



African Water Association capacity building program



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# PARTNERSHIP SEG & ONEA

*Beneficiary, Guinea*

*Mentor, Burkina Faso*

A map of the African continent with a white outline. Two specific locations are highlighted with small circular markers and their respective national flags. The marker for Burkina Faso is red, green, and black, with the text 'Burkina Faso, ONEA' above it. The marker for Guinea is green, white, and red, with the text 'Guinea, SEG' below it.

Burkina Faso, ONEA  
Guinea, SEG

## INTRODUCTION

According to the United Nations, despite the increase from 76% to 91% (between 1990 and 2015) of the proportion of the world population using an improved drinking water source, 663 million people do not still have access to an improved source of drinking water and at least 1.8 billion people around the world use a source of drinking water that is contaminated with feces.

The African Water Association (AfWA) in keeping with its efforts to support the African Ministers' Council on Water (AMCOW) in achieving the African Water Vision for 2025, is committed to develop programs for supporting the actors in the water and sanitation (WASH) sector. Thus, from 2015 to 2019, AfWA's Capacity Building Program (AfriCap) aims to promote partnerships in the sector of drinking water, with a funding from USAID. Following the Water Operators' Partnership (WOP) developed in 2009, AfriCap Program through its Component 3, supports African water operators including their laboratories for analysis and control of water quality to improve their performance, through facilitating partnerships between the most successful companies (Mentors) and less competitive ones (beneficiaries or Mentees).

For the year 2018, seven (07) partnerships were implemented with the funding support of the United States Agency for International Development (USAID). Among these partnerships, the one between the National Office for Water and Sanitation (ONEA) of Burkina Faso and the Guinea Water Company (SEG) is the subject of this sharing paper. This partnership in which ONEA drinking water quality laboratory plays the role of Mentor aims to share with the drinking water quality laboratory of SEG, a less competitive laboratory for the last fifty five (55) years, the experiments and good practices acquired by the Mentor for fifty five (25) years of operation in the water sector and more specifically in the field of water quality control. The first exchanges between these two (02) partners took place during the benchmarking mission organized from 1<sup>st</sup> to 4<sup>th</sup> November 2017 in Ouagadougou - Burkina Faso, after which a tripartite Memorandum Of Understanding (MOU) between ONEA, AfWA and SEG was signed.

## CHALLENGES

Beyond the quantity, the quality of water is an important factor of human health. Water is quickly subject to chemical and / or bacteriological contamination. In such a context, the main challenge of the drinking water quality laboratories arises in terms of reliability in the results of analysis carried out. Indeed, only good quality management of the analysis results produced by drinking water quality laboratories is able to guarantee the reliability of the results produced and indirectly help decision-making.

In Guinea, the government created SEG in 2001 by decree D / 2001/096 / PRG / SGG. To achieve its mission to produce, distribute drinking water, operate, maintain, develop drinking water facilities and manage the heritage, SEG has been endowed with a drinking water quality laboratory in charge of controlling water quality. This young laboratory however faces several challenges in the management of water quality control, maintenance of laboratory equipment, services related to external provision and human resources development.

Through its involvement in the capacity building project of African water operators in water quality management or AfriCap peer-to-peer program, the SEG drinking water quality laboratory would like to benefit through its partnership with ONEA, from the assistance of a more experienced laboratory, with the aim of learning from the latter through short, medium and long-term actions defined in a Performance Improvement Plan (PIP) designed and validated on a consensus basis.

## PARTNERSHIP DESCRIPTION

The Laboratory Operator Partnership between SEG and ONEA drinking water quality laboratories aims to adapt and implement, to the context of the SEG drinking water quality laboratory, the good practices of the ONEA drinking water quality laboratory which have earned it a certain level of performance.

### Training of a group of laboratory evaluators

A group of thirteen (13) evaluators from the laboratories of the water companies of Benin, Burkina Faso, Cote d'Ivoire, Guinea, Ghana, Mali, Nigeria, Senegal, Sierra Leone and Togo were trained respectively from 05 to 07 October 2016 and from 27 February to 02 March 2017 in Accra, Ghana by Experts of the US Environmental Protection Agency (USEPA). This training allowed: 1) the reinforcement of the

capacities of the evaluators in the water quality control II) the exchanges between the evaluators participating in the trainings and III) the elaboration of a Quality Audit Manual. All training contents and documents produced were shared with the SEG drinking water quality laboratory.

### Exploratory evaluation missions

Exploratory evaluation were carried out in ten (10) drinking water quality laboratories within water companies, including the SEG Laboratory. These are:

1. Cameroon Water Utilities Corporation (CAMWATER)
2. Ghana Water Company Limited (GWCL)
3. Ogun State Water Corporation (OGSWC)
4. National Office of Drinking Water of Côte d'Ivoire (LACQUE/ONEP)
5. Côte d'Ivoire Water Company (SODECI)
6. Guinea Water Company (SEG)
7. Niger Water Company (SEEN)
8. Mali Water Company (SOMAGEP)
9. Federal Capital Territory Water Board of Abuja (FCTWB) and
10. Togo Water Company (TdE)



The exploratory evaluation of the SEG's drinking water quality laboratory took place from 01 to 02 August 2017. This mission was conducted by AfWA evaluator: Mr. Aw Sadat (SODECI) with Mr. Gilles Djagoun (AfWA), and helped to achieve the following results: i) summarize the level of performance of the laboratory and ii) identify possible improvements in policy and strategy, institutional, organizational, legal, technical and financial issues in order to identify, in the short, medium and long term, the major challenges and improvement actions to be taken up by SEG drinking

water quality laboratory and (iii) identify and propose support to be provided by ONEA as Mentor for improving water quality management. During this mission, major findings were noted by the evaluators. These findings include: Lack of staff, poor management, non-standardized workspace, lack of laboratory equipment, non-existence of a procedure manual, and non-existence of safety and laboratory waste management plan.

### Benchmarking visit

From 1 to 4 November 2017, a delegation of four (04) laboratory operators from three (03) countries conducted a benchmarking visit to ONEA and the National Public Health Laboratory (LNSP) of Burkina Faso. These are CAMWATER, SEG, LACQUE/ONEP and SODECI.



During this mission, presentations and field visits allowed participants to learn about ONEA's experience in quality control and management of water standards: institutional, operational and administrative aspects of the water sector in Burkina Faso. The choice of this country is justified by the fact that during the past years, ONEA through its drinking water quality laboratory has developed several initiatives, in terms of water quality analysis, and sometimes in partnership with water companies in Europe (Walloon Region) and Morocco (National Office of Electricity and Water - ONEE) and water companies in Africa (Benin, Togo, Chad, Burundi). In addition, ONEA benefits from the expertise of the National Public Health Laboratory of Burkina Faso, which has technologically advanced equipment for the control of water quality. This gives ONEA drinking water quality laboratory a proven and good level of experience on water quality analysis and standards management. This is why AfWA has integrated ONEA as Mentor in AfriCap Program and especially in component 3 aiming to improve water quality control by the operators involved. After two days of learning, the SEG drinking water

quality laboratory and other participants were immersed in the experiences of ONEA and identified their needs.

### Development of Performance Improvement Plan

A technical assistance mission conducted from 17 to 19 January 2018 by AfWA group of evaluators trained for this purpose led to the development of a Performance Improvement Plan (PIP) for SEG drinking water quality laboratory. This mission took place following the development of a PIP template with support from USEPA and members of AfWA Water Quality Task Force (WQTF). SEG drinking water quality laboratory now has its own PIP for improving its performance. The implementation and monitoring of this PIP will be carried out with the support of ONEA of Burkina Faso (Mentor).



Table 1: Performance Improvement Plan

<b>PERFORMANCE IMPROVEMENT PLAN</b>	
<b>Human resources</b>	
❖	Develop a Laboratory Procedures Manual
❖	Engage SEG in the quality management approach according to ISO 9001: 2015 and ISO 17025: 2005
❖	Write / validate the job description
❖	Develop an annual contract for each staff with SMART performance indicators (SMART)
❖	Establish a staff evaluation system
❖	Establish the criteria for handover and handover plan
❖	Develop a training plan
❖	Strengthen the capacity of the head of the measurement system and his staff
<b>External Services (Services)</b>	
Not applicable	
<b>Maintenance of Laboratory Equipment</b>	
❖	Write instruction for waste management for the laboratory
❖	Eliminate by incineration or other appropriate method the expired reagents by an authorized structure
❖	Develop / implement the annual equipment maintenance plan
❖	Acquérir des thermomètres, les installer et assurer le suivi métrologique
❖	Acquire thermometers, install and follow up them
❖	Acquire certified standards (solutions for the pH-meter, masses for scales) and do the verification
❖	Have a store to store the reagents according to their compatibility
❖	Set up a computer security system for data backup
<b>Management of water quality control</b>	
❖	Draft / adopt a protocol on water quality control with the Ministry of Small and Medium Enterprises
❖	Describe how samples are coded / Develop a daily sampling program in Conakry
❖	Conduct documented meetings to clear the equivocal between E. coli and faecal coliforms

Date	Country	Activity
<b>05 to 07 October 2016</b>	Accra (Ghana)	Training of group of experts evaluators
<b>01 to 02 August 2017</b>	Conakry (Guinea)	Exploratory evaluation mission
<b>01 to 04 November 2017</b>	Ouagadougou (Burkina Faso)	Benchmarking visit
<b>17 to 19 January 2018</b>	Conakry (Guinea)	Technical assistance mission for development of PIP
<b>02 May 2018 to 30 April 2019</b>	Conakry (Guinea)	Implementation of PIP
<b>08 to 09 November 2018</b>	(To be determined)	Mid-term evaluation workshop
<b>09 to 10 July 2019</b>	(To be determined)	Final evaluation workshop



### WAY FORWARD

Following the activities carried out under this partnership, namely: the exploratory evaluations, the benchmarking missions as well as the development of the Performance Improvement Plan (PIP) of the SEG drinking water quality laboratory; the implementation of this PIP is planned over a one (01) year period, starting from May 2018. Two (02) evaluations are also planned to measure the progress of the laboratory: a first mid-term evaluation and a second evaluation at the end of the implementation period.

### LESSONS LEARNED

Through bilateral working visits with ONEA, the SEG drinking water quality laboratory has learned the following lessons:

- The development of laboratory assessment tools and the training of evaluators provided the group of expert evaluators with tools to implement the process for improved performance
- Starting from the exploratory mission, the SEG drinking water quality laboratory learned of its major challenges and defined improvement actions
- The involvement of the Top Management of the two (02) Water Companies visited is a proof of the improvement of laboratories performance in controlling and monitoring the quality of water.



## Presentation of Mentee

The Guinea Water Company (SEG) is a public limited company created in 2001 following the reforms in the urban drinking water sector in December 2001. SEG has a nine-member board of directors (09) members. The SEG's mission is the production and distribution of drinking water in all urban centers of the country, the operation, maintenance, rehabilitation, renewal and development of drinking water facilities, the management of heritage and all rights and obligations arising therefrom.

### SEG in numbers :

– Population desservie (Habitants)	: 2 136 075
– Longueur du réseau (Km)	: 2 261
– Chiffre d'affaires (USD)	: 22 622 492
– Volume d'eau traitée (m <sup>3</sup> )	: 65 210 240

### Laboratoire Central in numbers :

– Years of experience (Year)	: 55 ans
– Number of samples analyzed / year	: 6980
– Number of laboratories spread over the territory	: 18
– Staff(workforce)	: 27



## Presentation of Mentor

Burkina Faso's National Office for Water and Sanitation (ONEA) is a state-owned company created on July 28, 1985. The mission of ONEA is to create, manage and protect water catchment facilities, supply, treatment, and distribution of drinking water. Its expertise includes the quality control of natural waters (drinking water from wells-boreholes-dams-lakes-rivers-) as well as the control of wastewater.

### ONEA in numbers :

– Population served (Cities)	: 4 935 404
– Length of network (Km)	: 9 473
– Sales revenue (USD)	: 71 080 866
– Volume of treated water (m <sup>3</sup> )	: 95 320 198

### Drinking water quality laboratory in numbers:

– Years of experience (Year)	: 25
– Number of samples analyzed / year	: 76 394
– Number of laboratories spread over the territory	: 10
– Staff (workforce)	: 20

*Implemented in Africa since 1 December 2015 for a period of four (04) years, AfriCap Program has been institutionalized as a sub-program of the African Water Association (AfWA). It has been operating since then thanks to the technical and financial support of several partners including the United States Agency for International Development (USAID), the African Ministers' Council on Water (AMCOW), the International University of Florida (FIU), the Water Supply, Hygiene and Sanitation Program/West Africa (USAID WA-WASH), the United States Environmental Protection Agency (USEPA), Population Services International (PSI) and beneficiary countries of West Africa. Partnerships between Laboratory Operators are exchanges and mutual working visits between two or more operators in the water sector. The goal is to mutually reinforce their capacities to improve their performance and play their roles in health monitoring and water quality control for all.*

## CONTACTS

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