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IMPLEMENTATION COMPLETION AND RESULTS REPORT

Grant Number P119063

ON A

GRANT

IN THE AMOUNT OF (SDR 100.1) MILLION

(US$ 150 MILLION EQUIVALENT)

TO THE

Republic of Ghana

FOR THE

GH-GAMA Sanitation and Water Project
July 27, 2020

Water Global Practice
Africa Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective {Apr 29, 2020})

Currency Unit	=	GHS
GHC 5.79	=	US$1
US$ 0.1700	=	SDR 1

FISCAL YEAR
January 1 - December 31

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ABBREVIATIONS AND ACRONYMS

BCC	Behavior Change Communication
BOD	Biological Oxygen Demand
CL4D	Collaborative Leadership for Development
CONIWAS	Coalition of NGOs in Water and Sanitation
EHO	Environmental Health Officer
ESICApps	Expanded Sanitary Inspections, Compliance Application
ESP	Environmental Sanitation Policy
FM	Financial Management
GAMA	Greater Accra Metropolitan Area
GOG	Government of Ghana
GPOBA	Global Partnership for Output Based Aid
GSGDA	Ghana Shared Growth and Development Agenda
GWCL	Ghana Water Company Limited
HH	Household
ICT	Information and Communication Technology
IRR	Internal Rate of Return
LICSU	Low Income Consumer Support Unit
LIUC	Low-Income Urban Community
MDG	Millennium Development Goal
M&E	Monitoring and Evaluation
MMA	Metropolitan and Municipal Assembly
MSWR	Ministry of Sanitation and Water Resources
NGO	Non-Governmental Organization
NPV	Net Present Value
NRW	Non-Revenue Water
NWP	National Water Policy
PCU	Project Coordinating Unit
PDO	Project Development Objectives
PIU	Project Implementation Unit
RRI	Rapid Results Initiative
SDG	Sustainable Development Goal
SDR	Special Drawing Rights
SME	Small and Medium Enterprise
TTL	Task Team Leader
UESP	Urban Environmental Sanitation Project
UNICEF	United Nations Children's Fund
WASH	Water, Sanitation and Hygiene
WBG	World Bank Group

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BASIC INFORMATION

Product Information

Project ID	Project Name
P119063	GH-GAMA Sanitation and Water Project
Country	**Financing Instrument**
Ghana	Investment Project Financing
Original EA Category	**Revised EA Category**
Full Assessment (A)	Full Assessment (A)

Organizations

Borrower	Implementing Agency
Republic of Ghana	GWCL /PIU, Ministry of Sanitation and Water Resources

Project Development Objective (PDO)

Original PDO

The objective of the project is to increase access to improved sanitation and improved water supply in the GAMA, with emphasis on low income communities and to strengthen management of environmental sanitation in the GAMA

FINANCING

	Original Amount (US$)	Revised Amount (US$)	Actual Disbursed (US$)
World Bank Financing			
IDA-H8540	150,000,000	150,000,000	134,594,626
Total	**150,000,000**	**150,000,000**	**134,594,626**
Non-World Bank Financing			
Borrower/Recipient	0	0	0
Total	**0**	**0**	**0**
Total Project Cost	**150,000,000**	**150,000,000**	**134,594,626**

KEY DATES

Approval	Effectiveness	MTR Review	Original Closing	Actual Closing
06-Jun-2013	07-Aug-2014	28-Sep-2016	30-Nov-2018	31-Dec-2020

RESTRUCTURING AND/OR ADDITIONAL FINANCING

Date(s)	Amount Disbursed (US$M)	Key Revisions
19-Sep-2014	5.00	Reallocation between Disbursement Categories
02-Jun-2017	54.04	Change in Implementing Agency Change in Results Framework Change in Components and Cost Change in Loan Closing Date(s) Reallocation between Disbursement Categories Change in Institutional Arrangements Other Change(s)
10-Feb-2020	134.59	Change in Results Framework Change in Loan Closing Date(s) Change in Implementation Schedule

KEY RATINGS

Outcome	Bank Performance	M&E Quality
Satisfactory	Satisfactory	Substantial

RATINGS OF PROJECT PERFORMANCE IN ISRs

No.	Date ISR Archived	DO Rating	IP Rating	Actual Disbursements (US$M)
01	22-Dec-2013	Satisfactory	Satisfactory	0
02	21-Jun-2014	Moderately Satisfactory	Moderately Satisfactory	0
03	27-Sep-2014	Satisfactory	Moderately Satisfactory	5.00
04	09-Mar-2015	Satisfactory	Moderately Satisfactory	5.00
05	27-Jul-2015	Satisfactory	Moderately Satisfactory	7.97
06	14-Dec-2015	Satisfactory	Moderately Satisfactory	10.85
07	26-Apr-2016	Moderately Unsatisfactory	Moderately Unsatisfactory	20.58
08	26-Oct-2016	Moderately Unsatisfactory	Moderately Unsatisfactory	28.41
09	24-May-2017	Moderately Satisfactory	Moderately Satisfactory	54.04
10	07-Nov-2017	Moderately Satisfactory	Moderately Satisfactory	70.56
11	06-Jun-2018	Satisfactory	Moderately Satisfactory	89.02
12	04-Dec-2018	Satisfactory	Satisfactory	103.89
13	07-Feb-2019	Satisfactory	Moderately Satisfactory	108.89
14	22-Jun-2019	Satisfactory	Moderately Satisfactory	117.89
15	19-Dec-2019	Satisfactory	Moderately Satisfactory	124.89
16	29-Mar-2020	Satisfactory	Satisfactory	134.59

SECTORS AND THEMES

Sectors

Major Sector/Sector	(%)
Water, Sanitation and Waste Management	**100**
Sanitation	41
Waste Management	7
Water Supply	37
Public Administration - Water, Sanitation and Waste Management	15

Themes

Major Theme/ Theme (Level 2)/ Theme (Level 3)	(%)
Private Sector Development	**10**
Public Private Partnerships	10
Human Development and Gender	**12**
Health Systems and Policies	12
Health Service Delivery	6
Adolescent Health	3
Child Health	3
Urban and Rural Development	**58**
Urban Development	58
Services and Housing for the Poor	58
Environment and Natural Resource Management	**30**
Environmental Health and Pollution Management	30
Air quality management	10
Water Pollution	10
Soil Pollution	10

ADM STAFF

Role	At Approval	At ICR
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This report is an Interim Implementation Completion and Results (ICR) Report for the ongoing Greater Accra Metropolitan Area Sanitation and Water Project with a closing date of December 31, 2020. The ICR is being prepared seven months prior to the closing date and at the middle of COVID-19 Pandemic because of the proposed Additional Financing for the project which is expected to take the entire project duration beyond ten years.

I. PROJECT CONTEXT AND DEVELOPMENT OBJECTIVES

A. CONTEXT AT APPRAISAL

Context

1. Ghana experienced strong and sustained economic growth from 2001 to 2011 with an average annual GDP growth rate of 6.6 percent. GDP per capita increased from US$206 to US$402 over the same period. At the time of project appraisal, Ghana was expected to be one of the first Sub-Saharan African countries to achieve the Millennium Development Goals (MDG) targets of halving poverty, hunger, and population without access to improved water source. The country had just discovered oil and the upward growth trend was expected to continue. The rapid economic growth had been accompanied by rapid urbanization especially in the Greater Accra Metropolitan Area (GAMA). At appraisal, the GAMA had eleven metropolitan and municipal assemblies with estimated population of 3.6 million. Currently, the same geographical area houses 22 metropolitan and municipal subdivisions with a population of 4.7 million.

2. The provision of basic services had not kept up with the rapid growth of the GAMA especially in the low-income urban communities (LIUCs) scattered all over the area. Approximately 75 percent of families in the LIUCs lived in a single room or “hall and chamber” in compound houses that usually lacked basic sanitation and water services. Assemblies (local governments) are responsible for the provision of environmental sanitation, other basic services, and infrastructure development. However, water supply is the responsibility of Ghana Water Company Limited (GWCL) which is the national urban utility. Most of the assemblies did not have adequate human and financial capacity and this led to inadequate infrastructure development and serious operation and maintenance (O&M) challenges.

3. Coordination of services and infrastructure across the GAMA was a major challenge. Water supply and environmental sanitation services cross political boundaries and there was a need to ensure integrated planning and management. The development of coordinated strategies for delivery and management of large sanitation investments for wastewater and septage was affected by lack of space, budget constraints, and limited economies of scale .

Theory of Change (Results Chain)

4. The project supported sanitation and water supply services improvement in the GAMA. With a focus on the unserved low income communities in 11 districts of the area, the project: provided household and institutional toilets, expansion and rehabilitation of the water supply network and HH connections, improvement and expansion of sewerage collection/treatment, expanded and rehabilitated storm drainage infrastructures, improvements in operational efficiency, and support for project management including behavioral change and communication (BCC), monitoring and evaluation, and capacity building linked to the project.

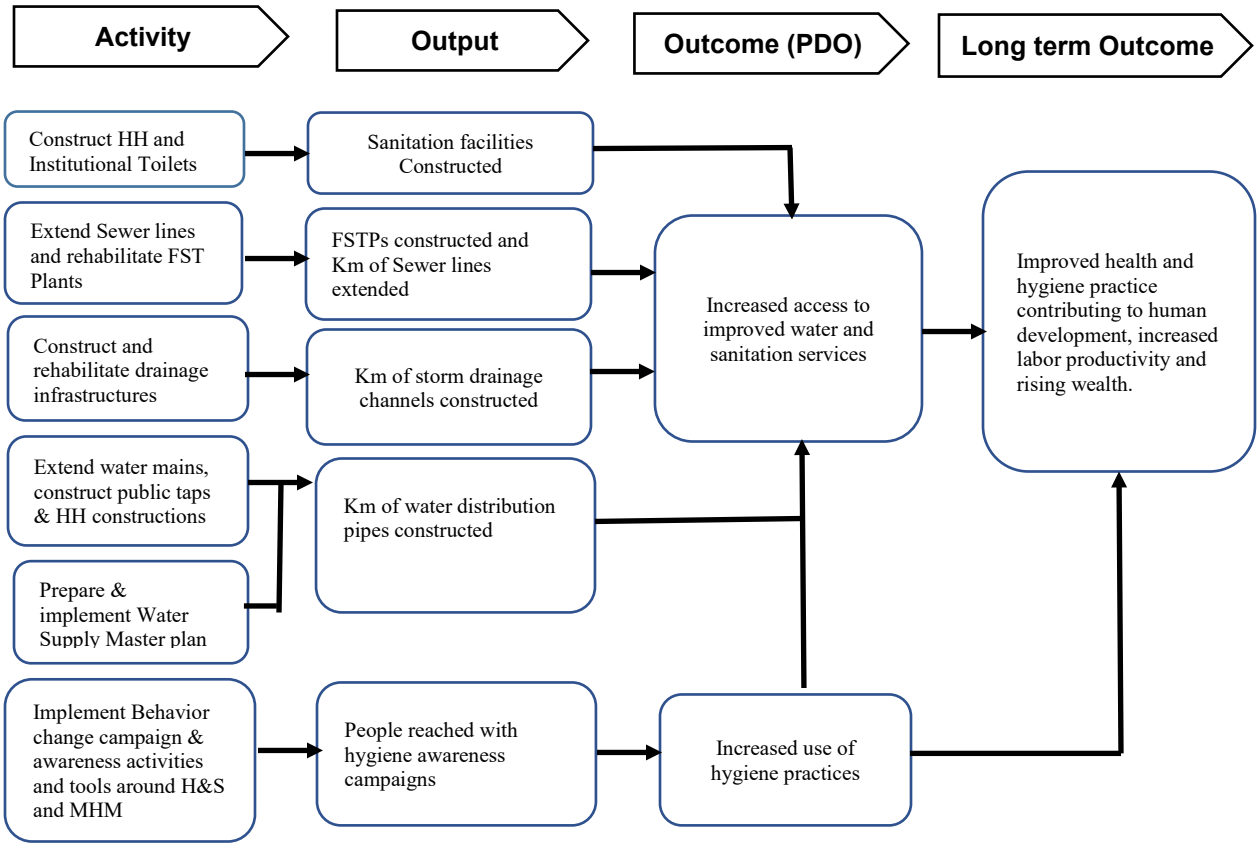
5. *Activities*: The main activities under components 1, 2, and 3 of the project included: construction of HH toilets and institutional sanitation facilities; expansion of the water supply distribution network to connect new customers and improve services to existing customers; extension of sewer network and rehabilitation of fecal

sludge treatment plant; planning and improvements made to GWCL operation (water supply master plan, water distribution network monitoring system: including creation of pressure zones within distribution network, repair of leaks in the network, and replacement of old meters with ultrasonic meters). Activities under the project management and institutional strengthening component included: technical assistance, development of an integrated sanitation and drainage master plan, operational support, monitoring tools and training.

6. *Outputs*: The following outputs were expected: increased number of household and institutional/school toilets, extension and rehabilitation of the water supply network to service areas (focusing on low income communities), extension of the sewerage network to new service areas, improved operational efficiency in GWCL (including planning and implementation of water supply master plan, establishing a dedicated unit for low income community support), outsourced roles to private sector providers (SMEs), and improved systems, tools and enhanced capacity for sustaining and monitoring implementation of the project.

7. *Outcomes*: The project outputs were intended to increase overall access to sustainable water supply and sanitation services and use of hygiene practices.

8. *Long-term outcomes*: The project supports the GOG Environment and Sanitation Policy (ESP) where environmental sanitation is considered to be a powerful driver of human development as it affects quality of life, improving health and increasing wealth. By increasing access and improving sustainability of service delivery, the beneficiaries should see improvement in health outcomes, which should, in turn, increase labor productivity.



Project Development Objectives (PDOs)

9. The PDO is to increase access to improved sanitation and improved water supply in the GAMA, with emphasis on low income communities and to strengthen management of environmental sanitation in the GAMA.

Key Expected Outcomes and Outcome Indicators

10. The PDO has three key elements: 1) Increased access to improved sanitation, 2) increased access to improved water supply, and 3) strengthen management of environmental sanitation. The primary target areas of the first two are the low-income urban communities in the GAMA while the improvement in the water supply services and improved management of environmental sanitation cover the entire area. The project was expected to provide improved access to sanitation and water supply to at least 250,000 people living in LIUCs in the GAMA. The entire population of the metropolis was expected to benefit from improved planning, implementation and management of environmental sanitation services and to ensure a decrease in pollution due to the improper disposal of sewage and septage.

11. The LIUCs were defined as communities where 75% of the residents lived in a single room or "hall and chamber." Most of the residents used public and other "shared" toilets and did not have water supply within their dwellings.

12. The key PDO outcome indicators in the PAD include the following:

- Number of people provided with access to improved sanitation facilities
- Number of people provided with access to improved water supply
- Volume (mass) of BOD pollution loads removed by treatment plants supported under the project.
- Direct project beneficiaries (number), of which female (percentage)

13. The main beneficiaries of the project were to be:

- Residents living in the GAMA who would have an improved and sanitized environment
- Residents in the LIUCs in GAMA who would have improved access to water and sanitation facilities
- Children in schools in the LIUCs who would have access to improved WASH facilities
- Residents in the LIUCs who would have received training in good hygiene and sanitation practices.

14. The residents of GAMA, especially those living in LIUCs, were expected to have improved health and social well-being as a result of the improvement in water and sanitation services. It was expected that there would be a reduction in water borne diseases like cholera and diarrhea and an improvement in the environment due a reduction in open defecation and the cessation of dumping untreated excreta into the ocean.

Components

15. The project had four components including:

16. Component 1: Provision of environmental sanitation services and water supply to priority low income areas of the GAMA. The objective of this component was to increase the access to environmental sanitation and water supply services in low income areas of the GAMA with a strong focus on liquid sanitation (excreta disposal). Household and institutional toilet facilities were to be financed by the project which best fit the needs of the low-

income communities. This included construction of new facilities and rehabilitation of old facilities which were not in use. The construction of household toilets took into consideration the challenges of emptying traditional septic tanks and conventional pit latrines due to the dense nature of the LIUCs. This component also included the development and implementation of a hygiene and sanitation behavior change campaign (BCC) targeted at low-income households. The component also developed a large-scale institutionalized approach to upgrading sanitation in low-income communities.

17. Component 2: Improvement and expansion of the water distribution network in the GAMA. This component focused on expanding and improving the water distribution network and providing piped water to households through standpipes and communal standpipes. The project developed a masterplan and a hydraulic model as the basis for designing and constructing transmission mains, distribution network and other relevant facilities required to ensure water reached the targeted low-income areas. This component also included provision of water meters and other equipment to help the GWCL to reduce Non-Revenue Water (NRW).

18. Component 3: Planning, improvement and expansion of GAMA-wide environmental sanitation services. This component was to focus on the development of integrated GAMA-wide master plans for liquid waste, solid waste and drainage. The project was to finance critical elements to improve collection, treatment and disposal of wastewater and septic sludge through the construction of new facilities and the rehabilitation of existing facilities as the need may be. The component was to strengthen the operational capacity in the sector and to ensure there was a supportive environment for private sector engagement.

19. Component 4: Institutional Strengthening. This component focused on providing technical assistance to the ministries responsible for sanitation and water and the metropolitan and municipal assemblies nationwide for monitoring and compliance of sanitation services and activities and for sustainability. The component included support for the development of social accountability mechanisms aimed at ensuring that the services are properly operated and maintained.

B. SIGNIFICANT CHANGES DURING IMPLEMENTATION (IF APPLICABLE)

Revised PDOs and Outcome Targets

20. The PDO was not changed but some targets were modified.

Revised PDO Indicators

21. Some PDO indicators were modified at mid-term review in September 2016. The following modifications were made:

22. The project had a target of 12,500 household toilets to serve 250,000 people. This assumed there would be 20 people using each toilet. During implementation however the average household size was determined to be 6. At mid-term review, the target of 12,500 household toilets was maintained and using a household size of 6 instead of 20, the people to be served was changed to 75,000. The GPOBA sanitation project was brought on board to construct an additional 6,600 household toilets. The total number of toilets to be constructed under the two projects was 19,100. The target was exceeded as of February 2020 with a total of over 27,000 toilets constructed serving over 235,000 people.

23. Originally, the project had a target of 50 institutional sanitation facilities. However, there was a high demand for the institutional sanitation facilities especially in schools. At mid-term review, this target was increased from 50 to 200.

Revised Components

24. The components were not revised.

Other Changes

25. There was a long delay between the Board date of June 6, 2013 and the effectiveness date of August 7, 2014. This led to a no-cost eighteen-month extension from November 30, 2018 to May 31, 2020. A second no-cost seven months extension was granted, with a new closing date of December 31, 2020 to enable the completion of the two sewerage systems.

26. Due to the fluctuation in exchange rate between the Special Drawing Rights (SDR) and the United States Dollar during the implementation period, the project experienced net exchange losses and this adversely impacted available funds. At the date of project signing, the total US Dollar value was quoted at US$ 150 million and on March 31, 2020, the value was estimated at US$ 136 million, indicating a shortfall of approximately US$ 14 million. As a result of this unexpected shortfall, a key component, i.e. the construction of the faecal sludge treatment plant at Nungua Farms, estimated at design to cost US$ 8 million, was dropped. The project is constructing the treatment plants for the ongoing sewerage treatment works and a treatment plant for treating the residual material from bio-digesters.

Rationale for Changes and Their Implication on the Original Theory of Change

27. The changes did not have any implications on the original theory of change.

II. OUTCOME

A. RELEVANCE OF PDOs

Assessment of Relevance of PDOs and Rating

28. The PDOs are highly relevant. The reasons for the high rating are:

29. The PDO is focused on increasing access to improved sanitation and improved water supply. This is in line with the Government of Ghana (GoG) priorities of increasing access to improved sanitation and water supply as embedded in the National Water Policy (NWP) and ESP. The project was also prepared in accordance with the national medium-term development program, the Ghana Shared Growth Development Agenda (GSGDA). The infrastructure pillar of GSGDA aimed at improving infrastructure in all areas including water and sanitation. During implementation all toilet facilities provided (over 27,000) were equipped with handwashing facilities. All beneficiaries received hygiene promotion awareness with a strong focus on handwashing with soap. The increased access to improved water supply ensures that the beneficiaries have water in their homes which facilitates improved hygiene and handwashing.

30. During implementation, the GoG set up a new Ministry for Sanitation and Water Resources. The name of the Ministry was gazetted as Sanitation and Water in a similar fashion as the project (instead of Water and Sanitation) to indicate the importance of sanitation, which lagged behind water supply in the country. Ghana achieved the MDG target for water in 2010 but was unable to achieve the target for sanitation. The government set a target of providing one million household toilets and the targets achieved by the project were mentioned by the president in a State of the Nation Address as a key part of the country's achievement.

31. The GAMA project was given an award in 2018 for being the most impactful WASH project for the achievements in the construction of household toilets by the Coalition of NGOs in Water and Sanitation (CONIWAS) at their annual Mole Conference Series. The Bank also received an award at the same ceremony for the long-standing support to the Ghana's WASH sector and the positive impacts. The Bank also received an award on Global Handwashing Day for the support to improving handwashing with soap in the country.

32. Provision of safely managed water, sanitation and hygiene (WASH) services and application of good hygiene practices are central to an effective COVID-19 pandemic response and to building resilience to future risks. Thus, the project substantially contributed to combatting COVID-19 and building resilience against future disease outbreaks. The 27,000 household toilets constructed under the project were all equipped with handwashing facilities. Over 10,400 households in low-income urban communities were provided with piped water supply connections. 297 new toilet blocks were constructed and 89 were rehabilitated for schools in LIUCs. All newly constructed and rehabilitated toilet blocks are equipped with hand washing facilities. The household toilets, piped water connections and school WASH facilities serve 235,000 people, 368,000 people and 231,000 pupils respectively with water and handwashing facilities. Behavior change and communication materials, awareness creation, and training provided to about 298,000 people laid the basis for systemic awareness creation on hygiene and sanitation. These achievements positively impacted the fight against the COVID-19 pandemic.

B. ACHIEVEMENT OF PDOs (EFFICACY)

Assessment of Achievement of Each Objective/Outcome

33. The project outcomes were expected to be achieved through technical assistance, the provision of infrastructure and BCC for improved sanitation and hygiene practices. The technical assistance was in the preparation of the master plans, consultancy services for the design of water and sanitation infrastructure. The infrastructure provided include the school and household toilets, water supply mains and house connections. The project also supported telemetry for the water supply services. The behavior change communication focused on hygiene and sanitation promotion. Some other key initiatives included the Sanitation Hackathon, the "Toilet Jama" competition (to produce songs for promotion of household toilets), development of the ESICApps for the monitoring of hygiene and sanitation services nationwide.

34. The key objectives/outcomes to be assessed to determine the achievement of the PDOs include the following:

i. Provision of toilets to people living in low-income urban communities

35. The PDO indicator had a target of 12,500 household toilets and the GPOBA project had a target of 6,600 household toilets making a total of 19,100. 75,000 people were expected to benefit from the project and another 39,600 from the GPOBA. The total beneficiaries were 114,600. As of February 2020, the project had supported the construction of over 27,000 household toilets for over 217,000 beneficiaries.

36. At the time of the mid-term review in September 2016, it was expected that 5,000 out of the proposed 12,500 household toilets would be constructed. However, only 280 had been constructed. A major reason for the delay was the inability of beneficiaries to pay the cost of the toilets, which was approximately US$ 1,000. The household toilet technologies had to meet the standards for urban centers and hence the relatively high costs. Under the

GPOBA project, even with the 50% subsidy, the cost was a challenge. Based on discussions held, it was agreed to have a uniform subsidy which would be a maximum of US$ 700. The project had put in place a mobile money platform for beneficiaries to send their payments for the household toilets. This proved very effective and several beneficiaries contributed at whatever rate and amounts were deemed suitable by them. The contribution per household was fixed at GHS 1,100 which was the equivalent of approximately US$ 300. Large scale contractors were engaged in 11 packages with one in each municipality to speed up the construction of the toilets commencing in late 2017. By the end of 2018, approximately 15,000 household toilets had been constructed.

ii. Provision of household water connections and community water points

37. The target for the PDO indicator was to reach 250,000 beneficiaries living in LIUCs with water. This was to be achieved through 3,500 house connections and 500 community water points. As of February 2020, the number of beneficiaries reached was 368,000 people.

38. The project supported the setting up of a Low-Income Consumer Support Unit (LICSU) to facilitate activities in the LIUCs. As stated earlier the project supported the preparation of a water supply masterplan together with a hydraulic model of the water supply network in GAMA. The project had a target to construct 150km of the distribution network to facilitate access for the LIUCs. The project constructed 281km, 131km above the project target of 150km. The project adopted a subsidized uniform rate for household connections. The SDGs have a focus on households having water in their houses/yards to ensure a higher level of service than community water points. The project therefore constructed 114 community water points instead of the original target of 500 and increased the number of household connections. The project had a target of 3,500 house connections, and, as of February 2020, 10,200 house connections serving 368,000 people were constructed exceeding the project target by 118,000 people.

iii. Provision of inclusive and gender conscious institutional sanitation facilities

39. The project had an original target to construct 50 institutional toilets. There was a very high demand for the school sanitation toilets. At mid-term review, the target was increased from 50 to 200 institutional toilets. As of February 2020, the project had constructed 403 toilet blocks in 260 schools.

40. For each institution, comprehensive WASH interventions were provided. These included separate blocks for girls and boys, separate units for teachers, changing room for girls for menstrual hygiene management, handwashing facilities, bins for solid waste disposal and a comprehensive hygiene, handwashing and behavior change training package for teachers and students. Where piped water supply network was not available, boreholes were drilled and mechanized with solar pumps and overhead tanks were provided to ensure a continuous supply of water.

iv. Provision of collection, treatment and disposal of waste

41. The project targeted reducing sewage and septage BOD pollution of at treatment units by 400 mg/l. This was revised to 50 mg/l as a number of treatment plants were provided in the GAMA by other interventions. Additionally, the project focused mainly on the construction of biodigesters. These have very minimal sludge for treatment. It has been estimated that for each toilet facility with a biodigester, emptying may be required only once in 3 and 4 years. The emptying of a digester has a maximum volume of 0.5m3 (which is equivalent to one wheelbarrow).

42. Two simplified sewerage systems and associated treatment units are currently under construction and are on track for completion before the current project closing date. If the boarder closure due to COVID-19 continues, completion of one of the treatment plants will be delayed due to problems in importing a critical component.

v. Provision of technical assistance to improve the planning, implementation and management of environmental sanitation services

43. The project developed two masterplans covering water supply, liquid waste, solid waste and drainage. One masterplan was for water supply and included hydraulic modelling of the water supply network. The second masterplan is an Integrated Urban Environmental Sanitation Masterplan covering liquid waste, solid waste and drainage.

44. The early completion of the water supply masterplan guided the investments made by the project to increase access of water supply to selected areas while the ongoing preparation of the integrated urban environmental sanitation and hygiene master plan is expected to guide the planning, implementation and management of the relevant services in the GAMA. The pipeline reinforcements improved access for several communities. The project however supported connections for beneficiaries living in LIUCs only.

vi. Behavior change campaign on hygiene, sanitation and safe water

45. The hygiene, sanitation and safe water BCCs were directed at all project beneficiaries and other residents living in the LIUCs. The project had a target of 250,000 beneficiaries. A total of over 298,000 people were reached with the campaigns.

vii. Partnership and collaboration:

46. The project benefitted from the partnership with GPOBA. Progress and experience across all project activities was shared at the Sector Working Group meetings, which facilitated collaboration with other active sector partners such as UNICEF. The project also partnered with the International Water Management Institute by co-financing the co-composting plant for converting faecal sludge and solid waste into compost. The project collaborated with Water and Sanitation for the Urban Poor (WSUP) in the setting up of the Low-Income Consumer Support Unit at the GWCL.

47. The hygiene, sanitation and safe water BCCs were directed at all project beneficiaries and other residents living in the LIUCs. The project had a target of 250,000 beneficiaries. A total of over 298,000 people were reached with the campaigns.

48.

Justification of Overall Efficacy Rating

49. The project has a **high** overall efficacy rating. All targets were met and some substantially exceeded while The target on BOD reduction was not achieved. It is expected that this target will be achieved on completion of the two condominial sewage systems.

C. EFFICIENCY

50. The economic and financial analysis carried out at appraisal identified three direct benefits of the project using the Cost-Benefit Approach. These are: a) sanitation services in LIUCs, b) water supply services, and c) wastewater and septage collection. The key benefits identified at the time of preparation included among others, direct health expenditure avoided, income gained due to avoided days lost from work, income gained due to avoided days lost from work as a result of child illness, value of loss of life avoided, convenience and time savings, employment and income generation from industries using water.

51. The project had initially planned to construct 50 public and institutional toilets. The public toilets were to operate on a pay-per-use basis and the target was persons without household toilets. In accordance with the SDG target for sanitation, the project focused only on institutional toilets instead of the general public toilets which are not considered as basic sanitation services. The total number of institutional toilets constructed was 400% higher than originally anticipated. The benefits accruing from school WASH intervention, including from handwashing promotion, have an incalculable benefit especially in the light of the COVID-19 pandemic.

52. In the economic analysis undertaken, the economic life of household toilets, institutional toilets and standpipes were taken as 20 years. The economic life of condominial sewers and household water connections was 30 years. To obtain the Net Present Value (NPV) and the Economic Rate of Return (ERR) of the project, a period of 20 years and a discount rate of 12 percent were used. The NPV of the project was approximately US$ 26 million and the ERR was approximately 14 percent.

53. The Cost benefit analysis conducted for sanitation component (household latrine and school latrine) and provision of Water supply to the poor at completion has estimated positive NPV and the IRR greater than the discount rate shows that despite the two years no cost extension both water supply and sanitation interventions are still economically viable. This finding may signal that the impact of delayed benefit resulting from prolonged implementation is somehow compensated by the shift in targeting from public latrine to household latrine and from standpipes to household connections for water supply.

Table 1- Comparison of Economic NPV and Internal Rate of Return for Sanitation Intervention under the project

No	Description of intervention	At Appraisal		At project Completion	
		NPV in US$	IRR	NPV in US$	IRR
1	Latrine Construction in LIUC	$1,786,191	33%	$1,989,632	14%
2	Water supply in LIUC	$6,812,760	16%	$6,589.203	15%

54. The initiation of project activities was impacted by the 14 months delay in project effectiveness and initial implementation challenges. This delay resulted in slow implementation progress till the mid-term review. At the mid-term review the team agreed on measures to improve implementation, including introducing a mobile saving application and repackaging of HH toilet works contracts to size to attract bigger contractors with annual turnover adequate to pre-finance toilets and to allow greater economy of scale which broadened the competition and brought the cost down. Implementation of these measure substantially improved project progress and turned the project around. The average monthly number of HH toilets constructed jumped dramatically from 142 in 2017 to 1100 between May 2018 and the end of November 2018. By the beginning of December 2018, the project had constructed over 14,000 toilets, serving about 112,000 people. With this pace, the project exceeded its household sanitation target of 19,100 toilets by April 2019, a year ahead of schedule.

55. The construction of the simplified sewerage systems was delayed substantially leading to the second extension of the project. The additional time was used to complete pre-construction safeguard actions to ensure efficient execution of all project activities. The implementation of the simplified sewerage systems is underway,

and will substantially contribute to the achievements of the household toilet sub-component and ensure that the project meets its targets. .

56. The Behavior Change Communication and project management component helped train people on hygiene promotion. The project undertook capacity building activities for various categories of local government staff, including. for Public Health Engineers working in all metropolitan and municipal assemblies in the country. This was to support public health engineers in the municipalities that were monitoring construction of the household-level project interventions. Due to the high number of household and school toilets being constructed, the project had to engage the services of assistant engineers for monitoring support and to ensure the construction met the required engineering and technical standards. As a result, the project management cost exceeded the original estimates. The twenty-five-month extension also required additional payment of salaries for PCU staff beyond the original estimates, further increasing the project management costs.

57. Other benefits accrued due to the project include employment generation for construction, reduction in losses from flooding due to drainage interventions, improvement in the environment due to less open defecation and open dumping of human excreta. The hygiene and sanitation promotion intervention in schools and the LIUCs was not included in the initial economic analysis. The target of 250,000 was exceeded and the project is still conducting hygiene promotion activities and providing handwashing stations during the COVID-19 pandemic. At the time the project became effective in 2014, there was a huge outbreak of cholera with over 100,000 cases in the GAMA. Over the 6-year implementation there has not been a major cholera outbreak. The project has contributed towards the necessary behavior change initiatives that are an important part of preventing cholera outbreaks.

Assessment of Efficiency and Rating

58. The project efficiency rating is high, as the project has exceeded all the targets set substantially. Additionally, the project has been very relevant in the COVID-19 pandemic fight.

59. Since its approval the project has undergone level 2 restructuring to allow for a no cost closing date extension by 25 months and to revise the scope of the project and results indicators. The two years delay in project implementation will have cost implications due to inflation and delayed project benefits. However, the project has exceeded its end program targets both in terms of people provided with access to improved sanitation as well as people provided with improved water supply. The higher result achieved within the same program costs imply that the project is still economically viable given that the assumptions at appraisal are still valid. Two factors contributed to containing potential cost escalation due to delay including ten percent price and physical contingency added in the original project cost, and careful consideration of inflation.

D. JUSTIFICATION OF OVERALL OUTCOME RATING

60. The Relevance is rated High, the Efficacy is rated High and the Efficiency is rated High. However, given that the two ongoing sewerage expansion contracts are yet to be completed to fully achieve the sanitation outcome, the overall outcome of the project is rated **Satisfactory.**

E. OTHER OUTCOMES AND IMPACTS (IF ANY)

Gender

61. 52 percent of the beneficiaries from water and sanitation interventions were women. The burden for fetching water in the LIUCs typically falls on women. The availability of water within the household premises ensures

women spend less time in fetching water and this frees the time to undertake income generating activities. The disease burden due to water borne diseases impacts women as they have to spend productive hours caring for sick family members, including time spent in hospitals which could have been used in income generating activities.

Institutional Strengthening

62. The project undertook several Institutional Strengthening activities. Key among these was the development of the ESICApps (Expanded Sanitary Inspections, Compliance Application), a mobile application for data collection for Environmental Health and Sanitation activities. The Environmental Health Officers in the assemblies had to manually record information on their daily rounds to inspect premises to ensure appropriate sanitation and hygiene practices are in place in households, food joints, commercial centers etc. There is always a huge backlog when officers have to go back to their office to enter the information into a database. Some records are never inputted, creating a challenge for follow-up. With the development of the ESICApps, all information is automatically uploaded when it is collected once the mobile device has Internet access. The dashboard where the data is uploaded is available at the Municipal, Regional and National levels so the necessary remedial actions can be quickly taken.

63. A sanitation hackathon was organized under the innovation sub-component of the Institutional Strengthening component of the project. Over 1,000 people representing over 280 teams applied to be a part of the hackathon. 35 teams were shortlisted. The hackathon took place in November 2018 and was launched by the Country Director of the World Bank and a representative of the Minister for Sanitation and Water Resources. Prizes were awarded to the first three teams and three most innovative projects. The winning team was further supported by the project to implement the winning entry which was a system for households to connect to vacuum trucks for the desludging of septic tanks.

64. A study on the requirements for setting up Waste Management Departments for Municipal Assemblies has been completed. There are three categories of assemblies (local government authorities) in Ghana. The Metropolitan Areas are the most urbanized and there are 6 in the entire country with two of them in the GAMA. The population threshold for the metropolitan areas is over 250,000 people. The municipal assemblies have a population of between 95,000 and 250,000. Districts have a population of less than 95,000 people. The GAMA project started in 11 MMAs with two being metros and the other nine municipalities. There are currently 2 metros and 22 municipal assemblies. The municipal assemblies have an environmental health unit which also undertakes the functions of waste management. The project has developed the relevant documents and guidance to raise the municipal assemblies to the level of the metros to enable them to deal appropriately with waste management challenges. The process needs political approval and gazetting so the Waste Management Departments become operational.

65. The project has developed a manual to provide technical guidance and standards for the construction, operation and servicing of bio-digesters used for household toilets. Over 27,000 of the household toilets constructed under the project utilize this technology. The manual provides step-by-step guidance on siting, construction, and operation and maintenance. The guide has been adopted and is also being used by other development partners that are promoting this technology.

Mobilizing Private Sector Financing

66. The project supported the construction of a co-composting plant under the innovations fund. The co-composting plant located in the Tema Metropolitan Assembly uses faecal sludge and solid waste to produce co-compost. The International Water Management Institute, Jekora Ventures, a private environmental sanitation innovations firm and the GAMA project co-sponsored the plant which is producing 400 tonnes of Fortifer Compost per year.

67. The project organized a Sanitation Hackathon. The winners were supported to set up businesses. This activity has the potential of getting private sector investments to further promote the winning initiatives. Other than the winning entries, four initiatives that received special mentions can also be adopted and implemented by the private sector.

Poverty Reduction and Shared Prosperity

68. One of the project's intermediate results indicators was the number of micro-enterprises providing sanitation services. The project identified 12 micro-enterprises in the construction of the bio-digester toilets. The staff of the micro-enterprises were trained to enable them to deliver services satisfactorily and to required specifications. The engagement of the micro-enterprises provided jobs for the artisans who worked in the construction of toilets, thus providing incomes for their families.

Other Unintended Outcomes and Impacts

69. A major unintended impact of the project is the contribution to managing the COVID-19 pandemic. The project implemented a hygiene and handwashing promotion and provided handwashing stalls, which are critical infrastructure to mitigate the spread of COVID-19.

70. The increased access to water supply provided within houses/yards in the selected LIUCs reduced the need for beneficiaries to go out of their homes to obtain water for drinking, cooking and other domestic activities, allowing for some social distancing. The availability of the water within the house/yards also facilitated adequate water use.

III. KEY FACTORS THAT AFFECTED IMPLEMENTATION AND OUTCOME

A. KEY FACTORS DURING PREPARATION

71. The project was prepared over more than two years and involved extensive consultations and workshops with several key stakeholders and project teams working in the GAMA and in the WASH sector in Ghana. The project plan and objectives were presented at several sector working group meetings and discussed with various Development Partners. Some key stakeholders consulted during preparation were representatives from the Coalition of NGOs in Water and Sanitation, WaterAid in Ghana, Water and Sanitation for the Urban Poor, IRC, Water and Sanitation for Africa, CHF (now Global Communities), Relief International, SWITCH Project, Peoples Dialogue etc. The workshops organized brought together the MMAs, Private Sector and NGOs to deliberate and provide inputs. Site visits were conducted at locations within the GAMA where other projects were being implemented. A firm was contracted to develop a strategy for engagement in the LIUCs. The LIUC entry strategy, engagement and site visits during the preparatory stage were funded by a grant from Cities Alliance.

72. The consultations and engagement carried out indicated there was need to support LIUCs. There was a widening gap between the rich and the poor in the GAMA. Most medium and high-income communities in the GAMA had 100% household toilets coverage. The GAMA had a total coverage of less than 30 percent for household toilets, indicating that the coverage in the densely populated LIUCs was less than 10 percent. Most of the residents in the LIUCs purchased water from vendors and ended up paying up to ten times more than those in the medium and high-income areas who also had more regular water supply services.

73. The objectives and targets of the project were very well articulated. Under previous Bank funded projects in Ghana, the targets set for household toilet construction were always a fraction of the targets set for water (usually 5 or 10 percent). At the time of preparation, Ghana had achieved the MDG target of 76% for water before the target date of 2015. Access to basic sanitation (household toilets) was at 13 percent, against a national target of 54 percent. The target for both sanitation and water were therefore set at 250,000 people. The project assumed that 20 people would use each toilet facility and therefore the target was set at 12,500 toilets. During implementation and in accordance with the MDG targets, the toilets were expected to serve one household each. The target of 12,500 household toilets was maintained, but a household size of 6 was adopted thereby reducing the target beneficiaries to 75,000. This change was adopted at the mid-term review. However, the project has constructed over 27,000 toilets serving over 200,000 people. It is therefore likely that the initial target of reaching 250,000 beneficiaries can still be achieved by the project closing date.

74. The results framework and the indicators provided were clear and unambiguous. The project strategies for monitoring and for citizens engagement were well developed and implemented. The project adopted web-based monitoring strategies, baselines were clearly established and monitoring was carried out effectively during implementation.

B. KEY FACTORS DURING IMPLEMENTATION

Factors subject to the control of government and implementing entities

75. To ensure coordination and engagement of key stakeholders, the project brought together all the Chief Executives (mayors/political heads) and Coordinating Directors (administrative heads) together for a number of workshops. Representatives from the Ministry leading sanitation including a Minister or Deputy Minister attended these two and three-day residential workshops. The sessions were facilitated by the Collaborative Leadership for Development (CL4D) of the World Bank. The engagement ensured that the leadership in all the 11 GAMA municipalities had a good understanding of the project and helped support smooth implementation. When there was a change in government the new Chief Executives appointed to the Assemblies were taken through the same process. Additionally, all Chief Executives were made a part of the Project Steering Committee which met to approve Annual Work Plans. This served as an opportunity for them to understand all planned activities for the ensuing year. It also reduced the unnecessary political interference since the Chief Executives agreed and approved the workplans in the presence of the Minister responsible for sanitation. These engagements created strong commitment from most of the Chief Executives and facilitated smooth implementation in their municipalities. However, there were some challenges, particularly from the Chief Executives who missed these sessions due to other commitments. because they were out of town. These Chief Executives were engaged with a one-on-one basis to get their buy in.

76. The Rapid Results Initiatives undertaken with support from the Bank played a key role in getting all teams to focus on results. As part of the process, a league table on the construction of household toilets in each of the participating MMAs was published monthly. The league table caught the attention of the Chief Executives and the called meetings and they called meetings to resolve challenges and find solutions to bottlenecks to enable perform better on the league table. They worked with their officials, MMA teams, coaches, and sub-project implementers who were responsible for the actual construction to improve the rate of delivery of the household toilets.

77. To ensure the full participation of the municipalities, logistical support was provided. This included two pick-up trucks, computers, printers and other office logistics. Experience from the previous projects showed that the unavailability of these logistics negatively impacted the participation of the assembly staff. The pick-up trucks were branded and equipped with a public address system. The public address systems were used to broadcast messages about the project and other health and hygiene messages in the LIUCs.

78. The effective community mobilization for the sanitation interventions required the services of the Environmental Health Officers (EHOs) in the assemblies. The activities defined under the project to be undertaken by the EHOs formed part of the health and sanitation promotion campaign. Some of the EHOs were selected from each municipality to be part of the teams formed to undertake the promotion activities. The experience and knowledge of the EHOs was a key part in the success of the household toilet initiative.

79. The project had major challenges with safeguards in the early stages of implementation. After a major flooding event in June 2015, it was agreed to use project funds for storm drains to reduce perennial flooding in some communities. The project started implementation without developing the necessary safeguards instruments due to the emergency. All project activities were put on hold while the safeguards instruments were prepared and approved. Safeguards implementation on all sub-projects was reviewed. All consultants and contractors for each sub-project were trained on the expected requirements for environmental and social safeguards. The challenges identified and resolved were used as case studies for an Africa Region Safeguards Workshop. An Africa Region Communication Workshop was organized to develop a strategy to address project-related challenges, such as road cutting to build drains, which impacted many stakeholders including utilities, transportation etc. The strategies developed at the workshop were adopted and implemented successfully by the project.

80. At the start of implementation, the project had a Financial Management Consultant as part of the PCU. The consultant worked with staff from the Auditor Generals Department for 2 years after which the government employee took over all the financial management issues. The project hired a Procurement Consultant to handle the procurement activities and to work with the Ministry and MMAs on all procurement issues.

81. The project piloted a number of ICT based baseline and monitoring technologies. The system adopted was robust and effective. The Bank supervisory team could access the system and visit any of the project sites to verify information provided. The Ministry adopted this system in addition to developing the mobile based ESICApps for monitoring of environmental sanitation activities.

Factors Subject to World Bank Control

82. The Bank team played a key role in supervision to turn around the project when there were major issues with the delivery of the household sanitation component. The Bank team under the leadership of the Task Team Leader brought in the Collaborative Leadership for Development (CL4D) team to support the MMAs. A number of 100-

day Rapid Results Initiatives (RRIs) were implemented for various aspects of project implementation, especially the slow implementation of the household toilets sub-component.

83. The task team was very candid in reporting status and evaluating performance of the project. The project ratings were downgraded as required. For example, in 2016, the project implementation support and supervision mission identified slow progress in the provision of household toilet due to lack of clarity on financing arrangements and the implementation guidelines for low income beneficiaries/households to own and use toilets. As a result, the project was downgraded to moderately unsatisfactory. During the midterm review and subsequent missions, the project took measures that turned around the progress. When the project was also found to have flouted some safeguards rules, the TTL supported the suspension of all project activities while these issues were rectified. This brought the project to a standstill for about six months. The improvement in safeguards delivery afterward was excellent and the experience was shared with other projects as a lesson and example to learn from.

Factor outside the control of government or implementing agencies

84. On June 3, 2015, part of GAMA was affected by a major flood and fire, which led to the loss of about 150 lives. The project supported the construction of drainage infrastructure, which was not part of the initial design, but was necessary to deal with the flooding challenge.

85. There were two major external shocks during the project implementation period. The 50 percent depreciation of the national currency between 2014 and 2015 negatively impacted some contracts that were in local currency. The COVID-19 pandemic also impacted construction activities of the two sewerage systems as there was a lockdown in the GAMA for three weeks in late March and early April 2020. The project is now back on track to complete by current closing date. However, further extension of the boarder COVID-19 related closures will affect implementation duration for one contract that depends on imported material.

IV. BANK PERFORMANCE, COMPLIANCE ISSUES, AND RISK TO DEVELOPMENT OUTCOME

A. QUALITY OF MONITORING AND EVALUATION (M&E)

M&E Design

86. The M&E system was developed based on the Second Urban Environmental Sanitation Project which was ongoing at the time of project preparation. The indicators selected were clear and easily measurable. The indicators were structured such that achieving the targets was directly linked to meeting the PDO. The results framework indicated clearly that a baseline will have to be established and the project would build on the baseline to measure achievement. There was one indicator however which posed a challenge. The project was supposed to construct 12,500 household toilets to serve 250,000 people. This supposed each household had an average of 20 people. The baseline indicated otherwise. At mid-term review, the average household size of 6 was adopted so the target was changed to 75,000 accordingly.

M&E Implementation

87. Data was routinely collected during project implementation. Where it was difficult to establish a clear baseline, the project took the baseline to be zero and measured additionality. The achievements of the project were then based on the figures obtained.

M&E Utilization

88. The M&E reports were closely monitored and utilized by the Task Team and government at national and local level. The project performance was downgraded when there were limited results being achieved. The Task Team brought in other resources to help turn the situation around. The project was subsequently upgraded when the M&E system clearly showed the project was achieving results. The success of this M&E system is evident as the Ministry of Sanitation and Water Resources has adopted a part of this system for its own use.

Justification of Overall Rating of Quality of M&E

89. The overall rating of the M&E system is **Substantial** as there were limited shortcomings in the design for only one target. The targets set were clear and easy to measure and there was little ambiguity in the implementation process.

B. ENVIRONMENTAL, SOCIAL, AND FIDUCIARY COMPLIANCE

90. There were no waivers of the safeguards and fiduciary policies of the Bank. The project activities included faecal treatment plants and water pipeline activities which had significant environmental and social impacts. The project was rated a Category A and triggered the following OPs: (i) Environmental Assessment (OP 4.01); (ii) Natural Habitats (OP 4.04) and (iii) Involuntary Resettlement (OP 4.12). The project involved a number of risks during the implementation including environmental pollution, occupational health and safety, and risks to loss of livelihood associated with economic displacement during the construction the drains, water pipelines and toilet facilities.

91. Environmental and Social Impact Assessments (ESIAs), Environmental and Social Management Plan (ESMPs), Resettlement Action Plans (RAPs) and Abbreviated Resettlement Action Plans (ARAPs) were prepared prior to commencement of all subprojects. A Grievance Redress Mechanism was also put in place to receive and resolve project related complaints concerning economic displacement of project affected persons (PAPs) and other project-related concerns. The measures put in place were exemplary and other projects were brought in to learn from the experience.

92. Financial Management (FM) was generally rated satisfactory[1]. The project is in compliance with the financial covenants of submitting acceptable financial reports including audits. The project is also in compliance submitting periodic financial reports, albeit with occasional minor delays in meeting deadlines. The delays in submitting acceptable IFR and audit reports was mainly with the GWCL PIU. The most recent audit report for the year ending December 2018[2] was received on June 28, 2019, which was within the six months period after the end of the fiscal year and in compliance with the provision of the Financing Agreement.

93. The auditors expressed an unqualified opinion on the Project Financial Statements (PFS). In addition, a review of the management letter, the auditor's noted that there were no major internal control deficiencies or general accountability issues and acknowledged that in general, the control environment was reliable to support project implementation.

94. There were no major issues with compliance with procurement procedures. Periodic procurement audits were carried out at the PCU, GWCL and the participating MMAs.

[1] This rating is based on the most current FM supervision dated December 2019 and a final FM review will be conducted within six months of final closing date.

[2] The project will submit a final audit report, not later than six months after the project closing date and it due by. June 30th, 2021

C. BANK PERFORMANCE

Quality at Entry

95. Preparation of the project took place while the Second Urban Environmental Sanitation Project (UESP-2) was ongoing. The supervisory team of the UESP-2 was the same as the preparatory team. The team was therefore familiar with the country specific situation and challenges. The project design was informed by several consultations and studies. The team also organized several workshops and held discussions with all similar projects ongoing in the country. This provided a strong impetus for implementation.

Quality of Supervision

96. The Bank supervision was appropriate and well targeted throughout the project. The bi-annual implementation support and supervision missions were fielded as scheduled and several sub-missions were conducted to address implementation challenges. The TTL brought on board the CL4D team which organized leadership training and workshops and developed the Rapid Results Initiatives to help the project overcome implementation challenges.

97. Counterparts from the Ministry and the PCU attest to the quality of supervision, particularly the bi-weekly meetings between the PCU and the Task Team. The Bank's technical consultant attended weekly management meetings of the PCU to help fast-track implementation and resolve any challenges.

Justification of Overall Rating of Bank Performance

98. The overall rating of the Bank performance is **Satisfactory**. The project was able to overcome all challenges and perform satisfactorily. The task team introduced external resources from the CL4D for the Rapid Results Initiatives to enhance implementation. Specialized training for different categories of implementers including safeguards, procurement, financial management and behavior change communication etc. were supported by the Bank to improve the capacity of the PCU and MMAs for implementation. The project won an award for being the most impactful project and the World Bank was given an award for the support to the WASH sector. Both awards were given at the National Mole Conference Series of the Coalition of NGOs in Water and Sanitation. The Bank also won an award for the continuous support to handwashing in Ghana. The staff of the PCU and MSWR all acknowledged the cooperation and support from the Bank during implementation.

D. RISK TO DEVELOPMENT OUTCOME

99. The risk to development outcomes is linked to the targets achieved by the project and issues that may affect sustainability of the gains. Three key challenges identified are 1) The continued existence of the Ministry of Sanitation and Water Resources, 2) The continued implementation of the strategies to support low-income households with connection to the water supply network and construction of household toilets and 3) Maintenance of WASH infrastructure provided for schools.

100. The MSWR was established in 2017. The Project was previously under two Ministries. The sanitation components were under the Ministry of Local Government and Rural Development and the water aspects were under the Ministry of Water Resources, Works and Housing. Both ministries had several responsibilities with sanitation and water being just one part of the many things they were responsible for. The ministries focused on several important issues such as Local Governance, Decentralization, Housing, Urbanization, Drainage etc., thus sanitation did not get the attention it needed. The MSWR however only focuses on Sanitation and Water. The

formation of a proposed National Sanitation Authority as proposed by the MSWR may provide additional support to better coordinate WASH activities in the future, even if the MSWR is no longer in existence.

101. Affordability is a major challenge for most households in the low-income urban communities. The project supported households in accessing basic services of water and sanitation. Under the proposed additional financing, the project is looking at supporting a National WASH Program which would encompass all WASH activities by Government, Development Partners, NGOs etc. The provision of support to low-income households is critical to increase coverage for sanitation and water services. It is hoped this would become an integral part of the National WASH Program and it will be strongly supported by the Government of Ghana, Development Partners, NGOs and all sector practitioners and stakeholders.

102. The maintenance of WASH infrastructure has been a challenge. There has been a directive on the levies paid by Parent Teacher Associations which makes it difficult for schools to raise funds for operation and maintenance. The capitation grant received by schools is also not adequate to fully pay for the services needed. The project provided 403 toilet blocks in 260 schools. There is an ongoing discussion between the MSWR and the Ministry of Education to find a solution to the funding of operation and maintenance for WASH in Schools. The outcome is critical for the long-term sustainability of the school WASH facilities provided under the project.

103. The COVID-19 pandemic provides a unique opportunity for the project to undertake more activities which would promote good hygiene and handwashing. The construction of infrastructure may be affected if there is a rise in the number of COVID-19 cases and movement restrictions in the project area.

V. LESSONS AND RECOMMENDATIONS

104. **Consultations, Engagement and Workshops.** During project preparation there were series of consultations and engagements with key stakeholders and WASH projects taking place in GAMA and across the country. Lessons and experiences from these projects were included in the project design. There were a series of workshops bringing together different categories of stakeholders to share experiences and to provide inputs for the project. The different interactions between the GoG and the Bank with Development Partners, NGOs, different categories of private sector including financiers, consultants, service providers etc. provided a strong basis for the project design and established buy-in from stakeholders which was useful during implementation.

105. **Clear Objectives and Targets.** The objectives and targets set for the project were very clear and well stated. The main targets were the number of people provided with access to sanitation facilities, the number of people provided with access to water, the number of school pupils provided with improved sanitation facilities. The focus was kept on the targets and not the activities like the construction of infrastructure e.g. pipelines and toilet facilities. Throughout the implementation period, it was clear that the number of beneficiaries in LIUCs was the target and the project team worked assiduously towards achieving this.

106. **Ensuring Support of Leadership at Local Government Level.** Periodic workshops and steering committee meetings were held with the Municipal Chief Executives and the Municipal Coordinating Directors. These officials were all changed at least once during the implementation period. To ensure continuity, the project brought together all officials for periodic meetings. This facilitated smooth implementation with minimum interference from the

leadership. Getting the commitment of the leadership at Local Government level is essential in the implementation of projects in their jurisdictions.

107. **Rapid Results Initiatives.** The project implemented the Rapid Results Initiatives to fast track the delivery of household toilets. A league table on the status of implementation by the MMAs was published monthly. This created the environment for friendly competition between the MMAs to improve the results achieved. Internal meetings were organized periodically, and additional help was provided whenever needed to help improve performance.

108. **Provision of Logistics.** The project provided logistics for the participating MMAs to enable them to play their roles effectively. The Environmental Health Officers were able to carry out mobilization activities due to the pick-up trucks provided to the MMAs. The pick-up trucks were branded with sanitation messages and with public address systems and were used to carry out public education in the low-income communities. The branding with graphic pictures and messages on ending open defecation ensured they were available for use primarily for project purposes.

109. **Dealing with Project Challenges.** The project dealt boldly and decisively with the infringement on the safeguards regulations during emergency construction of drains after a major flooding event. All project activities were stopped, and comprehensive safeguards training was provided for all project team members, consultants and contractors. The subsequent performance on safeguards issues was excellent.

ANNEX 1. RESULTS FRAMEWORK AND KEY OUTPUTS

A. RESULTS INDICATORS

A.1 PDO Indicators

Objective/Outcome: Access to "improved sanitation facilities" under the proj.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
People provided with access to "improved sanitation facilities" under the proj.	Number	0.00 04-Mar-2013	75000.00 30-Nov-2018	75000.00 31-Dec-2020	217936.00 28-Feb-2020
People provided with access to "improved sanitation facilities" - urban	Number	0.00 04-Mar-2013	75000.00 30-Nov-2018	75000.00 31-Dec-2020	217936.00 28-Feb-2020

Comments (achievements against targets):

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
School Pupils provided with improved sanitation facilities	Number	0.00 07-Aug-2014	200000.00 30-Nov-2018	200000.00 31-Dec-2020	231872.00 28-Feb-2020

Comments (achievements against targets):

Objective/Outcome: Access to Improved Water Sources under the project

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of people in urban areas provided with access to Improved Water Sources under the project	Number	0.00 04-Mar-2013	250000.00 30-Nov-2018	250000.00 31-Dec-2020	368000.00 28-Feb-2020

Comments (achievements against targets):

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Direct project beneficiaries	Number	0.00 04-Mar-2013	250000.00 30-Nov-2018	250000.00 31-Dec-2020	368000.00 28-Feb-2020
Female beneficiaries	Percentage	0.00	51.50 01-May-2018		51.50

Comments (achievements against targets):

Objective/Outcome: Volume of waste treated

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Volume(mass) of BOD pollution load removed by treatment plant under the project	Tones/year	0.00 04-Mar-2013	400.00 30-Nov-2018	400.00 31-Dec-2020	114.00 28-Feb-2020
Comments (achievements against targets):					

Objective/Outcome: Share of households in the low-income communities benefited under the project that live in a single

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Share of households in the low-income communities benefited under the project that live in a single room	Percentage	0.00 04-Mar-2013	75.00 30-Nov-2018	75.00 31-Dec-2020	75.00 28-Feb-2020
Comments (achievements against targets):					

A.2 Intermediate Results Indicators

Component: Component 1 - Provision of environmental sanitation and water supply services

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion

Improved latrines constructed under the project	Number	0.00 04-Mar-2013	12500.00 30-Nov-2018	12500.00 31-Dec-2020	27242.00 28-Feb-2020
Of which in rental accommodation	Number	0.00 04-Mar-2013	5000.00 30-Nov-2018	5000.00 31-Dec-2020	19614.00 28-Feb-2020
Of which in schools, markets and health centers	Number	0.00 04-Mar-2013	50.00 30-Nov-2018	200.00 31-Dec-2020	339.00 28-Feb-2020

Comments (achievements against targets):

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
People provided with access to septage emptying services or sewerage under the project	Number	0.00 04-Mar-2013	225000.00 30-Nov-2018	225000.00 31-Dec-2020	205000.00 28-Feb-2020

Comments (achievements against targets):

Component: Component 2 – Improvement and expansion of the water distribution network

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised	Actual Achieved at Completion

				Target	
Improved community water points constructed or rehabilitated under the project	Number	0.00 04-Mar-2013	500.00 30-Nov-2018	114.00 31-Dec-2020	114.00 28-Feb-2020
Comments (achievements against targets):					

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
New piped household water connections that are resulting from the project intervention	Number	0.00 04-Mar-2013	3500.00 30-Nov-2018	3500.00 31-Dec-2020	10200.00 28-Feb-2020
Comments (achievements against targets):					

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Water distribution mains installed under the project	Kilometers	0.00 04-Mar-2013	150.00 30-Nov-2018	150.00 31-Dec-2020	281.00 28-Feb-2020
Comments (achievements against targets):					

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of water utilities that the project is supporting	Number	0.00 04-Mar-2013	1.00 28-Feb-2020		1.00 28-Feb-2020
Comments (achievements against targets):					

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Piped household water connections that are benefiting from rehabilitation works undertaken by the project	Number	0.00 04-Mar-2013	50000.00 30-Nov-2018	50000.00 31-Dec-2020	83000.00 30-Apr-2019
Comments (achievements against targets):					

Component: Component 3 – Planning, improvement & expansion of Environmental Sanitation Services

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Capacity of sludge treatment plants constructed or	Cubic Meter(m3)	0.00	50.00	900.00	50.00

rehabilitated under the project		04-Mar-2013	30-Nov-2018	31-Dec-2020	30-Sep-2019
Comments (achievements against targets):					

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Integrated master plans for liquid waste, solid waste and drainage in the GAMA	Yes/No	N 04-Mar-2013	Y 30-Nov-2018	Y 31-Dec-2020	N 30-Sep-2019
Comments (achievements against targets):					

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Drainage interventions in low-income communities (length of lined drains)	Kilometers	0.00 06-Jun-2013	20.00 29-May-2020	20.00 31-Dec-2020	12.00 30-Sep-2019
Comments (achievements against targets):					

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion

Drainage interventions in low-income communities (length of unlined drains)	Kilometers	0.00 06-Jun-2013	30.00 29-May-2020	30.00 31-Dec-2020	32.00 28-Feb-2020
Comments (achievements against targets):					

Component: Component 4 – Institutional Strengthening

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
People trained to improve hygiene behavior/sanitation practices under the proj	Number	0.00 04-Mar-2013	250000.00 30-Nov-2018	250000.00 31-Dec-2020	298712.00 28-Feb-2020
People trained to improve hygiene behavior/sanitation practices - female	Number	0.00 04-Mar-2013	127000.00 30-Nov-2018	127000.00 31-Dec-2020	155330.00 28-Feb-2020
Comments (achievements against targets):					

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
GWCL low-income unit established	Yes/No	N 04-Mar-2013	Y 30-Nov-2018	Y 31-Dec-2020	Y 30-Sep-2019

Comments (achievements against targets):

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Inter-MMA coordination mechanism established	Yes/No	N 04-Mar-2013	Y 30-Nov-2018	Y 31-Dec-2020	Y 30-Sep-2019

Comments (achievements against targets):

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Regulatory system for septage management in place	Yes/No	N 04-Mar-2013	Y 30-Nov-2018	Y 31-Dec-2020	N 30-Sep-2019

Comments (achievements against targets):

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of MMA's scoring at least 75% of maximum on DDF sanitation indicators	Number	1.00 04-Mar-2013	11.00 30-Nov-2018	11.00 31-Dec-2020	11.00 28-Feb-2020

Comments (achievements against targets):

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
WSS data on target communities publicly available	Yes/No	N 04-Mar-2013	Y 30-Nov-2018	Y 31-Dec-2020	Y 30-Sep-2019

Comments (achievements against targets):

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Number of micro-enterprises providing sanitation services	Number	0.00 04-Mar-2013	12.00 30-Nov-2018	12.00 31-Dec-2020	12.00 30-Sep-2019

Comments (achievements against targets):

B. KEY OUTPUTS BY COMPONENT

Objective/Outcome 1: Increased access to improved sanitation facilities under the project	
Outcome Indicators	1. Number of people provided with access to improved sanitation facilities 2. Number of School Pupils provided with improved sanitation facilities 3. Direct project beneficiaries (number), of which female (percentage)
Intermediate Results Indicators	1. Number of improved latrines constructed under the project 2. Number of improved institutional sanitation facilities constructed 3. Number of people trained to improve hygiene behavior or sanitation practices 4. Number of micro-enterprises providing sanitation services
Key Outputs by Component (linked to the achievement of the Objective/Outcome 1)	1. 27,242 improved house hold latrines constructed 2. 339 improved institutional sanitation facilities constructed 3. 155,330 people trained to improve hygiene behavior & sanitation practices 4. 12 micro-enterprises established and provided sanitation services
Objective/Outcome 2: Increased access to improved water sources under the project	
Outcome Indicators	1. Number of people provided with access to improved water sources
Intermediate Results Indicators	1. Number of improved water points constructed or rehabilitated 2. Number of new piped household water connections 3. Water distribution mains installed under the project (Km) 4. GWCL low-income unit established
Key Outputs by Component (linked to the achievement of the Objective/Outcome 2)	1. 114 Improved community water points constructed or rehabilitated 2. 10,200 new piped household water connections provided 3. 83,000 piped household water connections rehabilitated 4. 281 Km water distribution mains installed 5. GWCL low-income unit established
Objective/Outcome 3: Volume of waste treated	
Outcome Indicators	1. Volume(mass) of BOD pollution load removed by treatment plant (Tones/year)

Intermediate Results Indicators	1. Capacity of sludge treatment plants constructed or rehabilitated 2. People provided with access to septage emptying services or sewerage
Key Outputs by Component (linked to the achievement of the Objective/Outcome 2)	1. 50m3/day increase in capacity of sludge treatment plants 2. 205,000 people provided with access to septage emptying services or sewerage

ANNEX 2. BANK LENDING AND IMPLEMENTATION SUPPORT/SUPERVISION

A. TASK TEAM MEMBERS

Name	Role
Preparation	
Sanyu Sarah Senkatuka Lutalo	Task Team Leader(s)
Moses Yao Duphey	Social Specialist
Beatrix Allah-Mensah	Social Specialist
Supervision/ICR	
Yitbarek Tessema Mammo	Task Team Leader(s)
Thomas Kwasi Siaw Anang, Charles John Aryee Ashong	Procurement Specialist(s)
Robert Wallace DeGraft-Hanson	Financial Management Specialist
Lydia Sam	Procurement Team
Sanyu Sarah Senkatuka Lutalo	Team Member
Mohammad Ilyas Butt	Procurement Team
Edward Felix Dwumfour	Environmental Specialist
Ayishetu Terewina	Procurement Team
Harold Esseku	Team Member
Elizabeth Naa Amoah Akushey	Team Member
Michael Gboyega Ilesanmi	Social Specialist
George Amoasah	Environmental Specialist

B. STAFF TIME AND COST

Stage of Project Cycle	Staff Time and Cost	
	No. of staff weeks	US$ (including travel and consultant costs)
Preparation		

FY10	7.900	91,440.01
FY11	18.255	121,779.04
FY12	30.205	164,466.97
FY13	43.845	495,055.24
FY14	.757	2,878.50
Total	**100.96**	**875,619.76**
Supervision/ICR		
FY14	13.640	210,748.99
FY15	34.033	296,400.32
FY16	30.700	333,216.16
FY17	89.322	477,643.46
FY18	38.922	245,773.07
FY19	32.647	233,959.26
FY20	37.162	235,745.66
Total	**276.43**	**2,033,486.92**

ANNEX 3. PROJECT COST BY COMPONENT

Components	Amount at Approval (US$M)	Actual at Project Closing (US$M)	Percentage of Approval (US$M)
Component 1 - Provision of environmental sanitation and water supply services	0	46.80	0
Component 2 – Improvement and expansion of the water distribution network	0	48.10	0
Component 3 – Planning, improvement & expansion of Environmental Sanitation Services	0	32.90	0
Component 4 – Institutional Strengthening	0	22.20	0
Physical and Price Contingencies	0	0	0
Repayment of PPF	0	0	0
Total	**0.00**	**150.00**	**0.00**

ANNEX 4. EFFICIENCY ANALYSIS

Background

1. The economic and financial analysis carried out at appraisal identified three direct benefits of the project using the Cost-Benefit Approach. These are: a) Sanitation services in LIUCs , b) water supply services, and c) wastewater and septage collection. The key benefits identified at the time of preparation included among others, direct health expenditure avoided, income gained due to avoided days lost from work, income gained due to avoided days lost from work as a result of child illness, value of loss of life avoided, convenience and time savings, employment and income generation from industries using water.

2. The project had initially planned to construct 50 public and institutional toilets. The public toilets were to operate on a pay-per-use basis and the target was persons without household toilets. In accordance with the SDG target for sanitation, the project focused only on institutional toilets instead of the general public toilets which are not considered as basic sanitation services. The total number of institutional toilets constructed was 400% higher than originally anticipated. The benefits accruing from school WASH intervention, including from handwashing promotion, have an incalculable benefit especially in the light of the COVID-19 pandemic.

3. Other benefits the project has garnered include employment generation during construction, reduction in losses from reduced flooding due to drainage interventions, improvement in the environment due to reduction in open defecation and open dumping of human excreta. The hygiene and sanitation promotion intervention in schools and the LIUCs was not included in the initial economic analysis. The target of 250,000 was exceeded and the project is still conducting hygiene promotion activities and providing handwashing stations during the COVID-19 pandemic. At the time the project became effective in 2014, there was a huge outbreak of cholera with over 100,000 cases in the GAMA. Over the 6-year implementation there has not been a major outbreak of cholera and the project can claim to providing the necessary behavior change initiatives that have in part accounted for the success in preventing cholera outbreaks.

Economic and Financial Returns

4. ***Cost of the Project:*** The Project is financed through an IDA grant amounting to a total of SDR 100.1 million (US$150 million equivalent)[3]. With US$ 134.32 million disbursed, the available balance on IDA grant, excluding exchange rate losses at the end of the reporting period is US$4.96 million. The project has lost about US$ 10 million due to appreciation of US$ against the loan currency SDR.

5. **Beneficiaries:** The major beneficiaries of the project interventions are the residents of Greater Accra Metropolitan Area, especially those living in LIUCs. The beneficiaries were expected to have improved health and

[3] Beneficiary households (poor households in GAMA slums) are expected to cover 50% of the cost of household latrine (latter reduced to 30%) through Global Partnership for Output Based Aid (GPOBA). GPOBA provides support for results-based financing aimed at bridging the affordability gap for facilities in poor households, and at promoting the sustainability of sanitation service providers.

social well-being as a result of the improvement in water and sanitation services. At appraisal it is assumed that the project will decrease the annual rate of open defecation in GAMA from 19 to 10 percent. At appraisal it was assumed about 30 percent of the total WASH-related disease incidents can be prevented as a result of the project interventions[4] . However, as there is no specific study done to verify this and other assumptions used at appraisal most of the assumptions for calculating project benefits used at appraisal are used to estimate return to investment at project completion.

6. Cost Benefit Analysis: At appraisal, separate and combined Cost Benefit Analysis was conducted for sanitation interventions and provision of Water Supply to determine the economic viability of the project. The economic return of the project was measured by its NPV and IRR estimated at 12% discount rate and 20 years of economic life for latrine and 30 years for condominium sewers. Accordingly, the combined project intervention is found to be economically viable as demonstrated by 14% economic rate of return (ERR) which is higher than the discount rate and a positive NPV of US$26.159 million.

7. Similarly, a Financial Analysis focusing exclusively on productive investments in Component 1 (public toilets), component 2 (water supply) and component 3 (condominium sewerage with external wastewater treatment plant) were conducted taking into account only related direct costs and expected resulting benefits. Accordingly, the analysis found that public toilets and water supply interventions are financially viable with positive NPV and IRR greater than the discount rate while condominial sewers have negative NPV and IRR less than the discount rate showing that it is not financially viable.

8. Since its approval the project has undergone subsequent level 2 restructuring to allow for no cost extension of the closing date to additional 25 months and to revise scope of the project and result indicators. The Two years delay in project implementation will have cost implications due to inflation and delayed project benefits. However, the project has exceeded its end program targets both in terms of people provided with access to improved sanitation as well as people provided with improved water supply. With the same program cost the higher result achieved will imply that the project is still economically viable given the assumptions at appraisal are still valid.

Sanitation Interventions

9. At appraisal the financial and economic returns for sanitation intervention was estimated for public toilets and wastewater treatment plant for condominial sewerage connections. These are considered as productive investments as they are expected to generate operational revenue. However, at completion the return to investment is estimated for household latrine and school latrine as the project shifted from constructing public latrine (which operates on pay and use modality) to institutional latrine which does not generate revenue and O&M costs are covered by beneficiaries. In addition, considering that the two-treatment plants are not yet complete the wastewater treatment plant for condominial sewerage connections is excluded from the financial and economic analysis of this interim ICR. Hence the results of the economic analysis need to be interpreted carefully with these caveats.

[4] Based on global WHO estimates

10. The key benefits identified at the time of preparation and completion included among others, direct health expenditure avoided, income gained due to avoided days lost from work, income gained due to avoided days lost from work as a result of child illness, value of loss of life avoided, convenience and time savings, employment and income generation from industries using water. The following table summarizes the economic returns of the sanitation interventions measured by its economic NPV and IRR estimated over the 20 years of project economic life at 12 % discount rate. The positive NPV and the IRR greater than the discount rate shows that the sanitation intervention is still economically viable at completion despite the delay in project implementation for two years.

Water Supply Intervention

11. The objective of this component is to improve and expand the water distribution network in GAMA to provide piped water to an estimated 250,000 people living in low income communities. At completion the project has constructed about 281 km of pipelines (compared to 150 Km at appraisal) , with 10,250 new connections (compared to 3750 new connections) and 114 standpipes (compared to 500 standpipes at appraisal)[5] providing access to water supply to 368,000 low income urban communities exceeding the targeted 250,000 people.

12. **Cost Estimation:** Total investment cost amounting to US$ US$ 49.7 million (48.5 under component 2 and 1.2 million under component 1)6 are included in this analysis. All operating expenses related to the management of the water network including water production and distribution, routine maintenance, water quality monitoring at the plan level, tariff collection, network rehabilitation and the alike are included. Only direct benefits from standpipe water and homes connections were considered in the analysis and resulted from the difference between revenue from the sale of water and estimated O&M costs over the projected investment life span (20 years). A number of benefits have not been quantified due to a lack of usable data. As a result, these were not taken into account in the determination of the project's economic rate of return. These include direct benefits expected from other water consumers such as businesses and institutions.

13. **Beneficiaries:** during appraisal it is assumed that water consumption from improved sources in the project targeted areas is estimated to increase from 10 liters per capita per day (lpcd) to 32 lpcd for low-income dwellers and from 43 lpcd to 76 lpcd for middle- and high-income people living in the area. At appraisal, tariff charged for standpipe users was US$0.33/m³ while for home connection the tariff was US$0.4/m³. Based on annual tariff growth of between 2 and 3% it was assumed that these tariffs to increase by 7% in average over the project life span. However, the recent tariff approved by The Public Utilities Regulatory Commission (PURC) on June 21, 2019 the tariff has increased to 0.67/m3 for standpipe and 0.6/m3 for house connections.

[5] Because of the increase in demand for the household connections and to ensure the project meets the goal of SDG 6 for water, the construction of community standpipes was stopped, and more house connections have been provided.
[6] required to improve and expand the existing network under component 2 including cost of installation of distribution mains, booster pumps and any other facilities required to ensure that water reaches the targeted low-income areas as well as US$ 1.2 million used to finance subsidized water connections under component 1

Table A1. Comparison of Economic NPV and Internal Rate of Return for Sanitation Intervention

No	Description of intervention	At Appraisal		At project Completion	
		NPV in US$	IRR	NPV in US$	IRR
1	Latrine Construction in LIC	$1,786,191	33%	$1,989,632	14%
2	Water supply in LIC	$6,812,760	16%	$6,589.203	15%

14. The Cost benefit analysis conducted for sanitation component (household latrine and school latrine) and provision of Water supply to the poor at completion has estimated positive NPV and the IRR greater than the discount rate shows that despite the two years no cost extension both water supply and sanitation interventions are still economically viable. This finding may signal that the impact of delayed benefit resulting from prolonged implementation is somehow compensated by the shift in targeting from public latrine to household latrine and from standpipes to household connections for water supply.

15. The project efficiency rating is high, as the project has exceeded all the targets set substantially. Additionally, the project has been very relevant in the COVID-19 pandemic fight.

16. Since its approval the project has undergone subsequent level 2 restructuring to allow for no cost extension of the closing date to additional 25 months and to revise scope of the project and result indicators. The Two years delay in project implementation will have cost implications due to inflation and delayed project benefits. However, the project has exceeded its end program targets both in terms of people provided with access to improved sanitation as well as people provided with improved water supply. With the same program cost the higher result achieved will imply that the project is still economically viable given the assumptions at appraisal are still valid. Ten percent price and physical contingency included in the project cost and careful consideration of inflation are factors containing potential cost escalation due to the delay.

ANNEX 5. BORROWER, CO-FINANCIER AND OTHER PARTNER/STAKEHOLDER COMMENTS

BORROWER INTERIM ICR

This Interim Implementation Completion and Results Report (IICR) presents an account of a systematic assessment of the performance and achievements of the Greater Accra Metropolitan Area Water and Sanitation Project (GAMA SWP) commonly known as the GAMA project. The report provides details of progress made in achieving the Project Development Objective (PDO), performance of the key indicators and a summary of key challenges and lessons learned. The report further offers recommendations that can inform development of similar interventions in the future.

The Project was funded through World Bank International Development Agency (IDA) Grant Facility Ref. No. H8540 at an amount of US $150 million. The project, which was approved on 6 June 2013, declared effective on August 7, 2014, is expected to end on 31st December 2020.

Objectives and Components of the GAMA Project
The main objective of the project was to increase access to improved sanitation and improved water supply in the GAMA, with emphasis on low income communities, and to strengthen management of environmental sanitation in the GAMA.

To achieve this objective the project focused on

- providing community water points, household water connections and toilet facilities to people in low income areas, which required expansion and improvement of i. water distribution network and ii. waste collection, treatment and disposal services; by providing technical assistance to improve planning, implementation and management of environmental sanitation services in an integrated manner; and
- Facilitating behavior change campaigns regarding hygiene, sanitation and safe water through social mobilization activities, as well as social accountability and regulation to ensure sustainability of the facilities and services provided.

The GAMA project had four components as summarized below:
Component 1 – focused on provision of environmental sanitation and water supply services to priority low income areas within GAMA. This component was expected to significantly reduce the number of people in LIUCs without access to improved sanitation.
Component 2 – aimed at improving and expanding water distribution network in the GAMA. This intervention was expected to significantly increase the number of people in LIUCs with access to improved water supply.
Component 3 – This component focused on drainage management, faecal sludge management, and preparation of an environmental sanitation master plan, and sewerage systems.
Component 4 - aimed at providing institutional strengthening services including provision of technical assistance to the MSWR, MMAs, PCU and GWCL, and other relevant stakeholders. This component was expected to empower the key stakeholders to effectively and efficiently fulfil their responsibilities.

The project beneficiaries comprised:

i. At least 75,000 people and another 250,000 people living in selected low-income communities within GAMA, who were to gain access to improved sanitation and improved water supply services, respectively.
ii. The entire population of GAMA, who in general, were to benefit from improved planning, implementation and management of environmental sanitation services and decreased pollution.

The GAMA project was initially managed by the Ministry of Local Government and Rural Development (MLGRD), however, the management and oversight of the project was transferred to the Ministry for Sanitation and Water Resources (MSWR) following its establishment by the Government of Ghana in 2017.
The project was administered by two (2) implementing agencies of the MSWR, namely,

i. **The Project Coordinating Unit (PCU) -** responsible for overall coordination, monitoring and reporting on the progress of implementation, and results of the project. The PCU was also directly responsible for the implementation of components **1, 3 & 4** of the project.
ii. **Ghana Water Company Ltd (GWCL) -** responsible for Component 2 & 4d, focused on improving Water Supply in GAMA;

A decentralised implementation arrangement anchored on Project Coordination Teams that include representatives from the Waste Management Department (WMD) and the Environmental Health and Sanitation Directorate (EHSD) of the GAMA MMAs) was established in MMAs.

Objective and Scope of the IICR

The IICR is an independent and systematic assessment of the progress of implementation and achievements of the GAMA project. It focused on evaluating the underlying assumptions and design logic of the project, performance of the four (4) components, and progress towards achieving the PDO and the intermediate level indicators, respectively. The IICR also sought to identify, and document key challenges and lessons learned, and provide recommendations that can help improve the design and implementation of similar interventions in other MMDAs in the future.

The IICR covered the entire duration of the project, from 6th June 2013 to 31st March 2020. It examined the relevance, efficacy, efficiency and sustainability of the benefits of the project as well as the role of the Bank and Borrower in terms of responsiveness to implementation issues, and timely communication and feedback.

Methodology and Approach

The evaluation employed a participatory adult learning and utilization-focused approach that included relevant stakeholders in the review process. A mixed method approach comprising qualitative and quantitative data collection methods was used to gather and analyze the performance and achievements of the project. The following criteria: relevance, efficacy, efficiency, sustainability and inclusiveness were employed in the IICR, involving a five-stepped approach. The assessment followed a four stepped approach:1) desk review, 2) data collection, validation of evidence, and 4) analysis and reporting.

Outcome of the IICR

Project Context and Design: The PDO, and expected outcomes and activities of the GAMA project were found to be relevant and adequately aligned to the national development goals and priorities. The project was in agreement with the principles enunciated in the 2010-2013 Ghana Shared Growth Development Agenda (GSGDA). Further, the GAMA project was in line with the African Union Agenda for Growth (Agenda 2063) and the UN development Goals (MDGs). The PDO was embedded in the National Water Policy (NWP) and the Environmental Sanitation Policy (ESP). The GAMA project was anchored on the second pillar of the 2011 World Bank Africa Strategy (vulnerability and resilience) and was included as a FY 13 deliverable for the Country Partnership Strategy for Ghana. Further, the project leveraged and built on experiences gained from the implementation of the original Ghana Urban Environmental Sanitation Project, the Second Urban Environmental Sanitation Project (UESP2) and the Urban Water Project.

The technical design and the underlying rationale of the project were found to be appropriate and sound. The GAMA project focused on addressing some of binding constraints to the improvement of access to safe drinking water and management of environmental sanitation issues that underline the Development Agenda of Ghana.

Efficacy: The GAMA project made a significant progress towards achieving the PDO. Save for the implementation of the simplified sewerage system that was found to be behind schedule, the rest of the key deliverables had been fully achieved or were on track. Overall, 27,242 household toilets benefitting over 217,936 people had been completed. This is made up of 7,685 household toilets funded under GPOBA Project and 19,557 household toilets funded under the main IDA Grant. In terms of institutional toilets, a total of 370 toilet facility units representing 99% of 406 (end target) was fully completed and handed over to the schools. Out of the number completed, 368 units were in use serving a population of approximately 230,000 pupils.

Additionally, the PMU implemented hygiene and behavioral change training and advocacy geared towards long term operation and maintenance of the toilet facilities. The team had also completed behavioral change training and advocacy in all the schools across the beneficiary MMAs.

The project has added over 10,250 new connections to GWCL's network that is benefitting over 500,000 people in GAMA by developing an Urban Water Supply Master Plan, a calibrated Hydraulic Network Model and establishing a Low-Income Customer Support Unit (LICSU) in GAMA

The study showed that four key prioritised tertiary drainage interventions: Baale/Mallam Junction drain, GA South, North Odorkor/Kaneshie 1st Light drain, Accra MA, Gbawe drain, Ga South MA, and Agbogba Islamic school down, Ga East MA, had been successfully completed.

The assessment revealed that the construction of two simplified sewerage systems at Bankuman and Ashaiman were behind schedule. However, contractors for these projects were reported to be ready to move to site after the easing of measures relating to the fight against the spread of COVID 19.

Furthermore, the GAMA project developed an ESICApp for monitoring environmental sanitation services, training of public health engineers and environmental health officers. The Ministry, PCU, MMAs and EHSD as well as selected private sector and civil society organisations benefitted from the technical assistance programmes that were implemented under this component.

The overall indicator performance was impressive, the assessment of the Results Framework and Monitoring Plan

showed that out of a total of 39 indicators (PDO and intermediate indicators (table 3), 31 were coded GREEN representing a performance of above 75%; 6 were coded as UMBER representing a performance of between 50% and 74%; and 2 were rated RED showing a performance of less than 50%.
Some of the emerging outcomes or short-term impact of the project were as follows:

- Increased access to household toilets: Over 7,685 households comprising about 217,936, and 231,872 school pupils from of low-income communities have been provided with fit-for-purpose and user-friendly households and school toilet facilities.
- Increased Access to improved water supply: Over 368,000 people have been provided with access to improved water supply under the project.
- Improved capacity for waste treatment and discharge: Once completed, the simplified sewerage systems in Bankuman community and Ashaiman New Town Community & TDC Quarters is estimated to benefit over 4,000 households and thereby contribute to elimination of open defecation and reduction of cholera and diarrhoea.
- Innovative and cost-effective design and implementation strategy: The uniqueness of the design and the cost of use and maintenance of the toilet facilities built by the project is a novelty and has taken away one of the huge burdens on the beneficiaries.
- Enhanced self-esteem and comfort: Access to household toilets and water supply, according to the beneficiaries, has enhanced their self-worth, dignity and has taken away the risk of walking long distances in search of water and using public or private toilets under very challenging conditions
- A source and opportunity for job Creation: The bio-digester technology employed by the project for provision of household toilets has gained popularity in the targeted communities and beyond, which has resulted in increased demand for household toilets in the Greater Accra region.
- Innovation for sanitation management: The GAMA project through the Sanitation Hackathon has created an opportunity to harness the ICT potential of the youth in developing innovative solutions for solving sanitation issues in Ghana. The project has supported two youth groups namely NSUO and iCesspool with a seed funding of USD 20,000 and USD 30,000 respectively which has enabled them to develop and pilot software for the End-To-End service chain monitoring of Liquid Waste Service provision in Ghana and for the delivery of water to households and organization and collection of plastic waste for recycling.

Efficiency: The GAMA Project was signed on December 17, 2013 with an allocation of SDR100.1million (USD Equiv. US$150.0million) and declared effective on August 7, 2014. As at the end of March 2020, a total of SDR 96,460,234 (approx.US$134,594,626.32) had been expended representing a disbursement ratio of 96.40%

Timeliness of Implementation: In terms of timeliness of implementation, it was identified that despite the start-up delays (lagged for a year), the team managed to implement all the key activities and achieved most of the expected targets.

Sustainability

- Government remain committed to improving sanitation and improving access to water across poor communities in the country. The objective of the GAMA project is still relevant and remains a major priority and a key driver of Ghana's transformative agenda.
- Evidence from the assessment shows that the gains from the project is likely to be felt and enjoyed by the communities for a very long time. Measures have been put in place by the PMU to ensure sustainable use of the facilities. For example, a comprehensive user manual has been developed and shared with the stakeholders including the assemblies.

- There has been sustained interest in household toilets, especially the model developed by the project. This has led to the adoption and provision of services by individuals (Copy Cat) in GAMA and other areas outside the project domain

Key factors during preparation

The following factors including the ones detailed under sub-section 3.1(project context and design) influenced the preparation of the project:

- GAMA was urbanizing rapidly. About 3.6 million people reside in the GAMA (plus a large population commutes to work in GAMA daily); residents alone were estimated to exceed 12 M by 2050
- Provision of basic services had not kept up with rapid urban growth and it particularly affects the poor: Most poor people rely on public toilets at GHC 0.50/use or practice open defecation. Only 10% of people in GAMA had sewerage, but they often clogged, and the wastewater was not treated.
- Despite relatively high rate of access to piped water supply in the GAMA, there was a significant number of households that depend on water vendors that were usually unreliable forcing people to invest in storage facilities, have their own wells, or supplement their supply from vendors.
- Septic sludge was not properly collected and treated - they often were collected with unconventional methods and dumped indiscriminately nearby or discharged untreated into the sea.
- The three sludge treatment plants built over the last two decades were closed after poor maintenance rendered them unserviceable.
- GoG was committed to improving sanitation and water services and pledged US$200M support per year.

Key factors during Implementation. The following reasons mainly facilitated effective implementation of the project:

- The MSWR put in place effective and agile institutional arrangements that facilitated effective implementation and achievement of expected results of the project.
- The MMAs were instrumental and played a lead role in community mobilization and implementation of sub-projects:
- The PCU adopted effective communication and community engagement strategies.
- Project implementation was decentralized putting the MMAs directly in-charge of the identification and mobilization of beneficiaries.

Quality of Monitoring and Evaluation (M&E)

M&E design

The GAMA project aimed at increasing access to improved sanitation and improved water supply in the GAMA, with emphasis on low income communities and to strengthen management of environmental sanitation in the GAMA

- The project had a clearly defined objective, results statements and targets. A results framework with clearly defined indicators and annual targets was developed based on the PDO and the intermediate results delineated in the Grant Agreement.
- M&E was integrated into the design and institutional arrangements of the project.

M&E Implementation

The M&E team played a lead role in the planning, implementation, monitoring and reporting on the delivery and achievements of the GAMA project:

- The tracking of implementation and delivery of project outcomes was based on the project results framework.
- An automated data collection and reporting systems called KOBO Platform was developed to capture details of the household toilets constructed.
- Spot checks were conducted to verify and validate project output.
- The M&E Team monitored and evaluated the progress of the Project and prepared Project Reports in accordance with the provisions of Section 2.06 of the Standard Conditions and based on the indicators developed together with the World Bank.

M&E Utilization

M&E information (reports and feedback) fed into and informed management decisions:

- Project performance reports were developed and shared with stakeholders especially the World Bank.
- Project targets and implementation strategy were adjusted based on feedback from community engagement activities, performance reviews and Implementation
- Outcomes, key issues and recommendations from the performance reports informed the performance reviews and fed into discussions during World Bank missions.
- Feedback from the performance reviews informed and influenced the adjustments and changes that were made in the course of the project.

Environmental, Social and Fiduciary Compliance

In line with the World Bank Policy OP 4.01 and Ghana's LI 199 (1652), procedures for environmental and social impacts identification and management of each subproject was undertaken. In addition, thirty -two (32) environmental and social safeguards instruments were produced that facilitated identification of potential negative environmental and social, health and safety impacts associated with the construction works and operation of the projects and their mitigation measures. Furthermore, over two hundred (200) people including MMAs, Teachers, and students, Contractors, Community Leaders and the Media were trained in project related safeguards.

The GoG prepared a Resettlement Policy Framework (RPF) to guide the preparation and implementation of specific Resettlement Action Plan (RAP). The GAMA project established a three tier grievance redress system at the PMU and GWCL for reporting and resolution of conflicts and grievances. Furthermore, the project developed twelve resettlement plans including one (1) Resettlement Action Plan (RAP) and 11 Abbreviated Resettlement Action Plans (ARAPs) to address economic and physical displacement impacts that were encountered during the project.

Fiduciary Compliance

The project complied fully with the Financial Covenants (submitting acceptable interim quarterly financial reports and audit reports in form and content that is acceptable to the Bank) as per the Financing Agreement. A detailed FM review in February 2017 indicated that there were adequate FM systems at the PCU to support implementation of the project. An independent Financial Audit Conducted by PricewaterhouseCoopers in 29 June 2018 concluded that the project expenditure was:

- in conformity with the Financing Agreement, approved programmes workplan and budget and
- supported by approved payment vouchers and other supporting documents.

Procurement:

All works, goods, non-consulting-services and consulting services required for the Project and financed out of the proceeds of the Grant was procured in accordance with the requirements set forth in the World Bank Procurement Guidelines for IBRD Loans and IDA Credits and Grants for World Bank Borrowers" dated January 2011 (revised July 2014).Out of a total of 279 planned procurements items, 128No. (46%) had been completely executed; 125No. (45%) were ongoing (contracts) at various stages; 5No. (2%) were at the pre-contract procurement stages; 11No. (4%) of the planned procurement items were yet to be initiated with 10No. contract terminated. The total cost of completed and on-going contracts as at the end of March 2020 amounted to US$78,515,000.00 out of the projected amount of US$97,595,000.00.

Bank and Borrower Performance

Quality at entry

- The Bank consulted with the Grantee and donors on how best to support GH-GAMA sanitation and water project.
- The instrument for the Bank's support was responsive and fit-for-purpose.
- The objectives, scope, components and design of the project was realistic and flexible.

Quality of Supervision

- The Bank supported the implementation of the project and provided technical assistance to the PCU and GWCL that ensured that the project despite the slow start managed to achieve the expected results at the end of June 2018.
- The Bank undertook project implementation support missions as planned and reviewed and provided comments and feedback on project performance reports and other reviews that contributed to the achievement of the expected results.

Borrowers Performance

Relevant governance organs and institutional arrangements were established to facilitate effective implementation and achievement of the expected results of the project:

Project Steering Committee: The Steering Committee provided oversight for the implementation of the GAMA project. The committee was chaired by MLGRD (currently MSWR) and had representation from each of the MMAs' Mayors, the Regional Coordinating Council of the Greater Accra Region, the Ministry of Works and Housing (MWH), MoF, and CONIWAS with the PCU acting as secretariat.

PCU: was responsible for the overall coordination, monitoring and reporting on the progress of implementation and results of the project. The PCU was also directly responsible for the implementation of components **1, 3 & 4** of the project.

GWCL: was responsible for Component 2 & 4d which is focused on improving Water Supply in GAMA;

MMAs: The MMAs played a lead role in community mobilization, implementation of the activities and supported implementation of the Grievance Redress System.

Risks to Development Outcomes

The review did not identify any significant risk that negatively impacted on the development outcomes of the GAMA project. However, measures must be put in place to ensure that the assemblies, school authorities and

community members optimized the use and benefits from the facilities developed.

Challenges

- There was inadequate capacity at the level of the MMAS for collection, collation and reporting on project results stories.
- Delays in completion of some of the facilities. For example, there was complaint about initial slow turnaround time for completion of household toilets after full payment of the 30% the contribution by the beneficiary.
- The micro-credit model envisaged at the appraisal stage of the project did not work as planned due to the fact that the Microfinance and Credit institutions were not willing to advance credit for household toilet construction.

Lessons Learned

- The subsidy provided under the GPOBA project was catalytic, making the household toilets accessible to low income communities in the GAMA.
- The lead role-played by the MMAs and the innovative strategy by the employed by the PCU in identifying and mobilising prospective beneficiaries for the SPIs was instrumental in the accelerated delivery and achievement of the expected targets.
- The introduction of savings via mobile money in terms of payment for the household toilets were found to be useful and user-friendly.
- Some of the poorest of the poor were not able to pay the expected 30 percent despite the 70% subsidy through the GPOBA as a result they could not benefit from the project.
- The bio-digester introduced by the project has gained popularity in the country and the GAMA Project has installed over 20,000 of these systems.

Recommendation

- Strengthen monitoring, evaluation and reporting of project performance and impacts including documentation of success and impact stories at the PCU and MMAs.
- Leverage and build on existing communication strategies to ensure effective marketing of the project services, promote effective community engagement as well as enhance knowledge sharing and capturing of feedback from stakeholders
- Assemblies should be empowered to play a lead role and to support effective implementation and achievement of expected results of future interventions. They should be supported to serve as “One-Stop-Shop” for the provision of household toilet facilities in the localities.
- Measures should be put in place to ensure that future interventions provide financial support or introduce a saving mechanism that will enable the poor and the very poor to benefit from the household toilet facilities.

ANNEX 6. SUPPORTING DOCUMENTS (IF ANY)

Project Appraisal Document (May 10, 2013):

http://documents.worldbank.org/curated/en/937461468249311280/Ghana-Greater-Accra-Metropolitan-Area-Sanitation-and-Water-Project

Project Restructuring Paper (June 2017):

https://wbdocs.worldbank.org/wbdocs/component/drl?objectId=090224b084c313e2&standalone=true&Reload=1590701016201&__dmfClientId=1590701016201&respositoryId=WBDocs

Project Restructuring Paper (February 2020)

https://wbdocs.worldbank.org/wbdocs/component/drl?objectId=090224b0875d116c&standalone=true&Reload=1590699364827&__dmfClientId=1590699364827&respositoryId=WBDocs

Financing Agreements
Original Financing Agreement (May 16, 2007)
https://hubs.worldbank.org/docs/imagebank/Pages/docProfile.aspx?nodeid=19200197

Amendment to Financing Agreement (June 7, 2017) –
https://wbdocs.worldbank.org/wbdocs/component/drl?objectId=090224b084e4c342&standalone=true&Reload=1590700226296&__dmfClientId=1590700226296&respositoryId=WBDocs

Additional Documents
Implementation Status and Results Reports:
http://documents.worldbank.org/curated/en/docadvancesearch/docs?query=&docTY=791001&projectId=P119063&sortDesc=docdt&sortType=desc