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OUTPUT-BASED AID SANITATION FACILITY FOR GREATER ACCRA IN GHANA

RBF CASE STUDIES: A GPRBA RETROSPECTIVE







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Overview and Acknowledgement

This case study is part of a series prepared by the World Bank's Global Partnership for Results-Based Approaches (GPRBA). The objective is to highlight project components that have enabled GPRBA to successfully deploy results-based finance (RBF) approaches for the provision of basic services to low-income communities, with efficiency, transparency and accountability. The present analysis is focused on the Output-Based Aid Urban Sanitation Facility for the Greater Accra Metropolitan Area project in Ghana. The objective was to increase access to improved sanitation for people living in low-income communities in the Greater Accra Metropolitan Area. Through the construction of in-house sanitation facilities and the provision of desludging services, the project benefitted more than 180,942 people.

The study's findings were primarily informed by project documents and a semistructured interview conducted with Kwadwo Antwi Gyasi, Sanitation Engineer in the Project Coordinating Unit. The interview was particularly helpful in understanding the context, challenges faced, and key project details. Additionally, reports from the World Bank and other institutions were taken into consideration. The team acknowledges Inga Afanasieva and Ibrahim Ali Khan for their leadership in the production of this report, and Amsale Bumbaugh for her support during the production process.

Acronyms

PCU	Project Coordination Unit
MMA	Metropolitan Municipal Assemblies
SPI	sub-project implementers
IVA	Independent Verification Agent
GAMA	Greater Accra Metropolitan Area
LIC	low-income communities
MLGRD	Ministry of Local Government and Rural Development
MSWR	Ministry of Sanitation and Water Resources
GPRBA	Global Partnership for Results-Based Approaches
OBA	output-based aid
IDA	International Development Association
SWA	Sanitation and Water for ALL Global Partnership
GoG	Government of Ghana
SWP	Sanitation and water project
RBF	results-based financing
CL4D	Collaborative Leadership for Development
RRI	rapid results initiatives
MFI	microfinance institution
KVIP	Kumasi Ventilated Improved Pit
SDGs	(United Nations) Sustainable Development Goals



Context

Since 1988, Ghana has initiated a decentralization program by implementing comprehensive local governance and administrative reforms.¹ These have led to the creation of semi-autonomous local governments that were responsible for implementing development activities with nationallevel institutions, providing policy and monitoring frameworks.² However, despite working with a constitution that provides a well-established and structured institutional set-up with clear lines of responsibilities, challenges remain regarding the coordination and collaboration between local and national institutions and key utilities. As a result, local authorities have faced severe difficulties in managing spatial development, resource collection, and service delivery.³

The Greater Accra Metropolitan Area (GAMA), with an estimated population of 4 million⁴ in 2014, has been amongst the fastest growing urban areas in West Africa. Unfortunately, the urban expansion has largely been unplanned, and has resulted in intensified inequity in service provision as infrastructure quality declines in lowincome communities (LICs). Resident demand and population growth in these areas has outpaced service supply, leading to a significant share of the population with inadequate access to piped water and sanitation facilities. As per the 2014 Ghana Living Standard Survey, only about 65 percent of the residents in GAMA had adequate access to 'improved sanitation facilities'; the remainder

- ¹ Fiankor DK, Akussah H, 2012
- ² Mansour and Esseku, 2017
- ³ World Bank, 2014
- ⁴ Ghana Statistical Survey, 2014

relied on shared public facilities or even resorted to open defecation, significantly affecting the quality of life in these areas. The poor sanitary practices also contributed to the prevalence of cholera in the region. Between June 2014 and February 2015, 20,500 cholera cases were recorded in GAMA, resulting in 121 fatalities.⁵

Along with governance inefficiencies, poor housing and tenure insecurity are central barriers for people's ability to invest in environmental sanitation infrastructure.⁶ The most common housing typology in LICs is the 'compound house,' which accommodates multiple households within one building. Single rooms within these houses are rented out to families for a minimum of 2 years. By law, each house should have one sanitation facility, but in most cases, they are converted into rooms to generate additional rent. Even when there is a sanitation facility, it is not able to serve the needs of all the people who live there.

To address these challenges and demonstrate Ghana's commitment towards improving access to WASH, the Government of Ghana (GoG) joined the Sanitation and Water for ALL Global Partnership (SWA) in 2010.⁸ This partnership pledged to spend \$ 200 million⁹ per year on sanitation and water, and an additional \$ 150 million on the hygienic treatment of sewage and fecal sludge.

Improved sanitation facilities are designed to hygienically separate excreta from human contact. There are three main ways to meet the criteria for having a safely managed sanitation service (SDG 6.2). People should use improved sanitation facilities which are not shared with other households, and the excreta produced should either be:

- treated and disposed of in situ;
- stored temporarily and then emptied and transported for off-site treatment; or
- transported through a sewer with wastewater and then treated off-site.⁷
- ⁵ Cities Alliance, 2016

- ⁷ Joint Monitoring Programme for Water Supply Sanitation and Hygiene
- ⁸ Appiah-Effah et al, 2019
- ⁹ All currency amounts listed in this report are in US Dollars

⁶ Awunyo et al, 2016



WORLD BANK ASSISTANCE

To support their SWA pledge, in 2013, the GoG secured a \$150 million International Development Association (IDA) grant from the World Bank to help improve the water and sanitation situation within GAMA. The Greater Accra Metropolitan Area Sanitation and Water Project (GAMA-SWP) sought to develop a coordinated approach towards the provision of sanitation and water supply services to low-income urban areas and improve sanitation systematically across whole communities. The financial assistance was to be supplemented by extensive technical support to municipal, metropolitan and national institutions, including the promotion of private sector initiatives. Additionally, it was meant to enhance the development of social accountability mechanisms that would ensure proper operation and maintenance, essential for the provision of services and their sustainability.

The GAMA Project supported eleven Metropolitan and Municipal Assemblies (MMAs) spread across the Greater Accra Region and had the following components:

Output-Based Aid (OBA) is a form of resultsbased financing in which subsidies are paid to service providers following the verification of pre-agreed upon project targets (outputs) defined during project design, thereby offering strong incentive for the delivery of services.

- 1. Provision of water and environmental sanitation services to priority low income areas of GAMA
- **2.** Improvement and expansion of the water distribution network in the GAMA
- **3.** Improvement and expansion of wastewater and fecal sludge collection, transportation and treatment in GAMA
- **4.** Planning, improvement and expansion of GAMAwide environmental sanitation services
- 5. Institutional strengthening

To further develop a sustainable mechanism to facilitate access to improved sanitation for lowincome households, the IDA project adopted the output-based aid (OBA) approach (a results-based financing (RBF) instrument). The OBA component was prepared in response to the government's determination to bridge the large gaps in service coverage for low-income areas, which were the result of rapid unplanned urbanization. The hypothesis was that providing a subsidy on an output basis could ensure that the subsidized activity would be delivered as per the agreed upon technical standards and time frame. The subsidy would incentivize sanitation service providers to serve areas that they might otherwise not consider.¹⁰ In this context, the Global Partnership for Results-Based Approaches (GPRBA), formerly known as the Global Partnership on Output-Based Aid, complimented the IDA project with a \$4.85 million grant.

OBA Urban Sanitation Facility for the Greater Accra Metropolitan Area

The GPRBA-funded component of the IDA project commenced in March 2015, with the objective of increasing access to improved sanitation for people living in low-income communities in GAMA across 11 MMAs. This would be achieved through OBA: partially subsidizing the cost of constructing an inhouse sanitation facility and providing desludging services in LICs, in order to bridge the affordability gap and stimulate demand for improved sanitation facilities.

The project provided subsidy payments to service providers on the achievement of two outputs: 1) number of installed and functional sanitation facilities, and 2) number of desludging operations performed. The subsidy for the construction of the sanitation facility was capped at \$ 600, which represented 50 percent of the estimated cost.¹¹ The subsidy for a desludging operation of a sanitation facility had a cap of \$ 30, which was again 50 percent of the estimated cost. Consistent with the principles of OBA, the subsidy was paid only after installed facilities or desludging operations had been verified (on a sampling basis) by an independent verification agent (IVA). The project also worked to involve licensed financial institutions that would be willing to offer affordable loan products to service providers and households.

KEY STAKEHOLDERS

Project Coordinating Unit (formerly Local Government Project Coordinating Unit)

The overall administration arrangement of the OBA Facility was consistent with the institutional framework and coordination of the IDA project, which was led by the Ministry of Local Government and Rural Development (MLGRD) through a Project Coordinating Unit (PCU). The OBA component was managed under the same PCU that managed the GAMA SWP project. In January 2017, the PCU was moved to the newly created Ministry of Sanitation and Water Resources (MSWR), which handled policy guidance and oversight for management of all water and sanitation activities. Specific tasks that the PCU performed for this project included:

- Selecting sanitation service providers
- Developing operational manuals for sanitation facilities
- Providing technical and implementation support to the MMAs and service providers
- Contracting the IVA
- Disbursing subsidies post review of IVA reports and documenting lessons

Metropolitan Municipal Assemblies

Though the primary responsibility of the project was placed with the PCU, the MMAs were in charge of mobilizing the households within the LICs, monitoring and supervising facility construction and desludging services, and leading the community sensitization and awareness creation campaigns. They also had to identify LICs based on agreedupon selection criteria that accounted for population density, environmental health conditions, and degree of access to alternative sanitation services. Following the construction of the sanitation facilities, the MMAs, through the Waste Management Department, also had to evaluate the facilities against the pre-established criteria, the National Water Policy, and the National Environmental Sanitation Policy; subsequently, they approved them for inspection by the IVA.

Sanitation Service Providers

Sanitation service providers, or sub-project implementers (SPI) as they were referred to during the project, were responsible for constructing the sanitation facility and providing desludging services to interested and eligible low-income households. They were primarily small, private sanitation service providers (e.g., local contractors, desludging trucking companies, etc.), already providing sanitation series in GAMA. They were selected by the PCU through a competitive selection process, during which they had to demonstrate the ability to mobilize the initial capital cost and deliver the sanitation facilities.

Independent Verification Agent

The IVA was contracted by the PCU to verify the completion of the construction, operation and desludging of the sanitation facilities. The IVA adopted a sampling methodology and visited households to verify the construction of the facilities after an initial assessment by the MMAs. A second verification was to be conducted 3 months post construction to ensure the facility was being used and properly maintained. The payment of subsidies to the SPIs was based on the verification reports produced by the IVA. SNV Ghana, a non-profit development organization, was contracted as the IVA for the OBA Sanitation Facility.

PROJECT FINANCING

The total cost of the project activities was \$8.76 million, with GPRBA contributing \$4.85 million and the remaining \$3.91 million provided by the households covered by the project. Additionally, activities implemented through the OBA Sanitation

Facility were also supported by the wider range of activities and infrastructure investments under the IDA-funded project.

The grant provided by GPRBA covered costs related to the OBA subsidy, as well as the monitoring, implementation and management of the OBA Sanitation Facility. The division of the grant is detailed in the chart below.

PROJECT DESIGN

To address the gaps in service provision, the designed framework aimed to ensure collaboration between the PCU, the 11 MMAs, SPIs and the World Bank. The PCU supported and provided tailor-made capacity building to the MMAs and SPIs, who in turn played a lead role in project implementation.

To initiate the process, a tenant or landlord in an eligible LIC had to request the MMA for the construction of a sanitation facility. The MMA engineer would recommend a technology during a

Table 1: Grant breakdown

Component	Amount
OBA subsidies for construction of sanitation facilities	\$ 4.02 million
OBA subsides for desludging operations	\$180,000
Project Management	\$ 810,000



needs assessment of the household. Subsequently, the household would furnish the user contribution, which was initially set at 50 percent of the cost. The household's contribution was generally made through the MMA and paid to the SPI as an advance.

Post construction, the household had to be trained to ensure effective use and maintenance of the facility. The constructed facilities were then inspected by the IVA, which submitted a report to the PCU either recommending the disbursal of the subsidy amount or requiring the contractor to revisit the facility and make improvements. The amount was to be disbursed in two tranches: 75 percent post verification of construction, and 25 percent after 3 months of successful functioning of the sanitation facility.

Targeting

The project targeted LICs identified by the MMAs. The proposed LICs had to pass the "low income" test: communities in which 75 percent or more of the households lived in one single room and 75 percent of households did not have access to sanitation facilities. Since the objective of the project was to benefit low-income households and not the landlords, a long-term rental agreement between the landlord and tenant was a pre-requisite. The 11 MMAs were subsequently segregated into subprojects corresponding to their locations. The PCU then went on to identify and select sanitation service providers.

Capacity Building

As the project sought to lay the foundation for a coordinated approach to sanitation provision, it required the active participation of the MMA as they oversaw sanitation within their respective catchment areas. Therefore, a key focus of the project was to ensure their development by strengthening their internal systems and capacity. This was achieved through extensive technical assistance provided by the PCU and the World Bank throughout the duration of the project. Additionally, one of the key activities that marked the start of the project was the Bank's Collaborative Leadership for Development (CL4D) program, with key stakeholders - and the MMAs in particular- supporting the implementation and enhancing the sustainability of the sanitation services. Interventions focused on the sphere of influence of the MMAs, at the heart of which were cycles of Rapid Results Initiatives (RRIs). RRIs are result-oriented 100-day initiatives that aimed to jumpstart and accelerate the implementation of project activities by providing MMAs specific targets and the technical support to achieve them.¹²

Media Outreach and Behavior Change Campaign

Demand and behavior change activities are proven ways of ensuring the success of an OBA subsidy program. Therefore, to generate interest even before the construction of the sanitation facilities had started, the OBA component was launched through an extensive media campaign via various media outlets, adverts, radio, social media channels and street floats. In addition, the project design also included a behavior change campaign.

Subsidy payment trigger	Subsidy to be paid	
1st subsidy payment Output 1: Sanitation Facility	Post verification that the sanitation facility has been built according to technical standards	75 percent of agreed unit subsidy amount per sanitation facility
2nd subsidy payment Output 1: Sanitation Facility	Post verification that the sanitation facility has been used, is in operation, and is properly maintain for 3 months after construction	25 percent of agreed unit subsidy amount per sanitation facility
3rd subsidy payment Output 2: Desludging Operation	Post verification that the desludging operation has been performed according to the standards of the Effective Quality Desludging	100 percent of agreed unit subsidy amount per desludging operation

Table 2: Subsidy Payment structure

PROJECT IMPLEMENTATION

In the first 18 months of its implementation the project faced significant challenges and delays. In April 2017, two years into the project, only 755 sanitation facilities had been constructed in the 11 MMAs, 80 were at various stages of completion, and there was a backlog of 15 potential beneficiaries who had fully paid their contributions and were awaiting commencement of construction. There was also a lower-than-anticipated demand for desludging activities as the sanitation solutions covered by the project were effective in rapidly breaking down the fecal matter, eliminating the need for desludging during the project's lifetime.

The principal reason for the slow progress towards the construction of sanitation facilities was the relatively high cost, even after the 50 percent subsidy was applied.¹³ Though the beneficiaries could take loans from micro-finance institutions (MFIs), most were unable to do so due to the high interest rates, along with a reluctance to incur a liability for an unproductive asset. Furthermore, it was initially assumed that the landlord had some financial capacity to contribute to the sanitation facilities. However, it was later found that the descendants of the original landlords inherited most of the compound houses and did not necessarily have adequate funds or other sources of income to build sanitation facilities for their tenants. In some cases, the cost of the facility was passed onto the tenants themselves, most of whom were unable to raise the requisite funds. Spatial constraints were also a barrier in the densely populated LICs in GAMA. Households could spare very limited space on their compound to construct a sanitation facility even if they could mobilize the funds. Lastly, SPIs were also finding it difficult to mobilize the upfront capital for construction (50 percent of the cost). High interest rates compounded by irregular cash flow and the need for collateral made loans an unattractive option for most SPIs.

Taking cognizance of these challenges, the project was restructured in June 2017 as follows:



¹³ Septic tanks costing between \$1000 - \$1500 and Biofil toilets costing around \$1200 were being constructed ¹⁴ The bio-digestor facility cost around \$500

Reduced household contribution. The choice of technology for the household facilities went through a series of variations in a bid to identify technologies that met the affordability level and spatial constraints of LICs. Once a more affordable facility¹⁴ (a local bio-digester sanitation system) was identified, the subsidy provided to the beneficiary was increased to 70 percent of the total construction cost, while maintaining the \$ 600 predefined cap. Subsequently, the demand for sanitation facilities picked up as the reduction in upfront contribution empowered poor households. However, this reduction augmented the financial challenge faced by the SPIs as they depended on the upfront user contribution to finance the construction of the facility.

Large contractors were invited to participate as

SPIs. Because of the low implementation capacity of the SPIs, the MMAs recorded a backlog of almost 300 facilities. The supply side constraints were addressed by attracting larger contractors to work as SPIs in the project, thus benefitting from greater economies of scale. To further streamline the process, each SPI was assigned to work in one or two adjacent MMAs as opposed to the previous system of having SPIs construct facilities across GAMA.

Enhanced community engagement and behavior change campaign. Considering the fact that the prospective beneficiaries were accustomed to using public toilets, the behavior change and community sensitization campaign had to be ramped up. A Behavior Change and Communication Strategist was hired to lead the communication process. Additionally, various stakeholders, including political leadership (a Member of Parliament, assembly members), religious leaders and other opinion leaders, were engaged and educated about the benefits of an improved sanitation facility. Municipal Assembly members were also mobilized to undertake community engagement activities to create awareness and register interested beneficiaries. The teams also organized community 'durbars' (meetings) and home visits to interact with prospective consumers and distribute promotional materials.

Flexible payment option through TiGo Cash. Even with the reduced cost and increased subsidy, a number of households that continued to register interest in obtaining a sanitation facility were

unable to raise the upfront contribution to trigger the engagement of a contractor. Households were therefore given the option of flexible payments using the TiGo Cash mobile application. Each tenant or landlord was given a unique reference number with which they could deposit funds with the MMA through the application, based on their ability. They also had flexibility with the frequency of payments. Once they mobilized the requisite user contribution amount, an SPI was instructed to initiate sanitation facility construction.

Simplified and timely verification process.

Concerns regarding the verification process were raised by both the PCU and the SPIs during the midterm review of the project. One issue was the long verification time (3 weeks) that led to disbursement delays; another was delays caused by multiple visits to the same household by the IVA engineer, enumerator, and surveyor. To reduce the need for multiple IVA visits, assistant engineers at the MMAs were hired by the project and tasked with, among other things, inspecting the sanitation facilities. It was only after their clearance that the IVA was asked to conduct the verification. It was also agreed that the IVA team would visit the household all at once and not take more than two weeks to complete each round of verification.

The number of beneficiaries to a household sanitation facility was scaled down. The original assumption was that each facility would serve 20 people, as a result of which the project targeted to benefit 132,000 individuals. The calculation was based on the existence of a large number of compound houses accommodating several families in the targeted areas. It was only later established that the total number of people in the compound houses could not be effectively served by a single sanitation facility and the number of individuals per sanitation facility was revised to an average of 6 instead. Therefore, while the total number of sanitation facilities targeted remained the same, the associated total number of beneficiaries targeted under the project was revised to 39,600.

Reduction in number of desludging operations.

The number of targeted desludging operations was scaled down from 6,167 to 200. The project redirected the funds towards desludging services for schools across the 11 MMAs. The balance was used to finance additional sanitation facilities.

PROJECT PERFORMANCE

Since the MMAs played an active role in project implementation and were directly in charge of the identification and mobilization of prospective beneficiaries, residents of the LICs were more confident in engaging with the project. It also increased the accountability of the MMAs by raising awareness amongst the households about the role of the MMAs in providing sanitation services. The number of residents directly reaching out to the MMAs to raise sanitation-related issues increased, with households demanding improved services. Engaging larger contractors also benefited the project, as they were able to meet the increased demand and support marketing to mobilize additional beneficiaries in the areas where they were operating. The TiGo mobile payment platform continued to be used to facilitate savings where appropriate and provided a useful database for tracking and monitoring project progress.

With the creation of the new Ministry for Sanitation and Water Resources, there was a stronger need for coordination and collaboration with the MLGRD and the MMAs. The CL4D Program continued to support leadership training for municipal executives, focusing on leading project implementation for results in their respective MMAs, as well as ensuring effective collaboration between the two ministries, the MMAs, SPIs and the Bank task team. Overall, the capacity building support provided to project staff of MLGRD, MSWR, MMA chief executives, and the PCU helped to identify priority challenge areas based on the RRI approach and to achieve the project objectives. Most importantly, lowering the user contribution amount immediately reflected in the willingness and ability of the target population to pay for the facilities. As illustrated in the graph below, post restructuring, the number of facilities being constructed progressed significantly: from only 954 sanitation facilities constructed in May 2017 to a total of 7,685 by project closing in June 2018, benefitting over 53,795 people and surpassing the project objective of 6,600 household sanitation facilities. The project also provided desludging services to 237 entities comprising 207 schools and 30 households, benefitting a total of 127,147 people across the 11 MMAs.

Challenges/Limitations

Service providers were unable to mobilize prefinancing due to a lack of affordable credit options. Fundamental to OBA financing is the requirement that SPIs pre-finance their operations. Such prefinancing requirements have proved to be a real constraint, especially when the SPIs are small and have difficulties in accessing finance. The project team tried to overcome this issue by engaging MFIs to develop lending products for SPIs and households. However, the micro-credit model envisaged at the appraisal stage of the project did not function as planned. While the MFIs could not raise sufficient funds to offer low interest rates, the collateral requirements and irregular cash flow made the loans unattractive for most SPIs. As previously mentioned, the situation for the SPIs was further exacerbated by the reduction in user



Figure 1: Number of sanitation facilities constructed

contribution, from 50 percent to 30 percent. This meant that SPIs had to arrange 70 percent of the cost of construction upfront, with the remaining amount disbursed to them after verification.

Small SPIs could not significantly develop through the project. Since local entrepreneurs are more likely to understand the socio-cultural context of the beneficiaries and try to sustain their operations past the completion of the project, there should have been a stronger focus on building their capacity. At the same time, the project was an opportunity to showcase how sanitation could add value to small businesses and local entrepreneurs and create additional livelihood generation activities. However, once larger SPIs were introduced to clear

the backlog, opportunities for local SPIs to further grow their business under the project were greatly diminished.

High cost of suitable sanitation technology.

Identifying appropriate technologies that addressed constraints, such as the lack of sewage systems, limited space, and a high-water table, was imperative for the project's success. The team identified the bio-digester as the most technically viable option. However, even though it was significantly less expensive than the previously available technology, most families within LICs will be unable to afford it unless they continue to be subsidized, which the government may not be able to sustain without donor funding.

Conclusion

Despite the initial challenges and slow progress, the project surpassed its objective and can be considered a success from a number of perspectives. The OBA model incentivized the delivery of results, thereby introducing greater discipline of governance, reporting, and transparency into the implementation of a sanitation project. The project created a framework for MMAs in GAMA, previously not actively engaged in the sanitation sector, to focus on the provision of sanitation services within their catchment areas. Overall, the active engagement and inter-institutional coordination between the local and national government in the promotion and construction of the sanitation facilities resulted in a structured policy dialogue over an extended period and supported the stimulation of demand in LICs. It also demonstrated that subsidies alone are only an enabling mechanism and not an adequate motivator for low-income households to seek improved sanitation facilities. They need to be complemented with extensive outreach and behavior change activities, creation and enforcement of sanitation laws, and accountability mechanisms of service providers towards users.

Furthermore, a critical contribution of the project was the strengthening of the enabling environment, paving the way for the larger IDA

project to achieve its objective. The IDA project itself adopted the OBA approach to overcome the initial uneven demand for individual household facilities. Additionally, the OBA sanitation facility has provided valuable lessons in product development, demand creation, and overcoming supply-side constraints for the IDA project and subsequent projects in the sanitation sector.

Lastly, though the project could not attract adequate commercial financing, it did initiate capacity building for several financial institutions, facilitating the development of lending products for sanitation for contractors and households. Further, by illustrating effective ways of stimulating demand, introducing efficiencies within government systems and building robust public private partnerships, the project provided a platform for mobilizing resources from private construction companies and financial institutions for sanitation infrastructure. Overcoming these barriers can mitigate concerns regarding risk of non-performance, high transaction costs and inability to achieve economies of scale. The OBA project can therefore be considered a transitory tool, working towards more sustainable and cost-effective private sector and capital market participation to assist Ghana in achieving the SDG 6: ensure access to sanitation and safe water resources for all by 2030.



