitation, the municipality claimed their responsibility is limited to PLBs which they control and can shut down if operators do not comply with required standards. The key sanitation issue identified by the municipality was the treatment of fecal sludge. The country team in Côte d'Ivoire has worked extensively with ONAD for the development and the testing of both the ferro-cement septic tank within the Healthy Compound BM and the Vidange Plus model.

Figure 1. Extract from the monitoring indicators for PLBs in Ghana

KEY PERFORMANCE INDICATORS FOR PUBLIC TOILETS - KUMASI				
CATEGORY		INDICATOR		WEIGHTIN
Weight	Title	No.	Question	G
10%	Cleanliness of External Surroundings of Toilet	Q1	How clean is the entrance?	3,0%
		Q2	How clean and well kept (e.g. painted) are the external walls?	3,0%
		Q3	How clean is the environment from litter?	4,0%
5%	Functionality of Containment Structure	Q4	How well is the containment structure maintained?	5,0%
21%	Internal Cleanliness of Toilet	Q5	How well is solid waste managed (e.g. anal cleansing material or menstrual hygiene waste - MHW)?	5,0%
		Q6	How clean are the walls and doors (e.g. is there graffiti, cob webs, etc.)?	5,0%
		Q7	How clean are the latrine seats / bowls, urinals, wash hand basins, tiles, floors?	11,0%
15%	Internal Lighting & Ventilation	Q8	How functional is the ventilation (i.e. odour/smell and temperature)?	7,5%
		Q9	How adequate is the lighting (natural and electricity) in and around the toilet and cubicles?	7,5%
15%	Availability of Washing Facilities	Q10	What is the level of availability of water and facilities for handwashing, flushing, soap, paper towel/dryer and hand sanitizers to users?	7,0%
		Q11	What is the level of availability of water and facilities for washing for women and girls during their menstrual cycle?	8,0%

Source: GWMA (2017)

Constant knowledge exchange has had an impact on ONAD as they are developing their current strategies and action plans and are pro-actively requesting advice from PSI, the IP in Cote d'Ivoire, (interview with ONAD). The IP has become a strategic partner as ONAD awaits their results to improve septic tank designs. The IP was also requested to draft a fleet management strategy for the desludging trucks and to facilitate the accreditation process of the VTOs. All these steps are time-consuming but are fully part of a sustainable business model for the VTOs in Abidjan.

ONAD was also thoroughly involved in the development and testing of the ferro-cement septic tank and was waiting for further information (cost and resistance study) to recommend this technology. ONAD was extremely satisfied with this collaboration and finds that SSD's involvement upgraded the capacity of the VTOs and facilitated greater cooperation, which is key to the development of the VTO BM and the strategic planning of FSM in Abidjan. ONAD also finds that the 2 BM developed are very relevant to the context and coherent with their current activities. As they are currently building sludge disposal stations, they welcomed the development of a VTO BM and the design of easy-to-desludge septic tanks.

Questions about further commitment and effective support from ONAD to the projects remain partly unanswered or always dependent on external support. For example, the legal framework is not in place, but there is a project on the Sanitation code supported by the EU where VTOs who have received training could train their peers. This indicates that ONAD does not intend to undertake training by themselves. ONAD suggested that the municipalities should be more involved, and the technical departments of the municipalities should supervise the desludging of the tanks, but it is not clear if they would like to lead this kind of initiative or they intend to rely on partners such as SSD.

In Benin, ABMS has developed excellent relationships at the national level with the Ministry of Health. These relationships already existed prior to the launch of SSD with a Memorandum of Understanding for collaboration on the promotion of hygiene and sanitation in urban and peri-urban areas of Cotonou, which enabled ABMS to support the ministry financially and with Information Education and Communication (IEC).

Discussions were held early in the project to assess how the government could potentially support SSD.

The ministry finds that the objectives of SSD in improving access to sanitation are very relevant to the context in Cotonou but expressed concerns about the technological solution, in particular health and environmental risks related to users emptying the latrines. After the testing phase, the ministry intends to include the SaToPan and double pit model in their catalog of approved technologies at the national level. They also find the SaToPan is relevant to rehabilitate existing latrines.

The ministry was very satisfied with the knowledge sharing on models for urban sanitation but lamented that little implementation has been done by the project. The Ministry also stated that working with ABMS has had a positive impact on the development of an urban and peri-urban intervention strategy which will soon be launched through World Bank funding.

On further commitment, the position is similar to that of Cote d'Ivoire. SSD has launched initiatives to obtain further commitment at ministerial level to support the implementation strategy. A workshop was organized at the national level where the creation of a guarantee fund, as well as a credit line for sanitation, was suggested. A technical group led by ABMS/SSD was created and involves ministry representatives, the focal point of the municipalities, and persons in charge of MFIs at the national level. The amount of the credit line has not yet been identified, but at the national level, it is assumed that the funds should come from external donors.

At the municipal level, the team noted that the municipality of Porto Novo drafted a road map to improve sanitation in 2017 and allocated a budget of 5 million CFA (8,300 USD) to support access to sanitation (Latrines BM) by poor HH. The municipal human resources (chefs de quartiers & chef d'arrondissement, See **Figure 17**) were sensitized and had supported the project (TSAs) to identify 45 HHs interested in building latrines and who would need support. The main challenge for the

municipality in terms of implementation is that they felt the project was not ready ("the project is in a liquid phase"). The Direction des Services Techniques de la Marie de Cotonou (DST) claimed more money could have been allocated to the budget line, but they felt SSD was too slow to support their system effectively and therefore the municipal council doubted the money would be spent, should they allocate a higher amount.

Porto Novo municipality has been waiting for the cost of the technical solution developed in Benin (which we know is roughly 150,000 CFA) to be able to determine the number of HH they could support and the amount of subsidy they would allocate to each HH. They were eager to effectively implement this project as they undergo pressure from the HHs and see the provision of sanitation as politically rewarding. The municipality was also open to other financial arrangements such as acting as a guarantor for HHs taking loans (thus, solving the key issue of guarantee funds at the municipal level). According to the DST, "*if the project tells us how to do to support the HH, we can convince our peers at the municipal council to put more financial efforts into sanitation*."

In Abomey Calavi, the team noted that there was a similar willingness to support the project at the municipal level. The Chefs d'Arrondissement offered their full cooperation to support the identification of HHs which do not have latrines and even to provide their assessment of the "*serious*" HH which may be poor but can repay the loans. They were also offering their support to monitor and support these HHs in the repayment process through motivation.

Again, following a presentation of the SSD project in December 2016 to the municipal council of Abomey Calavi, the mayor decided to pay for demonstration toilets in one of the arrondissements to encourage HH to build toilets on their compound. Since then ABMS has not provided any design because they felt the model still needed to be refined (working session with ABMS).

The team finds that overall, the initiatives implemented by SSD during the preparation phase of the project to inform and engage the government either at national or municipal level were positive and contributed to the creation of an enabling environment for the development of the BM. At the municipal level, the most successful approach was found in Ghana, as SSD focused on obtaining an active and involved commitment from the municipality. This commitment through the mobilization of funds, human resources, and enforcement initiatives already has a positive impact on the success of the PLB and compound sanitation BMs. This is confirmed by the PLBs themselves as they claimed regular visits of the EHOs keep reminding them the standards they need to keep and the need to offer good public latrine services. On the side of compound sanitation, there was also evidence that the regulatory framework and sanitation by-laws have triggered decisions by tenants to build sanitation facilities, although this was limited by the lack of effective enforcement.

In Benin, municipalities appear willing to engage proactively with SSD, but the team feels that ABMS slowed down the progress of the municipality because they want to achieve a perfect BM before starting to implement. The team recommends ABMS to "*cut loose*" on controlling the whole process and to share information with the municipalities and the other stakeholders during the research and testing phase. The team finds that in Benin and Côte d'Ivoire, the SSD team focused on testing technologies and not enough on mobilizing municipalities to test municipal arrangements, ways of collaboration and commitment, listening to their ideas and encouraging ownership of the solutions proposed. The team finds that the country team in Côte d'Ivoire waited too long, until the BM was defined, to involve the municipality. One of the reasons stated for not involving Yopougon municipality earlier is that "*they do not have funds for implementation*" (Interview with PSI). The team finds that on the contrary, this should have been a reason to involve them from the beginning as structural changes are needed.

At the national level, the team finds that there was a lack of mobilization at the national level in Ghana with potentially missed opportunities from national programs which could further support the development of the BMs. The approach adopted in Ghana may be complemented with recent approaches developed to engage local government in sanitation with a view of reaching the SDGs. For example, materials aimed at supporting government involvement in sanitation through the rights-

based approach presented at the Rural Water Supply Network Forum (RWSN) in Cote d'Ivoire have been designed to clarify the usefulness of human rights thinking to local government officials[8].

In Benin and Côte d'Ivoire, advocacy and knowledge sharing at the national level have led to excellent relations between SSD teams and the ministries. This will likely contribute to the successful development of the BMs as they were developed in coherence with national priorities at the municipal level. This also had an impact on the strategic and operational development of FSM at the national level in Côte d'Ivoire. If the technologies developed for compound sanitation are successful, both ministries will consider promoting them at the national level.

The team finds that the approach adopted by the Benin and Côte d'Ivoire teams towards the national level was somehow accommodating. The country team could complement their strategic partnership approach with a "lobbying" approach, pushing for further national commitment through public expenditures and national transfers. Public spending of African governments for sanitation has overall been limited in the past decades, and more efforts need to be made to plan and budget across health and sanitation sectors in a proactive manner at the national level (SSD Program, 2015k).

In addition to providing trucks to the Federation of VTOs, SSD could advocate for public transfers to municipalities. In Benin, the Ministry of Health created a credit line for sanitation but is expecting external donors to contribute. ABMS could advocate for public contribution from the ministry.

At the AfricaSan3 Conference, countries identified financial resources as one of the priority areas that need to be addressed to get their country on track to meet the sanitation MDG with a proposed commitment of 0.5% GDP for sanitation (AMCOW et al., 2011 in Cross, P. & Coombes, Y. (eds.) (2014)). In this particular context, SSD should pay attention to channel a significant share of this amount to low-cost individual sanitation solutions (and potentially to small-scale sanitation systems) given that centralized technologies are cost intensive, usually inefficient to reach the large low-income population and do not open new opportunities for development for SMEs locally.

The team recommends:

REC 24	*IPs should systematically involve national and the municipal levels in the development of market-based sanitation projects and advocate for commitments. The project should focus more strongly on the national level in Ghana and on the municipal level in Benin and Côte d'Ivoire. The approach adopted by WSUP and SSD experience in Ghana can be considered as a best practice as it was successful in obtaining a commitment from the GWMA on the three components stated above, amongst other in supporting the municipality in planning (compound sanitation strategy) enforcing (bye-laws), increasing income (property tax) and controlling (PLBs). These four components and governmental transfers create a foundation for effective and efficient municipal involvement.*

3.2.3.4. Developing finance solutions

The financial component is one of the key influential factors necessary for success of business models. In the three countries, business models targeting compound sanitation have centered on developing micro-finance solutions. Substantive work was carried out to establish partnerships with local MFIs, negotiate interest rates below market level, repayment periods, amounts, modalities to repay, and guarantee funds.

As MFIs can act as a catalyst for the private sector component (Population Services International, 2014, p. 14), the team finds that this action is very relevant to improving the enabling environment. In Ghana, WSUP also developed a strategic use of public taxes, but it was not possible to obtain data to

[8] http://www.righttowater.info/making-rights-real/, http://www.wateraid.org/news/blogs/2016/december/making-rights-real-by-supporting-local-government-heroes,

measure the effectiveness and impact of this initiative.

The team notes that in Ghana, SSD worked on creating conditions for the MFI to trust entrepreneurs' skills and capacity to establish correct construction costs through participation in common workshops, meetings, and training. The team found that when MFIs pay directly the amount of the loans to the entrepreneur—while the HH repays the MFI by installments—the system worked better than when the amount was granted directly to the HH (FGD with entrepreneurs). Applicants were more successful obtaining a loan if the entrepreneurs developed good relations with MFIs.

The team found that MFIs were satisfied with the visibility and publicity they gained from this collaboration (tee-shirts) but that the interest rates negotiated below the market rate were only sustainable because of the presence of a third party (subsidy/revolving fund granted by another donor) along with a guarantee fund. In spite of this, some MFIs claimed that the system is not financially sustainable for them, as they borrow on the market. Some MFIs suggested that the program should consider traditional banks.

In Côte d'Ivoire and Benin, significant efforts were made to scan and establish linkages with financial institutions during the research phase, which led to agreements with PEBCo and MicroCred. The final signature of a guarantee fund by IPs through an agreement with USAID is expected soon to be able to launch the loans. It seems that the process was long and that contractual rules did not allow a revolving fund to be included in SSD's current budget. The system designed in Benin, which combines savings accounts and loans is a smart, innovative solution to enable microfinance institutions to assess the creditworthiness of customers close to the poverty line. At this stage, its' effectiveness is yet to be tested, but it will be interesting to follow the outputs of this arrangement.

The highlight of PEBCO's participation in the Learning Event in Accra was the importance of national and municipal authorities' participation in sanitation financing and the possibility for the government to provide financial support to the MFIs by giving them loan guarantees for onward lending to individuals.

Figure 18 below compiles the data obtained through interviews with MFIs to assess the number of loans provided so far and their compatibility with project targets.

Table 7. Summary of loans with SSD support[9]

Country	Institution	Start	HH	PS	Interest	Comments
Ghana	Sinapi Abia	Sept. 2016	20	26	16%	90 loans in total: 40 related to Water, 20 related to Sanitation/Toilets (Mainly HH), 26 to the WASH private sector (including the PLBs) and 4 related to hygiene. Supported by Opportunity International and Stone Foundation
Ghana	Pathway		20		17%	P2P project on WASH and SSD Supported by SNV Loan 70% immediately - 30% after completion Can continue providing loans to consumers but not at the prevailing interest rate
Ghana	Price	Sept.	31	No	11% -	Supported by P2P

[9] Primary data collected during field visit, may not be accurate

Country	Institution	Start	HH	PS	Interest	Comments
	Capital	2016			17%	Brings customers and profit Loan 70% immediately - 30% after completion Better to pay the entrepreneur directly
Ghana	HFC Boafo					No data
Total number of loans – Ghana			**71**	**26**		
Côte d'Ivoire	MicroCred,	-	0	0	19%	Will start as soon as the guarantee fund of 20,000 USD is provided. Will enable to provide loans to 10 to 20 landlords
Total number of loans – Cote d'Ivoire			**0**	**1**		
Benin	Finadev	End 2015	0	0		Loans, to SMEs working in FSM (VTOs). During an interview with IECD, it was mentioned that one VTO was able to obtain a loan.
Benin	PEBCo	End 2015	0	0	18%	Waiting for a guarantee fund to launch the loans
Total number of loans - Benin			**0**	**1**		
Total number of loans – SSD Countries			**71**	**28**		

Source: ASSESS, SSD Evaluation (2017)

Of the 66 toilets that were constructed during the quarter through WSUP's efforts, 21% were self-financed, and the remaining 79% received financing from one of the above institutions (SSD Program Report, 2017). In spite of these good results, stakeholders interviewed (MFIs and entrepreneurs) in Ghana showed that financing remains a cornerstone of all the BMs, except for the Clean Team. Access to sanitation at the household level is still hampered by a lack of access to finance, and the work has not yet led to the expected results. All the stakeholders interviewed reflected that people are reluctant to take loans as this puts their property, which is most of the time used as collateral, at risk. Meanwhile, the poor are not able to provide the up-front amount required by MFIs.

The team finds that SSD's efforts to reach MFIs were very good but would like to highlight that other financing mechanisms exist for sanitation, including Trust Funds and government and municipal involvement, to provide the support needed to implement the project effectively. "*Additional private finance is needed but requires the sector to be more attractive for investments including (government) guarantees that loans are repaid and/or a minimum return on investments*" (IRC, 2017, p. 7).

The team concludes that to maximize the chances of success, to ensure that the scope of beneficiaries includes the poor and to reduce waiting time, which jeopardizes the implementation of the whole project, other financing solutions should be explored in parallel.

For example, in the north of Ghana, the WASH Alliance partnered with Simavi and INTAGRAD to address the lack of success of traditional revolving funds, and credit schemes offered by MFIs or local banks (*Ibid., p. 15).* This led to the development of an innovative loan structure to support latrine construction and income-generating activities. The loan was provided to community-saving groups to encourage mutual guarantee among the members and to reduce the risk for the financial institution. Over a period of 1 year, this scheme ensured that 1,400 people had access to sanitation.

WASH loans have not been able to reach the very poor as MFIs cannot assess the creditworthiness of

people who do not have formal employment contracts or economic activities. MFIs incur high administrative costs due to repayment methods which rely on mobile banking, in the form of cash collectors visiting their clients on a daily basis. In this context, mobile money system, similar to what is being tested in the Clean Team model, stands as a promising solution to reduce recurrent repayment costs.

Other avenues could be explored such as targeting national governments' policies and investment practices and integrating and mobilizing climate finance. In Ghana, the Ministry of Sanitation and Water (interview with EHSD), claimed there was a way to mobilize funds for SSD, should they be approached by the project. Mobile money is growing fast in Côte d'Ivoire and offers the potential to lower the cost of loan services.

In short, the micro-finance component of the SSD Program contains positive elements as cooperation was established with the financial institutions with the aim of facilitating credit access for users. However, the effectiveness of implementation to meet activity objectives is limited to specific socio-economic groups. In particular MFIs services are not customized to reach the poorest quartile of the population under the current conditions.

Based on these findings the team recommends the following.

REC 25	*The IP should continue with existing arrangements developed with the MFIs and monitor the results. Integration of micro-finance with other promotional activities has already been done through public awareness events where sanitation promoters, entrepreneurs, MFIs, and municipality representatives jointly participate. The IP should monitor the effectiveness of the savings and loan arrangement set up in Benin through integrating a traditional "tontine" approach.*
REC 26	*The IP should integrate into future projects, a budget line for guarantee funds or revolving funds as these will be needed in any project involving sanitation financing.*
REC 27	*ABMS should explore municipal and national financial involvement which does not only have the potential to accelerate the process and to expand the number of beneficiaries but also stands as an integrated and sustainable local solution.*
REC 28	*The IP should explore and develop other financing mechanisms to reach the poor: Clean Team model, municipal revolving fund, savings, and loans group.*

3.3. EFFECTIVENESS AND RELEVANCE OF THE APPROACH

3.3.1. Identification and preparation process

How relevant and effective was the process of identification of the models to be piloted?

The process of identifying the market-based urban sanitation models for scale up started with the conduct of research and studies (landscape studies and product and finance scans) by the SSD team in 2015. The landscape studies provided information on the sanitation situation, market assessment, sanitation needs of HH, and the sanitation and financial products available in the sanitation sector. During the fourth quarter of FY15, the SSD team began developing potential business models based on results of the landscape study. During a Partner's Meeting, held in July 2015, teams from each country, together with the program's technical assistants from PATH, PSI, and WSUP headquarters, examined seven different possible models (see Box 1).

The project also relied on "new opportunities" described as "cool ideas" or "sweet ideas" (e.g. is the Earth Auger) to identify prospects that could be tested in parallel with the products from the market landscape studies. The early opportunities generated by team members were shared on the project platform, the Basecamp tool.

According to the SSD Program Report (2016c, p. 5), there are many models under development in the sanitation sector, from technology to finance products to business concepts. SSD did not choose a single model from the beginning of the project but developed and tested a variety of product, services, and business concepts. In all 16 potential models were identified for consideration as shown in Table 8. Subsequently, the SSD program used a number of tools such as Lean Startup approach, Build-Measure-Learn, and Stage Gating, many of which come from the Field Guide to Human-Centered Design (IDEO, 2015) to refine the potential models, test models, and select scalable models. These potential models were refined with the Business Model Canvas (BMC), a management tool useful for designing new businesses. The SSD team further developed the Product Development Canvas for products with the model.

Box 1: Initial potential models selected in July 2015 partners meeting

Cote d'Ivoire:

- Improvement of VTO businesses
- Improvement of access to sanitation through landlords

Benin:

- Importation and sale of innovative sanitation products
- Reuse of faecal compost
- Improvement of VTO businesses

Ghana

- Creating a sanitation incubator for entrepreneurs
- Developing shared septic tanks for compound housing

Source: SSD Program (2016a, p. 5).

Table 8. Potential business models identified

		Business Model	Description
Ghana	1	Waste 2 Resource	FSM treatment and reuse solutions
	2	Toilet accelerator	Support to the private sector
	3	Clean Team Lixil Toilet	Improving the CBS toilet of the Clean Team
	4	Clean Team Mobile Money	Using the mobile money to enable customers to pay for services at their pace.
	5	Artisan business scale up	Building entrepreneurs and SME's capacity to scale up the compound sanitation BM
	6	Professionalization of PLBs and VTOS	Improving service to the customers while enhancing the benefit of the Private sector
Cote d'Ivoire	1	Healthy compound	Complete offer of a toilet superstructure, a toilet interface, a septic tank and a soak away pit
	2	Vidange plus (call center for VTOs)	Supporting VTOs services through training, provision of equipment and call center.
Benin	1	Satopan	Importation of the satopan device which provides significant improvement to existing sanitation (odors, insects, hygiene)
	2	Container Based System	This is the Clean Team Model
	3	"Location-vente des toilettes de compostage accompagnés de service"	This is the Clean Team model using the technology of earth auger.
	4	Desludging of composting toilets and selling sub-products	This business model consists in treating and selling the compost from Earth Auger
	5	Pour flush toilet with double pit	Complete offer of a toilet superstructure, a toilet interface including the satopan and

		Business Model	Description
			double pit
	6	Vidange Mime	Capacity building of VTOs through training and call center.
	7	Recycling of fecal sludge	Biogas and fertilizer
	8	Financing the landlords	Sanitation credit to landlords and small businesses

Source: ASSESS, SSD Evaluation (2017)

The project combined the various tools in a five-stage process to identify, test, and select appropriate scalable models. The five stages of the process are 1.) research; 2.) rough prototype; 3.) live prototype; 4.) pilot; and 5.) scale. The stage of development of the six models finally selected by the SSD project are shown in Table 9 below:

Table 9. Stage of development of the scalable models

Country	Research	Rough Prototype	Live prototype	Pilot	Scale-up
Ghana		Clean team MoMo		Artisan B Scale-up (200 – 300) PLB (458) + VTOs	
Cote d'Ivoire		Vidange Plus	Healthy Compound (8 HH)		
Benin		Vidange Mime MFI	Healthy compound (5 HH)		

Source: ASSESS, SSD Evaluation (2017)

The team finds the use of the landscaping studies was appropriate as it provided valuable information on market assessment, market approaches and barriers, sanitation market gaps, opportunities, and the needs of the potential customers throughout the sanitation value chain. The market landscape assessment in Ghana provided information on existing innovative toilet products such as Biofill, Enviro loo, and Duraplast. The assessment in Benin and Cote d'Ivoire focused more on the needs and aspirations of the landlords and tenant. As was noted in the SSD proposal, the SSD program in Ghana was a step ahead of Benin and Cote d'Ivoire because of WSUP's activities in sanitation in Ghana prior to SSD. As a result, the approaches used in SSD were essentially the same but with different emphasis to reflect the needs in the country.

The process of using the landscape studies to identify potential models suffered a drawback regarding the models selection due to the low involvement of sanitary engineers, particularly on assessment of the main challenges of latrine technologies in use. For example, in Ghana, traditional septic tanks with concrete blocks/bricks and pour flush systems which are in use were not captured (SSD Program, 2015e). Furthermore, the advantages and disadvantages of the latrine technologies presented in the market landscape were not mentioned. Information on latrine technology assessment as part of the landscape studies would have positively informed the selection of the models.

The use of early opportunities or "sweet ideas" for identifying potential models were less successful in moving particular ideas forward because there were no clear criteria for identifying early opportunities, no time limit on when to stop accepting "sweet ideas," and the process of developing the models was not consistently followed.

The SSD team composition was heavy on marketing and business development but weak on sanitation technologies which adversely affected the project. The country teams in Cote d'Ivoire and Benin had an engineer each, but the Ghana team did not have a dedicated engineer in the team. In

Ghana, WSUP relied on the engineers in the municipalities and consultants when necessary. In FY 16 Quarter 1 it was indicated that it was difficult recruiting a local engineer in Cote d'Ivoire because salary expectation was more than program budget (SSD Report, 2016a). Therefore, the engineer started working in year 2. As a result, the process was disconnected from reality and time was "wasted" only to realize that certain technologies were not viable.

The team concludes that the Lean Start-Up approach was relevant but not effective in addressing the needs of the sanitation sector in identifying scalable market-based sanitation models. First, the approach could not address the basic components required for a scalable model, which are appropriate technology (affordable and acceptable), financing arrangement that works for the intended beneficiaries, the creation of effective demand, and creating a vibrant private sector to supply latrines and latrine components. Failure of any of the components will adversely affect the success of the market-based models.

Second, although the identification process was time-consuming with many steps and heavy documentation there are still outstanding questions on the technologies selected, financing arrangements and the readiness of the private sector to provide the latrines. At the time of evaluation, the proposed financing mechanisms had not been piloted in Benin and Cote d'Ivoire except self-financing. In Ghana, customers complained about the high-interest rates from microfinance institutions which are a concern.

Finally, the process was complex as it was difficult for the country teams to provide an explanation of the entire process clearly.

The team recommends.

REC 29	*In future projects, the testing phase should address the all critical pillars of the market (enabling environment, support the private sector, financing mechanism, and affordable toilets). Specifically, the process should involve sanitary engineers in general and experienced local engineers, in particular, to inform selection of appropriate technology options.*

3.3.2. Decision-making process

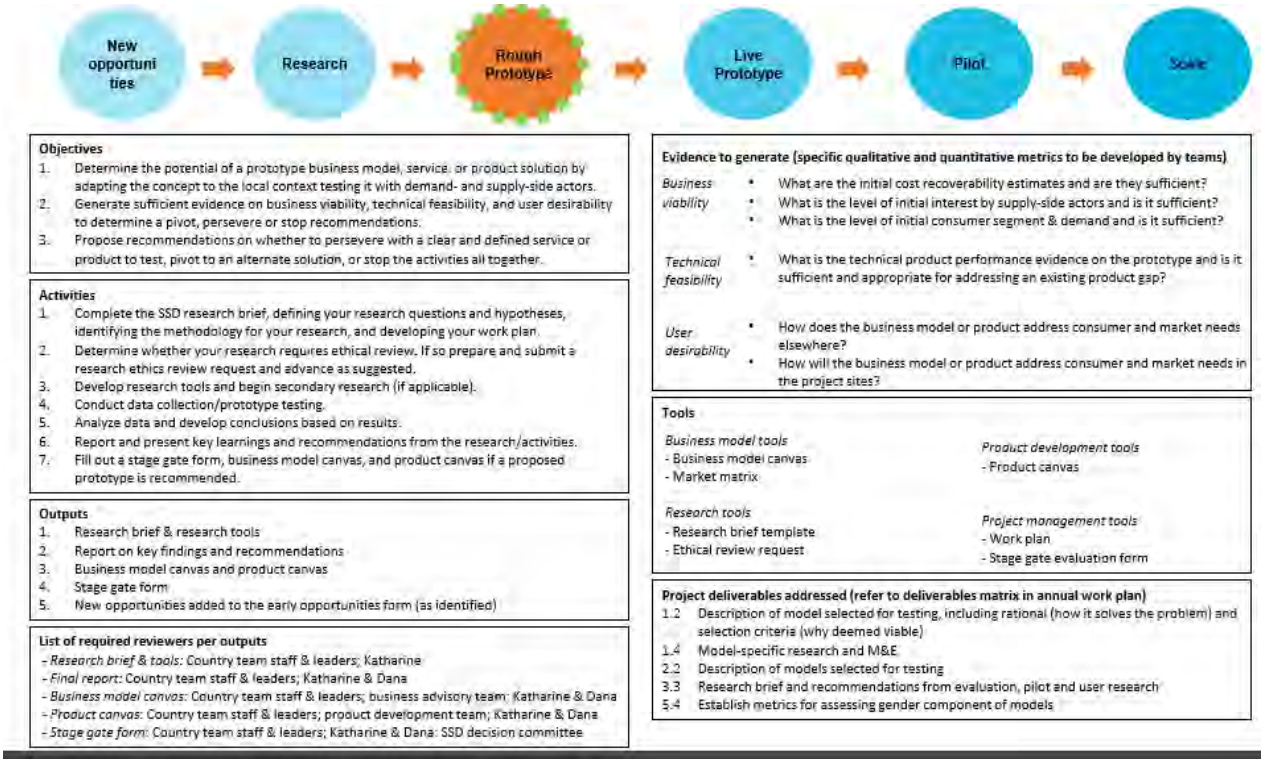
Question 2a: To what extent were the criteria followed for making decisions about whether to pivot or proceed with models tested? What were these criteria and were they appropriate?

The decision-making process for selecting the models used the Human-Centered Design Approach, relying on a number of tools such as Stage-Gate, Product Development Canvas, Requirement Form, Performance Spotlight Diagram, among others. The Lean Start-Up approach was used to identify the minimum viable product to inform the selection of the BM. The BMC was used to think through the assumptions, and to develop the ideas of how to test the BM. The product development canvas was used to think through the product. The decision-making process for products and BMs was based on the Stage Gate. The Stage Gate is a linear process, but not all technologies have to go through all the stages. Each stage has a Build-Measure-Learn cycle, and the stage gating comes in when a decision regarding whether to move on to the next stage has to be made.

From one stage to the next during piloting of the BM, there is a Stage Gate where decision-making takes place on whether to change direction (pivot) or to persevere (continue in the same direction) based on measurable data. There was a decision committee (Chief of Party and Deputy Chief of Party) that met periodically to review progress at each stage and provide feedback to confirm the need to continue with the process, pivot, persevere or stop decisions. The fact that the decision committee is not country-based had the effect of "dis-empowering" country teams. Country teams were satisfied with the new tools and the learning process but had some frustration with implementing top-down decisions, some of which they were not necessarily in agreement with. A standard template is provided for submitting key information at each stage for the committee (SSD Program, n.d.k, p. 26). Each champion team for product and business development sets a timeline for testing their prototype.

When that time is up, a presentation on the prototype is made by the champion team to the review committee. An example of the filled-out Stage Gate form presented to a review committee to consider a rough prototype is shown in **Figure 18**. The documents at this gate are made up of 7 activities, 5 outputs, 5 reviewers/output, 7 tools, and 4 deliverables (Annex IX: Example of methodology for first 2 steps of the process).

Figure 2. Example of filled Stage Gate form for Rough prototype



The decision-making criteria (See **Figure 19**) were based on the following:

- Viability (business), desirability (human) and feasibility (technical) for decision-making on technologies.
- Impact and viability were used by the country teams to compare the business models (prioritize)

Figure 19. Decision-making criteria

The partners meeting in July 2016 was supposed to be used for stage gating of proposals around all BMs and the different ideas to decide on the way forward. The country teams were given the decision-making mandate in August 2016. This shift in decision making to the country teams facilitated the process as they had a good understanding of the country context and were able to make decisions without delay.

The team finds that the decision-making process was not always linked to the fundamentals required for successful, scalable sanitation models, which are appropriate technology (affordable and acceptable), financing arrangement that works for the intended beneficiaries, the creation of effective demand, and the creation of a vibrant private sector to supply latrines and latrine components.

There was no shared understanding of the decision-making process by the country teams. It was difficult for the country teams to provide a clear explanation of decisions made. Decision-making on the models was also centralized, based more on PSI and PATH than country teams' assessment. There were cases where country teams were not in favor of the decisions made at the central level by PSI/PATH, e.g., WSUP in Ghana was not in favor of dropping a model on FSM.

Different tools were introduced to the country teams at different times for different aspects making it

difficult for the teams. In addition, most of the tools were not consistently used. As a result, it was difficult for the country teams to explain the process followed and to have a consistent approach to making decisions on the potential models.

The process was heavy, time-consuming and complex with many tools, procedures, and deliverables. For example, the decision on one stage (rough prototype) required 7 activities, 5 outputs, 5 reviewers/output, 7 tools, and 4 deliverables in place before the decision-making committee could consider it (see Box 2 for details of the tools).

Box 2: Tools for testing

- Business model canvas
- Market matrix
- Research brief template
- Ethical review request
- Product canvas
- Product requirements document
- Stage gate evaluation form

Thus, the evidence-based decision-making process was not highly effective in the way decisions were made. There was an attempt at creating a process, which was used until August 2016 when realignment was made for country teams to have greater authority to choose which models to work on, determine what technical support they would require, and set milestones and deadlines. This represented a shift from a centralized (top down) to a decentralized approach (bottom –up) to decision-making. The country teams with a better understanding of the context were able to make decision faster.

3.3.3. Model development and testing process

Question 2b: Explain and detail how model-testing was used during this phase, and assess whether this testing process was rigorous enough to justify scaling?

The model development and testing started with the seven potential models identified at the July 2015 partners meeting. Subsequently, additional models were considered for a total of 16 models (see Table 8). The models were further refined by describing the market challenges addressed and arranging the first iteration of testing the value proposition to users (tenants/landlords, etc.) through a number of channels. The Build-Measure-Learn feedback loop from the Lean Start-Up approach was used for the iterations. The criteria employed were innovation, feasibility, and relevance by the SSD project team. The models were then refined into rudimentary prototypes through additional research concentrated on the selected intervention areas, interviews with key informants, focus group discussions, and literature reviews. The Build-Measure-Learn feedback loop from Lean Start-Up was integrated into Stage Gate process, to test solutions with users and stakeholders through 5 stages: 1.) research; 2.) rough prototype; 3.) live prototype; 4.) pilot; and 5.) scale.

Figure 20. Build-Measure-Learn feedback loop

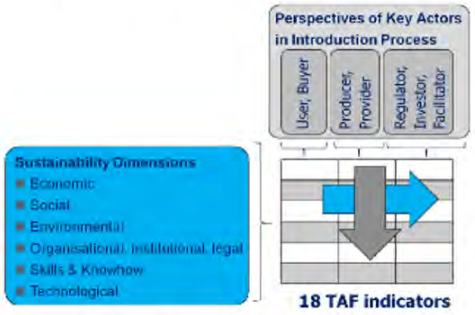
The models were tested by creating demand for toilets, supplying of the toilet by the private sector, and ensuring that conditions necessary for the toilet uptake were in place. During the FY 16, the country teams were involved in several activities relevant to creating a market-based model. In Ghana, for example, the team organized training for TSA, entrepreneurs (VTOs, artisans, toilet manufacturers, etc.), and 38 EHSD staff to build their capacity to enforce compound sanitation related bye-laws and prosecute sanitation related offences in Ga West Municipality of Greater Accra. In Benin and Cote d'Ivoire, the project carried out workshops and training for the various stakeholders (Municipality, Ministries, MFI and private sector). All the three countries had activities to engage with ministries, municipalities, and entrepreneurs to improve the enabling environment for the market based models.

The testing of the 6 selected models: Clean Team Mobile Money and Artisan Business Scale-up (Ghana), Healthy Compound (8 HH), Vidange Plus (Côte d'Ivoire), Vidange Mime and Healthy Compound (Benin) were based on the actual implementation of a BM for sanitation delivery. The piloting of the Healthy Compound in Côte d'Ivoire was carried out in one compound where 8

different toilets were constructed. In the case of Benin, the live prototyping of the Healthy compound model was conducted on 2 compounds for five (5) households using SaToPan with twin pits.

The team finds that the testing of the models in the field was carried out with the involvement of stakeholders, which is good but the extent of involvement of the stakeholders could have been better. First, the toilet manufacturers were involved in the live prototype testing, but most of them are not ready to supply toilets as they could not readily indicate the cost of the toilets (Côte D'Ivoire), others were waiting for SaToPans (Benin) and effective demand to be generated for them to supply toilets (Benin and Ghana).

Figure 21. Indicators for Technology Applicability Framework for WASH Technologies



Source: Kimera, P., Okurut, K., and Bamutaze, A. (2016)

Second, the involvement of the microfinance institutions (MFIs) in Benin and Cote d'Ivoire was limited, as at the time of the piloting guarantee funds were not ready for MFIs to start their operations. Consequently, the financial mechanisms have not yet been tested in Benin and Cote d'Ivoire. In Ghana, where the financing has been tested, customers and entrepreneurs complained about the high interest rates charged by the MFIs (34%).

Third, most of the toilet technologies used for the live prototype/pilots were provided at no financial cost to the households or beneficiaries (Benin and Cote d'Ivoire). Hence, the households did not know the cost, which sends wrong signals for a market-based approach.

Fourth, and linked to the above, providing household toilets for piloting at no cost to the households raises questions about effective demand, which is critical for the market-based approach. Furthermore, the number of households that benefitted from the toilets, which forms the basis of the testing in Benin and Cote d'Ivoire was small, one compound in Côte d'Ivoire and about three compounds in Benin.

In short, the testing process for the models has followed a process which has not been completed, as financing mechanisms have not been tested. In addition, the testing process did not meet other criteria for the successful market-based models such as effective demand creation and a vibrant private sector with technical and financial capabilities.

The team recommends:

REC 30	The finding reinforces REC 26: The IPs should *finalize the arrangement for the guarantee fund to enable the MFIs to start working and for the financing mechanism to be tested.* *The IPs should test the financing arrangement or model as soon as the guarantee funds are secured to inform the scale up a strategy to guide the country teams.*

3.3.4. Relevance and scalability of the lean startup method

Question 2c: What are the strengths and limitations of this method?

The Lean Start-Up with the Build-Measure-Learn was used to streamline the process of developing market-based scalable models for urban sanitation delivery. The approach uses well developed tools and is particularly suited for marketing, product and business development. This process has been successfully used by the private sector to set up businesses and create innovative products.

The use of the Lean Start-Up approach depends on the presence of the fundamental requirements for market based sanitation such as affordable toilets, a financing mechanism that works for the potential customers, enabling the environment to create demand for toilets.

The team finds that most of the tools used could not provide the expected outcomes within the time frame. The various tools (human centered design, Lean Start-Up, Stage Gate, Business model canvas, product development canvas, etc.) could not provide affordable latrines and relevant business development on time. The process caused significant delays, decision making was not consistently followed, and country teams were finally asked to select the appropriate models.

The strengths of the approach are in the areas of marketing and product and business development. The approach is more suitable for innovative products and made room for the involvement of stakeholders at all stages. There were limitations of the approach with respect to addressing the critical requirements of the market-based sanitation models such as providing affordable toilets, a financing mechanism that works for the potential customers, enabling the environment to create demand for toilets and supply of toilets. The approach was complicated and heavy. The centralized decision-making process outside the country teams also introduced delays in the process.

The team concludes that the Lean Start-Up approach will require improvement and adaptation to make it relevant for the sanitation sector.

The team recommends the IP should:

REC 31	*Simplify and adapt tools to the sanitation sector e.g. Tools for improving enabling environment such as the WASHBAT by UNICEF should be explored. The Technology Applicability Framework already used by the Ministry of Sanitation and Water Resources in Ghana should be explored and incorporated if found relevant (See **Figure 21**)*
REC 32	*Revise the TOC to guide the implementation of the project. The TOC does not explain how to effect the changes: enabling environment, support the private sector, financing mechanism, and affordable toilets*
REC 33	*Establish a country advisory board with key sector players that can support the process of creating a market based approach by addressing the four pillars (enabling environment, support the private sector, financing mechanism, and affordable toilets) and ensure institutionalization within country systems and sustainability beyond the end of the project.*

3.4. EFFECTIVENESS OF THE PROJECT'S KNOWLEDGE, INFORMATION AND LEARNING STRATEGY

3.4.1. Limitations of the methods in Knowledge and Information Sharing

Question 3: What are the strengths and limitations of this method?

The team noted that for its monitoring and knowledge management plan, the SSD program planned in the proposal (PSI USAID/WA SSD Technical Proposal, 2014, pp. 2&30) to use a central project-level management information systems (MIS) to track activities and provide routine information on progress, including performance and output level results. Also, it was planned to collect impact statistics on health at the level of each country, conduct business operations monitoring, and conduct client satisfaction interviews. A streamlined system would be used to allow SSD to identify and track those metrics (*Ibid.*).

Though team members are separated by distance, program staff have overcome this by perfecting a variety of Internet tools including Zoom, Basecamp, Team Gantt and Strategyzer to enhance collaboration and monitor progress (SSD Program Report, 2015d, p. 4). The team noted that the program implemented the following activities within the first two years of implementation.

A Monitoring, Evaluation, and Learning (ME&L) plan was submitted to USAID in the first year of implementation and was approved (*Ibid.*, pp. 5&6). It consists of nine building blocks for generating high-quality data. These are: 1.) Project information needs, 2.) ME&L Human Resource

Capacity, 3.) ME&L framework integration, 4.) Data Collection, 5.) Electronic Data Management, 6.) Data analysis and quality assurance, 7.) Dataflow processes, 8.) and 9.) Data presentation and use (*Ibid.* pp. 23&24). The SSD Program Report (2015d, pp. 23&24) showed that for each building block, there are no steps for inter-country (regional) coordination. A lot of data is collected in each country and analyzed internally (Interviews with ME&L resource persons at ABMS in Benin, PSI in Cote d'Ivoire and WSUP in Ghana) but a regional systematic process to harmonize and coordinate the data is missing. For example, while a draft detailed data quality assurance guideline was developed by the Côte d'Ivoire ME&L Advisor in Year 1, along with a draft process for the use of routine data by the project team, the process which was supposed to be carried out in Benin and Ghana in Year 2 (*Ibid.*, p. 24) is still ongoing in year 3 (SSD Program Report, 2016d, Appendix E).

The SSD developed tools to better monitor progress of the selected models. A set of tools called the Market Monitoring Tools (MMT) was developed to monitor and evaluate changes in sanitation market systems in project target areas (*Ibid*, p26). However, as few models reached the step of scale up, the MMT has not yet been effectively implemented.

Analyzing the facts, the team found that the ME&L methodology could be more systematic and coordinated at the regional level. In fact, there are ME&L activities, but these activities are not built on a coherent ME&L strategy which, if it existed, would emphasize a regional methodology, plans, and timelines for data collection and analysis. For the implementation of the building blocks to achieve high-quality data, for example, each country seems to evolve based on its own opportunities and facilities, leading to a disproportionate evolution among countries for each objective or activity. Obviously, even in a more coordinated process, each country with specific opportunities would play a role in implementing ME&L activities and achieving objectives, but differences would not have been related mainly to implementation gaps among countries resulting from weak coordination at the regional level.

The team also finds that assessing change in human behavior through impact assessment may lead to the loss of several measurable outcomes along the causal chain of the impact during the project implementation. Some more adapted methodologies like outcome mapping (https://www.outcomemapping.ca/) do exist that can be used to monitor both outcomes at each step of the process and impacts. It requires the identification of boundary partners who are the persons and/or institutions a project wants to influence for change and monitor any change during or after project implementation.

In short, the use of outcome mapping would/could be more adapted and effective in catching changes in human behavior. However, using the ongoing ME&L process could be more effective if the project coordination leadership is reinforced and becomes more visible in the day to day planned activities, first at the regional level. This could then be replicated in countries' ME&L plans and objectives through a more coordinated, structured, and systematic monitoring process.

3.4.2. Effectiveness of SSD's knowledge sharing plan and impact on sanitation market

Question 3a: To what extent has project knowledge translated into action on the part of host-country governments, market actors, investors and other partners?

Consistent with USAID's Global Water and Development Strategy (2013-2018), the SSD program had envisioned to catalyze the market in the three target countries and expected that by the end of the program's five years implementation period, there might be a thriving sanitation market with increased capacity to deliver products and services to low-income consumers in a sustainable manner (USAID, n.d.). In the process, SSD planned to "*learn and share findings, models, and tools regionally to facilitate more rapid expansion of successful approaches in other countries and positioning the project and USAID as regional leaders in the sector*" (Population Service International [PSI], 2014, p. 6).

The team notes that the strategy and methodological approach of the SSD Program to achieve the

knowledge sharing objective were to leverage progress and work in partnership with WASH Plus, Water and Sanitation for Africa (WSA), and other regional actors to disseminate actionable learning that would influence policy and practice at scale across the region. Through a dedicated host country national Knowledge Manager based in the project office in Accra, the Team planned to develop materials, resources, and platforms tailored to the needs of each stakeholder. The Knowledge Manager would ensure that the Team provides sanitation actors with the technical knowledge and access to the expertise they need, when they need it, in the format they need it, and through the channels they prefer, so that they may work effectively and efficiently. SSD also planned to leverage other global efforts, both from within and outside the project team, to present a comprehensive and user-friendly body of knowledge and tools accessible to multiple sanitation actors in the region (PSI, 2014, pp. 20-21).

The team noted that eleven knowledge sharing activities were planned within the SSD: 1.) conduct information needs assessment to develop user archetypes and identify barriers and solutions, 2.) Formalize a partnership with WSA to accelerate its advocacy efforts, 3.) Create linkages with existing organizations who conduct learning dissemination activities, like the World Bank' Water and Sanitation Program (WSP), 4.) Explore WASHPlus.org as a potential host website for actionable information sharing/dissemination, 5.) "Push" information to the user, 6.) Nurture and build online networks, 7.) Build social features into the regional hub website, 8.) Conduct exposure visits and workshops, 9.) Presenting at and hosting forums, 10.) Provide array of channels to access information and 11.) Launch and maintain Sanitation Twitter and Facebook accounts (PSI, 2014, pp. 20-21).

During the last two and half years of project implementation, the team noted that: SSD has reached out to the African Water Association (AfWA), a pan-African organization that works primarily with water and sanitation suppliers in more than 30 African countries, based in Abidjan, and has held discussions with the USAID-funded WA-WASH project, based in Ouagadougou (SSD Program Report, 2015d, pp. 5&14; interviews with PSI Ghana and Côte d'Ivoire, ABMS, AfWA) and NGOs such as CARE International and UNICEF. At the end of 2015, a project of AfWA was financed by USAID for activities related to capacity building in sanitation sector with three components: 1.) institutional capacity building of AfWA, 2.) knowledge sharing, and 3.) water quality improvement by laboratory capacity building for water analysis. Also, WA-WASH, another project on sanitation implemented by Florida International University (FIU) in West Africa, is funded by USAID. A Regional Coordination Secretariat (RCS) of all USAID projects in West Africa was then set up and managed by WA-WASH. This RCS helped WA-WASH and AfWA meet with the SSD team. AfWA then agreed on and started sharing information with SSD as part of their mandate under the ongoing USAID-financed project. AfWA could do more if an MoU was signed; however, this is not yet the case (interview with AfWA).

The SSD Program contracted IRC, a Dutch WASH organization with strong advocacy capacity, to support the development of SSD's Knowledge Management plan. They also contacted the Sustainable Sanitation Alliance (SuSanA, http://www.susana.org/en/), a global network of organizations and individuals who are working for the development of improved sanitation solutions (SSD Program Report, 2015d, pp. 5&15).

Representatives of the SSD Program attended regional and international workshops and conferences (UNC conference in 2015, AfWA Congress in February 2016, WEDC International Conference in 2016, FSM4 conference in 2017) to share experiences and lessons learned from others in the sanitation sector (SSD Program Report, 2015d, p. 15; SSD Program Report, 2016d, p. 29; interviews with PSI, ABMS and AfWA).

Furthermore, the program shared information and knowledge using a multiple channel dissemination approach including social media like Twitter, Facebook, blogs, digital and printed brochure, conferences, workshops, and other websites (SSD Program Report, 2015d, p. 32; interviews with PSI, ABMS, WSUP, AfWA).

The project teams in all three countries meet regularly with key officials in Côte d'Ivoire, Ghana, and Benin, using interviews conducted with government stakeholders during the landscape study phase, to understand their roles and contributions to the core, support, and regulatory functions of the market

(SSD Program Report, 2015d, pp. 12&33; interviews with institutional stakeholders in Benin and Ghana). However, not all the major stakeholders formally participated in all the countries (Interviews with AfWA and with the Municipality of Yopougon in Côte d'Ivoire).

On the other hand, information and knowledge on BMs were not always shared among countries. For instance, the artisan business scale-up in Ghana is not known by the team in Côte d'Ivoire (meeting with PSI CI). However, SSD encouraged and supported knowledge and experience exchange among countries and municipalities (SSD Program Report, 2016d; Interviews with KMA' EHO, entrepreneurs in Ga West, ABMS, and PSI in Ghana).

Many knowledge sharing and capacity building activities were organized for stakeholders involved the BMs models. This served as the starting point for enabling the sanitation business environment in the three countries. The entrepreneurs gave a very positive feedback on the knowledge they gained during the training. In Côte d'Ivoire, ONAD recognizes PSI as a strategic partner and values the work done together as its mandate includes having an efficient FSM (Interviews with ONAD, PSI, and VTOs). Also, entrepreneurs valued the knowledge and training but regretted its limited impact: "*We need communication and mainstreaming of this new technique and more field work*."

In Ghana, capacity building led several entrepreneurs to diversify their activity in the sanitation sector. Some TSA became entrepreneurs. There was an enforcement (by-laws, moratorium, prosecution, EHOs) and an increase in property tax at the municipal level (interviews with WSUP, KMA EHO, Ga West Municipality) to address sanitation. In Benin, the entrepreneurs were excited about the learning they gained and the potential market, but the impact was minimized by the small number of customers and poor access to finance for the users. The municipality of Porto Novo allocated financial support to sanitation (5 M CFA), but the lack of information from the IP regarding the cost was a major barrier to further action (interviews with entrepreneurs in Benin, with the municipality of Porto Novo and with ABMS).

The team finds that, in Ghana, for the artisan business scale-up and the clean team mobile money models, the project was at the stage of selecting scalable models. Therefore, disseminating actionable learning that will influence policy and practice at scale is not yet in place. The knowledge and information from all the models, mainly the more successful ones (PLBs and VTOs) should have been shared among countries to reinforce mutual learning among countries, as SSD is a regional program and not three country based programs. Also, the knowledge sharing handout for BMs is in English and not understandable by all actors involved in BMs. This is a serious limitation to accessing information for some stakeholders in Cote d'Ivoire and Benin.

In Côte d'Ivoire, the communication strategy was not efficient as the VTOs of the "Vidange Plus" BM were informed that they would be provided with efficient trucks, but this was not yet in place at the time of the evaluation. It was not clear enough or was not anticipated, by these VTOs who have developed business plans based on this technology, that the use of these trucks acquired by ONAD will be complicated. The team will be in a position to communicate and share enough knowledge about the Healthy Compound BM, which is still in the live prototype phase (research and learning) after concrete findings have been obtained. However, the need for good communication on the process is still necessary.

In Benin, the IP seemed to want to achieve a level of perfection that is holding them back from quick implementation. Sometimes "*best is the enemy of good*". At this stage of the project, the IP should "*cut loose*" and provide informal and even approximate information to the municipalities so they can gain ownership of the project and move towards implementation. It is known that the approximate cost of the latrines is around 150,000 CFA. Sharing this information is good for the municipality to provide the necessary support. The IP is in a position of strategic partner while more advocacy and pressure is needed for the government to endorse their role in terms of financing and enforcement.

At the regional level, effort has been made for knowledge sharing and creating an enabling environment. However, as the BMs evolve at different speeds from one country to another, this may affect the quality of information and knowledge available for sharing. Also, the knowledge sharing at the institutional level in countries that are not part of the program is still a challenge. SSD needs to

touch base with whatever country they want to share knowledge with. This requires a lot of communication and even contact persons to relay information and knowledge for scale up.

Based on these findings, the team recommends:

REC 34	*More knowledge sharing in terms of lessons learned between the teams in Ghana and Côte d'Ivoire as they address similar issues and as Ghana has already tested solutions. This may not be possible to achieve if there is not a strong regional coordination.*
REC 35	*Learning on successful BMs (PLBS and VTOs for example) should be packaged and disseminated to all stakeholders in Ghana and in Côte d'Ivoire and Benin in adapted languages.*
REC 36	*Continuous knowledge sharing with operational and institutional stakeholders and even in a less formal way than it is done at the international level. In Côte d'Ivoire for example, IP should be pro-active by communicating regularly with all stakeholders on potential or effective difficulties in order to avoid any misunderstanding.*
REC 37	*Share practical information, even during the research stage to hopefully trigger further action from the municipalities.*
REC 38	*Formulate knowledge sharing as "what do we expect from this knowledge sharing", who are we targeting and how do we expect the targets to contribute to improving sustainable access to sanitation.*
REC 39	*In Benin, AMBS should use the good relationships established with the MoH to shift from advocacy to "lobbying".*
REC 40	*In Côte d'Ivoire, the IP should seize the opportunity of having AFWA in the same country to reinforce their partnership and the Regional Coordination of SSD should build on that to increase its visibility and finally facilitate the scale up of findings and lessons learned on the SSD project within regional countries that are not involved in the SSD.*

4. CONCLUSION

Seven BMs (2 in Benin, 2 in Côte d'Ivoire and 3 in Ghana) were assessed and tested. Three address household sanitation: "Artisan business scale-up" in Ghana; "Healthy compound business model" in Côte d'Ivoire; and "pour flush with double pit BM" in Benin. Three other BMs deal with Vacuum Truck Operators (VTOs): "Professionalization of Public Latrine Blocks (PLBs) and VTOs" in Ghana; "Vidange Plus" in Côte d'Ivoire; and "Vidange Mimè" in Benin. The seventh BM referred to as the "Clean Team BM" in Ghana uses mobile money services in providing container-based toilets to poor households.

During the evaluation period, the "Artisan business scale-up" and "Professionalization of PLBs and VTOs" BM were in the pilot phase. The "Healthy compound" and "pour flush with double pit" BMs were in the live prototype phase. The "Vidange Plus," "Vidange Minè," and "Clean Team BM" in Ghana were in the rough prototype phase.

Globally, there are challenges to bringing these models to scale to reach the expected goals of the SSD Project in time in the three countries. These challenges are linked to the identification and testing of the BMs and the knowledge management and sharing.

BM identification the Lean Start-Up approach: This was relevant but not effective in addressing the needs of the sanitation sector in identifying scalable market-based sanitation models. The use of the landscape studies was appropriate as it provided valuable information on market assessment, market approaches and barriers, sanitation market gaps, opportunities and the needs of potential customers throughout the sanitation value chain. However, the process of using the landscape studies to identify potential models suffered a drawback due to the inadequate involvement of sanitary engineers on the selection of the models and particularly on the assessment of main challenges of latrine technologies in use. The criteria followed for decision-making about whether to pivot or proceed with models tested were not always linked to the fundamentals required for a successful, scalable sanitation model. While a holistic and integrated approach is needed to address sanitation comprehensively, the scope of the project was too broad to optimize the chances of success. Project management spent time undertaking research in every direction to cover all the components with various tools (human centered design, Lean Start-Up, Stage Gate, Business model canvas, product development canvas, etc.), until July 2016 when strategic decisions led to more focused objectives and working guidelines that led to the selection of the seven BMs based on viability (business), desirability (human), and feasibility (technical) criteria.

Knowledge and information management and sharing: Differences exist between countries and within countries regarding BMs implementation. They are related to the four pillars of the sanitation market, namely the demand (higher for toilets in Ghana than in the two other countries), the supply (the capacity of small entrepreneurs in the sanitation sector in Ghana is higher than that of sanitation entrepreneurs in Côte d'Ivoire and in Benin from the beginning of the project), the enabling environment at local level (it is most challenging in Côte d'Ivoire and in Benin given that the municipalities do not have a clear mandate to take responsibilities for sanitation while in Ghana existing municipal engagement results from both a more effective decentralization and a clear vision), and the finance (higher involvement and previous experience of MFIs in sanitation financing in Ghana than in the two other countries).

Now that the BMs have been selected since July 2016, testing them for scalability could be more effective and successful if the regional coordination of the SSD project is reinforced (capacity building in ME&L and/or Management) and a more coherent ME&L plan is implemented and adhered to at the regional level. This will lead to the capitalization of knowledge gathered at the level of each country, sharing among country teams and actors, and learning from the weaknesses of some and building on the strength of others.

ANNEXES

ANNEX I: SYNTHESIS TABLE OF RECOMMENDATIONS

<table>
<tr><th colspan="2">1. Recommendations to the IP until the end of the project</th></tr>
<tr><th colspan="2">1.1 Project's management, vision, methodology, strategy for scaling up</th></tr>
<tr><td>REC 3) PSI to provide evidence for the newly set targets including a country breakdown, and agree with the USAID Environmental Office on monitoring criteria including the number of users who benefit from improved shared sanitation at household and public latrines level.

REC 33) Revise the theory of change to guide the implementation of the project. The theory of change does not explain how to effect the changes: enabling environment, support the private sector, financing mechanism, and affordable toilets.

REC 4) PSI to establish a clear monitoring framework with concrete indicators related to the 4 pillars of a market based project and to monitor progress and report on at least on a quarterly basis. Indicators should include but not be limited to:

• Indicator related to the capacity of the entrepreneurs.
• indicators to monitor the success rate of social marketing
• indicators related to gender in order to track the impact of the project on women as users (e.g. impact of PLB improvement on women) and as business owners for the purpose of lessons learned (minimum requirement)
• indicators to monitor the impact of VTOs and PLBs related activities until the end of the project.
• Indicators to monitor SaToPan sales, including to upgrade existing toilets
• Indicators to monitor shared toilets improvements (HH and PLB)

REC 6) To use a more structured and systematic methodology across the 3 countries to use comparative data as a guide for decision making. This is valuable for the research and implementation phases.

REC 13)The BM developed to address the different contexts across the 3 countries – urban, environmental and social – provide a mix of solutions for household sanitation. PSI should consider piloting and scaling up the 4 HH BM (3HH BM and the Clean Team BM) at country and regional level.

REC 18) The team recommends IP and the USAID environmental office to consider the combination of BM (or BM mix) as an appropriate practice to address sanitation in West Africa and in developing countries as a whole. Considering the price of technologies can only be lowered to some extent, and given finance still remains a weak link, design and implementation of 3 business models provides a smart approach to enable different socio-economic groups to improve access to sanitation. This approach should be shared among the 3 countries and be used as a benchmark for future programming in West Africa. (until the end of the project and future programming).
Concretely the team recommends:</td><td>REC 3) PSI to provide evidence for the newly set targets
REC 33)Revise the theory of change to guide the implementation of the project.
REC 4) PSI to establish a clear monitoring framework with concrete indicators related to the 4 pillars of a market based project and to monitor progress and report on at least on a quarterly basis.

REC 6) PSI to use a more structured and systematic methodology across the 3 countries to use comparative data as a guide for decision making.

REC 13) PSI should consider piloting and scaling up the 4 HH BM (3HH BM and the Clean Team BM) at country and regional level. (to offer a BM mix or a technological and economic mix to address the needs of a large number of users.)

REC 23) IP to adopt a segmentation strategy and apply a systematic methodology for scaling up

REC 31) The models in Cote d'Ivoire and Benin which have not yet been fully piloted should be piloted to inform scale –up</td></tr>
</table>

• The IP to pilot and scale up both the SaToPan and double pit technologies for HH sanitation, and to consider scaling up this BM in Ghana and Côte d'Ivoire. • If the ferro-cement technology proves to be cost effective, the IP to pilot ferro-cement septic tanks in Ghana (it would be interesting to obtain WSUP's point of view on this during the learning event). • The IP to pilot and scale up the PLBs BM in Côte d'Ivoire and Benin • The IP to pilot and scale up the biodigesters and different septic tank technologies developed in Ghana in Côte d'Ivoire REC 23) IP to adopt a segmentation strategy and apply a systematic methodology for scaling up entailing awareness campaign, visit of EHOs to mobilize HH and enforce the obligation to have sanitation, followed by the social marketing of the entrepreneurs in the same zone. REC 31) The models in Cote d'Ivoire and Benin which have not yet been fully piloted should be piloted to inform scale –up. An output could be a scale up strategy document that will guide the country teams in implementation and also serves as a framework for monitoring the progress of implementation. REC 20) IP (PSI and their partners) to conduct a comparative cost study for small-scale collective sanitation such as shallow sewers in densely populated urban areas such as Yopougon. *REC 34) Establish a country advisory board with key sector players that can support the process of creating a market based approach by addressing the four pillars (enabling environment, support the private sector, financing mechanism, and affordable toilets) and ensure institutionalization within country systems and sustainability beyond the end of the project*	REC 20) IP (PSI and their partners) to conduct a comparative cost study for small-scale collective sanitation REC 34) Establish a country advisory board with key sector players
1.2 Operational recommendations for scaling up	
DEMAND REC 14) The IP to support the national government and municipalities to develop awareness campaign and a behavioural change strategy to strengthen the demand. The IP should work with the TSA, community pioneers, municipalities and other stakeholders in the WASH sector to define one or two key messages and to select a limited number of channels to convey messages (radio, TV, text messages, flyers, posters). For implementation, the team recommends to establish partnerships with government at national level, influential stakeholders at municipal level such as the municipal councils and chef de quartiers in Benin, civil society (local associations in Côte d'Ivoire and international NGOs) to prepare grounds for social marketing. The task of awareness raising should not be the responsibility of TSAs and community pioneers. (IP, until the end of the project demand) **SUPPLY** *REC 8) IP to prioritize capacity building of the entrepreneurs and to empower them as the initial context shows their capacity is one of the most crucial issues to ensure the success of the BM.* Concretely the team recommends: • **The IP** *in Côte d'Ivoire and in Benin* **to build the capacity of the entrepreneurs in business management to**	REC 14) The IP to support the national government and municipalities to develop awareness campaign and a behavioural change strategy to strengthen the demand. REC 8) IP to prioritize capacity building of the

enable them to offer a full service including the purchase of materials and to negotiate prices with their suppliers.

- **PSI to provide logistical support.** For example, the entrepreneurs in Ghana, need better access to trucks which could be provided by SSD by renting or buying one or several trucks which the entrepreneurs could pay **for use. It would strongly support the development of their activity for scaling up (Ghana).**
- **In Côte d'Ivoire and Benin, to use the artisan business model as an example of good practice** and to put a lot of effort in supporting artisans both in business management (planning, calculating costs) and in developing a complete offer for sanitation system.
- **PSI to support the entrepreneurs in business planning:** to help them identify the production / installation capacity which they can reach within the next 24 months.
- **PSI to link up with municipal / governmental level to set up entrepreneurs' training center which will persist after the end of the project.** If the objective is a structural change of the sanitation market, there must be a structural change in vocational training sector.
- **To provide material support to the entrepreneurs:** in the form of tools
- To engage with the entrepreneurs to develop and test the idea of a revolving fund to the entrepreneurs so they have enough cash flow to allow their customers to pay them by instalments.
- **In fact, the Toilet Accelerator BM was pivoted but it seemed to be perfectly relevant to address the needs of the private sector to go to scale.**

REC 16) PSI in Côte d'Ivoire to pursue the capacity building process of the VTOs until the end of the project to strengthen existing skills and to include more operators in the process (6VTOS trained in Côte d'Ivoire, to share outputs with the 2 other countries (in particular the trainings provided by CIED) and to involve national or municipal level actors to facilitate access to truck / loans to purchase trucks through leasing, guarantee funds, or other suitable arrangements (Ghana and Côte d'Ivoire)

REC 17) The Country team in Benin has just engaged with the VTOs. As VTO is one of their business models they should engage them as soon as possible. The Country team in Benin should also support the government in the development of guidelines and capacity building on emptying content of dry pits, disposal /reuse of compost.

REC 19) The IP in Côte d'Ivoire to come rapidly with a price for the ferro-cement technology, to communicate the information and to train the entrepreneurs not only on technology but also on costing and making estimates.

REC 22) PSI to separate the awareness raising (conducted by municipalities and SSD) from the social marketing (undertaken directly by the entrepreneurs and supported by SSD). This means the entrepreneurs should employ directly their sales agents (some entrepreneurs in Kumasi and Ga West already do it, and they are more successful).

ENABLING ENVIRONMENT

entrepreneurs and logistical and material support.

REC 16) PSI in Côte d'Ivoire to pursue the capacity building process of the VTOs until the end of the project

REC 17) The Country team in Benin to engage VTOs as soon as possible and to support the government in the development of guidelines and capacity building on emptying content of dry pits, disposal /reuse of compost.

REC 19) The IP in Côte d'Ivoire to come rapidly with a price for the ferro-cement technology,

REC 22) PSI to separate the awareness raising (conducted by municipalities and SSD) from the social marketing (undertaken directly by the entrepreneurs and supported by SSD).

ENABLING ENVIRONMENT

REC 9) The team recommends IP to use WSUP's experience in Ghana as a benchmark to strengthen the engagement of municipalities in the two other countries with adaptation to local governance schemes.

REC 25) The team recommends a stronger focus on the national level in Ghana and a stronger focus on municipal level in Benin and Côte d'Ivoire

REC 9) The team recommends IP to use WSUP's experience in Ghana as a benchmark to strengthen the engagement of municipalities in the two other countries with adaptation to local governance schemes. REC 15)The IP to share the lessons learned from Ghana with municipalities in Benin and national/municipal level in Côte d'Ivoire to influence them to engage on legal enforcement (together with accompanying measures). (IP, until the end of the project enabling environment) REC 25)To systematically involve national and the municipal levels in the development of market-based sanitation projects and to advocate for commitments. The team recommends a stronger focus on the national level in Ghana and a stronger focus on municipal level in Benin and Côte d'Ivoire. The approach adopted by WSUP and SSD experience in Ghana can be considered as a best practice as it was successful in obtaining a commitment from the GWMA on the 3 components stated above, amongst other in supporting the municipality in planning (compound sanitation strategy) enforcing (bye-laws), increasing income (property tax) and controlling (PLBs). These 4 components and governmental transfers make the ground for effective and efficient municipal involvement. **FINANCE** REC 26)The IP to continue with existing arrangements developed with the MFIs and to monitor the results. Integration of micro-finance with other promotional activities has already been done through public awareness events where sanitation promoters, entrepreneurs, MFIs and municipality representatives jointly participate. To monitor the effectiveness of the savings-loan arrangement set up in Benin integrating tontine. REC 27)To integrate in future projects a budget line for guarantee funds or revolving funds as these will be needed in any project involving sanitation financing. Finalize the arrangement for the guarantee fund to enable the MFIs to start working and for the financing mechanism to be tested. REC 28)ABMS to explore municipal and national financial involvement in this field which does not only have the potential to accelerate the process and to expand the number of beneficiaries but also stands as an integrated and sustainable local solution. REC 29)To explore and develop other financing mechanisms to reach poor people: Clean Team model, subsidies granted by municipalities, municipal revolving fund, savings and loans group. REC 24)To integrate further the social marketing and access to finance **GENDER** **REC 12) If the project decides to move forward the implementation of a gender strategy (this may not be a priority considering gender is not considered as a critical factor of success of the BM), here are a few suggestions to concretely pursue this goal:**	FINANCE REC 26)The IP to continue with existing arrangements developed with the MFIs and to monitor the results. And to monitor the effectiveness of the savings-loan arrangement set up in Benin integrating tontine. REC 27) To integrate in future projects a budget line for guarantee funds or revolving funds REC 28) ABMS to explore municipal and national financial involvement (governmental transfer) REC 29) To explore and develop other financing mechanisms to reach poor people: Clean Team model, subsidies granted by municipalities, municipal revolving fund, savings and loans group. REC 24) To integrate further the social marketing and access to finance **GENDER** REC 12) To engage a reflection on the ways to promote women's participation in a proactive manner, not only as users but also as actors in

a. To engage a reflection on the ways to promote women's participation in a proactive manner, not only as users but also as actors in the sanitation sector;

b. To engage this reflection internally first. It was noted that the project hired several occasions external consultants to undertake specific tasks, and the team finds it is not the best method for ownership.

c. To consult businesswomen, business women's group, female users, female graduates and male entrepreneurs to come up with practical ways to engage women in the sanitation sector with the aim of strengthening the momentum for sanitation.

KNOWLEDGE SHARING

REC 35) More knowledge sharing in terms of lessons learned between the teams in Ghana and Cote d'Ivoire as they address similar issues and as Ghana has already tested solutions. This may not be possible to achieve if a regional strong coordination is not existing.

REC 36) **Learning on successful BMs (PLBS and VTO for example) should be packaged and disseminated to all stakeholders in Ghana and in Côte d'Ivoire and Benin in adapted languages.**

REC 37) **Knowledge sharing with operational and institutional stakeholders must be done continuously and even in a less formal way than it is done at international level**. In Côte d'Ivoire for example, PSI must anticipate by communicating regularly with all stakeholders on potential or effective difficulties in order to avoid any misunderstanding.

REC 38) **Sharing practical information, even during the research stage, is necessary to hopefully trigger further action from the municipalities**.

REC 39) **Knowledge sharing should always be formulated as "what do we expect from this knowledge sharing", who are we targeting and how do we expect the targets to contribute to improving sustainable access to sanitation.**

REC 40) **In Benin and in Côte d'Ivoire the IP can use the good relationships established with respectively the MoH and ONAD to shift from advocacy to "lobbying".**

REC 41) I**n Côte d'Ivoire, PSI must seize the opportunity of having AFWA in the same country to reinforce their partnership** and the Regional Coordination of the **SSD must build on that to increase its visibility and finally ease the scale up of findings and lessons learned** on the SSD program within regional countries that are not involved in the SSD.

the sanitation sector;

KNOWLEDGE SHARING

REC 35) More knowledge sharing in terms of lessons learned between the teams in Ghana and Cote d'Ivoire

REC 36) Learning on successful BMs (PLBS and VTO for example) should be packaged and disseminated to all stakeholders in Ghana and in Côte d'Ivoire and Benin in adapted languages.

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REC 39) Knowledge sharing should always be formulated as "what do we expect from this knowledge sharing", who are we targeting and how do we expect the targets to contribute to improving sustainable access to sanitation.

REC 40) In Benin and in Côte d'Ivoire the IP can use the good relationships established with respectively the MoH and ONAD to shift from advocacy to "lobbying".

REC 41) In Côte d'Ivoire, PSI must seize the opportunity of having AFWA in the same

	country to reinforce their partnership and SSD must build on that to increase its visibility and finally ease the scale up of findings and lessons learned
2. Recommendations to PSI on the approach for future projects	
REC 2) On future programming PSI to include a baseline study and to set context based targets during the inception phase of future project. The baseline study should include but not be limited to: • a demand analysis to characterize demand for household sanitation, for public toilets, for containers based sanitation (Clean Team model) and • identify key behavioral factors (different methodologies exist such as the RANAS methodology developed by eawag) • an economic analysis. This economic analysis could be implemented using surveys of landlords and tenants, along with main economic indicators, and to use the results of the analysis to define different customers socio-economic groups and develop corresponding sanitation products based on the 2 to 5% benchmark for water and sanitation expenditures. In a regional project, the team recommends to conduct the economic analysis using the same methodology across the 3 countries to obtain comparable results on which BM are developed. REC 6) In a regional project, the team would like to suggest PSI to use a more structured and systematic methodology across the 3 countries to obtain comparative data as a guide for decision making. This is valuable for the research and implementation phases. REC 10) PSI to balance development and innovation efforts between the 4 pillars of the market during the research phase, which translate here in providing more efforts in researching, testing and developing several financing options in the research phase. REC 7) IP to place entrepreneurs at the core of landscaping analyses and product scans in market development projects, from the onset of the research phase to the testing, piloting and scaling up phases. "Sweet ideas" and "cool propositions" (cf. section on the approach) should come from the business sector in priority. The private sector, along with key stakeholders should be involved in technological development and selection. (research, approach, lessons learned on market based approach for future programming) REC 29) The way the Lean Start-Up approach was implemented could have been better if the project had established additional 4 work streams with adequate human and financial resource to address a critical pillar of the market based approach (enabling environment, support the private sector, financing mechanism, and affordable toilets) to give each component the needed attention. In particular the process did not make sufficient effort to involve sanitary engineers in general and experienced local engineers in particular. Thus, active involvement of sanitary engineers early in the process is recommended	REC 2) On future programming PSI to include a baseline study and to set context based targets during the inception phase of future project. REC 6) PSI to use a systematic methodology across the 3 countries to obtain comparative data as a guide for decision making. REC 10/ REC 7)/ 30/PSI to balance development and innovation efforts between the 4 pillars of the market during the research phase, which translate in providing more efforts in researching, testing and developing several financing options, demand triggering strategies (behavioral change), governments commitments and entrepreneurs' participation to the selection of technologies. REC 11) In future projects, IP to include gender needs (and other special needs) in the technology assessments, including MHM REC 21) To involve local resources, engineers, and local universities in the research on low-cost latrine technologies REC 32) Simplify and adapt tools to the sanitation sector e.g. Tools for improving enabling environment such as the WASHBAT

for future programming. REC 21)To involve local resources, engineers, and local universities in the research on low-cost latrine technologies. A lot of time was spent in Benin and in Côte d'Ivoire in testing and reflecting on technologies coming from foreign universities or used in the north or imported without being able to come up with a new affordable technology of poor HH. REC 11)In future projects, IP to include gender needs (and other special needs) in the technology assessments, including MHM which aims at facilitating washing, drying and disposing of sanitary materials safely and facilitating personal hygiene for women (cf. WEDC resources on this topic). REC 32)Simplify and adapt tools to the sanitation sector e.g. Tools for improving enabling environment such as the WASHBAT by UNICEF should be explored. Technology Applicability Framework already used by the Ministry of Sanitation and Water Resources in Ghana should be explored and incorporated if found relevant	by UNICEF and the Technology Applicability Framework should be explored.
3. Recommendations to USAID Environmental Office for future programming	
REC 1) The USAID Environmental Office to conduct a comparative study of country-based and regional projects *entailing budgets, implementation periods, intended and effective targets in terms of beneficiaries, approach, sustainability in the medium term (e.g. 5 years after project completion) to be able to set realistic targets in future programming.* *REC 5) PSI and the USAID Environmental Office* **to communicate with other sanitation stakeholders at regional and global level to engage on a reflection on shared sanitation and on composting toilets.** *REC 18) The team recommends IP and the USAID environmental office to consider the combination of BM (or BM mix) and a mix of financing options as an appropriate practice to address sanitation in West Africa and in developing countries as a whole*	**REC 1) The USAID Environmental Office to conduct a comparative study of country-based and regional projects** **REC 5) PSI and USAID to engage on a reflection on shared sanitation and on composting toilets.** *REC 18) The team recommends IP and the USAID environmental office to consider the combination of BM and a mix of financing options as an appropriate practice to address sanitation in West Africa and in developing countries as a whole*

ANNEX II: LIST OF DOCUMENTS REVIEWED

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ANNEX III: EVALUATION STATEMENT OF WORK

INTRODUCTION AND BACKGROUND

Access to improved sanitation is critical to both health and economic growth. Despite progress towards achieving the Millennium Development Goal for water access, sanitation coverage in West Africa remains among the lowest in the world. Among West African countries, Ghana, Benin and Cote d'Ivoire remain on the low end of sanitation coverage for improved sanitation at 13%, 14% and 28% respectively. In urban areas, improvements in access to sanitation have been outpaced by urbanization. Further, there are minimal services for safe disposal and treatment of waste, meaning that, even if safely captured, fecal sludge soon returns to the environment. Of those too few options for safe disposal and treatment, most are not affordable and appropriate for low-income households (e.g. many households are not connected to sewerage). Treatment plants are few and far between, and those that do exist function at sub-optimal levels. The rapidly growing urban populations of each country will continue to put further pressure on already strained sanitation infrastructure.

The USAID/West Africa Sanitation Service Delivery (SSD) project is a five-year cooperative agreement with Population Services International (PSI) that began in October 2014. PSI is implementing this project in collaboration with PATH and Water and Sanitation for the Urban Poor (WSUP). This project aims to catalyze the private sector to expand access to improved sanitation and FSM in support of West Africa's sanitation MDG targets. This project will support the achievement of Development Objective 3, "Utilization of Quality Health Services Increased through West African Partners", of the West Africa Regional Development and Cooperation Strategy (RDCS).

PSI will work in selected cities in Ghana, Benin, and Cote d'Ivoire. Initially these will include: Accra, GA West, Kumasi, Cotonou, and Abidjan; additional urban areas may also be identified as the project progresses. Key results expected from the SSD project at the end of five years are:

1 million people gain access to improved sanitation in targeted areas

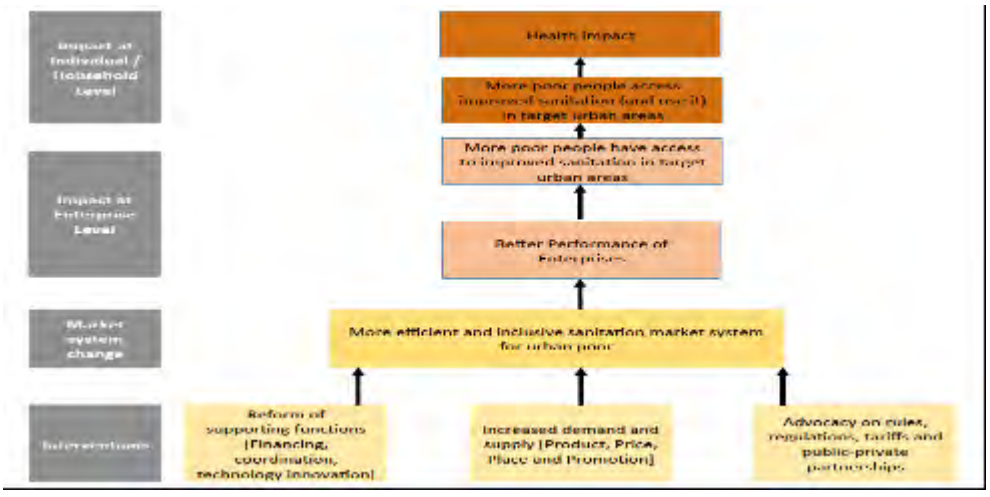
1 million people gain access to safe disposal and/or reuse of fecal waste services in targeted areas

25% of people gaining access to improved sanitation and FSM services are in the lowest poverty quartile

At least 6 market-based models for provision of sanitation services are shared regionally

The project will improve access to and use of sanitation outcomes by developing and testing scalable, market-based models that contribute to structural change within the region's sanitation sector. This will include building capacity of private enterprises and the public sector, and strengthening the linkages between the two, in order to realize the interventions that will create a sustainable sanitation marketplace in West Africa.

The SSD theory of change is depicted graphically below:



During the first phase of the project, lasting approximately two years, PSI will utilize a Lean Start-Up approach, which means that technology and business model prototypes are rapidly tested before implementing at scale. The first step in this approach will be to conduct market assessments and landscaping studies. They will then recruit entrepreneurs and prototype business models. Each model will be continually monitored to assess success based on simple metrics to prove/disprove the initial hypothesis. The project results chain will be regularly updated during piloting as assumptions are tested and revised.

At the end of the pilot phase, refined, field-tested models will be presented in strategic review meetings with stakeholders. At this point, the implementing partner will develop plans for: (1) the timeline for roll-out and scale-up, (2) specific demand creation strategies and tactics, (3) roles of key stakeholders, and (4) guidelines for the development of related materials. This evaluation will focus on assessing the results achieved during the first phase of the project, in which the models were identified and piloted.

PURPOSE OF THE PERFORMANCE EVALUATION

ASSESS will conduct a midterm evaluation to assess the performance of the SSD activity to determine if activities are leading to activity objectives and the project is well positioned to achieve success in increasing access to improved sanitation and FSM. It will also determine whether the sanitation models identified during the pilot phase of SSD are appropriate to scale up during the following phase of the project. In addition, the evaluation will increase the understanding about why certain models were appropriate in the different contexts and among different users. Evaluation findings will be used by USAID to understand how well the initial pilot phase went.

TARGET GEOGRAPHIES

The evaluation will assess the project's progress in all three countries (Accra, Ga West and Kumasi, Ghana, Cotonou, Benin and Abidjan, Cote d'Ivoire).

OBJECTIVES OF THE SSD PERFORMANCE EVALUATION

The main objective of this evaluation is to assess and document the extent to which SSD contributed to achieving its objectives, particularly focusing on the process they have undertaken and the knowledge generation that has occurred. Specifically, the performance evaluation must address the following objectives:

i. Document any successes, best practices, lessons learned and challenges the activity encountered.
ii. Determine the effectiveness and relevancy of the approach(s) used to meet activity objectives and document any lessons learned, best practices and challenges to inform future programming.
iii. Identify any internal and external factors that affected the implementation of the activity to date.
iv. Propose any recommendations based on the findings that would help inform the remaining years of SSD and future programing.

EVALUATION QUESTIONS

ASSESS must, at a minimum, address the following questions:

1. *To what extent did the pilot phase result in the identification of appropriate models to be used in the scale-phase?*
    a. *What were the differences across countries and gender, if any, between successful business models developed?*

   b. *What were the differences, if any, between the most successful business models implemented in the different project target areas?*
2. *How effective[10] was the Lean Start-Up approach in identifying models to be implemented during the scale-up phase of the project?*
   a. *To what extent were the criteria followed for making decisions about whether to pivot or proceed with models tested? What were these criteria and were they appropriate?*
   b. *Explain and detail how model-testing was used during this phase, and assess whether this testing process was rigorous enough to justify scaling?*
   c. *What (if any) are the limitations of this method?*
3. *To what extent has the project generated, documented and shared learning about new models for urban sanitation?*
   a. *To what extent has project knowledge translated into action on the part of host-country governments, donors and implementers, or other market actors?*

EVALUATION METHODOLOGY

The performance evaluation must use a research design employing rigorous qualitative methods, including triangulation, to strengthen the validity of the findings. ASSESS must describe and document the methodological approach that will be used, and this should follow USAID Evaluation best practices. The model must include an evaluation framework and assessment tools for each evaluation question. It must discuss any risks and limitations that may undermine the reliability and validity of the evaluation results.

ASSESS must 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 groups with market actors, key informant interviews with USAID staff, implementing partners, local and national government, and other relevant stakeholders as appropriate.

Constraints to data collection and analysis

Below are the anticipated constraints to be met during data collection and analysis.

i. Language: Most stakeholders, community leaders or frontline staff (partners or government) will not be comfortable to communicate in English hence ASSESS must include individuals fluent in French in the evaluation team to assist with translations during focus group discussions and key informant interviews. ASSESS is discouraged from using project staff as translators.

TASKS

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

1. *Draft evaluation design report*
2. *Develop the evaluation methodology*
3. *Test and verify the evaluation methodology*
4. *Deploy a field team*
5. *Collect the relevant data to inform the evaluation*
6. *Conduct oral debrief meetings with USAID on the preliminary findings of the evaluation*
7. *Host a learning workshop and develop a learning workshop report.*

[10] Effectiveness should be assessed in terms of how many models the project was able to test, how quickly evidence was generated, whether new models were identified through this approach.

8. *Draft Final Report*
9. *Submission of AOR-approved final report to the DEC*

DELIVERABLES

ASSESS must furnish the following deliverables:

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 must also contain a work plan, which indicates the phases in the evaluation with key deliverables and milestones. USAID/West Africa will review this report and ASSESS must receive approval from the AOR of the 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. 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.
c. 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 will be utilized to answer the evaluation questions. ASSESS 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 1) that must contain the following column headings: evaluation question, data source, data collection method(s), and data analysis methodology for each evaluation question.
d. Discussion of risks and limitations that may undermine the reliability and validity of the evaluation results.
e. A work plan, which includes a timeline showing the evaluation phases (data collection, data analysis and reporting) with their key deliverables and milestones.
f. Specific responsibilities of each team member for each evaluation phase, including any proposed changes in the evaluation team.
g. Discussion of logistics of carrying out the evaluation. Include specific assistance that will be required from USAID, such as providing arrangements for key contacts within the Mission or Government.

Table 1: Evaluation Planning Matrix[11]

Evaluation question	**Data source**	**Data collection method (including sampling methodology, where applicable)**	**Data analysis method**

[11] Another format may be used if the table is not preferred, but any chosen format should contain all the information specified for each question.

DEBRIEFING MEETING

ASSESS must debrief USAID on the preliminary findings of the evaluation. This meeting must provide a summary of any analytical results; discuss challenges, successes and way forward. ASSESS must deliver an oral presentation of the evaluation findings, conclusions and recommendations for each question to USAID, prior to finalizing the draft evaluation report. The team leader of the evaluation team will be required to routinely update the evaluation point of contact on the progress of the evaluation.

LEARNING WORKSHOP AND REPORT

In coordination with USAID, and in support of Agency collaboration, learning and adaption methodologies, ASSESS must organize a learning workshop and produce a learning report. The focus of the workshop is to generate varied and diverse learning points including useful and actionable suggestions or proposals for addressing sanitation challenges in the Ivorian, Ghanaian and Benin context with the end goal being to enhance achievement of USAID objectives.

The workshop must bring together key stakeholders jointly identified by the ASSESS, USAID and activity beneficiaries to stimulate discussion around the evaluation topic. Inclusion of a wide array of stakeholders is expected to expose 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 decisions in other on-going programs and the planning of future programs, as well as capture a broad array of stakeholder input. The specific objectives of the learning event are:

- *To disseminate findings and recommendations from the assessment;*
- *To review in-depth the key lessons and their implication for future programs; and*
- *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 in the evaluation.*

ASSESS will be responsible for documenting the learning points 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 all costs and logistics including but not limited to: invitations, agenda, facilitation, coffee breaks, lunch, appropriately marked materials and all other aspects for this all-day workshop. ASSESS, in coordination with and approval of the AOR, will

produce an event agenda, generate a list of invitees, produce all workshop materials, acquire a venue (preferably the ACE training center), and manage all aspects to ensure a successful workshop. ASSESS must produce a workshop report that captures the learning dialogue, discussion surrounding key findings, conclusions and recommendations. The final AOR-approved report will, at a minimum, include an executive summary for the workshop, activity background, a workshop scope describing the reason for the workshop and transcribed discussions that provide details on the workshop proceedings focused on outcomes and takeaways surrounding the dialogue that ensues at the workshop.

FINAL EVALUATION REPORT

ASSESS must submit a final evaluation report that is based on analyzed facts and evidence and fully addresses all the evaluation questions. The report must be 15-20 pages in length (excluding annexes) and comply with the Checklist for Assessing USAID Evaluation Reports (see annexes). After taking into account all the new information and feedback provided on the final oral briefings and draft evaluation report, ASSESS must submit 2 hard-bound copies and an electronic version of the report to the Mission. ASSESS must also submit an electronic version in an appropriate media including all tools and products of the evaluation, including instruments and data in data formats suitable for reanalysis. ASSESS must ensure that Appendix I of the USAID Evaluation Policy – Criteria to Ensure the Quality of the Evaluation Report is followed. This includes:

- The evaluation report must represent a thoughtful, well-researched and well-organized effort to objectively evaluate what worked in the project, what did not and why;
- Evaluation reports must address all evaluation questions included in the scope of work;
- The evaluation report should include the scope of work as an annex. All modifications to the scope of work, whether in technical requirements, evaluation questions, evaluation team composition, methodology or timeline need to be agreed upon in writing by the technical officer;
- Evaluation methodology must be explained in detail and all tools used in conducting the evaluation such as questionnaires, checklists and discussion guides will be included in an Annex in the final report;
- Evaluation findings will assess outcomes and impact on males and females;
- Limitations to the evaluation must be disclosed in the report, with particular attention to the limitations associated with the evaluation methodology (selection bias, recall bias, unobservable differences between comparator groups, etc.);
- Evaluation findings must be presented as analyzed facts, evidence and data and not based on anecdotes, hearsay or the compilation of people's opinions. Findings must be specific, concise and supported by strong quantitative or qualitative evidence;
- Sources of information must be properly identified and listed in an annex;
- Recommendations must be supported by a specific set of findings; and should be action-oriented, practical and specific, with defined responsibility for the action.

The final evaluation report must contain the following sections:

- Executive Summary: This section shall be 3-5 pages in length and must summarize the purpose, project background, evaluation design and methodologies including main evaluation questions, key findings, conclusions, and recommendations and lessons learned from the evaluation.
- Background: This section must provide a brief description of the project that highlights the scope of the project, project development hypothesis, activities undertaken in the project, key

impact indicators of the project and impact areas of the project. Other activities that complemented the project activities directly or indirectly in the intervention districts must also be highlighted.

- Methodology: This section must detail the methodology and related research protocols undertaken in conducting the evaluation, data collection, analysis, selection criteria/sampling, and related constraints or limitations encountered during the project implementation and evaluation.
- Findings: Empirical facts collected during the evaluation: This section must present findings from the evaluation. The evaluation findings must be presented as analyzed facts, evidence and data and not based on anecdotes, hearsay or the compilation of people's opinions. The evaluation findings must assess key outcomes and impacts as structured around the organizational framework of the evaluation questions. The findings must be specific, concise and supported by strong quantitative and qualitative evidence analyzed through scientifically plausible methodologies. Sources of information used in arriving at the findings must be properly acknowledged and listed in an annex.
- Conclusions (Interpretations and judgments based on the findings): Evaluation conclusions must be presented for each key finding. The Conclusions must logically follow from the gathered data and findings. These must be explicitly justified. If and when necessary, the evaluator must state his/her assumptions, judgments and value premises so that readers can better understand and assess them.
- Recommendations (Proposed actions for management): This section must precisely and clearly present recommendations that must be drawn from specific findings. The recommendations must be stated in an action-oriented fashion, must be practical, specific, and with defined responsibility for the requisite action. The recommendations presented in this section must follow the evaluation questions as the organizational framework.
- References: This section should include all documents reviewed, including background documentation and records of technical data application and decision-making.
- Annexes: These may include, but not limited to, statement of work, tools used in conducting the evaluation such as questionnaires, checklists, discussion guides, sources of information, etc.

TEAM COMPOSITION:

Evaluation Team Leader: The Team Leader will have primary responsibility for ensuring the final deliverables are completed in a timely manner and are responsive to the Scope of Work and Mission comments.

- *Have strong evaluation experience, including experience designing and implementing both qualitative and quantitative methods*
- *Have experience in evaluation of WASH interventions*
- *Have knowledge of West Africa's public sector and political processes*
- *Have a proven track record in terms of leadership, coordination, and evaluation delivery for development projects and programs*
- *Have excellent writing/organizational skills and proven ability to deliver a quality written product (Evaluation Report and PowerPoint)*

Sanitation or Social Marketing Specialist: The sanitation/social marketing specialist will provide technical input.

- *Have experience with urban sanitation/social service delivery models in developing country*

contexts

- *Have experience in marketing, small and medium enterprises development and financing*
- *Have a strong understanding of entrepreneurship and small enterprise sector in West Africa*
- *Preferably have experience in both impact and performance evaluation*

ASSESS Staff: Their experience will compliment that of the two external consultants, specifically in reference to the design of the evaluation.

All team members must be proficient in English, have proven ability to interact with people from many different social and economic backgrounds and languages, and possess excellent writing and presentation skills in their native language. The team must have French language proficiency and will have combined skills and experience in evaluation design, qualitative methodologies (interviews, focus groups, etc.), and sanitation/social marketing.

PLACE OF PERFORMANCE

The place of performance is Abidjan, Côte d'Ivoire, Cotonou, Benin and Ga West and Kumasi, Ghana. The extent of travel will be determined by the evaluation design and data needs as agreed upon between ASSESS and USAID. The AOR of the Sanitation Services Delivery Program will serve as the primary Point of Contact for the Performance Evaluation. The performance evaluation is expected to be conducted between March 2017 and May 2017.

EXISTING SOURCES OF INFORMATION

The Mission will share the following documents with the successful evaluation team to facilitate the desk review. The applicable documents are listed below:

1. SSD Program Description
2. SSD Annual reports (FY2015)
3. Quarterly progress reports (FY2014 – FY2016)
4. Performance Monitoring and Evaluation Plan (PMEP)
5. Annual work plans (FY2014 – FY2016)
6. Checklist for Assessing USAID Evaluation Reports
7. *USAID Evaluation Policy*
8. *USAID/WA RDCS Public Version*

ANNEX IV: TEAM COMPOSITION

ASSESS mobilized a team with a well-balanced expertise to conduct this evaluation. The team is made up of three experts with significant experience working and contributing to advance development interventions in the West Africa sub-region. It comprises an Evaluation Team Leader, a Sanitation and Social Marketing Specialist and an Urban Sanitation Specialist. The team worked in concert, played complementary roles and brought their wide-ranging expertise to achieve the principal objectives of this evaluation.

1- **Ms. Cécile Laborderie**, Team Leader, Socio-Economist, and Sanitation Specialist: The team leader provided strategic direction for implementing the performance evaluation and led the documentation of the evaluation report. Ms. Cécile Laborderie has ten years of experience in water supply, sanitation, hygiene, climate change and solid waste management projects as researcher, socio-economist, evaluator, WASH expert, and project coordinator. Her academic background includes degrees in both economic and social development and political science with certificates and training in WASH and specialization in sustainable sanitation.

2- **Dr. Kwabena Biritwum Nyarko**, Sanitation, and Social Marketing Specialist: The Sanitation and Social Marketing Specialist provided technical input for assessing the sanitation models identified in the pilot phase of the project. Dr. Kwabena Biritwum Nyarko has over 20 years' experience in the Water, Sanitation, and Hygiene (WASH) sector including working as the team leader for the baseline, midterm and end-of-term evaluation of UNICEF's Community Led Total Sanitation (CLTS) and WASH in Schools from 2014 to date. Dr. Nyarko is a faculty member of KNUST.

3- **Dr. Brama Koné**, Urban Sanitation Specialist, Sanitation Engineer, Public Health Expert. With a strong background in urban sanitation and health, he Specialist provided perspectives on the main determinants for assessing the appropriateness of sanitation models in the project target areas. Dr. Brama Koné has extensive experience in sanitation project planning, management, monitoring and evaluation, impact assessments, water supply and waste management. He has significant experience in the WASH sector and has participated in evaluations and research aimed at advancing developments in the sanitation sector in West African countries including Cote d'Ivoire, Burkina Faso, and Senegal.

5-**ASSESS Staff and University Partners**: Led by Abdourahmane BA, the ASSESS Project COP, Nana Fredua-Agyeman, ASSESS Activity Manager-Evaluation Specialist, ASSESS Staff, and University Partners provided technical and logistic support to the evaluation team.

4- **Local Support Staff/Translators**: In each country, ASSESS hired a translator to provide translation support to the evaluation team. This included translating from French to English and from local languages to French and English. The local support staff facilitated connections to local communities.

ANNEX V: EVALUATION MATRIX

Evaluation questions and sub questions	**Evaluation questions (What do we want to measure?)**	**Indicators and variables (How are we going to measure it?)**	**Data collection methods**	**Data Sources**	**Sampling or selection criteria**	**Method of Analyses**
1. To what extent did the pilot phase result in the identification of appropriate models to be used in the scale-phase?	These question and sub questions aim at understanding if the approach used by the IP to select and pilot the models in the WA region is relevant and responds to the needs of the market.					
a. What were the differences across countries and gender, if any, between successful business models, developed?	What are the key influential factors which determined the success of business models? What were the differences across countries in terms of market landscaping (characteristics)? What were the differences across countries in terms of gender dimension? What can we conclude in terms of scalability of each model?	Factors related to the sanitation market: analysing and comparing the sanitation market (differences across countries) *What were the differences across countries in terms of Supply, demand, enabling environment and financing?* *How did these factors impact the performance of each model?* Are there any other differences between countries which were significant to the success of the models? Factors related to gender dimension: review of the gender analyses undertaken by the IP in the three countries (differences across gender). *What were the differences related to the roles, responsibilities, leadership potential, implication in decision making of women in each country?* *How did these factors impact the performance of each model?*	Document review	Factsheets on the models identified and field-tested in the pilot phase. Sanitation market assessment reports Landscaping studies Field testing of the models Project staff Consumers Entrepreneurs Public sector partners		Content analysis and comparative analysis Descriptive analysis Descriptive analysis

		Are there any women entrepreneurs? Are women better able to participate in some aspects of the business opportunities created by a market led approach than other aspects? i.e., are there some parts of the value chain that women participate in more? Are they the less profitable parts? Why => Findings: - On the extent to which the models work, based on challenging and enabling factors. on the crucial factors of success (contextual factors) - On how each model was able to address the characteristics and differences between each country. - On the factors are crucial for the decision-making process to scale up. => Indicators: matrix featuring crucial factors and appropriateness of each model => Recommendation: business model matrix / tool to summarise the likeliness of a model to succeed against contextual factors.	M&E system review Interviews & FGD	MFIS		
b. What were the differences, if any, between the most successful business models implemented in the different project target areas?	How did SSD define a good business model? What were the business models which were successful? To what extent were the business models able to address each pillar of the market approach? What is the level of satisfaction of the	Identify and document the most successful business models *How many business models were developed following the Lean Start-Up approach?* *How many were successful?* *What were the criteria established by SSD to determine whether a model is successful or not?* *What is the point of view of the stakeholders? Does it match with that of SSD?* Demand: How were the models able to increase	Project documents Interviews and	Factsheets on each model Matrix of consolidated business models for all countries Project staff: country level core	Exhaustive	Content analysis Descriptive analysis Descriptive analysis Comparative

	stakeholders	demand? *How many HH and people were the models able to reach? What type of support did the HH receive? What role did women specifically play? Which HH are the hardest to reach (last mile) and how did the models try to reach them?* *What do the consumers think about sanitation now compared to before the project? Did the project activities change their understanding, awareness and actions? How satisfied are they with the new products and services, including the poor and women? Do they correspond to their needs and desires? Are they user friendly? Affordable? What benefits do they identify? (Including existence of FSM systems).* *Success stories and failures* Supply: how were the models able to increase the supply? *How satisfied are the entrepreneurs with their market development in terms of products and customers? Were they able to upgrade their skills and capacity? What are the economic benefits for them? Were they able to employ new people? To make more profit? What is their indictment rate and return on investment? What is their confidence in the future? Are there any shortfalls?* Government: how do they rate the business models? *How satisfied are they which each business model? What are the benefits? Does the development of some models create a burden for them? Do they have the resources (staff, financial capacity, supervision capacity, skills) to monitor and support the development of the models in the longer term?* *MFIs: How do they rate a successful business model from their own perspective?*	FGD Data from M&E system	stakeholders involved iin preparation and implementation of buiseness models Stakeholders: Consumers Entrepreneurs Government Suppliers	Purposive	analysis Descriptive analysis

	What can we conclude in terms of strength, weaknesses, opportunities and threats of each model? What can we conclude in terms of scalability of each model?	Is the number of consumers and suppliers interested in loans significant? Were they able to lend them money? What is the rate of return? Is it a win-win situation for them? Women: To what extent has the project knowledge contributed to triggering a new approach and changes amongst the stakeholders on gender integration? *Did the project contribute in changing gender norms as part of its activities in the sanitation sector? Were specific actions undertaken by the stakeholders to ensure that the development of program activities, management and M&E involve women? What is the point of view of the stakeholders on the way gender mainstreaming enhances success of the business models? What are the evidence based results backing their opinion?* Qualitative analysis – SWOT of each model (including failed models? 2 scalable models/5 in Ghana, 2/8 in Benin and 2/2 in Côte d'Ivoire) Performance and appropriateness of the sanitation models will be assessed taking into consideration the critical parameters including: - *Demand: context (geographical, social, economic), consumer preference, affordability* - *Supply: do the business models appropriately address the needs of market actors and/or private sector stakeholders.* - *Enabling environment: do the business models address national and local governments (municipalities, district assemblies) and the needs to transform or shape the institutional and legal environment*		Stakeholders: Project staff	With selected	SWOT analysis

	Are the models flexible, can be they be tailored to address the characteristics/ key influential factors of each country?	*so it is favourable to market development* - *Finance: to what extent do the business models allow to increase accessibility by low-income urban dwellers, and access to financing mechanisms for suppliers? Including enhancing access to financing mechanisms for women* Scope of the models - *Do the models address the full sanitation chain steps?* - *How do they address needs in terms of health and environmental protection?* - *How well do they address gender issues?* => Findings: Extent to which the models developed address the sanitation market and the shortfalls of past approaches to sanitation problems. Understanding if the approach used by the IP to select and pilot the models in the WA region is relevant and responds to the needs of the market. What is the added value compared to past approaches? Are the models able to address the gaps of past approaches? Indicators: Rating against criteria and satisfaction of stakeholders Recommendations: on scalability and introduction in future programming.	SWOT workshop		stakeholders	

2. How effective was the Lean Start-Up approach in identifying models to be implemented during the scale-up phase of the project?	These question and sub questions aim at understanding if the approach used by the IP to select and pilot the models in the WA region is relevant and responds to the needs of the market.					
Other. How relevant and effective was the identification process of the models to be piloted?	**Identification and preparation process**	Number and description of the sanitation business models tested including new or tailored models. Rationale for selecting each business model (evidence-based and participatory). Existence of system approaches or mechanisms for collecting feedback on the models from the stakeholders *How long the process of testing did take for each model? How quickly was evidence generated? Are there any differences and why?* What quantitative and qualitative data did you rely on to select the business models to be tested? Were the data systematically used for each model? Was it able to effectively generate feedback on the models? *Was the process participative? How many, and what kind of consultations did you undertake? How did this process integrate*	Document review Project staff interview Stakeholder's interviews and FGD	Project Documents Project staff Stakeholders involved in the pilot testing: users, suppliers, local & national government, MFIs	Activity and model testing reports Purposive	Content Analyses Comparative analyses between the 3 countries and between the processes used to prepare the models before testing them in the field.

		the gender dimension? *What was the M&E framework to monitor the process of development of business models?* *How did it facilitate timely generation of feedback on the models from various stakeholders?* *What were the crucial factors identified?* *As a result, which models did you pivot? Which models did you tailor or refine?* *Where there any new models identified through this process? What prompted the introduction of the new models?* => Findings: evaluator's appreciation of the quality of the pre-feasibility (preparation) process. => Indicator: correlation between the rate of success of the models and the efforts put into the process. => Recommendations on pilot testing for future programming	Review of monitoring system and evaluation reports	Project staff: M&E	M&E data related to this process	
a. To what extent were the criteria followed for making decisions about whether to pivot or proceed with models tested? What were these criteria and were they appropriate?	**Decision making process: selection of models to be piloted**	Criteria for making decisions on business models *What were the criteria established to make decisions on the models tested?* *Were there any challenges in defining the criteria? Which ones? How did you address these challenges?* *How do the criteria integrate the*	Document review Checklist based on documented criteria	Project Documents	Exhaustive review of relevant documents	Content Analyses Descriptive analysis Comparative

		differences across countries and gender? *Did the criteria address appropriately the key factors of success for market based approaches and lessons learned in the previous projects (from a global perspective and from the IP's experience)?* *Are the criterias documented?* *What are the limitations of the criteria? What are the risks and assumptions?* Extent to which criteria were followed in making decisions on business models Is the selection process documented? *Availability of completed tools (filled forms) on models tested* *Was the decision-making process participative? Was there a consensus?* *What was the feedback of the stakeholders on the choice of the models retained?* => Findings: Evaluators' rating of the appropriateness of criteria for making decisions on models tested from stakeholders' feedback and project reports => Indicator: criteria for decision making match with critical factors identified for successful sanitation market development. => Recommendations on the decision-making process	Project staff interview Stakeholder's interviews and FGD	Project staff Stakeholders involved in the decision-making process: users, suppliers, local & national government, MFIs	Purposive (involved in field testing)	analysis
b. Explain and detail how model-testing was used during this phase,	**Model-testing process** Model-testing	Existence and quality of a documented business model testing approach	Document review	Project Documents Filled forms from	Depending on the number of	Content Analyses

and assess whether this testing process was rigorous enough to justify scaling.	process adopted by the project.	What is was the model testing strategy adopted by the IP to test the business models? What are the key steps of the model? What feedback system was set up to assess the success of the models? *Compare the model testing process established with best practice/benchmark for business model testing.* Robustness of the model: is evidence based and does it rely on both quantitative and qualitative feedback? Does it address all the key issues and over a sufficient period of time? *Were the key steps of the model testing "strategy" respected? If not what were the challenges, internal and external factors which prevented to undertake the testing as planned?* What was the M&E framework to monitor the process of piloting business models? How was the M&E system to test the models used to draw conclusions on models? *Analysis of filled forms showing the ranking criteria applied to the models tested.* *Existence of documentation capturing the process from selection through testing to evidence building on the models* Did the process tackle all the steps of the sanitation value chain (from users' interface to treatment and	Project staff interview Stakeholder's interviews and FGD	the project Field testing reports and studies Project staff involved in the model testing process. Stakeholders involved in the model testing process.	models and filled forms, decide if we undertake and exhaustive review of the forms and models or a sample. If so we need to define criteria for sampling.	Triangulation of data Map out and document (in annex) model-testing process adopted by the project Comparative analysis of the model used against benchmarking

		reuse/discharge of faecal sludge)? Did the time line of the process allow addressing the full activity cycle for each stakeholder? *For example: was the model able to test the full cycle of financing for MFIs (from loan application to loan repayment)? The same question will be applied for each stakeholder and each segment of the sanitation chain.* How did the process facilitate generation of feedback on the models effective operation and performance from various stakeholders? *Extent of stakeholders' participation in drawing conclusions on models tested* *Number and type of stakeholders involved in the model testing process* *How was the point of view of women taken in account?* *How was the point of view of the different segments of population taken in account (does the testing process tackle the different segments of population equally?)* *How do the stakeholders rank the field testing activities?* *(field testing activities consisted in a lot of training and capacity building to increase the IP's understanding of what would work in the region or not).* *Does their point of view match with the*				

		ranking of the IP? *Do the learning outputs of the testing phase correspond to the objectives?* *Was the project able to test assumptions as planned? What were the results?* => Findings: Evaluators' rating of the quality, exhaustiveness and rigor of the testing method used. Comparison between project's rating and stakeholders' rating. => Indicator: criteria for decision making match with critical factors identified for successful sanitation market development. => Recommendations for future piloting				
c. What (if any) are the limitations of this method? Other: What are the strengths of the method? What are the strengths and short falls to scale it up regionally?	Relevance and scalability of applying the Lean Start-Up method to the sanitation market in the 3 countries and scalability in WA.	Strengths and limitations of the Lean Start-Up method *Did the prototype approach effectively decrease the time it takes to move through each cycle of build, measure, learn?* *How was the method able to address the challenge of working remotely in 3 countries?* What are the key internal and external factors that condition the success of the Lean Start-Up method? What are the limitations of the method? In what case did it not work as expected? Prospects for scalability *For future programming, should this method be used again? In what context? What are the key conditions which should be researched before deciding to use the*	Document review Project staff interviews Stakeholder's interviews and FGD	Project Documents Project Staff: early opportunities group, New product trial group Consumers/Users Entrepreneurs Government	Exhaustive review of relevant documents Purposive (involved in field testing)	Content Analysis SWOT analysis

		method? *Should it be customized or adapted in certain conditions?* => Findings: SWOT analysis of Lean Start-Up approach against other methods used in the past to select and pilot the models in the WA region to assess whether it responds to the needs of the market and compared to other methods used in the past or in other projects. => Indicators: efficiency based on the following variables: time spent, resources allocated, success rate of the models piloted => Conclusion: recommendations for scaling up.	Literature review	MFIs Scientific articles referring to other methods used to introduce and pilot test market based approach	Articles selected in literature review	Comparative analysis
3. To what extent has the project generated, documented and shared learning about new models for urban sanitation?	This evaluation aims to assess the effectiveness of SSD's knowledge management plan but also the impact it had on the market development itself.					
a. To what extent has project knowledge translated into action on the part of host-country governments, market actors, investors and other partner?	Effectiveness of a project's Knowledge, information and learning strategy. Did the project design and implement knowledge sharing	**Existence of a project communication strategy** Existence of a learning and information system for sharing information on the models tested. *Assessment of the strategy. What were the information gaps identified and how well does the strategy address them?*	Project Documents	Knowledge management plan Knowledge monitoring reports Quarterly reports Quarterly communication implementation		Content Analyses

	systems to ensure that field-tested models and relevant sanitation lessons are shared with stakeholders?	*Assessment of the learning tools/products produced and shared with stakeholders* *Number of stakeholders benefitting from learning tools/products on the models.* Does the strategy pay attention to address specific segments of population such as women and poor people? Does it address all the key stakeholders? Reasons for not addressing the users in the strategy? *Do the resources provided commensurate with the strategy and knowledge action plan? Presence of project support staff responsible for knowledge-sharing and dissemination functions (and rating, enough HR? enough skills? Enough funds to undertake knowledge dissemination?)* *Did the communication strategy pro-actively plan for and take advantage of environmental changes and CC as learning and promotion moments?* How effective was the strategy? Was it implemented as planned? *Review of the knowledge dissemination activities implemented against activities planned.* *Number of stakeholders attending learning and knowledge-sharing events including capacity building trainings organized for government agencies, for service providers, for project managers and for MFIs.* *Rate of participation in knowledge-sharing workshops, consultation of blogs, interest of stakeholders in conference presentations*	Staff interviews Data review from M&E systems Stakeholders interviews Media review	plans Reports on communication events (media, events, meetings, etc.)	Sampling review	Triangulation of data

		etc. *What is the perception of the stakeholders of the strategy? Was the information used by the stakeholders? Are they aware of the communication channels? Do they think they are user friendly? Does the information correspond to their needs? Are there any gaps?* *Which media had the most impact on which type of stakeholders?* *How did it help stakeholders' awareness and understanding of the sanitation environment and market?*				
	Impact of this strategy How did the information provided help them to take advantage from opportunities and developing or improving businesses? Did the information provided help governmental	**Impact of the communication strategy** Extent to which knowledge sharing activities helped the stakeholders to develop their own strategies and to translate the learning and information into action plans, strategies and policy decisions in the sanitation sector Actions taken by Entrepreneurs: increase in sanitation business. Did it help them increase their business? How?(e.g. new product, new market, pay attention to women, effective business models and business plans implemented) *How many new businesses were created due to information?* *Ratio between the number of entrepreneurs targeted and the number of entrepreneurs who have successfully added project-tested sanitation business to their existing line of*	Project documents	Monitoring and evaluation reports of activities, outputs and impact of the knowledge sharing strategy. Surveys conducted by the IP amongst entrepreneurs, NGOs, project managers, MFIs Interviews and FGD	Purposive Selection of the most significant actions	

	officials and policy makers to improve the effectiveness of the public sector (solving the challenge of sustainability)? How? How did it help NGOs and donors to improve their strategies and guidelines and to improve the design and/or effectiveness of sanitation projects (solving the challenge of sustainability and aid dependency)? Did it help MFIs to extend their offer of services? How?	*business.* Actions taken by Government: favorable policies, regulation and public financing for sanitation business and MFIs Values and percentage changes in budget allocation to the sanitation sector (municipal level or central government allocation) as a result of the project support. *Increase in public finance: growing taxes and subsidies.* Value of National/Local Government investment in Sanitation Business in the project target areas Number of government/municipal policies, laws, by-laws and regulations on sanitation drafted, amended/revised, promulgated. Number of PPPs on sanitation business established as a result of the project support Behavior change communication strategies developed by government agencies Actions taken by NGOs and donors related to their strategies, programming and implementation *Increase in capacity of project managers in designing sanitation projects to stimulate business in sanitation. (program focus)* *Increase in donor funding for sanitation*	Project staff interviews Project stakeholders' interviews and FGD		Sample of stakeholders	

		business (%) *Increase in number of development projects with outcomes for sanitation businesses.* Actions taken by MFIs to open their services to sanitation customers *Number of MFIs that have added project-tested sanitation businesses to their product lines.* Profitable loans products developed for consumers and enterprises =>Findings: Comparing impact between entrepreneurs along the sanitation chain (e.g. strongest impact for product development or enlarging their market, stronger impact for FSM management services? Etc.) Was the information and knowledge sufficient to trigger action? Are there any shortfalls? Missing information which they would need? Evaluate communication and knowledge sharing means against impact (presented as a table) => Indicators: cf. above => Recommendations: on knowledge sharing for future programming.				

ANNEX VI: EVALUATION FIELD SCHEDULE

Date	Agenda/Activity	Country
20/03/2017	***Morning*** Team Members travel from home countries to Ghana	Ghana
	Afternoon Team meeting in ASSESS office	
21/03/2017	Morning: team works on tools	Ghana
	Afternoon: working session with WSUP team	
22/03/2017	Morning • *Meeting with Ga West Municipal Authority (Cecile, Kwabena, Kone, Nana, Barbara)* • *Interview with a former Toilet Sales Agent and current toilets' entrepreneur (Dieudonné, WASH King) (Cecile, Kwabena, Kone, Nana, Barbara)*	Ghana
	Afternoon • *Visit of 2 customers of WashKing (Biodigester technology) and interviews of neighbors (Cécile, Kwabena, and Kone)* • *Visit of 2 PLBs (2 teams) and interview of PLB owners/operators Interview of 3 EHOs of Ga West Municipal Authority (Cécile, Kwabena, and Kone)*	
23/03/2017	***Morning*** Briefing with USAID/WA ROECCR - (Evaluation Team)	Ghana
	Afternoon Working meeting with PSI (all, reporting Cécile)	
24/03/2017	***Morning*** • *Meeting at the Environmental Health and Sanitation Department - Ministry of Sanitation and Water Resources - (Kwabena)* • *Interview of Anthony ADADE, M&E Specialist, WSUP on the knowledge sharing strategy and M&E strategy - (Kone)* • *Group interview with 2 PLBs operators, one man and one woman - (Cécile, Nana and Translator)*	Ghana
	Afternoon • *Group interview with 3 Toilets Sales Operators/entrepreneur (Pup Master) - (Cécile)* • *Office wrap up of interviews and preparation GA West field trip*	
25/03/2017	Team members work at the hotel	Ghana
26/03/2017	Travel to Kumasi & Field Planning for Côte d'Ivoire (Cécile and Kone)	Ghana
27/03/2017	***Morning***	Ghana

Date	Agenda/Activity	Country
	• *FGD with 5 PLB owners/operators (Kone, Eugene, Nana)* • *Working meeting with Frank NAME, WSUP (Cécile)* • *FGDs with Community Pioneers (Cécile)*	(Kumasi)
	Afternoon • *Interview with Price Capital microfinance - (Kone)* • *Interview with Pathway microfinance - (Kone)* • *Field visit with Community Pioneers visit of one customer and one PLB - (Cécile)*	
28/03/2017	***Morning*** • *FGD with VTOs at Oti landfill - (Kone, Eugène, Nana)* • *Meeting with Sinapi Aba MFI - (Kone, Eugène, Nana)* • *FGD with toilet entrepreneurs - (Cécile)* • *Field visit of one compound and customer - (Cécile)*	Ghana (Kumasi) (evening flight from Kumasi to Accra)
	Afternoon • *Meeting with KMA's Head of EHSD and EHOs - (Kone, Eugène, Nana)* • *Interview with Peter Townsley, Clean Team - (Cécile)*	
29/03/2017	***Morning*** Team flies from Ghana to Côte d'Ivoire	Côte d'Ivoire
	Afternoon Working meeting with PSI's team in Côte d'Ivoire - (Cécile)	
30/03/2017	***Morning*** • *Interview with IECD, vocational training for VTOs - (Kone, Nana)* • *Interview with consumers involved in VTO call center model - (Kone, Nana)* • *Working session with Serge Milord SEIBA - (Cécile)* • *Interview with ONAD - (Cécile)* • *Interview with the DST of Yopougon Municipality - (Cécile)*	Côte d'Ivoire
	Afternoon • *Interview with Marise Da Silva – Communication & Advocacy Manager - (Cécile)*	
31/03/2017	***Morning*** • *FGD with VTOs - (Kone, Kwabena, Nana)* • *FGD with Landlords - (Cécile)* • *FGD with entrepreneurs - (Cécile)*	Côte d'Ivoire
	Afternoon Field visit	
01/04/2017	• *Visit of M. Kone's compound - (All team)* • *FGD with women users - (Cécile)* • *FGD with men users - (Kone, Kwabena, Nana)* • *Visit of a compound and interview with neighbor - (Kone, Cécile)*	Côte d'Ivoire
02/04/2017	Team travels from Côte d'Ivoire to Bénin	Benin

Date	Agenda/Activity	Country
03/04/2017	***Morning*** • *Team work* ***Afternoon*** • *Working session with ABMS Team - (all, reporting Cécile)* • *FGD VTO - (Kone, Nana)* • *FGD entrepreneurs - (Cécile, Kwabena)*	Benin
04/04/2017	***Morning*** • *FGD of men users of latrines live prototype and field visit to Abomey Calavi - (Kwabena, Nana)* • *FGD of women users of latrines live prototype and field visit - (Cécile)* • *Interview with M. Eric Gbaguidi, Directeur de l'Assainissement et des Voies Urbaines, - (Kone)* ***Afternoon*** • *Working session with ABMS team (all)* • *Interview with Mrs. Ossou (MoH, Coordination Départementale de l'hygiène et de l'assainissement)*	Benin
05/04/2017	***Morning*** • *Interview with M. Tamegnon, director of PEBCO - (Kwabena, Nana)* • *Interview with M. Akpo, Focal Point Finadev - (Kone)* • *FGD with potential users, male, in Abomey Calavi - (Cécile)* • *FGD with potential users, female, in Abomey Calavi - (Cécile)* ***Afternoon*** • *Interview with Cotonou Municipality - (Kwabena, Nana)* • *Interview with Abomey Calavi Municipality - (Kwabena, Nana)* • *Interview with the DNSP of the MoH - (Kone)*	Benin
06/04/2017	***Morning*** • *Field visit of construction sites of the pilot phase - (Kwabena, Nana)* • *Field visit of manufacturers - (Kwabena, Nana)* • *FGD with Toilet Sales Agents of the pilot phase - (Cécile)* ***Afternoon*** • *Work session with Carole, M&E officer, ABMS - (Cécile)*	Benin
07/04/2017	• *Interview with the DST of Porto Novo Municipality - (Cécile)* • *Team work and working session with Jules*	Benin
08/04/2017	Team work	Benin
09/04/2017	Team travels to Ghana	Ghana
10/04/2017	Team work and preparation of debrief presentation	Ghana
11/04/2017	Team work and preparation of debrief presentation	Ghana
12/04/2017	• *Debriefing with USAID ROECCR* • *PSI's webinar on sanitation markets (India, Côte d'Ivoire)*	Ghana

Date	Agenda/Activity	Country
13/04/2017	Team travels back to home countries	Ghana
09/05/2017	Interview with Jennifer Foster (PATH)	Home based
18/05/2017	Interview with AfWA	Home based
22/05/2017	Interview with Howaye Toure (PATH)	Home based

ANNEX VII: LIST OF INTERVIEWEES AND PARTICIPANTS TO THE FGDS

No	Date	Name	Sex	Position	Organization /Community	Type of Stakeholder	Country
1	21-Mar-17	Faustina Asante	F	Social Business Lead	WSUP	Implementing Partner	Ghana
2	21-Mar-17	Lawrence Ofori Addo	M	Project Officer	WSUP	Implementing Partner	Ghana
3	21-Mar-17	Anthony Addae	M	M&E Specialist	WSUP	Implementing Partner	Ghana
4	21-Mar-17	Andrzej Nowosielski	M	Chief of Party	WSUP	Implementing Partner	Ghana
5	22-Mar-17	Daniel Kofi Opare	M	Head	GWMA/Environmental Health Analyst	Local Government	Ghana
6	22-Mar-17	Dieudonne K. Agudah	M	Owner	WASHKing	Entrepreneur-Construction	Ghana
7	23-Mar-17	Dana Ward	M	Chief of Party	PSI	Implementing Partner	Ghana
8	23-Mar-17	Boyan Lazarevski	M	M&E Consultant	PSI	Implementing Partner	Ghana
9	24-Mar-17	Alimatu Moro	F	Toilet Operator	Toilet Operators	Entrepreneur-PLB	Ghana
10	24-Mar-17	Bismark Amponsah	M	Toilet Operator	Toilet Operators	Entrepreneur-PLB	Ghana
11	24-Mar-17	Abdalla Okoe Nortey	M	TSA	Entrepreneur/TSA	Entrepreneur-TSA	Ghana
12	24-Mar-17	Moses Nii Djarnie Kotei	M	TSA	Entrepreneur/TSA	Entrepreneur-TSA	Ghana
13	27-Mar-17	Joseph L. Dechie	M	Patron	Kumasi Sanitation Awareness Association (PLB Association)	Entrepreneur-PLB	Ghana
14	27-Mar-17	Owusu Takyi	M	Chairman	Kumasi Sanitation Awareness Association (PLB Association)	Entrepreneur-PLB	Ghana
15	27-Mar-17	Charles A. Kontoh	M	Vice Chairman	Kumasi Sanitation Awareness Association (PLB Association)	Entrepreneur-PLB	Ghana
16	27-Mar-17	Ofori Daniel	M		Kumasi Sanitation Awareness Association (PLB Association)	Entrepreneur-PLB	Ghana
17	27-Mar-17	Rebecca Kankam Addo	F	Manager	Kumasi Sanitation Awareness Association (PLB Association)	Entrepreneur-PLB	Ghana
18	27-Mar-17	Rosemary Ninkaabs	F	Secretary	Kumasi Sanitation Awareness Association (PLB Association)	Entrepreneur-PLB	Ghana
19	27-Mar-17	Umar Musah Guba	M	Manager	Kumasi Sanitation Awareness Association (PLB Association)	Entrepreneur-PLB	Ghana
20	27-Mar-17	Dorcas Ninkaabs	F	Member	Kumasi Sanitation Awareness Association (PLB Association)	Entrepreneur-PLB	Ghana
21	27-Mar-17	Serwaa Bonsu	F	Member	Kumasi Sanitation Awareness Association (PLB Association)	Entrepreneur-PLB	Ghana

No	Date	Name	Sex	Position	Organization /Community	Type of Stakeholder	Country
22	27-Mar-17	Analem Nathan A.	M	Project Officer	WSUP-Kumasi	Implementing Partner	Ghana
23	27-Mar-17	Ketteng Frank Romeo	M	Project Officer	WSUP-Kumasi	Implementing Partner	Ghana
24	27-Mar-17	Sameule Owusu-Adjei	M	Project Officer	WSUP-Kumasi	Implementing Partner	Ghana
25	27-Mar-17	Collins Amponsah-Mensah	M	MD	Pathway Microfinance	Microfinance	Ghana
26	27-Mar-17	Yusif Hussein Shareef	M	Community Pioneer	Shareff Construction Ayigya Zongo	Community Pioneers	Ghana
27	27-Mar-17	Richmond Asamoah	M	Community Pioneer	Duase	Community Pioneers	Ghana
28	27-Mar-17	Shaibu Mohammed Bamba	M	Community Pioneer	Tafo	Community Pioneers	Ghana
29	27-Mar-17	Ali Suleman	M	Community Pioneer	Fante New Town	Community Pioneers	Ghana
30	27-Mar-17	Atta Agyeman	M	Community Pioneer	Fante New Town	Community Pioneers	Ghana
31	27-Mar-17	James Adade	M	WASH Coordinator	Sinapi Aba Trust	Microfinance	Ghana
32	27-Mar-17	Grace Nana Ama Oparah	F	Chief Executive Officer	Price Capital Ltd	Microfinance	Ghana
33	28-Mar-17	Richard Yin	M	EHO	KMA Environmental Health Service Department	Local Government	Ghana
34	28-Mar-17	Atakorah A. Benjamin	M	ACEHA	KMA Environmental Health Service Department	Local Government	Ghana
35	28-Mar-17	Constance Akuka	F	CEHO	KMA Environmental Health Service Department	Local Government	Ghana
36	28-Mar-17	Asiama Jonathan	M	ACEHO	KMA Environmental Health Service Department	Local Government	Ghana
37	28-Mar-17	George G. B. Boateng	M	EHOI	KMA Environmental Health Service Department	Local Government	Ghana
38	28-Mar-17	Eric Gyasi	M	SEHO	KMA Environmental Health Service Department	Local Government	Ghana
39	28-Mar-17	Adamu Issah	M	Owner	Issa Sanitation	Entrepreneur-VTO	Ghana
40	28-Mar-17	Richmond Manu	M	Owner	Global Sanitation	Entrepreneur-VTO	Ghana
41	28-Mar-17	Kofi Owusu	M	Owner	K.A. Sanitation	Entrepreneur-VTO	Ghana
42	28-Mar-17	Ben Osei Akowuah	M	Owner	G. Oko Sanitation	Entrepreneur-VTO	Ghana
43	28-Mar-17	Isaac Frimpong	M	Owner	Sefa and Jane Sanitation	Entrepreneur-VTO	Ghana
44	28-Mar-17	Kwaku Ben	M	Owner	Zalian Sanitation	Entrepreneur-VTO	Ghana
45	28-Mar-17	Leslie Atsu	M	Owner	Bral Sanitation	Entrepreneur-VTO	Ghana

No	Date	Name	Sex	Position	Organization /Community	Type of Stakeholder	Country
46	28-Mar-17	Ps. Michael Morrison Nyarko	M	Manager - Oti Landfill Site	KMA	Local Government	Ghana
47	28-Mar-17	Nat Owusu Agyapong	M	Owner	Babdako Sanitation	Entrepreneur-VTO	Ghana
48	28-Mar-17	Maulvi Khan	M	Entrepreneur	Maulvi Tel & Construction	Entrepreneur-Construction	Ghana
49	28-Mar-17	Michael Kmako	M	Entrepreneur	Maulvi Tel & Construction	Entrepreneur-Construction	Ghana
50	28-Mar-17	Abdul K. Mustapha	M	Entrepreneur	AFCO Construction	Entrepreneur-Construction	Ghana
51	28-Mar-17	Oscar Ohene Kodua	M	Entrepreneur	Oscar Dua Construction	Entrepreneur-Construction	Ghana
52	28-Mar-17	Tahiru A. Aziz	M	Entrepreneur	AFGO Construction	Entrepreneur-Construction	Ghana
53	28-Mar-17	Bright Antwi	M	Entrepreneur	Ecocycle Ghana	Entrepreneur-Construction	Ghana
54	30-Mar-17	Nguessan Noel	M	Coordinator	Institut Europeen de Cooperation et Development (IECD)	Implementing Partner	Cote d'Ivoire
55	30-Mar-17	Kouakou Luc	M	Formateur	Institut Europeen de Cooperation et Development (IECD)	Implementing Partner	Cote d'Ivoire
56	30-Mar-17	Kouadio Serge	M	Formateur	Institut Europeen de Cooperation et Development (IECD)	Implementing Partner	Cote d'Ivoire
57	30-Mar-17	Rasmata Sawadogo	F	Formateur	Institut Europeen de Cooperation et Development (IECD)	Implementing Partner	Cote d'Ivoire
58	30-Mar-17	Guy Fernand K. Appela	M	Coach	Institut Europeen de Cooperation et Development (IECD)	Implementing Partner	Cote d'Ivoire
59	30-Mar-17	Seiba Serge	M	Team Leader	SSD/PSI	Implementing Partner	Cote d'Ivoire
60	30-Mar-17	Togola Lassina	M	Conseiller Technique en Assainnissement	SSD/PSI	Implementing Partner	Cote d'Ivoire
61	30-Mar-17	Loa N'Gbe Claudine	F	Conseiller Technique Relation Entreprise	SSD/PSI	Implementing Partner	Cote d'Ivoire
62	30-Mar-17	Da Silva Maryse Laetitia	F	Coordinnatrice Plaidoyer et Communication	SSD/PSI	Implementing Partner	Cote d'Ivoire
63	30-Mar-17	Attoumbre Yao Bienvenue	M	Conseiller Technique, RSE (M&E)	SSD/PSI	Implementing Partner	Cote d'Ivoire
64	30-Mar-17	Yeo Adama	M	Ingenieur des Travaux Publics; Directeur des Services Techniques	District d'Abidjan, Mairie de Yopougon	Local Government	Cote d'Ivoire
65	30-Mar-17	Kokore Ama Jeanne d'Arc	F	Chef du Service Promotion de l'Assainissement	Office National de l'Assainissement et du Drainage	National Government	Cote d'Ivoire
66	30-Mar-17	Wongo Solfo	M			Consumers-Non Users	Cote d'Ivoire

No	Date	Name	Sex	Position	Organization /Community	Type of Stakeholder	Country
67	30-Mar-17	Kone Toumani	M			Consumers-Non Users	Cote d'Ivoire
68	30-Mar-17	Coulibaly Issoufou	M			Consumers-Non Users	Cote d'Ivoire
69	30-Mar-17	Toure nee Kone Maimouna	F			Consumers-Non Users	Cote d'Ivoire
70	30-Mar-17	Madame Yao	F			Consumers-Non Users	Cote d'Ivoire
71	31-Mar-17	Mousapha Ouattara	M	General Secretary		Entrepreneur-VTO	Cote d'Ivoire
72	31-Mar-17	Bamba Sounaila	M	Treasurer		Entrepreneur-VTO	Cote d'Ivoire
73	31-Mar-17	N'Guettia Adou Kouame	M	General Secretary	Sakhairo	Entrepreneur-VTO	Cote d'Ivoire
74	31-Mar-17	Kouame Tano Severin	M		Vidangeur	Entrepreneur-VTO	Cote d'Ivoire
75	31-Mar-17	Gana Abdoulaye	M		Vidangeur	Entrepreneur-VTO	Cote d'Ivoire
76	31-Mar-17	Mahamadi Hadi Gana	M		Vidangeur	Entrepreneur-VTO	Cote d'Ivoire
77	31-Mar-17	Gana Oumarou	M		Vidangeur	Entrepreneur-VTO	Cote d'Ivoire
78	31-Mar-17	Gana Sidiki	M		Vidangeur	Entrepreneur-VTO	Cote d'Ivoire
79	31-Mar-17	Sogo Marc Kevin	M	Mason		Entrepreneur-Construction	Cote d'Ivoire
80	31-Mar-17	Djere Siago Deci	M	Ferailleur		Entrepreneur-Construction	Cote d'Ivoire
81	31-Mar-17	Yoro Franck	M	Ferailleur		Entrepreneur-Construction	Cote d'Ivoire
82	31-Mar-17	Gbonke Arsene	M	Mason		Entrepreneur-Construction	Cote d'Ivoire
83	31-Mar-17	Dossour Coffi	M	Mason		Entrepreneur-Construction	Cote d'Ivoire
84	31-Mar-17	Lamime Diakite	M	Ferailleur		Entrepreneur-Construction	Cote d'Ivoire
85	31-Mar-17	Kacou N'Guessan J.	M	Ferailleur		Entrepreneur-Construction	Cote d'Ivoire
86	31-Mar-17	Kymafo Yaphet	M	Mason		Entrepreneur-Construction	Cote d'Ivoire
87	31-Mar-17	Makaye G. Markuis	M	Ferailleur		Entrepreneur-Construction	Cote d'Ivoire
88	31-Mar-17	Mme Ouatara Awa	F			Consumers-Owner	Cote d'Ivoire
89	31-Mar-17	Mr Kone Kaliman	M			Consumers-Owner	Cote d'Ivoire
90	31-Mar-17	Mr Seka Godebog	M			Consumers-Owner	Cote d'Ivoire
91	31-Mar-17	Konan Kouame Marcellin	M			Consumers-Owner	Cote d'Ivoire
92	31-Mar-17	Adama Aboucari	M			Consumers-Owner	Cote d'Ivoire
93	31-Mar-17	Koffi Alaia Kouadio	M			Consumers-Owner	Cote d'Ivoire
94	1-Apr-17	Bako Babou	M			Consumers-Beneficiaries	Cote d'Ivoire

No	Date	Name	Sex	Position	Organization /Community	Type of Stakeholder	Country
95	1-Apr-17	Sekedi Pacome	M			Consumers-Beneficiaries	Cote d'Ivoire
96	1-Apr-17	Dera Safiatou	F			Consumers-Beneficiaries	Cote d'Ivoire
97	1-Apr-17	Madame Kone	F			Consumers-Beneficiaries	Cote d'Ivoire
98	1-Apr-17	Madaem Sekeoti	F			Consumers-Beneficiaries	Cote d'Ivoire
99	1-Apr-17	Madame Sanogo	F			Consumers-Beneficiaries	Cote d'Ivoire
100	1-Apr-17	Yafui Rosine	F			Consumers-Beneficiaries	Cote d'Ivoire
101	1-Apr-17	N'Goran Johanne	F			Consumers-Beneficiaries	Cote d'Ivoire
102	1-Apr-17	Kone Christelle	F			Consumers-Beneficiaries	Cote d'Ivoire
103	3-Apr-17	Benjamin Lavin	M	Monitoring and Evaluation Assistant	ABMS/PSI	Implementing Partner	Benin
104	3-Apr-17	Elegbe Bernard	M	Microfinance Adviser	ABMS/PSI	Implementing Partner	Benin
105	3-Apr-17	Adingni Yvan-Noe	M	Engineer	ABMS/PSI	Implementing Partner	Benin
106	3-Apr-17	Quenum Zountounou Stephene C. M.	M	Business Advisor	ABMS/PSI	Implementing Partner	Benin
107	3-Apr-17	Elodiane Ahouandogbo	F	Monitoring and Evaluation Assistant	ABMS/PSI	Implementing Partner	Benin
108	3-Apr-17	Akotondji Carolle	F	Monitoring, Evaluation and Learning Assistant	ABMS/PSI	Implementing Partner	Benin
109	3-Apr-17	Jules Hountondji	M	Team Leader	ABMS/PSI	Implementing Partner	Benin
110	3-Apr-17	Gnonlonfin K Rafiou	M	Directeur	Societe Idison Sarl	Entrepreneur-VTO	Benin
111	3-Apr-17	Atinyolossogni C. A.	M	Directeur Generale	NISECO BTP	Entrepreneur-VTO	Benin
112	3-Apr-17	Lkoussan Wilfred	M	Directeur Generale	Eterniel est Beige	Entrepreneur-VTO	Benin
113	3-Apr-17	Coly Muhammed	M	Directeur	Group BAFES Enterprise	Entrepreneur-VTO	Benin
114	3-Apr-17	Clotoe Albert	M	Directeur	KD	Entrepreneur-VTO	Benin
115	3-Apr-07	Tchedi Lea Pauline	F	Ingenieur Sanitaire	SIBEAU-SA Transport et Collect Gestion de la Station	Entrepreneur-VTO	Benin
116	3-Apr-17	Monsia Daouda	M	Directeur	EB MONDA et Fils	Entrepreneur-VTO	Benin
117	3-Apr-17	Attikassou Gamal	M	Directeur	Ste CREDI GRP	Entrepreneur-VTO	Benin
118	3-Apr-17	Adetonah Sugy	M	Responsible	Hinhami Christ	Entrepreneur-VTO	Benin
119	3-Apr-17	Oussou-Kicho Noel	M	Directeur	Dieu Merci	Entrepreneur-VTO	Benin

No	Date	Name	Sex	Position	Organization /Community	Type of Stakeholder	Country
120	3-Apr-17	Kponou Barthelemy	M	Directeur	Kponou et Fils	Entrepreneur-VTO	Benin
121	3-Apr-17	Doussou Alain	M		Constratier Briquitier et autres	Entrepreneur-Construction	Benin
122	3-Apr-17	Monsin Desire	M		Constratier Briquitier et autres	Entrepreneur-Construction	Benin
123	3-Apr-17	Amouh K. Ismael	M		Fabriquant de latrine Ameliore	Entrepreneur-Construction	Benin
124	3-Apr-17	Agba Dominique	M		Macon	Entrepreneur-Construction	Benin
125	3-Apr-17	de Souza Renard	M		Plombier	Entrepreneur-Construction	Benin
126	3-Apr-17	Agbon Simon	M		Macon	Entrepreneur-Construction	Benin
127	3-Apr-17	Akdi N. Pierre	M		Entrepreneur	Entrepreneur-Construction	Benin
128	3-Apr-17	Amoussou Arnaud	M		Plombier	Entrepreneur-Construction	Benin
129	3-Apr-17	Mehounkounto Lucien	M		Menuisier	Entrepreneur-Construction	Benin
130	4-Apr-17	Gbaguidi S. Eric Serge	M	Directeur de l'Assainissement et des Voies Urbaines	Ministere du Cadre de Vie et du Developpement Durable	National Government	Benin
131	4-Apr-17	Chimene	F			Consumers-Beneficiaries	Benin
132	4-Apr-17	Victorie	F			Consumers-Beneficiaries	Benin
133	4-Apr-17	Francoise Comlanvi Epouse Oussou	F	Ingenieur des Travaux Publics;		National Government	Benin
134	5-Apr-17	Emma Magbonde	F	Chef Service Eau Calamite et Assainissement	Commune d'Abommey-Calavi	Local Government	Benin
135	5-Apr-17	Dieu-Donne Megninou	M	Directeur des Services Techniques	Commune d'Abommey-Calavi	Local Government	Benin
136	5-Apr-17	Augustin Houessinon	M	2nd Adjoint au Maire	Department du Littoral, Mairie de Cotonou	Local Government	Benin
137	5-Apr-17	Marc Didier Dubogan	M	Directeur	Ingenieur des Services Techniques des TP, Mairie de Cotonou	Local Government	Benin
138	5-Apr-17	Atioukpe T. Alexine	F	DST	Mairie de Cotonou	Local Government	Benin
139	5-Apr-17	Tamegnon Pascal	M	Directeur Generale	PEBCo-BETHESDA	Microfinance	Benin
140	5-Apr-17	Nouyaz Carine	F			Consumers-Non Users	Benin
141	5-Apr-17	Bonou Pauline	F			Consumers-Non Users	Benin
142	5-Apr-17	Houejisin Celestine	F			Consumers-Non Users	Benin
143	5-Apr-17	Fleme Suzanne	F			Consumers-Non Users	Benin

No	Date	Name	Sex	Position	Organization /Community	Type of Stakeholder	Country
144	5-Apr-17	Kemonnou Prisca	F			Consumers-Non Users	Benin
145	5-Apr-17	Y. Gbndanhoun	M			Consumers-Non Users	Benin
146	5-Apr-17	Koutchegbe Pierre	M			Consumers-Non Users	Benin
147	5-Apr-17	Anango Gerrard	M			Consumers-Non Users	Benin
148	5-Apr-17	Jhouende Ignace	M			Consumers-Non Users	Benin
149	5-Apr-17	Vigan Victorie	M			Consumers-Non Users	Benin
150	5-Apr-17	Assongnon Boris	M			Consumers-Non Users	Benin
151	5-Apr-17	Otchoumare Cypmeri	M			Consumers-Non Users	Benin
152	5-Apr-17	Zinsou Thierry	M			Consumers-Non Users	Benin
153	5-Apr-17	Azievgmon Crebert	M			Consumers-Non Users	Benin
154	6-Apr-17	Elias Gononlonfin	M			Consumers-Users	Benin
155	6-Apr-17	Diane Baka	M			Consumers-Users	Benin
156	6-Apr-17	Agonsanou Francine	F			Entrepreneur-TSA	Benin
157	6-Apr-17	Agounse Raoul	M			Entrepreneur-TSA	Benin
158	6-Apr-17	Behanzin Michelle	F			Entrepreneur-TSA	Benin
159	6-Apr-17	Ahouignan Samson	M			Entrepreneur-TSA	Benin
160	6-Apr-17	Agbanha Zuoliceiel	M			Entrepreneur-TSA	Benin
161	9-May-17	Jennifer Foster	F	Team Leader	PATH	Implementing Partner	home based
162	18-May-17	Simeon Kenfack	M		AFWA	International organization	home based
163	22-May-17	Hawoye Toure	M		PATH	Implementing Partner	home based

ANNEX VIII: DATA COLLECTION INSTRUMENTS

Annex VIII-A: Key Informant and FGD Guide

[Include any data collection instruments such as surveys, interview questionnaires, focus group moderator guides, direct observation checklists, or any others.]

KEY INFORMANT INTERVIEW & FOCUS GROUP DISCUSSIONS				
Name of Stakeholder				
Role in the SSD Program				
Interview Date (DD-MM-YYYY)		**Start Time (HH:MM)**		**End Time (HH:MM)**
Name of Key Participant				
Questions	**Answer Summary** *(Relevant to the Evaluation)*		**Ranking and Analyses by Evaluation Team** (Highlighting the Evaluation Question Corresponding to the answer)	
Q1: To what extent did the pilot phase result in the identification of appropriate models to be used in the scale-phase? **a.** ***What were the differences across countries and gender, if any, between successful business models, developed?*** **b.** *What were the differences, if any, between the most successful business models implemented in the different project target areas?*				
1. *What do you know about the sanitation program implemented by PSI*				
2. *Since when are you involved with PSI in the program which aims at improving sanitation?*				
3. *Before being in contact with this program did you ever support sanitation programs in the past for their knowledge communication and sharing? Please explain.*				
4. *What information did you receive from PSI related to knowledge sharing in this project?*				
5. *How did your contribution to the SSD program change your way of sharing knowledge, if any change?*				
6. *Did you ever turn down any information coming from PSI for sharing?*				
7. *What are the benefits for you of sharing this program knowledge?*				
8. *Do you see any risk for you AFWA?*				
9. *Do you have any special arrangement with the program to provide the kind of support you are giving? If yes, please explain*				

KEY INFORMANT INTERVIEW & FOCUS GROUP DISCUSSIONS		
Name of Stakeholder		
10. *Did you receive any support from the program? What type of support did you receive?*		
11. *How relevant (useful) is this support?*		
12. *What is your main audience/target?*		
13. *Your target/audience is it gender balanced?*		
14. *Did the information you got from the program have any impact on the way you consider sharing knowledge to women and men?*		
Q2. How effective was the Lean Start-Up approach in identifying models to be implemented during the scale-up phase of the project? How relevant and effective was the identification process of the models to be piloted? Q2a: To what extent were the criteria followed for making decisions about whether to pivot or proceed with models tested? What were these criteria and were they appropriate? b: Explain and detail how model-testing was used during this phase, and assess whether this testing process was rigorous enough to justify scaling.		
15. *Did you participate in meetings or other events organized by the project? Please explain.*		
16. *Did you make any recommendations for the program to take into consideration?*		
17. *In your opinion, were these recommendations implemented?*		
Q3. To what extent has the project generated, documented and shared learning about new models for urban sanitation?		
18. *Have you benefitted from any learning/ promotional material distributed in the program? Specify (verify if possible)*		
19. *What other assistance have you received from the program?*		
Q3b: To what extent has project knowledge translated into action on the part of host-country governments, market actors, investors and other partner?		
20. *What are the key lessons you have learned from your participation in the program?*		
21. *Will you continue to provide support to sanitation programs after the project? Why?*		
22. *Would you like to make any recommendations for consideration by the implementing partner?*		

Annex VIII-C: Interview Guide – Consumers

KEY INFORMANT INTERVIEW & FOCUS GROUP DISCUSSIONS

Name of Stakeholder					
Role in the SSD Program					
Interview Date (DD-MM-YYYY)		**Start Time (HH:MM)**		**End Time (HH:MM)**	
Name of Key Participant					
Questions	**Answer Summary** *(Relevant to the Evaluation)*			**Ranking and Analyses by Evaluation Team** (Highlighting the Evaluation Question Corresponding to the answer)	
A:					
Q1: To what extent did the pilot phase result in the identification of appropriate models to be used in the scale-phase? *a. What were the differences across countries and gender, if any, between successful business models, developed?*					
1. How did you get involved in the sanitation program implemented by WSUP/PSI? How, and how long have you been involved in the program?					
2. Have you used any of the sanitation products/services[12] introduced by this program? If yes, which one(s)?					
3. What are your general impressions about these sanitation products or services?					
4. What are the main sanitation challenges you face in this area?					
5. How relevant are these sanitation products and services? Do they meet your needs and desires?					
6. Are you able to afford the sanitation products and services?					
7. How did you pay for the use of the products or services introduced? Did you require a loan? Explain					
8. Did you approach any finance institutions for a loan? If yes, were you successful? If no, what was the reason					

[12] For clarity in the interview with consumers, the business models are referenced in this guide as 'sanitation products/services'.

KEY INFORMANT INTERVIEW & FOCUS GROUP DISCUSSIONS							
Name of Stakeholder							
provided by the bank/institution?							
9. *Are the sanitation products easy to use (user-friendly)?*							
10. *[For women consumers] Do you feel safe and secured when you are using the sanitation product?*							
11. *[For women consumers] How hygienic is the sanitation product? Do you feel vulnerable to infections and other health conditions when using the product? Explain*							
12. *How easy or difficult is it to physically access the product or service? Is it within your reach?*							
13. *How will you rank each of the sanitation products or services (tested in this area/country) on a scale of 1 to 5 where 1= Strongly Disagree and 5= Strongly Agree.*	**Model is:**	**1**	**2**	**3**	**4**	**5**	
	Affordable						
	User-friendly						
	Geographically appropriate						
	Physically accessible						
	Hygienic for use by women						
	Ensures safety and privacy for women						
1b: What were the differences, if any, between the most successful business models implemented in the different project target areas?							
14. *[For women consumers] What matters to you the most when considering sanitation products/service options?*							
15. *[For women consumers] To what extent do you feel the sanitation products/services introduced took these issues into consideration?*							
16. *Has the demand for sanitation services increased since the introduction of these models?*							

KEY INFORMANT INTERVIEW & FOCUS GROUP DISCUSSIONS		
Name of Stakeholder		
17. *How satisfied are you with each of the business sanitation products/services? What are the benefits of these products/services to your households?*		
18. *Do you have the resources (financial capacity) to sustain the use of this product/service in the long term?*		
19. *Have you received any kind of support from the program? If yes, briefly explain the type of support.*		
20. *How beneficial was the support received?*		
Q2. How effective was the Lean Start-Up approach in identifying models to be implemented during the scale-up phase of the project? How relevant and effective was the identification process of the models to be piloted? Q2a: To what extent were the criteria followed for making decisions about whether to pivot or proceed with models tested? What were these criteria and were they appropriate?		
21. *To what extent were you involved in this project? Have you participated in any of the meetings related to the development of these products/services? How often did you participate in these meetings?*		
22. *Did you make any recommendations for the program to take into consideration? In your opinion, were these recommendations implemented?*		
23. *To what extent do you feel your recommendations were taken into account? Rank on a scale of 1-5, where 1 is very low and 5 is very high)*		
24. *Did you have the opportunity to provide feedback on the sanitation products/services tested in this area? If yes, how and how often did you provide feedback to the program?*		

KEY INFORMANT INTERVIEW & FOCUS GROUP DISCUSSIONS		
Name of Stakeholder		
Q2b: Explain and detail how model-testing was used during this phase, and assess whether this testing process was rigorous enough to justify scaling.		
25. *Were you involved in defining the criteria for making decisions on the models tested? How?*		
26. *What is your overall assessment of the testing process of the models?*		
27. *Any recommendations for improving the testing process?*		
Q3. To what extent has the project generated, documented and shared learning about new models for urban sanitation?		
28. *Have you participated in any learning event organized by the program?*		
29. *Have you benefitted from any learning materials distributed by the program? [Specify materials received. Verify if possible]*		
Q3b: To what extent has project knowledge translated into action on the part of host-country governments, market actors, investors and other partner?		
30. *What do you think about sanitation now compared to before the program? Did the project activities change or enhance your understanding, awareness and actions?*		
31. *What should be done to increase demand for the successful sanitation products/services?*		
32. *Any other comments or recommendations?*		

Annex VIII-D: Interview Guide – Entrepreneurs

KEY INFORMANT INTERVIEW & FOCUS GROUP DISCUSSIONS					
Name of Stakeholder					
Role in the SSD Program					
Interview Date (DD-MM-YYYY)		**Start Time (HH:MM)**		**End Time (HH:MM)**	
Name of Key Participant					
Questions	**Answer Summary** *(Relevant to the Evaluation)*		**Ranking and Analyses by Evaluation Team** *(Highlighting the Evaluation Question Corresponding to the answer)*		
A:					
Q1: To what extent did the pilot phase result in the identification of appropriate models to be used in the scale-phase? *Q2. How effective was the Lean Start-Up approach in identifying models to be implemented during the scale-up phase of the project?* Q3. To what extent has the project generated, documented and shared learning about new models for urban sanitation?					
1. *How, and how long have you been involved in the program undertaken by WSUP/PSI (name of IP)?*			Q2		
2. *Describe the activities you participated in relation to this program.*			Q2		
3. *Did the program help you develop your business? Please explain.*			Q2		
4. *Did it help you reach new customers? Please explain.*			Q1		
5. *Did it help you develop new products and services? Did it provide you skills to do so? Please explain.*			Q1		
6. *Did it help you access funding? Please explain.*			Q1		
7. *Were there any municipal policy and regulatory changes in sanitation? Which ones and what impact did they have on your business?*			Q1		
8. *What are the key factors likely to make your business successful?*			Q1		
If the respondent is a man 9. *Are there any women entrepreneurs in you sector and to your knowledge did the project encourage women to develop businesses?* *If the respondent is a women*			Q1		

KEY INFORMANT INTERVIEW & FOCUS GROUP DISCUSSIONS		
Name of Stakeholder		
10. *Did the project support you specifically as a woman to develop your business?*		
11. *Do you see any difference in the way men and women lead their business in your activity sector? Please explain.*		Q1
12. *Currently, what are the challenges that you encounter to develop your business?*		Q1
13. *What kind of support do you receive from the project currently?*		Q2
14. *Does this support appropriately address your needs? What is missing?*		Q1 - Q2
15. *On a scale from 1 to 5, rate the support you received from the project to develop your business successfully.*		Q1 - Q2
16. *Do you have the resources (financial and technical capacity, skills) to develop your business in the longer term?*		Q1
17. *Who are your customers? (men/women, landlords/tenants)*		Q1
18. *Do you have any poor customers? How can they buy your product/service?*		Q1
19. *Do you notice any difference if you customer is a man or a women?*		Q1
20. *Were you consulted during the preparation phase of the program? Please explain*		Q2
21. *Did you make any recommendations for the program to take into consideration? In your opinion, were these recommendations implemented?*		Q2
22. *Did you have the opportunity to provide feedback? How and how often?*		Q2
23. *Have you participated in any learning event organized by the program?*		Q3
24. *Have you benefitted from any learning materials distributed by the program? [Specify materials received. Verify if possible]*		Q3
25. *Any recommendations for consideration in the future of the program?*		Q1-2-3

KEY INFORMANT INTERVIEW & FOCUS GROUP DISCUSSIONS		
Name of Stakeholder		
26. *Any question you would like to ask us?*		

Annex VIII-E: Interview Guide – Local Government

KEY INFORMANT INTERVIEW & FOCUS GROUP DISCUSSIONS				
Name of Stakeholder				
Role in the SSD Program				
Interview Date (DD-MM-YYYY)		**Start Time (HH:MM)**	**End Time (HH:MM)**	
Name of Key Participant				
Questions	**Answer Summary** *(Relevant to the Evaluation)*		**Ranking and Analyses by Evaluation Team** (Highlighting the Evaluation Question Corresponding to the answer)	
A:				
Q1: To what extent did the pilot phase result in the identification of appropriate models to be used in the scale-phase? *b. What were the differences across countries and gender, if any, between successful business models, developed?*				
1. *How, and how long have you been involved in the program – Compound Sanitation and PLBs?*				
2. *How relevant are the Compound Sanitation and PLBs models/approaches considering the sanitation needs of this area?* • *demand (household including Low Income dwellers* • *Suppliers (entrepreneurs, artisans, etc)* • *Financing* • *Your needs as local government (enabling environment)*				
3. *What made the Compound Sanitation and PLBs successful in some places and not successful in others? The key factors!!*				
4. *Did the project (Compound Sanitation and PLBs) have impact on the participation of women entrepreneurs? Briefly explain.*				
5. *Are there any differences between PLBs operated by men and women?*				
6. *Did you take any actions to ensure the development of models by the project involved women?*				
1b: What were the differences, if any, between the most successful business models implemented in the different project target areas?				
7. *Do the business models address national and local governments (municipalities, district assemblies) needs and priorities?*				

KEY INFORMANT INTERVIEW & FOCUS GROUP DISCUSSIONS		
Name of Stakeholder		
8. How do they address needs in terms of health and environmental protection?		
9. *Has the demand for sanitation services increased since the introduction of Compound Sanitation and PLBs?*		
10. *How satisfied are you with each of the business models - Compound Sanitation and PLBs? What are the benefits of these models to this area/municipality?*		
11. *Do you have the resources (staff, financial capacity, supervision capacity, skills) to monitor and support the development of the models?*		
12. *To what extent do the business models facilitate accessibility by low-income urban dwellers, and access to financing mechanisms for suppliers*		
Q2. How effective was the Lean Start-Up approach in identifying models to be implemented during the scale-up phase of the project? How relevant and effective was the identification process of the models to be piloted? Q2a: To what extent were the criteria followed for making decisions about whether to pivot or proceed with models tested? What were these criteria and were they appropriate?		
13. *To what extent were you involved in this project? Have you participated in any of the meetings related to the development of these business models? How often did you participate in these meetings?*		
14. *Did you make any recommendations for the project to take into consideration? In your opinion, were these recommendations implemented?*		
15. *To what extent do you feel your recommendations were taken into account? Rank on a scale of 1-5, where 1 is very low and 5 is very high)*		
16. *Were you involved in the selection of the Compound Sanitation and PLBs? If yes, briefly describe the process used to select the successful business models.*		
17. *Rate the extent to which you were involved in the selection of the Compound Sanitation and PLBs, on a scale of 1-5 (where 1= very low and 5= very high)*		
18. *What are the strength and weaknesses of the Compound Sanitation and PLBs in your municipality?*		
19. *How did the Compound Sanitation and PLBs take into account the needs of women, children, physically challenges and the poor?*		

KEY INFORMANT INTERVIEW & FOCUS GROUP DISCUSSIONS					
Name of Stakeholder					
20. *How should the Compound Sanitation and PLBs be improved in future?*					
Q2b: Explain and detail how model-testing was used during this phase, and assess whether this testing process was rigorous enough to justify scaling.					
21. *What will make the Compound Sanitation and PLBs more successful? Please explain.*					
22. *What is missing or the gaps/challenges in the Compound Sanitation and PLBs?*					
Q3a. To what extent has the project generated, documented and shared learning about new models for urban sanitation?					
23. *Have you participated in any learning event organized by the program?*					
24. *Have you benefitted from any learning materials distributed by the program? [Specify materials received. Verify if possible]*					
25. *What are the main things you learned to improve sanitation at the municipality?*					
Q3b: To what extent has project knowledge translated into action on the part of host-country governments, market actors, investors and other partner?					
26. *Between 2014 and 2016, what are the values and percent changes in the budget allocation to the sanitation sector (municipal level or central government allocation)?*	**Year**	**2014**	**2015**	**2016**	
	Value				
	% Change				
27. *Has the strategy of increasing property rate and allocation 10% for sanitation work? Ring fencing!*					
28. *How is the knowledge gained from the program helping you to create good conditions (an enabling environment) for sanitation businesses?*					
29. *Has the municipal assembly/government improved or revised policies on sanitation? Provide details.*	Number of government/municipal policies on sanitation: a. Drafted: b. Amended/revised: c. Promulgated				
30. *What are your plan to continue improving sanitation after the project ends?*					

Annex VIII-F: Interview Guide – Microfinance Institutions

KEY INFORMANT INTERVIEW & FOCUS GROUP DISCUSSIONS				
Name of Stakeholder				
Role in the SSD Program				
Interview Date (DD-MM-YYYY)		**Start Time (HH:MM)**		**End Time (HH:MM)**
Name of Key Participant				
Questions	**Answer Summary** *(Relevant to the Evaluation)*		**Ranking and Analyses by Evaluation Team** (Highlighting the Evaluation Question Corresponding to the answer)	
Q1: To what extent did the pilot phase result in the identification of appropriate models to be used in the scale-phase? *c. What were the differences across countries and gender, if any, between successful business models, developed?* *d. What were the differences, if any, between the most successful business models implemented in the different project target areas?*				
1. What do you know about the sanitation program implemented by WSUP/PSI (name of IP)				
2. Since when are you involved with (name of IP WSUP/PSI) in the program which aims at improving sanitation?				
3. Before being in contact with this program did you ever provide loans in the past to people who wanted a loan to build their toilets? Please explain.				
4. Before being in contact with this program did you ever provide loans in the past to entrepreneurs in the sanitation sector? Please explain				
5. What information did you receive from PSI/WSUP related to financing sanitation project? (HH and entrepreneurs) (also Q3)				
6. How did this information change your loan policy? (also Q3)				
7. Were you able to lend money to consumers and entrepreneurs in the sanitation sector?				
8. If yes Please explain *-How many loans did you grant? What does this number represent compared to your other activities?* *-How many applications did you get?*				

KEY INFORMANT INTERVIEW & FOCUS GROUP DISCUSSIONS		
Name of Stakeholder		
-*What was the purpose of the loans?* - *What was the interest rate and is it different from other types of loans? Why?* - *Do you already have a feedback on customer' loan refund? Are you satisfied with it?*		
9. *If no. Please explain*		
10. *Did you turn down any application requests? Please explain.*		
11. *What are the benefits of financing sanitation for you as a MFI/Bank?*		
12. *What are the risks?*		
13. *Do you have any special arrangement with the program to provide loans to consumers and entrepreneurs? If yes, please explain*		
14. *Did you receive any support from the program? What type of support did you receive?*		
15. *How relevant (useful) was this support?*		
16. *Do you give loans to poor people in general? What about for sanitation? Is your policy different? Please explain*		
17. *Do you have a different loan policy if the applicant is a woman or a man? Please explain.*		
18. *Did the information you got from the program have any impact on the way you consider accepting loans to women as consumer or as entrepreneurs in the sanitation sector?*		
Q2. How effective was the Lean Start-Up approach in identifying models to be implemented during the scale-up phase of the project? How relevant and effective was the identification process of the models to be piloted? Q2a: To what extent were the criteria followed for making decisions about whether to pivot or proceed with models tested? What were these criteria and were they appropriate? b: Explain and detail how model-testing was used during this phase, and assess whether this testing process was rigorous enough to justify scaling.		
19. *Did you participate in meetings or other events organized by the project? Please explain.*		
20. *Did you make any recommendations for the program to take into consideration?*		
21. *In your opinion, were these recommendations implemented?*		
Q3. To what extent has the project generated, documented and shared learning about new models for urban sanitation?		
22. *Have you benefitted from any learning/ promotional material distributed in the program? Specify (verify if possible)*		
23. *What other assistance have you received from the program?*		

KEY INFORMANT INTERVIEW & FOCUS GROUP DISCUSSIONS		
Name of Stakeholder		
Q3b: To what extent has project knowledge translated into action on the part of host-country governments, market actors, investors and other partner?		
24. *What are the key lessons you have learned from your participation in the program?*		
25. *In fact, did the information you got help you improve your business? Please explain*		
26. *Will you continue to provide loans to consumers and entrepreneurs after the project? Why?*		
27. *Would you like to make any recommendations for consideration in the future?*		

Annex VIII-G: Interview Guide – Implementing Partners

KEY INFORMANT INTERVIEW & FOCUS GROUP DISCUSSIONS				
Name of Stakeholder				
Role in the SSD Program				
Interview Date (DD-MM-YYYY)		Start Time (HH:MM)		End Time (HH:MM)
Name of Key Participant (ASSESS and evaluation team)				
Questions	**Answer Summary** *(Relevant to the Evaluation)*		**Ranking and Analyses by Evaluation Team** (Highlighting the Evaluation Question Corresponding to the answer)	
Q1: To what extent did the pilot phase result in the identification of appropriate models to be used in the scale-phase? *e. What were the differences across countries and gender, if any, between successful business models, developed?*				
1. *What is your definition of a model?*				
2. *How do you define a "new model"?*				
3. *Were there any new models identified through this process? What prompted the introduction of new models?*				
4. *What are the key factors which influenced the success of business models?*				
5. *What most significant differences across countries in terms of market landscaping (characteristics) that impacted the success of the model at this stage of testing/piloting*				
6. *What were the differences related to the roles, responsibilities, leadership potential, implication in decision making of women in each country?*				
7. *How did these factors impact the performance of each model?*				
1b: What were the differences, if any, between the most successful business models implemented in the different project target areas?				
8. *What were the criteria established by SSD to determine whether a model is successful or not?*				
9. *What are the provisions made at SSD's level for the poor and for women which contributed to triggering a new approach and changes amongst the stakeholders on gender integration? On the low income part of the population?*				

KEY INFORMANT INTERVIEW & FOCUS GROUP DISCUSSIONS		
Name of Stakeholder		
10. *SWOT analysis of the business models. What are the SWOT across business models in the 3 countries?*		
11. *What are the (6) models which you intend to pilot over the 3 countries until the end of SSD? When will you start the pilot phase?*		
Q2. How effective was the Lean Start-Up approach in identifying models to be implemented during the scale-up phase of the project? How relevant and effective was the identification process of the models to be piloted?		
Q2a: To what extent were the criteria followed for making decisions about whether to pivot or proceed with models tested? What were these criteria and were they appropriate?		
Q2b: Explain and detail how model-testing was used during this phase, and assess whether this testing process was rigorous enough to justify scaling.		
12. *What is your definition of 'testing' in this program? What are the processes involved?*		
13. *Briefly describe the model testing strategy you adopted to test the business models. What steps are involved?*		
14. *Were the key steps of the model testing "strategy" strictly followed? If not what were the challenges, internal and external factors which prevented adherence to this strategy?*		
15. *What criteria did you use for testing the business models?*		
16. *Were there any challenges in defining the criteria? Which ones? How did you address these challenges?*		
17. *How do the criteria integrate the differences across countries and gender?*		
18. *Was the criteria applied in the same way to all models? Did you have to modify the criteria in some cases? What accounted for this modification?*		
19. *Did you provide your partners with uniformed criteria? (provide documents)*		
20. What feedback system did you set up to assess the success of the models?		
21. *How was the point of view of the different segments of population taken in account (does the testing process tackle the different segments of population equally?)*		
22. *Does this feed back system include an M&E framework?*		
23. *Did you provide your partners with an M&E framework?*		
24. *Do you have consolidated results of the monitoring system over the 3*		

KEY INFORMANT INTERVIEW & FOCUS GROUP DISCUSSIONS		
Name of Stakeholder		
countries?		
25. *For each business model can you provide us with:* *Dates of the testing phase (start – end)* *The criteria used?* *The monitoring and results of the testing phase* Your conclusions in terms of pivoting or proceeding of the business model?		
26. *Did all stakeholders play their role as expected? Did this impact in any way on the performance of the models?*		
27. *How did it facilitate timely generation of feedback on the models from various stakeholders? What were the crucial factors identified?*		
Q2c. What (if any) are the limitations of the Lean Start-Up method? What are the strengths of the method? What are the strengths and short falls to scale it up regionally?		
28. *Do you think the Lean Start-Up approach was successful?*		
29. *What are the key internal and external factors that condition the success of the Lean Start-Up method? What are the limitations of the method? In what case did it not work as expected?*		
30. *For future programming should this method be used again? In what context?*		
31. *What are the key conditions which should be researched before deciding to use the method? Should it be customized or adapted in certain conditions?*		
Q3. To what extent has the project generated, documented and shared learning about new models for urban sanitation?		
32. *How effective was your knowledge management strategy?*		
33. *Were you able to implement it planed? Please explain.*		
34. *How is the knowledge management strategy share between your and your partners?*		
35. *How are you assisting various stakeholders to translate the learning into action?* *(all stakeholders from the field but also at policy and donor level)*		
36. *Are there any success stories?*		
37. *Which media had the most impact on which stakeholders?*		
38. *Do you think you had enough resources to implement an effective communication strategy (financial and human resources?)*		
39. *Can you evaluate the impact of the external communication activities?*		

Annex VIII-H: Project System Review Checklist

No.	Area of Assessment	Yes	No	Comments/Observations
1	Project has a documented gender strategy			
2	Project has a system approach or mechanism in place for collecting feedback on the models from stakeholders			
3	Tools exist for collecting stakeholders' feedback on the models from stakeholders			
4	Project has an M&E framework to monitor the process of development of business models			
5	A documented criterion exists for making decisions on models tested			
6	Project has in place a documented business model testing approach			
7	Evidence (completed forms) available for verifying the ranking criteria applied to all the models tested			
8	Existence of documentation capturing the process from selection through testing to evidence building on the models			
9	Project M&E system provides information on the 'Lean Start-Up' approach used in the pilot phase			
10	A project communication strategy exists			
11	Project has in place a learning and information system for sharing information on sanitation			
12	Project has in place staff responsible for knowledge-sharing and dissemination functions			

ANNEX IX: VACUUM TRUCK OPERATOR (VTO) BUSINESS MODELS ANALYSIS MATRIX

The market for households' septic tanks emptying is fragmented and costly and service quality is generally low in Ghana, Côte d'Ivoire and Benin. Also, there is a lack of safe treatment facilities in all three countries.

In each of the countries, a Vacuum Truck Operators (VTO) Business model (BM) was set up within the SSD to build the capacity of VTOs to better respond to consumer demand and make the business more efficient by developing higher quality VTO services, including better customer service and more flexible pricing with enhanced service areas; and more efficient VTO businesses; helping to unlock latent demand.

In Ghana, the VTO BM was associated to improving operation and use of Public Latrine Blocks (PLBs), resulting in a PLBs and VTO BM called "Professionalization of PLBs and VTOs" BM.

In Côte d'Ivoire the BM is called "Vidange Plus" and in Benin it's called "Vidange Mimé"

The key activities are:

- In all countries, to benchmark the business capacity of existing VTOs, develop partnership with high performing VTOs, design business skills training course, design loan product, research supply chain for compressors and hoses, test service contracts and technology platform (call center) for route planning.
- In Côte d'Ivoire, two more activities are to support government quality certification of VTOs and provide support to the government to prepare a financial proposal for development banks to fund new treatment stations.
- In Ghana, the professionalization of PLBs calls upon PLB operators training workshops, annual awards for best public latrine and advertising campaign facilitated of best performing PLBs to serve as an incentive for sustainable operation and maintenance practices.

Q	Information	Analysis	Conclusion/Recommendation
In Ghana			
Q1	Over the last five years, WSUP is heavily engaged with the municipal governments in Ga West and Kumasi, and works with the private sector, identifying and training entrepreneurs in sanitation and FSM. It has also formed partnerships with private sector finance organizations, such as that with HFC Boafo, which provide sanitation loans (FY15, p25). The PLBs + VTOs' work with WSUP started before the SSD. It was based on the need to improve public toilets, which are predominant in Ghana (Interview with WSUP)	In Ghana, as the SSD program was built on an existing project, PLBs and VTOs BM selection was done prior to the SSD.	Having already started working with PLBs and VTOs in Ghana prior to the SSD, help in rapidly planning to go for scale up
Q2	PLBs were trained to provide quality service to clients. Training covered – standards, customer care, how to operate toilets, how to manage chemicals water, brushes, safety equipment, taking care of the environment, using	Training has increased awareness of PLBs and VTO on the need to be professional (pay attention to health, safety, customer care, improve service delivery etc.)	Scaled up as it improves the service until achievement of universal coverage in Ghana WSUP should consider connecting PLBs to traditional

Q	Information	Analysis	Conclusion/Recommendation
	gloves etc. (GW interview, FY16, P22). The level of quality that the trainers (WSUP) are requesting from PLBs calls upon financial support because the activity is not enough lucrative (interview with PLB Owners) PLBs were also connected to MFIs to enable them secure loans to improve their services. But, they do not look systematically for loans because the interest rate is higher. (interview with PLBs in Kumasi). The challenge remains to get sustainable financing scheme for PLBs and VTOs (FY16, p23) Benefits of training according to PLBs (interview with PLBs owners in Kumasi): - *Increased the number of customers* - *Customers are satisfied* - *The price stayed the same for the lady 50 pesos* - *For the man increased from 40 to 50 pesos* - *Financial impact: has improved for both* - *They spend more time and money but now they have more customers* Benefits of training according to VTOs (interview with VTOs in Kumasi): - *Increased the number of customers* - *Customers are satisfied* - *The price stayed the same.* - *Financial impact: has improved for both VTOs owner and clients* - *Improve safety protection practices* MFIs invited to attend both the training of PLBs and VTOs.	How to ensure the PLBs does not become a disincentive to HH latrine program!! This question was raised with PLB owners and with PSI team in Ghana and in Côte d'Ivoire. In Ga West, stakeholders claim that the sanitation market and the needs are huge and therefore there is no risk of competition. (FGD). In fact focusing on both PLBs and compound sanitation is a strong point as both programs reinforce each other but the buy in of PLBs needs to be ensured (e.g. in Kumasi a PLB owner does not want to participate in the PLB program and is not happy with HH accessing sanitation) VTOs services has improved with the training. However, the dumping site need to been re-built. Having MFIs, PLBs and VTOs in the same place during trainings can improve their relationship, confidence and facilitate loans process	banks for better interest rates not MFIs due to long term nature!
	Monitoring and Benchmarking/competition and awards for best performing PLBs in place (FY16, P45, interview	Learning workshop There are awards for the clean toilets.	There is a need to look for means to sustain this stimulating strategy of competition among PLBs

Q	Information	Analysis	Conclusion/Recommendation
	with PLBs owners in Kumasi, Interviews with EHO in Kumasi and Ga West, with WSUP)	Competition and awards are stimulating and sustaining interest to keep standards high! A form of monitoring that is keeping PLBs on their toes. But, it is important to think to the sustainability of the process. Who is financing the process and how to sustain it?	
Q3	PLB training: participated in a training workshop and to one week training (interview with PLB owners in Ga West)	Capacity building materials for PLBs and VTOs were not distributed	Learning on PLBS and VTO should be packaged and disseminated to stakeholders
	WSUP's handout including how to operate toilets, how to manage chemicals water, brushes, safety equipment, taking care of the environment, using gloves etc. (FGD Ga West)	Hands out are in English. Not understandable by all PLB owners (FGD Ga West). This is a limit in accessing to information for some stakeholders (communities,…)	
In Côte d'Ivoire			
Q1	Identification of the model started with the analysis of the 4 P: • ***Product:*** *Desludging need and available VTOs services but lack of trust between the VTOs and the households and many clients are unsatisfied (interview with PSI, 2nd annual report, p.8). Manual desludging is also used, sometime with motor-pump during the night to desludge in household surroundings (interview with VTOs).* • ***Price:*** *Unclear (for customers) and high cost of desludging, technical difficulties to desludge (cost depends on the distance between the household and the zone de discharging: between 15 000 FCFA (25US$) and 35 000 (58US$) per trip and up to 100 000 CFA (166US$) for thick sludge removal (with high pressure trucks). Manual desludging cheaper than VTOs' desludging. When the landlords lives on the compound he generally pays otherwise this is*	The identification of the VTO model is facts based, leading to a promising business model. It addresses existing demand of customers, proposes solution to decrease operational costs for the VTOs. In fact, there is: • *a need or demand of customers for their fecal sludge management* • *a product or service (VTOs)* Also the model addresses the priorities of ONAD, the institution in charge of sanitation in Côte d'Ivoire. The 4P analysis is consistent with a potential improvement of VTOs services and decrease of services' cost.	Appropriate model identified. The process of identification of the model can been reproduced because well described and documented

Q	Information	Analysis	Conclusion/Recommendation
	the tenants. Fuel is the biggest expense for VTOs (interview with PSI, VTOs and Landscape study, diapo 23, FY16 Annual report, P8) • ***Place/area:*** *3 sludge emptying places in all Abidjan making distances long to go from household to emptying places (interview with VTOs). The tenants sometimes go to the emptying places to look for available VTOs. No existing strategy to optimize travel distance for VTOs (Informal interview with VTOs during field visit). Liquid waste management is centralized in Côte d'Ivoire and under the responsibility of ONAD (Office National de l'Assainissement et du Drainage), in charge of managing all emptying places in Abidjan.* • ***Promotion:*** *The regulatory framework for desludging activities is not clear enough. The VTOs do not communicate about their price and the service they provide. They have a hard time managing their prospection and business (interview with PSI). Nothing is clear, the VTOS do not have a service and business approach. No written business plan. VTOs generally mixed their business money to their household money, making difficult to organize efficiently monthly spending (interview with VTOs' trainers). Government is launching certification process for VTOs (Landscape study, diapo 24)*		
Q2	• *Testing phase of a rough prototype (Olivier vidange): January 2016 – July 2016 through questionnaire to consumers (HH) tenants, VTOs, FGD with the VTOs (journées de co-création). Rough prototype is tested with the HH: e.g. with a leaflet. Would you like the VTO to measure the tank? To use a tool to gauge the level of sludge? To have a contract (yes or no because there is a*	The testing of the rough prototype seems rigorous enough as it evaluates among other technical parameters, the demand of communities and their willingness to pay The criteria for live prototype selection (impact and feasibility) are relevant	The rough prototype testing seems well done and is well documented The live prototype selection is also well done and documented. It's urgent that ONAD, PSI and MFI associated comes

Q	Information	Analysis	Conclusion/Recommendation
	turn over), extra services for the client (to clean the compound afterwards), show them contracts etc. The participative feedback allowed us to refine the model. (Interview with PSI-CI) • *Base on the results of the rough prototype testing and the market landscaping, six Business Models (BM) were drown (Prototype A: Vidange Plus; Prototype B: ONAD Fleet Management; Prototype C: VTO business training; Prototype D: Landlord financing; Prototype E: Bio-digesters; Prototype F: Septic tanks) and from them, one (Vidange Plus) was selected for VTOs and another (Septic Tank) for the BM Healthy Compound (FY16 Annual report, P8-9).* • *The live prototype testing of Vidange Plus didn't start yet due to material constraints (non-availability of hydrocuror trucks) (interview with PSI, the VTOs, the VTOs Trainers)* "Lean start-up" • *VTOs have been contacted through their association FENABICI at the beginning of the process (interview with VTOs).* • *The SSD program was presented to them and they were trained to build their managerial capacities and draft business plans, based on a promise made by PSI to provide them with new desludging technologies (ONAD fleet) (Interview with VTOs and VTOs' trainer).* • *Some households and compound owners were contacted by PSI for the SSD but this collaboration is at its first stage (Interview with landlords, compound owners)* • *ONAD was associated to the process for an outsourced leasing-and- fleet-management*	The live prototype test of the Business model is not yet done. However, the capacity building process of VTOs may help them improve their business. The relative good collaboration established with ONAD is promising for the appropriation of the project at central level of the country. However, the IP is acting like a strategic partner of ONAD and should/could adopt a more business oriented perspective. i.e. negotiate trucks for the VTO's association or new company which will start. This collaboration with ONAD is helping increase the capacity of the VTOs (certification and vaccination) and enable the environment of the BM **Consumers:** Since the moment at which some consumers were contacted by PSI for the project to the evaluation period, they had no regular information on the process. In fact, consumers are not yet involved in an active process with VTOs under the SSD. VTOs: The training of VTOs was a success and have improved their finance management.	rapidly to a solution for VTOs equipment in adapted trucks. The promise of the IP to give to VTOs new trucks for their job after their training need to be addressed as it may affect their trust and implication in the project. The Lean Start-Up process is not implemented yet. Just starting now with the live prototype testing that should come. It is urgent to launch the live prototype testing as all the main requirements seems ok

Q	Information	Analysis	Conclusion/Recommendation
	solution. ONAD invited SSD to prepare a detailed plan for implementation of this strategy and start collaborating with PSI for the implementation of the SSD. (FY16 Annual report, P8-9) • *ONAD require that VTOs been certified. The process of certification is ongoing. Also ONAD suggested to do resisting tests on some septic tanks of household to ensure that the hydro curer trucks of ONAD will not collapse the septic tanks (Interview with PSI).* • *The Vidange Plus Call Center Model was presented to two major mobile phone providers in Côte d'Ivoire. The meeting explored conditions of a future partnership and laid the groundwork to launch this activity by the beginning of Year 3 (FY16 Annual report, P9)*		
Q3	• *Several secondary and primary studies were conducted in 2016 to better understand the market and project target groups. The results were shared. (FY16 Annual report, P11-12)* • Communication with WA WASH – documents loaded on their web platform. AAE Afwa – documents loaded on their web platform in French and English, factsheets etc. Page Facebook: USAID Sanitation Service Delivery Program (interview with M&E specialist) • Exchange with NGOs such as CARE who is running similar program. NGOs are met through the Secretariat de coordination avec WA Wash, workshop on micro finance. Specific communication with Care because of common approaches to access to sanitation (MFIs etc.). UNICEF was also contacted and are interested in the business model approach and intends to organize sectoral meetings in coordination with	Existence of a communication process through collaboration with other NGOs and partners and through web based tools (Facebook). This communication strategy was not efficient with VTOs, as they were told that adapted Trucks to their job will be given to them. There is a need that PSI anticipate by communicating on difficulties to avoid misunderstanding with VTOs. It was not clear enough or not anticipated that the use of the trucks of ONAD will be a bit complicated and the VTOs have business plans based on that technology	• *Resulting knowledge from the process is shared through reports, web, flyers,…* • *Some weakness of communication with main stakeholders exist. recommendation for a more successful communication:* • *PSI to communicate regularly with VTOs on the difficulties they may encounter.* • *The same communication should be developed in direction of the consumers they want to associate to the testing of the model to maintain them in the process*

Q	Information	Analysis	Conclusion/Recommendation
	the Ministry of sanitation. To share meetings etc. (interview with M&E specialist)		
In Benin			
Q1	The business model deals with a VTO hotline where households may call the popular ABMS "Ligne Vert" hotline to acquire information regarding VTOs and which operators are associated with ABMS that provide latrine rehabilitation and cleaning services (FY16, P52) VTOs have been recruited and a first workshop was organized in December 2016 to present and explain the objectives of the project. MFIs were approached to connect them with VTOs and other artisans implicated in latrine market. (interviews with VOTs and MFIs)	Apart of a first meeting with VTOs and MFI in December 2016, this BM didn't start yet. The MFI are ready to give loans but need guaranties	BM not started yet

ANNEX X: EXAMPLE OF METHODOLOGY FOR FIRST 2 STEPS OF THE PROCESS

Example of the methodology used for the first 2 steps of the process

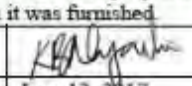
	Research	**Rough prototype**
Process	Landscaping study Product scan Finance scan Gaps, analysis, identification of priorities and market challenges Early opportunity criteria selection tools (an iterative process to assess criteria such as governance, affordability, desirability etc.) Understanding the context diagram	Brainstorming/Insight generation Ranking of themes and scoring of concepts (e.g. Côte d'Ivoire VTOs: 34 themes developed) Additional research/ observation/ FGD, Iteration Co creation Other tools such as role play, and journey map to test the rough prototypes
Tools	Theory of change Market matrix Research principle Research brief template Research ethics review	Business model canvas Market matrix Research brief template Ethical review request Product canvas Product requirements document Stop light diagram Result chain Stage gate evaluation form
Stage gate Decision making process with required reviewers per output	For PSI: - Draft Research Brief: Country teams - Review Research Brief: Country M&E lead - Feedback on draft brief (collected by country M&E lead): Tech Advisors - Incorporate feedback into Brief: Country M&E lead - Research Brief & ethical review submitted for approval: Country Team Lead - Research Brief submitted for regional approval: Dana and Katharine For PATH: - Draft Research Brief: PATH - Feedback on draft brief (collected by PATH): relevant in-country staff - Incorporate feedback into Brief: PATH - Research Brief submitted for regional approval	Research brief & tools: Country team staff & leaders - Final report: Country team staff & leaders; - - Business model canvas: Country team staff & leaders; business advisory team - Product canvas: Country team staff & leaders; product development team; - Stage gate form: Country team staff & leaders; SSD decision committee

ANNEX XI: DISCLOSURE OF ANY CONFLICTS OF INTEREST

Disclosure of Conflict of Interest for USAID Evaluation Team Member

Name	Kwabena Biritwum Nyarko
Title	Dr
Organization	USAID/WA ASSESS Project
Evaluation Position?	☐ Team Leader ☒ Team member
Evaluation Award Number (contract or other instrument)	*Cooperative Agreement No.: AID-624-A-12-00007*
USAID Project(s) Evaluated (Include project name(s), implementer name(s) and award number(s), if applicable)	*Project Title: Performance Evaluation of the Sanitation Service Delivery (SSD) Program; PSI, WSUP, PATH, ABMS,*
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: 1. Close family member who is an employee of the USAID operating unit managing the project(s) being evaluated or the implementing organization(s) whose project(s) are being evaluated. 2. Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose projects are being evaluated or in the outcome of the evaluation. 3. Current or previous direct or significant though indirect experience with the project(s) being evaluated, including involvement in the project design or previous iterations of the project. 4. Current or previous work experience or seeking employment with the USAID operating unit managing the evaluation or the implementing organization(s) whose project(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 project(s) are being evaluated. 6. Preconceived ideas toward individuals, groups, organizations, or objectives of the particular projects 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.

Signature	
Date	June 12, 2017

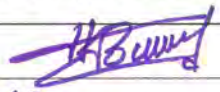
Name	LABORDERIE Cécile
Title	

Organization	USAID/WA ASSESS Project
Evaluation Position?	■ Team Leader Team member
Evaluation Award Number (contract or other instrument)	Cooperative Agreement No.: AID-624-A-12-00007
USAID Project(s) Evaluated (Include project name(s), implementer name(s) and award number(s), if applicable)	Project Title: Performance Evaluation of the Sanitation Service Delivery (SSD) Program; PSI, WSUP, PATH, ABMS,
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: 1. Close family member who is an employee of the USAID operating unit managing the project(s) being evaluated or the implementing organization(s) whose project(s) are being evaluated. 2. Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose projects are being evaluated or in the outcome of the evaluation. 3. Current or previous direct or significant though indirect experience with the project(s) being evaluated, including involvement in the project design or previous iterations of the project. 4. Current or previous work experience or seeking employment with the USAID operating unit managing the evaluation or the implementing organization(s) whose project(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 project(s) are being evaluated. 6. Preconceived ideas toward individuals, groups, organizations, or objectives of the particular projects and organizations being evaluated that could bias the evaluation.	4. Current or previous work experience or seeking employment with the USAID operating unit managing the evaluation or the implementing organization(s) whose project(s) are being evaluated. I am currently involved in ongoing recruiting process with WSUP, one of the implementing organization of SSD.

Disclosure of Conflict of Interest for USAID Evaluation Team Member

Name	**Brama KONE**
Title	**Consultant**
Organization	USAID/WA ASSESS Project
Evaluation Position?	☐ Team Leader ☒ Team member
Evaluation Award Number (contract or other instrument)	*Cooperative Agreement No.: AID-624-A-12-00007*
USAID Project(s) Evaluated (Include project name(s), implementer name(s) and award number(s), if applicable)	*Project Title: Performance Evaluation of the Sanitation Service Delivery (SSD) Program; PSI, WSUP, PATH, ABMS,*
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: 1. Close family member who is an employee of the USAID operating unit managing the project(s) being evaluated or the implementing organization(s) whose project(s) are being evaluated. 2. Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose projects are being evaluated or in the outcome of the evaluation. 3. Current or previous direct or significant though indirect experience with the project(s) being evaluated, including involvement in the project design or previous iterations of the project. 4. Current or previous work experience or seeking employment with the USAID operating unit managing the evaluation or the implementing organization(s) whose project(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 project(s) are being evaluated. 6. Preconceived ideas toward individuals, groups, organizations, or objectives of the particular projects 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.

Signature	
Date	June 22nd 2017