WATER OPERATORS' PARTNERSHIP

CASE STUDY

World Waternet, The Netherlands **MENTOR**

Société Malienne de Gestion de l'Eau - Potable SOMAGEP-HER **MENTEE**

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GWOPA
Global Water Operators' Partnerships Alliance

UN-HABITAT

BEWOP
Boosting Effectiveness of Water Operators' Partnerships

Contents

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Abbreviations

DNH	Department of Hydraulic Infrastructures
FAO	Food and Agriculture Organization
FMO	Dutch Investment Bank
GDP	Gross Domestic Product
SDGs	Sustainable Development Goals
SOMAGEP	Malian Drinking Water Management Company
SOMAPEP	Malian Drinking Water Assets Company
STEs	Short Term Experts
WOPs	Water Operator Partnerships
WSPs	Water Service Providers
WWN	World Waternet
WWX	WaterWorX

Key facts

WaterWorX (WWX) is a partnership of water operators aimed at improvement in utility performance and access to (improved) services. The overall goal of the programme is "well-performing utilities that provide sustainable, inclusive and climate resilient water services (basic or safely managed) to their current customers and to an additional 10 million people by 2030." The WaterWorX Programme is co-funded and jointly implemented by the Dutch Ministry of Foreign Affairs (DGIS), the 10 Dutch water operators and local water operators throughout Africa, Asia and South America. By working together in Water Operator Partnerships (WOPs), water utilities can improve operational, maintenance, financial and administrative processes. In doing so, the continued strength of WaterWorX stands out in building and strengthening the capacity of local counterparts to make lasting improvements that increase access to sustainable water services and generate viable investment propositions in low-income areas. https://gwopa.org/what-we-do/projects/waterworx/

WWX also integrates additional development objectives through cross-cutting themes:

- Pro-poor investments: aimed to contribute to inclusive water services and the institutionalization of pro-poor services within utilities;
- Climate change resilience: aimed at reducing the carbon footprint of the utility and supporting the long-term sustainability of water supplies, by taking into account long-term (15-20 years) provision of water supplies in the investment proposals;
- Inclusive water services to address gender equity within the labor force, as well as ensuring that vulnerable groups of the population enjoy services of quality
- Sanitation: to help the partner utility improve sanitation, sewage, and wastewater treatment services.

Partners

SOMAGEP-HER and Waternet have been involved in a Water Operators' Partnership (WOP) since October 2016. The WOP started with the enhancement of SOMAGEP HER's laboratory. This partnership was expanded in 2018 and became the WOP phase 1 of the WWX programme which aimed at strengthening SOMAGEP's technical and social sustainability by 2021. The main objective was to strengthen SOMAGEP SA so that it can provide sustainable water services to the urban poor in Mali.

Mentee

"Société Malienne de Gestion de l'Eau Potable" – SOMAGEP

SOMAGEP is the national Drinking Water Management Company in Mali. It is responsible for the operation and maintenance of the drinking water infrastructure for the whole country. The company is serving approximately 4.1 million customers in 18 urban areas. In Bamako, there are two production plants, Kabala and Djicoroni Para, together producing 81 percent of the total nationwide production. The production plants operate 24 hours and produce more than 97 million cubic meters of drinking water. The remaining 19 percent is produced inland in 74 different localities.

Mentor

World Waternet (WWN) is a non-profit organisation, dedicated to improving sustainable access to clean, sufficient and safe water for all. World Waternet supports public water organisations through peer-to-peer knowledge exchange in water cycle management. They do this through long-term Water Operators' Partnerships with water organisations in more than 15 countries to strengthen capacity, improve performance and enable them to provide a better service to more people. World Waternet was founded by Waternet. Waternet is the water company for Amsterdam and surrounding area. Waternet provides water services to 1.3 million people and is the only water company in the Netherlands that covers the entire water cycle.

Duration of the WOP

2018 – 2021

Cost

The total budget was Euro 1,590,000. It was co-funded by the Dutch Ministry of Foreign Affairs (55%). Mali Partners (10%) and the Dutch Water Sector (35%).

Objective

The WaterWorX program aims to increase sustainable access to drinking water to 10 million people, by:

1) Strengthening the financial, technical and social sustainability of the local partner water companies in order to make sustainable drinking water available to millions of people in developing and transition countries

2) Strengthening the enabling environment of laws & regulations, financing and policies in which water companies are encouraged to function properly and enhance their performance

3) Increasing access to water infrastructure investment finance, by developing investment proposals and engaging with domestic and international financing organisations and banks.

The main objective of the WOP was to strengthen SOMAGEP HER so that it can provide sustainable water services to the urban poor in Mali.

The main expectation was that by improving the entire organization (leadership, human resources, finance, customer services, asset management and Non-Revenue Water), SOMAGEP HER's revenue and bankability would increase. Hence, it would enable SOMAGEP-HER to attract external financing for infrastructure investments.

Motivation of Partners

Mentor: World Water Net (WWN)

World Waternet supports public water organizations through peer-to-peer knowledge exchange in water cycle management. WWN does this through long-term Water Operators' Partnerships with water organizations in more than 15 countries in Africa, Asia and South America to strengthen capacity, improve performance and enable them to provide a better service to more people.

Mentee: SOMAGEP Mali

SOMAGEP-HER intended to strengthen its capability to provide sustainable water services to the urban poor in Mali.

Facilitators

The WOP was funded by the Dutch Ministry of Foreign Affairs. The main incentive for the Dutch Government is to support the achievement of SDG 6. Dutch Partners Water Laboratorium (HWL) an authority in (drinking) water quality and a partner of World Waternet and Waterproof, the executive body of the Amstel, Gooi en Vecht Water Board and the municipality of Amsterdam provided laboratory activities for Waternet. The two supported the partnership with expertise on the water quality package.

Approach

The project was structured around the following support modules: 1) Leadership, capacity building and organizational development; 2) Non-Revenue Water; 3) Gender and inclusion; 4) Water quality; 5) Safety of water supply; 6) Pro-Poor; 7) Maintenance; 8) Climate change resilience.

Results

- 300,000 people (30,000 households) got direct access to safe water supply.
- Water Quality Standard Operating Procedures (SOPs) were put in place.
- Tools for Water Quality Monitoring were purchased and installed and the journey towards accrediting the Water Quality Monitoring Laboratory started.
- A Climate resilience plan was drafted and an assessment on the impacts of waste from Kita on the Water Supply Production Capacity was done

- A certain number of inaccurate meters and old pipes were replaced
- A NRW Strategic Plan for SOMAGEP was prepared

Success factors

Engagement of Young Expert Professionals (YEP) who act as full-time project coordinators on ground. The young expert coordinates all activities between the cooperating Dutch and Malian teams, overseeing the variety of annual outputs within the programs.

The Young Expert was actively working on all themes covering water and agrofood themes; efficient water management, WASH /access to safe drinking water and sanitation and eradicating existing hunger and malnutrition. The Yepper supports improving the organizational standard of the partner organizations Somagep and Angesem, developing NRW, WSP, leadership, pro poor, water quality (ISO laboratory), social connections, climate and social inclusion the YEPs offer the necessary organizational support to meet the challenges of the nationwide infrastructural investments of the Malian government including the EU, the World Bank and the ADB.

Challenges

- Language barrier limited the effectiveness of the project as majority of the WWN experts are not French speaking, while French is the official language used in Mali.
- Security issues also limited the effectiveness of the project. It had an impact on the mobilization of WWN experts and the timeline for their visits to Mali.
- Difficulties with money transfers from the Netherlands to Mali which resulted in many payments still pending. Also, SOMAGEP had to pay for some expenses in advance hence the difficulty slowed down some processes.
- The procurement actions under the project are carried out in accordance with SOMAGEP's standard procedures. For some acquisitions (e.g., the equipment for the NRW team's work), the acquisition deadlines did not allow the initially planned implementation schedule to be respected.

I. Introduction

The water sector in Mali and SOMAGEP-HER

The Creation of SOMAGEP-HER

Mali is divided into eight regions of Gao, Kayes, Kidal, Koulikoro, Mopti, Ségou, Sikasso, Tombouctou, and the capital Bamako metropolitan area. Each region is governed by a governor and the capital is governed by the district assembly respectively. In 1996, the government of Mali decentralized the country into local and communal authorities with legal status and financial autonomy resulting in the reorganization of the role of the actors in the water sector (Figure 1). In January 2010, the Government decided to separate the management of the electricity and water sectors. In August of the same year, the management of the drinking water sector was further divided into two (2) companies 1) SOMAPEP – SA which owns the sector assets and SOMAGEP – HER the operator of water supply. SOMAGEP-HER is the water utility responsible for provision of water supply in the whole of Mali.

Figure 1: Water sector responsibilities. Source: WaterAid – national water sector assessment, 2005

Actor	Responsibilities
The State	Provides financial aid and large investments. Prepares and implements legislation. Defines and enforces standards for design, construction and use.
The communal council	Ensures the proper functioning of water services by delegating authority as appropriate for the management of water infrastructure.
The users	May ensure management through the organisation of a water users association. They participate in defining management terms and conditions, pay for the water service, and ensure rational and hygienic water use.
Operators	Ensure water supply and distribution, including the operation and maintenance of water installations and the financial management systems.
Private operators	Execute the tasks linked to the construction and use of water supply systems (feasibility studies, construction, repair, supply of replacement parts, training). They ensure management, technical and financial monitoring and support/advice.

Mali, a poor landlocked country

Mali is a landlocked country, 1,240,278 Km^2 with a 2021 population estimated at 21 million and an annual growth rate of 3.01%, (latest UN Data). It is a low-income country; the economy relies heavily on agriculture. Agriculture employs 80% of the workforce and it contributes around one-third of the country's GDP.

According to the latest World Bank figures, 42.7% of the citizens live in extreme poverty with 90% of the country's poverty concentrated in the densely populated rural areas in the south. According to the ILO estimates, about three-quarters of the working population is in the informal economy. The unemployment rate in 2020 was around 7.5% (World Bank). Mali's economy depends on two major exports: gold and cotton for revenue. The major economic activity is irrigated agriculture located along the Niger River. Education in Mali is free and compulsory for children aged 7 to 16, yet, the latest education ministry data states that more than two million children do not go to school

and that half of the young people aged 15 to 24 are illiterate.
Access to improved sources of drinking water is 80% in cities and 70% in rural areas (UNICEF, 2021). However, displacement due to conflicts always limits the access of families to clean water and sanitation.

A traditional society

Although Mali's society is diverse, most of the social culture is influenced by traditional Islamic beliefs which is manifested at both household and national level: (i) women are subject to social, political and economic domination by men and strictly conform to the strict gender roles, (ii) only men hold position and make a decision as the head of the household, and (iii) elders are highly respected and listened to because they are believed to be wise and experienced. Society is also very receptive and welcomes opinions from visitors (foreign and locals alike).
According to many cultural and religious beliefs, water is believed to be free, an attitude that can affect payment for water services. There are many traditional songs about water especially about the Niger river, another well know song is Aman I man "water is life''.

Strong contrasts in water resources

Mali experiences a sub-tropical to arid climate with a rainy season from June to October, a winter season between November and February, and an extremely hot and dry season from March until June. The terrain of the country is a vast land of flat plains in the North and Savannah in the south, fed by two major rivers, Senegal on the western and the great River Niger. Mali is not water stressed as the total renewable water resources per person (6,472 m3) are above the water availability stress threshold and abstraction rates (8%) are below the 25% water stress threshold set by the Food and Agriculture Organization (FAO, 2018). Niger River which flows north-eastwards and the Senegal River which flows westwards are the major sources of water in Mali. The latest Global water report states that Groundwater usage is lower than surface water, but it is the primary source of water for drinking and domestic use in rural and urban areas. And while all the urban areas located along the two rivers have adequate access to water resources, the rural areas which are away from the rivers face greater water-stress, because they are the most susceptible to predicted climate change such as lower rainfall and higher temperatures that affect the reliability of both surface and groundwater.

Although Mali is considered 'water rich', It experienced prolonged drought in the 1980s and 1990s, in which millions of people and animals perished. The drought resulted from the decline in rainfall over the years. There has been recurrent drought such as in 2006 that affected Kidal region and between 2016 to 2018 that affected the whole country. As recent as 2021, the county experienced the most severe lack of rains in five years due to periodic dry spells and low rainfall which put 1.9 million people mostly in Kayes, Gao, Mopti, Segou, and Timbuktu in greater severe food insecurity. On the other hand, flooding of the Niger River delta occurs regularly in the rainy season between June to December. Kidal region and other areas like Bandiagara experience flash floods due to torrential rainfall (floodlist.com).

Groundwater is the primary source of drinking water and domestic use nationally, however, insufficient groundwater quality monitoring and protection schemes increase public health risks, particularly in cities like Bamako. Pathogenic contamination in shallow aquifers is caused by poorly constructed and unprotected wells and infiltration of latrine waste. Borehole depths nationally are

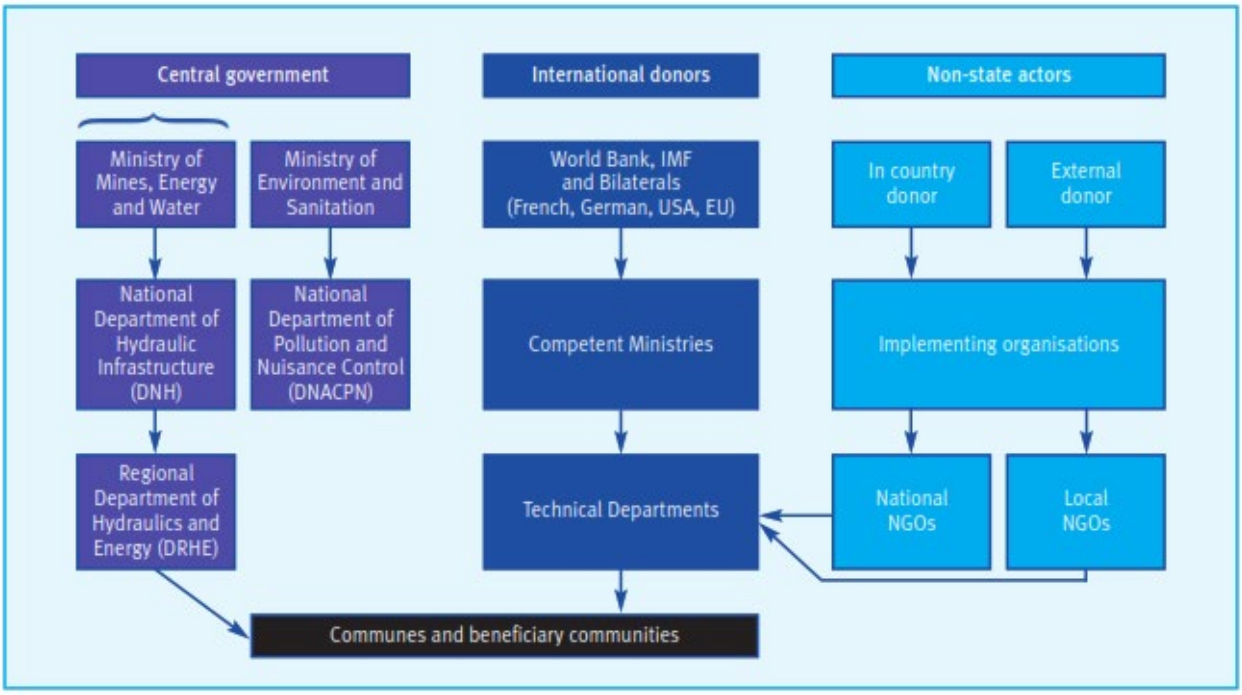
in average between 50m to 75m, with shallower depths along the delta and deeper wells in eastern Mali (100m-200m). The Niger River is the longest and most important river in Mali and traverses most of the country from west to east, followed by the Senegal River in Western Mali. However, the surface water quality is threatened by poor sanitation systems in urban areas as well as chemical contamination from gold mines, slaughterhouses, dyeing industries, and tanneries.

The water sector's institutional framework

The Ministry of Mines, Energy, and Water is responsible for the provision of water services in Mali. Within the ministry, the Department of Hydraulic Infrastructures (DNH) is mandated with providing executive, regulation, finance, and technical support to the water service providers. DNH functions through its regional and sub-regional branches.

Several international agencies work together with the government to develop water infrastructures and provide 80% of the water sector investments. Figure 1 below indicates the actors involved in the water sector in Mali.

Figure 2: Actors in Mali's water and sanitation sector. Source: WaterAid-– national water sector assessment, 2005



There have been reforms in the water supply and sanitation sector in Mali during the 2000s. Notable advances were observed in the rural and semi-urban water supply sector. Also, the institutional setup was profoundly changed by the reforms. Currently, the water supply and sanitation are actively undergoing reforms. The water law, water policy, National Drinking Water program, and National Sanitation programs are under review by the Conseil de Ministers. The October 2018 bylaw for the regulation of the drinking water sector has been incorporated into the "National Policy and the Programme Sectoriel Eau et Assainissement (PROSEA II)," which will guide the sector to the end of the Sustainable Development Goal period in 2030. Also, there is a

Public Private Partnership framework that is working effectively.

I. Partnership creation

The Origin of the Partnership

In 2016, Waternet's regional manager for West Africa was on the lookout for partnerships in Mali. He acquired links to Mali through 3 contacts 1) a Dutch colleague supporting a Water Authority who needed expertise in IWRM. 2) Mr. Abubaker, the Water Quality analyst of SOMAGEP, who after his studies in Netherlands was seeking support to improve Water Quality and 3) the Minister of Foreign Affairs in Mali who visited Netherlands. The minister visited the Dutch minister of foreign affairs who was aware of the existing Dutch operations in Mali at the time. As a result of this meeting, an agreement was signed between SOMAGEP and Waternet specifying that from henceforth the 2 partners will start to work on Drinking Water Supply interventions.

Since October 2016, SOMAGEP SA and Waternet were involved in a Water Operators Partnership (WOP), which began with the enhancement of SOMAGEP SA's laboratory. The partnership was expanded in 2018 thanks to the WaterWorX (WWX) project, which made it possible to consider various support activities aimed at strengthening SOMAGEP's technical and social sustainability by 2021. The objective was to strengthen SOMAGEP SA so that it can provide sustainable water services to the urban poor in Mali. To this end, the project was structured around packages: 1) Leadership, capacity building and organisational development and 2) Water (focusing on increasing access, quantity, and quality of water). By improving the overall organisation, SOMAGEP SA's income and financial credibility would increase which would enable SOMAGEP SA to attract external financing for infrastructure investments. For Water, increasing production and making domestic connections and public taps would enable SOMAGEP SA to provide drinking water in a sustainable way to 1 million people by 2022 (about 100,000 domestic connections)

2016 April - Meeting with Dutch colleague seeking IWRM Support
2016 August – Agreement signed with Dutch Ministry of Foreign Affairs, SOMAGEP and Waternet
2016 November – First visit specifically on the Geo location of Water Quality (GEOWAQ) project to support improvement of Water Quality for SOMAGEP.
The Dutch Investment Bank (FMO) came in to support energy efficiency of SOMAGEP through funding of energy studies.
2018 – 2021 WaterWorX I

Preparing the presentation for SOMAGEP management

Inspecting the water infrastructure of Kati

II. Partnership Formalization

The parties: mentor, mentee, facilitators

Mentor (World Waternet)

World Waternet (WWN) is a non-profit government organisation, independent, but linked to the Dutch water authority Amstel, Gooi en Vecht and the city of Amsterdam. WWN was founded by Waternet (WN). Waternet is the water company for Amsterdam and surrounding area. Waternet provides water services to 1.3 million people and is the only water company in the Netherlands that covers the entire water cycle.

World Waternet is dedicated to improving sustainable access to clean, sufficient, and safe water for all. World Waternet supports public water organisations through peer-to-peer knowledge exchange in water cycle management. They support long-term Water Operators' Partnerships with water organisations in more than 15 countries in Africa, Asia and South America to strengthen capacity, improve performance and enable them to provide a better service to more people. World Waternet also participates in knowledge exchange with leading water organisations through Knowledge Partnerships.

The motivation for WWN is research & innovation (i.e. to introduce new technologies in mentee utilities), improve operations, and respond to societal challenges. They aim to intensify exchange and collaborate on topics related to Waternet's six (6) Research & Innovation topics; climate adaptation, energy transition, water quality & technology, circular economy, soil subsidence, and data & sensoring. They seek opportunities to partner with leading water organisations which allows them to tackle the same challenges together.
https://www.wereldwaternet.nl/en/about-world-waternet/our-partners/

Water Net KPIs (in Amsterdam)

Population served	1,2 million
Number of connections (x1000)	521
Water supply (millions of m3)	82.227
Number of employees (water supply)	380
Number of water treatment plants	2
Number of wastewater treatment plans	12
Length of network (in kilometers)	3.169
Unaccounted for water (percent of total)	4%
Staff per 1000 connections (water supply)	1.37
Staff per 1000 population served (water supply)	1.71
Turnover (x 1000 EUR)	97.000 (drinking water only)
Average drinking water price per m3 (EUR)	1.54

Mentee (SOMAGEP)

Characteristics

SOMAGEP is responsible for the operation and maintenance of the drinking water infrastructure in Mali. They use 24 production plants to produce more than 97 million cubic metre of drinking water (2015). SOMAGEP has more than 174,000 private connections and 4398 additional public taps, serving about 2.5 million people in 18 cities in Mali. Although this number is important, it represents only 30% of the total population of the 18 cities served by SOMAGEP. In 2013, the Malian State adopted a master plan for the supply of drinking water (SDAEP) for the city of Bamako and its surroundings in Kabala, structured in four (4) phases and built around the strengthening of the production, transport, storage and distribution of drinking water in the Bamako district and its surroundings. This SDAEP will drastically solve the drinking water problems in the Bamako district and some of its surrounding municipalities until 2032.

Financing (related to the mentee utility)

The utility in Mali does not invest in water infrastructure. These investments are made by the Drinking Water Assets Company SOMAPEP.

Facilitator(s)

The Dutch Ministry of Foreign Affairs facilitated the WaterworX program financially on an average at a fifty percent basis, while VEI (Vitens International) coordinates all WaterworX projects.

Financing (of the WOP)

The funds available for the WOP were Euros 1,590,000. The funds were to cover personnel costs, goods and services, training courses and operational costs. The funds were determined based on division of the total budget over the selected WOP activities i.e., based on the (multi-annual) activity prognosis. The main condition of the funds was the result-based participation of WWN on the funding of the Ministry of Foreign Affairs. The activities were scheduled as follows.

1.1.1	Leadership development programme prepared and implemented
1.2.1	Organization improvement plan developed and implemented
1.2.2	Capacity development programme prepared and implemented
1.2.3	Result-based planning and development introduced/ improved
1.1.4	Internal audit performed on transparency and integrity | improvement plan prepared
Business plan, investment proposals, climate resistant water supply and MIS	
1.1.2	Business plan developed/ improved
1.6.1	Climate resistant water supply programme 2050 developed
3.2.1a	Climate robust investment proposals developed with a total investment value of 200 to 500 miljoen euro for providing at least 9 million people (of which 2.25 million vulnerable/ poor) with direct access to improved water and/ or sanitation facilities. These investment proposals differ from the investment proposals of WP 1.5.3. The proposals listed here are developed for long term investments and are developed to reach 9 million people in the period of 2021-2030.

1.1.3	Management information system introduced/ improved
1.1.5	Yearly benchmark report prepared
NRW reduction	
1.3.1	NRW reduction plan developed
1.3.2	Number of people trained in NRW reduction approach
2.2.1	Level of NRW reduced in one or several DMAs
2.2.2	Experience in DMAs scaled up to utility level
2.4.1	Water distribution programme developed and implemented
2.4.2	At least 75% of the assets digitized in GIS
Operation & Maintenance / Asset management / Energy saving programme	
1.4.1	Maintenance and management programme developed
1.4.2	People trained in maintenance and management
1.4.3	Development of an improvement plan for sanitation, sewage and wastewater treatment
2.3.1	Maintenance and management programme implemented
2.3.2	Improvement plan for sanitation, sewage and wastewater treatment implemented
1.6.2	Energy saving programme developed
2.5.1	Energy saving programme implemented
Pro-poor access to water and sanitation	
1.5.1	Pro-poor coordinators appointed and trained
1.5.2	Pro-poor vision, strategy and objectives developed
1.5.3	Proposals developed for providing people with direct access to improved water and/ or sanitation facilities
1.5.4 (a)	(a) (supervision of) access to water and / or sanitation for poor / vulnerable groups via shared facilities
2.1.1	Access to water and sanitation via pro poor infrastructure (water kiosks, shared yard taps, pre-paid meters, on site toilets, etc)
2.1.2	Access to water and / or sanitation via new water and / sewerage household connections
Water quality & water safety	
2.6.1	Water quality monitoring programme developed/ improved
2.6.2	Water safety plans introduced
Customer satisfaction & billing and collection	
2.7.1a	Customer processes analysed
2.7.1b	Customer processes improved
3.1.1	Administrative (customer) processes improved
3.1.2	Billing & collection efficiency monitored
2.7.2	Yearly monitoring of customer satisfaction

Diagnosis of needs

The WOP started with a diagnosis visit from experts from World Waternet, who explained the WaterWorx program, the objectives, and the mechanism of collaboration between the mentor and the mentee. All directors participated in the meeting. The experts then had one on one meetings with the directors. A lot of direct discussions were conducted with the utility's Managing Director (MD). The MD and deputy MD were intensely involved in the design of the project. In a meeting with the deputy MD, the design of the program was agreed. The general format was presented to the rest of the utility team to discuss how the proposed content fit the needs of the utility. The process of needs diagnosis was participatory however the first design was with the experts and the deputy MD.

Inspecting water installation

Identifying DMA location

Choice of Experts

To select the experts from Waternet, an advert was sent out within the organisation about the vacancy or opportunity with job description of the required expertise, stating it as temporary additional work. In some instances, Water Net had to look for external candidates. For example, NRW is not a big problem in the Netherlands and the organisation has only very few members paying attention to this. Some technical NRW enthusiastic people combining experience from other countries like Kenya as well as own experiences expressed interest to go for this challenge.
Water Quality: One of the founders of International Safety Abroad who are also working on this issue came on board.

Climate: It was not possible to find someone within the organisation with this expertise. A former member of the Young Entrepreneurship Programme (YEP[1]) was selected to work on this subject. For Laboratory issues, some experts previously involved in 2 other projects were identified.

Agreement Characteristics

A WOP agreement was signed for the period Jan 2019 – Dec 2021, which detailed the objectives, targets and activities; It was expecting that, by increasing production and making domestic connections and public taps, SOMAGEP SA would be able to provide drinking water in a sustainable way to 1 million people by 2030 (about 100,000 domestic connections). The

[1] A 2-year fellowship programme where young people from around the world are imparted with skills that help them understand and participate in the water, energy and food sectors where Dutch Companies are participating globally.

breakdown of the expected results is in the table below.

Module	Expected results
Human resources and organisation	Leadership development program developed and implemented
	Annual reference reports prepared and exchanges of good practices
	Organisational improvement plan prepared and implemented
	Capacity development programme developed and implemented
	NRW reduction plan developed
	5 employees trained in NRW
	5 employees trained in production optimisation
	Development of a pro-poor strategy and plan
	Development of projects to reach 50,000 poor people with water (12,500 people / year by connecting 1250 households or 10 people / households)
	Implemented projects reaching 50,000 poor people with access to water
	SOMAGEP's adaptation program to climate change by 2050 developed
	Gender assessment carried out and development of an approach to ensure gender equality in all SOMAGEP and SOMAPEP projects
	Development and implementation of an approach to ensure gender equality in SOMAGEP projects
Water	Social connection plan developed and access to a drinking water source for 50,000 (poor) people
	WASH improvement plan developed and implemented
	Reduction of NRW levels in one or more DMAs by at least 25% compared to the reference level
	Large-scale NRW approach at the level of the area of intervention
	Water quality monitoring program developed or improved
	Water security plan developed

Source: MTR 2019

III. Project Implementation

Management of the partnership

Supervision of the WOP was split between the Malian team and the Dutch team. The WOP had

- 2 project coordinators (1 from SOMAGEP and the other from WWN),
- 2 Project leaders (one local and one from Waternet based in Amsterdam),
- a project assistant who supported the project coordinators daily.
- a regional manager who maintained contact at the local and international level with all partners.

SOMAGEP MD had a representative on the WOP management team. This was Mr. Abdoul Aziz referred to as MD representative. He was tasked with coordinating all the WOP activities, supervising implementation, allocating resources (human and financial) and reporting on the WOP outputs to SOMAGEP MD. He was tasked with informing the managing Director on the direction of the activities and with overall supervision. The project had 9 teams: Leadership Development, Organisational Development, NRW, Water Quality (Laboratory), Pro-Poor activities, Gender and Inclusion, Climate Change, Operation and Maintenance and GIS (reports). Later, Leadership and organizational development were merged into one as they contribute to the same thing.

The activity supervision was split into two i.e., the Malian team and the Dutch counterparts. At the team level, clarification of activities was done and the topics to be covered agreed. The annual program was agreed that was then divided into the quarterly and monthly activities for easy follow up. Teams were established and a team leader identified for each of the different improvement

tracks of the programme. The teams then agreed upon the focus area in a particular improvement track. For example, in NRW management the focus area was decided as 'distribution'. As a result, a member from the distribution department was identified to head the NRW improvement track. Then those who interact with that aspect in the utility were made members of the team. Every other structure or department who could contribute was placed as a team member of that activity.

The Project coordinator was previously a YEP and was then transferred to project coordinator especially because he spoke English and was a good liaison between the Mali team members and the World Waternet team. He was responsible for the progress on the Malian side and ensuring that all worked well together. The local team in Mali had regular face to face operational meetings on a weekly basis while the team had monthly on-line meetings with the technical experts in Netherlands.

The teams shared an approach in the way of communicating and decision making and at times the Short-Term Experts would come to Bamako to provide guidance.

The partners worked as a team with the local project coordinator being the linkage to the Dutch project coordinator. Meetings were organized to check in on what everyone was doing. The local project coordinator also played the reporting role; compiling reports and the final report compilation was for the project leader.

Before the WOP, some of the Dutch experts had lived in Mali for 2 years working on the Laboratory certification project. They were supporting Quality improvement of the laboratory processes. When the WOP started, the team continued to work. The Malian team that has been in the WOP are the same people the Dutch team worked with earlier. Trust has therefore been growing for a long time as not so many changes have been made to the team. This composition of project coordinators, project leaders, short-term experts and the local teams is what steered the WOP to success.

The Kalaba installation

Taking a tour around Kalaba

Improvement tracks implementation

For each work package, regular multi annual missions were carried out, as needed for the progress in the specific work package. ach improvement track had a Malian team and a Dutch team to make it work. The Programme Director had 2 yeppers from the start of the project, a Dutch yepper working full-time on the project and a local Malian Yepper who worked part-time facilitated by SOMAGEP and trained under the Dutch YEP Programme. The yeppers programme

is an intensive personal development programme that moulds young people into highly enthusiastic young experts. 03 Local experts benefitted from the programme 02 males and 01 female. Currently there is a 3rd round of yeppers on the Mali project. Below are the activities supported under this phase (Phase I) of the WOP.

Improvement Track 1: Water Quality

Areas of improvement

The mentor explored the best way to help the mentee with the Laboratory and this was approached through the ISO lens. A monitoring and evaluation system was set up, management procedures, the quality management system was documented, and a Water Security Plan elaborated.

The team also had training in Netherlands on ISO certification.

Water Quality Training in Senegal

The head of the Water Quality team and one member went to Dakar to learn about Water Safety Plan implementation i.e., all the phases and all the steps of setting up a WSP. On their return, Kita was set to be a pilot to elaborate implementation of a Water Safety Plan. The head of production in Kita and 2 other staff people received training on the Water Safety Plan implementation.

Laboratory processes were worked on from an ISO certification point of view. SOPs were put in place as well as tools for water quality monitoring. One of these was reducing the time it takes to get samples to the laboratory for testing. With the new process, water samples are tested on-site with a kit and the results posted over the internet instead of having to drive the samples over long distances to the laboratory for testing. Capacity building was done for water quality testing. Accreditation of the laboratory was not achieved in the time however, the journey towards accreditation started.

SOMAGEP took some initial steps to implement a water safety plan. According to Abdoul Aziz Traore, the MD representative, '[the team] tried to set up a pilot and putting in place all the phases required for the WSP was a good start." A Water Safety Planning training was done in Bamako.

Improvement Track 2: Climate Adaptation

Areas of improvement

The aim of the improvement track was to create a Climate Resilience Plan for the utility by identifying all risks and hazards to the water supply system; to know where the risks will occur and act on these. This improvement track was handled by local experts however a Water Net expert was available on-line for some trainings and for consultation. Through the on-line interaction, the responsible officer could ask for advice on what she needed to do.

Activities carried out

Several actions were done, and some did not even require budget for them to be implemented but simply a change of behavior. Efforts were invested into creating a long-term climate resilience plan however these were not so fruitful. As a result, the team switched to a short-term plan based on the utility's needs at the time. The short-term action plan was also not taken up by the utility, so the team switched to a Case Study with a focus on a specific area.

Field visits were made to Kita where a huge garbage mountain existed near the water treatment plant posing a potential risk of contamination to the water treatment plant. An assessment was

done on the impact of the waste on the water supply production. Later a post assessment to check if all the risks were mitigated to a certain level was done however the link to Climate Change remained unclear, as this action seemed more related to WSP.
Other activities done were; conferences of climate change, analysis of water stakeholders, mapping of the area, interviews on the socio-economic aspects in the area and the seasonal aspects to be aware of.

Improvement Track 3: Non-Revenue Water

Areas of improvement

The focus was on the management of NRW. The aim was to identify areas of vulnerability to enable the utility to provide more access to water supply. The NRW was at 35% and the team decided to focus on reducing this.

Activities carried out

A roadmap for the NRW activities was done to help align the required activities with the project goal. The activities done were in two categories i.e., 1) baseline study activities and 2) reduction of NRW activities

Baseline Study

A pilot on NRW activities was set up in Manambougou specifically Fasokanu area. The baseline study covered a pilot area in Fasokanu an area with 2000 households, where the utility implemented a DMA pilot. Activities on NRW management were carried out. Meter replacement, connection replacement, door to door activities, calculation on losses commercial and technical losses.
A door-to-door survey was done to collect first-hand information on the utility customers with the aim of improving the utility's information database and data reliability. The information collected included meter data that helped to identify old meters and to know who was connected to the utility's network and who is not as well as the reasons for not connecting. This team also carried out a customer satisfaction survey. For this, engineering students were used as they provided an external eye on the activities of the utility.

NRW Reduction

As part of this improvement track, A certain number of old and inaccurate meters and old pipes were replaced. Leak detection teams were sent out to study the minimum night flow and discharge. Training was done in Kampala as well as regular training in Netherlands. 2 NRW team members from Mali went to Kampala in Uganda to take part in two major events i) International conference of IWA on Intermittent Water Supply (IWS) April 7th-9th and ii) training of NRW WWX hub (Africa and Indonesia) April 10th-12th. This mission was interesting since it gathered many water professionals. The main recommendations from the conference were: full time NRW team in water utilities, staff training, and finally "do the best with the minimum we have". The WWX program contributed financially.

SOMAGEP joined the Community of Practice (CoP) on NRW, which was re-named into CoP Water Distribution. It comprises GIS, Hydraulic network modelling, and NRW management themes.

NB: for the whole WWX program, several online technical CoPs were put in place for all the mentees. CoPs are defined as a group of people who share a concern for something they do and appreciate to do better through exchange and interaction with peers. Through CoPs specific experience in a specified field is channeled, communicated, and exchanged. The members of a CoP can also get together at national and international level in a particular work process to help each other out incase problems emerge.

After implementing interventions, the team took time to assess if things had changed and found that that NRW was still high. This resulted in the realization that the losses in Bamako were not a result of physical but rather of commercial losses and while the activities being done were to address physical losses, what was needed was interventions to address commercial losses. This required looking into the utility's internal processes and controls.
The pilot was not completely done; some activities planned were not implemented. By the time of compiling this study the team was in the process of carrying out an assessment to check the current NRW status following all the activities that have been done. The idea is that at the end of the pilot if SOMAGEP has good NRW results the approach used here will be adopted for upscale.
The roadmap prepared earlier evolved into the NRW Strategic Plan for SOMAGEP.

Improvement Track 4: Pro-Poor

Areas of improvement

The budget available for pro-poor activities was small. The project sought synergies with the World Bank Kabala project which was making new connections in Bamako. The aim of the Kabala project was to provide access to safe water for an additional 50,000 people i.e., average 10 people per household hence 5000 households were targeted. In the end, because of synergies between the WOP and the World Bank project, 300,000 people were given direct access i.e., 30,000 households which was 6 times the originally targeted number.
The WOP contributed through an awareness raising campaign and with training of all staff involved in the pro-poor activities to help support better absorption of the new pro-poor connections. The WOP campaign helped to inform people about the criterion, the documents required, and the location of the water agency where to request the water connection.
The project changed its strategy through the Kabala project to reach 100,000 connections. 30% of these were attributed to that synergy through the WaterWorX WOP i.e., 30,000 connections. The normal cost was 120,000 malien Francs (Euros180) per connection and was brought down to 100,000 malien francs (Euros 150) with the difference sponsored by the project. The poor were able to have a connection for as low as malien francs 20,000 (Euros 20)

Activities carried out

Awareness raising campaigns were led by the young professionals who communicated the need to pay for the water service to avoid disconnection and encouraged people to use only the amount of water that they really need. They led a local assessment survey in low-income areas to identify the poor households who could not pay the 20,000 malien francs in one go and who would be allowed payment in installments.

Other Aspects

The WOP Mid-term evaluation recommended an aqua rating[2] assessment of SOMAGEP. This was done during the WOP. According to the utility, the aqua rating tool was a good one to experience and it allowed the utility to rate its own performance in various assessment areas, compare their activities to a scoring and get recommendations for modification of their practice based on that indicator. SOMAGEP was able to know how they fared in many areas of utility practice such as

[2] A rating system for water utilities. Aqua rating focuses the challenges water and sanitation utilities face in a comprehensive way, evaluating their performance through indicators and management practices.

water quality, management control etc. and to know how far they can go hence set a target cognizant of their aspirations.

Progress towards impact and effectiveness of the project

Project Outputs

The original objective was to invest in the organisation itself i.e., strengthen and build it so it can attract investment. Phase I was to work on the Capacity of the Organisation and Phase II to focus on investment. This changed as SOMAGEP is a nationwide water operator and does not own the assets. SOMAGEP assets are owned by SOMAPEP who was not targeted in the first phase of the project. The adjustment led to a focus on NRW, Water Quality (including Certification of the Laboratory), Pro-Poor, Climate Inclusion and Leadership Development.

Achievements in capacity and performance of the mentee water operator

There were no KPI targets starting out on this project.

Changes in capacity – organizational and individual – of the mentee water operator

Below is a summary of missions carried out under the project

Missions Carried Out under the WOP

2017

February 2017:	ISO Laboratorium
July 2017:	ISO Laboratorium
October 2017:	ISO Laboratorium

2018

April 2018:	NRW
May 2018:	ISO Laboratorium (the Netherlands)
November 2018:	WWX general meeting Amsterdam
November 208:	ISO Laboratorium
November 2018:	Organizational development

2019

February 2019:	Organizational development
March 2019:	Pro poor
June 2019:	Water Safety Planning
November 2019:	AIWW (Amsterdam)
November 2019:	WWX general, NRW, ISO Laboratorium

2020

March 2020:	Water Safety Planning, NRW, ISO Laboratorium, Organizational Development
April 2020:	WWX General

Sustainability of change trend

To ensure sustainability, of activities under this WOP, the mentee explained that there are plans in the next phase of the WOP to take the pro-poor team for a benchmarking visit to Ghana. Ghana was able to successfully implement a social connection programme and lessons from Ghana will inform the team and enable them to edit their pro-poor strategy accordingly. This could require closer collaboration between SOMAGEP and SOMAPEP with SOMAGEP considering a consultant to investigate piloting a revolving fund in 3-5 cities. With the revolving fund, customers can pay overtime and in instalments the full cost of their connection by slowly over many times paying a price where the loan is partly offset, and the rest pays for consumption. This helps to make the strategy sustainable as the revolving fund helps to cushion the risk on non-payment of loans to social connections.

The WOP also opened the door for other opportunities and programmes e.g., RV Invest International, support from the Dutch Investment Bank (FMO), even the partnership with the EU.

IV. Project evaluation

Impacts

The evident impact has been the yearly reported annual achievements on all different work packages, products of the long-term partnership. On the investments the prefeasibility study tendered by the Netherlands Enterprise Agency (rvo.nl) of the Dutch Ministry of Foreign Affairs provides a major impact, being the key to future major investments in drinking water facilities throughout the country.

Effectiveness

SOMAGEP is the utility responsible for water services delivery however SOMAPEP is the asset owner. It was not the mandate of SOMAGEP to invest in the infrastructure which is owned by SOMAPEP (asset owner). As a result, progress where investments were required was not forthcoming as SOMAGEP did not see this as their role. This had an impact on the effectiveness of the planned activities.

A case in point was the requirement for investment to mitigate the future impact of Climate Change. To address this, issues on investments for Climate Change Resilience were linked to the investment plan of SOMAPEP and SOMAPEP included into the planning for Phase II of WaterWorX.

Efficiency

Taking advantage of the yeppers to support coordination on ground was an efficient way to run the project. SOMAGEP was a new company put in place in 2011 and so was a young utility. To have this kind of collaboration through a WOP with input from other experts was timely.

The pro-poor activities were seen as the most valuable and most successful ones in this WOP as the WOP helped to improve the approach to social connections. NRW was the biggest area of improvement. NRW activities were found to be the most interesting and it also had the biggest team in the partnership. The team had a chance to calculate NRW using a new tool. The WOP

got SOMAGEP to take advantage of this new NRW tool.

Success factors and challenges

Challenges

Coordination between SOMAGEP and Waternet - on when the Short-Term Experts (STEs) should come and, how long they would stay- was weak. Planning the missions could have better involved the mentee to determine the timing, the content and specific results from a specific mission. This would have enabled the mentee to be better prepared for the expert missions.

Waternet had responsibility for the WOP implementation and according to the mentee, the design of the short-term missions was according to Waternet's schedule. The mentee SOMAGEP was minimally involved. Hence for some of the activities planned like the Climate activities, there were no experts in the mentee utility to support implementation and as such, progress on these was so slow and almost not successful.

Another challenge mentioned was that it was unclear to the mentee what budget was available for the different activities. According to the mentee, it would have been helpful for the teams to know what the available budget for each activity was. It is their wish that in future, there is a clearer understanding of the budget.

Discussing the organogram of WWVx coordination team

Management instability posed a challenge. In the last year i.e., in January 2021 the managing Director of SOMAGEP was changed and it was not easy to explain to the new MD what the project was about and how it came about. This had a big impact on the project and the regional manager had to invest time building a relationship with the new MD. Nevertheless, this was managed and during this time, preparations for Phase II of the WOP were underway and the new MD was fully involved in the design of Phase II.

There was a language barrier as the WaterWorX team is English speaking and Mali is French speaking. As a result of this, the WOP had a huge expense on translation. There was need for a

translating contact between the experts and the local teams. Through the WOP, some English training was done to enable exchange with the experts, but it was still challenging. One of the team members that was fluent in English usually supported the translation into French for the benefit of the mentees. It was also sometimes necessary that the one who was fluent in English and French led specific sessions of the trainings with some specific groups.

While the utility agrees that Climate Change is an important issue, management did not see the concrete outcomes of the Climate Change activities. For a utility like SOMAGEP, Climate Change activities were not found to be very useful. This improvement area was seen as the least valuable because it is more of a systemic problem just like other social aspects and so it was never a priority for them. The activities under this component required envisaging the outcome of the future e.g., 2050. However according to SOMAGEP, the utility was struggling and needed to deal with concrete issues that were affecting them e.g., how to reduce their NRW. For this reason, it was challenging to mobilise people around envisaging the future when there were real problems that needed to be tackled there and then. So, while Climate Change was a target area in the design of the WOP, it was not possible to design activities that fit this improvement track as well as fit the vision for SOMAGEP.

Critical success factors in the partnership

The WOP approach is different from what the mentee was previously used to while working with the World Bank, ADB which involved infrastructure investment, technical assistance and training. Nevertheless, explaining how WaterWorX works and what the partnership could offer and aligning this with the needs of SOMAGEP was unique and was appreciated by the mentee.

The factors critical for success were:

- Engagement of all levels of management in the conceptualization of the project. All directors of SOMAGEP were informed about WaterWorx and engaged in the project. *'Engagement of all levels of management i.e., top as well as middle management is crucial for project success so that when there are changes in management, you have a large sustainable base in support of the project. Support from the people you work with directly is critical for success'* Koen Matthias, regional project coordinator, Water Net.

- Also, managing stakeholder expectations by constantly explaining the focus of the WOP as Capacity building and not infrastructure development so that the partners know and are clear on what to expect.

- The YEP (both local and international) were a good resource for the programme offering full-time presence on ground.

- Flexibility of the WOP approach was a big plus for the partnership as it facilitated smooth transition when SOMAGEP got a new managing Director with a new vision. The WOP was able to flexibly align with the requirements of the new MD. His interest was in activities with quick impact than the long-term strategy approach. All the same the team was able to explain that sustaining quick impact requires even more planning to ensure sustainability. Therefore, even if we do something new, we should ensure it works well.

- The MD at the time was open to the WOP despite fears that communication and collaboration would be difficult given the language barrier. This open mindedness was critical for the WOP's success.

- A highly motivated project management team. Mr. Abdoul Aziz Traore the MD's representative on the WOP said that if the people are not willing to make it work, it will not work.

- Efforts invested in aligning needs of the partners SOMAGEP (the operating company) and SOMAPEP (asset owner) over the period of the project also facilitated success of the project.

Main lessons learned from the partnership

Aligning WOP activities with activities of other donors (for example where the World bank is investing in infrastructure) is very efficient; the WOP can support awareness raising and align with the infrastructure development activities.

Understanding of the utility's context is critical for success. In the Mali Case, SOMAGEP-HER as an operating company could not do investments even where these were required. All investments are handled by SOMAPEP-SA which was initially not a partner in the WOP. This made it difficult to handle activities that required investment.

Anytime there was a problem, in general a solution to adapt would always be found through mutual discussions between the concerned parties. This was made possible because of the WaterWorX flexibility. The flexible nature of WOPs allows for addressing even very varying opinions.

Training was not by the Dutch but rather by French speakers. For training, it is important to make use of specialists in translation. This is not the same as using French speakers as trainers.

Explaining the Water WorX approach was a major challenge. 'Explaining that what the WOPs do is not consultancies and not technical assistance, but we are a utility with similar troubles as the organisation (mentee) is dealing with. A utility with similar troubles and problems hence making us a team of peers that is willing to look at a problem together. Presenting our project budget in the sense that we are talking about a WOP where a big part of the budget is in-kind contribution of Water Net was hard.

Organisational shifts at SOMAGEP also caused some challenges as when there is a reorganization it takes some time for people to settle into their roles. The reason is that after a reorganization, while you invest in people, they do not know whether they will stay in those positions or be transferred to another department. For example, when you have a new manager in the laboratory you must explain again what they need to do, why they need to do it. However, with a WOP you must be flexible. For SOMAGEP, opinions and strategies can change, and the organisation must drive the WOP agenda. Koen Matthias.

Replicability

For replicability, SOMAPEP who is the asset owner and hence the agency that can invest in assets needed to be onboard and part of the WOP. The next phase of the WOP i.e., WWX II in Mali has been expanded to incorporate SOMAPEP in the partnership. Overall, SOMAGEP and SOMAPEP must find a way for the strategy for service in low-income areas to be sustainable. It needs to be clear what will be the role of SOMAGEP and what will be the role of SOMAPEP.

Contribution to SDG6

The WOP provided access to safe water for an additional 300.000 people thus contributing directly to SDG 6.1. The Water Quality activities also contributed to SDG 6.3 through the laboratory activities done under the project.

Cross-cutting issues

SOMAGEP had no gender policy and there were very few promotions of women to the higher management level. Trainings sensitizing the team on gender aspects, and female leadership were done. The Company was encouraged to take gender aspects into consideration in all their activities. The WOP supported Women's Day activities on 8th March which is World Women's Day. It also supported evaluation of gender approaches and through these efforts SOMAGEP increased the number of female in higher positions (e.g. Chiefs of Department, Director). This shows that the project made a positive contribution towards promoting gender balance. The real impact of these interventions can be assessed in a few years to check the trend in female representation in various positions in SOMAGEP

The contribution of the Climate resilience and Water Safety management measures was minimal but not insignificant. Nevertheless, making ground for increased knowledge on this subject was recommendable. Future interventions on these cross-cutting themes will find more fertile ground than it was at this stage. People will know more and will understand the subject and its impacts better. Re-orientation on such subjects AS Climate resilience is critical to embedding learning.

V. Conclusion

This phase of the WOP delivered results in mainly two improvement areas i.e. NRW and water quality monitoring. Results indicate reasonable progress. To support institutionalization of knowledge management 3 local young experts were supported by the programme including 1 female young expert. The monitoring and evaluation system set up for the laboratory and documentation on water quality management will improve operations of SOMAGEP-HER. The WOP also provided great lessons regarding conceptualization of projects as leaving out SOMAPEP in the design of the partnership hindered progress in some areas that required infrastructure investment which was a role of SOMAPEP and not SOMAGEP. In Phase II the project has made SOMAPEP a partner just like SOMAGEP to address this challenge.

Interviewees

1) Maathuis Koen – Regional Manager for West Africa (Mali, Burkina Fasso, Ghana) – World Waternet
2) Bas – Project Manager Mali Water WorX - Netherlands
3) Aboubaker Abdul - Local Project Coordinator
4) Hadi Toure Guindo – Climate Change and Gender
5) Theirno Amadou Sissoko - Statistics officer for the Distribution Department Assistant to Local Project Lead.
6) Abdoul Aziz Traore MD Representative

WATER OPERATORS' PARTNERSHIP

CASE STUDY

Water Operators' Partnerships (WOPs) are peer support relationships between two or more water or sanitation operators, carried out on a not-for-profit basis in the objective of capacity development. This is one of a series of four impact-oriented case studies conducted on WOPs in Africa. It is intended for water and sanitation service providers, governments, development banks, donors, WOPs facilitators and all who are interested in gaining a better understanding of this solidarity-based approach to helping public operators improve their capacity to sustainably deliver water and sanitation services for all.

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