

Burkina Faso
water supply AND SANITATION PROGRAM
(P164345)

PROGRAM FOR RESULTS | PforR

TECHNICAL ASSESSMENT
June 5, 2018



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ABBREVIATIONS AND ACRONYMS

2iE	International Institute for Water and the Environment (<i>Institut international de l'eau et de l'environnement</i>)
AE	Water agencies
AEPA	Supply of drinking water and sanitation
AEUE	National Sanitation and Sewerage Plan (<i>d'Assainissement des Eaux Usées et Excréta</i>)
AFD	French Development Agency (<i>Agence Française du Développement</i>)
AfDB	African Development Bank
AMOC	Roadmap in support of the decentralization process of water supply and sanitation services at commune level (<i>Assistance à la Maîtrise d'Ouvrage Communale</i>)
ANAM	National Meteorology Agency
APS	Result based sectoral budget support programs (<i>Appui Budgétaire Sectoriel</i>)
ARMP	Procurement Regulatory Authority (<i>Autorité de Régulation des Marchés Publics</i>)
ASCE	High Authority for GoBF Oversight (<i>Autorité Supérieure de Contrôle de l'Etat</i>)
ASCE-LC	<i>Autorité Supérieure de Contrôle d'Etat et de Lutte contre la Corruption</i>
BUNEE	National Agency in charge of Environmental Assessments (<i>Bureau National des Evaluations Environnementales</i>)
CAS	Country Assistance Strategy
CAST	Designated Special Treasury Account (<i>Compte d'Affectation Spéciale ouvert au Trésor</i>)
CFE	Financial water contribution (<i>Contribution Financière d'Eau</i>)
CPF	Country Partnership Framework
CGCL	General Code for Territorial Collectivities in Burkina Faso
CMEau	ONEA Water Professions Center
CNEau	National Water Council
CSLP	Strategic Framework for Poverty Reduction
CTE	Technical Committee on Water
CPIA	Country Poverty and Institutional Assessment
DANIDA	Danish International Development Agency
DGA	General Directorate for Sanitation (<i>Direction Générale de l'Assainissement</i>), MEA
DGB	General Directorate for Budget (<i>Direction Générale du Budget</i>)
DGCMEF	General Directorate for the Control of Public Tenders and Financial Engagements (<i>Direction Générale du Contrôle Des Marchés et des Engagements Financiers</i>)
DGEP	General Directorate for Water Supply (<i>Direction Générale de l'Eau potable</i>), MEA
DGRE	General Directorate for Water Resources (<i>Direction Générale des Ressources en Eau</i>)
DGRE/DEIE	Directorate of Studies and Information on Water
DGRE/DRSOBT	Directorate of Regulation and Monitoring for Transboundary Basin Organizations
DREA	Regional Directorate for Water and Sanitation
EPR	Water loss reduction
DISE	Integrated Monitoring and Evaluation System (<i>Dispositif Intégré de Suivi Evaluation</i>)
DLI	Disbursement-Linked Indicator
DMP	Public Procurement Directorate (<i>Direction des Marchés Publics</i>)
DREA	Regional Directorate for Water and Sanitation (<i>Direction Régionale de l'Eau et de l'Assainissement</i>)
DRH	Human Resources Department (<i>Direction des Ressources Humaines</i>)
ESMP	Environmental and Social Management Plan
ESMS	Environmental and Social Management System
ESSA	Environmental and Social Systems Assessment

EU	European Union
FCFA	Franc of the African Financial Community
GDP	Gross domestic product
GoBF	Government of Burkina Faso
HRBA	Human Rights Based Approach
GRS	Grievance Redress Service
IEC	Information, Education and Communication
IFSA	Integrated Fiduciary Systems Assessment
IGF	General Finance Inspectorate (<i>Inspection Générale des Finances</i>)
IR	Intermediate Result
ISP	Implementation Support Plan
IVA	Independent Verification Agent
IWRM	Integrated Water Resources Management (<i>Gestion Intégrée des Ressources en Eau</i>)
MAHRH	Ministry of Agriculture, Hydraulics and Fishing Resources
LGA	Local Government Authority
M&E	Monitoring and Evaluation
MDG	Millennium Development Goal
MEA	Ministry of Water and Sanitation (<i>Ministère de l'Eau et l'Assainissement</i>)
MINEFID	Ministry of Economy, Finance and Development (<i>Ministère de l'Economie, des Finances et du Développement</i>)
MOU	Memorandum of Understanding
O&M	Operation and Maintenance
OHS	Occupational Health and Safety
ONEA	National Office for Urban Water Supply and Sanitation (<i>Office national de l'eau et de l'assainissement</i>)
OP/BP	Operations Manual/Bank Procedure
OPRC	Operations Procurement Review Committee
PAGIRE	Action Plan for Water Resource Management (<i>Plan d'Action pour la gestion intégrée des ressources en eau</i>)
PAP	Program Action Plan
PCU	Project Coordination Unit
PDO	Program Development Objective
PFM	Public Financial Management
PforR	Program-for-Results
PGEA	National Governance Program for the Water and Sanitation Sector (<i>Programme Gouvernance du secteur Eau et Assainissement à l'horizon 2030</i>)
PN-AEP	National Water Supply Program (<i>Programme national d'approvisionnement en eau potable à l'horizon 2030</i>)
PN-AEPA	National Water Supply and Sanitation Program (<i>Programme National d'Approvisionnement en Eau Potable et d' Assainissement à l'horizon 2015</i>)
PN-AEUE	National Sanitation and Sewerage Program (<i>Programme National d'Assainissement des Eaux Usées et Excréta à l'horizon 2030</i>)
PN-AH	National Program for Dam Development (<i>Programme National des Aménagements Hydrauliques à l'horizon 2030</i>)
PN-DES	National Economic and Social Development Program (<i>Programme national de développement économique et social à l'horizon 2020</i>)
PRES/PM/MEE	Presidency/Prime Minister's Office/Ministry of Environment and Water
PTA	Annual work plans
SCADD	Accelerated growth and sustainable development strategy

PN-GIRE	National Program for Integrated Water Resource Management (<i>Programme National pour la Gestion Intégrée des Ressources en Eau à l'horizon 2030</i>)
POM	Program Operations Manual
PPP	Public-Private Partnership
PSEU	
PSU	Program Support Unit
PV	Photovoltaic
RA	Results Area
RBMP	River Basin Management Plan
SDAGE	Master Plan for Water Management (<i>Schéma directeur d'aménagement et de gestion des eaux</i>)
SDG	Sustainable Development Goal
SISC	Strategic Implementation Support Consultant
SNIEau	National Water Information System (<i>Système National d'information sur l'Eau</i>)
SP-GIRE	Permanent Secretariat for Integrated Water Resource Management (<i>Secrétariat Permanent de la Gestion Intégrée des Ressources en Eau</i>), MEA
TA	Technical Assessment
TOR	Terms of Reference
UCDIEau	Water Data Collection Divisions (within the MEA) (<i>Unités de Collecte et de Diffusion de l'Information sur l'Eau</i>)
UCP	Program Coordination Unit (<i>Unité de Coordination du PforR</i>)
UDP	Program Support Unit (<i>Unité Dédié au PforR</i>)
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
UO	University of Ouagadougou (<i>Université de Ouagadougou</i>)
WAEMU	West African Economic and Monetary Union
WHO	World Health Organization
WUA	Water Users' Association (<i>Association d'Usagers de l'Eau</i>)

PURPOSE OF THE TECHNICAL ASSESSMENT

1. As part of the Program preparation, a Technical Assessment (TA) of the Program was carried out, consistent with Bank Policy and Bank Directive: “Program-for-Results (**PforR**) Financing” and in accordance with the World Bank Guidance Notes for “Program-for-Results Financing”. The purpose of the TA is to assess the adequacy of the Program arrangements and their performance in four main areas: (a) strategic relevance and technical soundness; (b) expenditure framework; (c) results framework and monitoring and evaluation (M&E) capacity; and, (d) economic justification.
2. The TA concluded that the Program is strategically relevant and technically sound. A number of weaknesses have been identified which could be addressed through the adoption of key measures included in the Project Action Plan (PAP). Additional guidance is provided in this summary technical assessment with the aim of supporting implementation of the Program.

PART A - STRATEGIC RELEVANCE AND TECHNICAL QUALITY

I. DESCRIPTION OF THE PROGRAM

3. The proposed PforR (Program-for-Results) Program ("the Program") aims to support the Government of Burkina Faso's (GoBF) national plans for improving water supply and sanitation services and water resources management by incentivizing infrastructure investments and reforms in water and sanitation services within targeted urban and rural areas, strengthening the national knowledge base on integrated water resource management (IWRM), and promote institutional strengthening through capacity building.
4. **The Program Development Objective (PDO)** is to improve access to water supply and sanitation services in targeted areas. PforR will focus on the following three Result Areas (RAs) and support certain areas of the national programs as described in Table 1.

Table 1. Program areas supported by PforR

PN-AEP	PN-AEUE	PN-GIRE
Action 1. Universal access to drinking water	Action 1: Eradication of open defecation in rural areas	Action 3: Institutional Framework and Management Tools
Action 2 Management of the public water service	Action 2: Eradication of open defecation in urban areas	Action 5: National Water Information System ((SNI)Eau)
Action 3. Strengthening the institutional framework and management tools	Action 3: Universal and continuous access to sanitation services in rural areas	Action 6: Research/development on water
	Action 4: Universal and Continuous Access to Urban Sanitation Services	
	Action 7: Strengthening subsector funding, management and steering capacities	
Sources: PN-PEA, PN-AEUE and PN-GIRE (2016-2030).		

1.2. Justification of the PforR instrument

5. The PforR is the most appropriate instrument for supporting the GoBF's program approach for the sector. The PforR instrument will enhance the impact of the World Bank's financial and technical support and strengthen the overall results orientation of the GoBF. In doing so it will facilitate:

- **Program ownership.** The highest levels of the GoBF are committed to achieve the objectives of the PN-AEP, the PN-AEUE, and the PN-GIRE programs, which are under implementation since 2017. The PforR instrument will support the GoBF program approach to improve water supply, sanitation, and IWRM.
- **Improvements in government programs implementation.** The Program provides an opportunity to support and strengthen the implementation of government programs and improves the institutional framework and stakeholder capacity for the management of water and sanitation services and water resources. The World Bank's technical assessment of the quality of the Program, including the Results Framework, expenditure framework, and supporting systems, is satisfactory and the Program systems meets the OP/BP 9.00 requirements. Although the Program will support specific interventions, the World Bank's contribution is anticipated to foster improvements in terms of effectiveness and efficiency in the overall program over the next 13 years (the implementation period for the PN-AEP, the PN-AEUE, and the PN-GIRE is 2016–2030).
- **Improvements in national systems and procedures.** The Program builds upon the country's fiduciary and environmental and social management systems (**ESMS**), which were evaluated as adequate for Program implementation. Through the Program Action Plan (**PAP**) the Program will continue to provide support to strengthen country fiduciary systems related to audits, budgeting and planning, and compliance with procurement deadlines. Also, the PAP includes actions related to the strengthening the ESMS related to the environmental and social management of the Program investments and environmental and social management capacity of MEA and ONEA.
- **Results orientation.** The choice of the Program instrument responds to the GoBF's focus toward results rather than investment execution as reflected in the Matrix of Sector Performance Indicators for 2017–2020.¹ The use of the Program instrument will establish clear links between IDA disbursements and the delivery of results, as demonstrated by the inclusion of seven disbursement link indicators (**DLIs**). In doing so, the PforR instrument reinforces the GoBF results orientation. The Program is linked to a set of simple and measurable indicators.
- **Coordination with other development partners.** The Program-for-Results makes it easier to coordinate between development partners and the government. The Program builds upon the past experience of the country in implementing result based sectoral budget support programs for water and sanitation, financed by the European Union (**EU**), the Danish International Development Agency (**DANIDA**), and the Swedish International Development Cooperation Agency (**Sida**) in the past 10 years.

¹ *Matrice des Indicateurs de Performances 2017–2020 du Secteur Eau et Assainissement* that clearly identifies specific actions, and corresponding indicators, to be undertaken under each of the five sectoral programs.

1.3. PforR Limits

6. **PforR Program financing.** The Program will be implemented during a period of five years, with targeted completion in December 2023. The Program will provide US\$ 300 million of IDA funding, covering key actions of the PN-AEP (in targeted areas), PN-AEUE (in targeted areas) and PN-GIRE programs.

7. The total Program financing, as defined in the PAD, is US\$365 million. This includes: (a) the household contribution for US\$34 million (in-kind for the completion of the latrine super-structure in urban and rural areas); the GoBF contribution for US\$31 million (including the contribution from MEA and ONEA), which will be made available for the Program through the Program CAST; and (c) IDA contribution for US\$300 million, of which US\$50 million in the form of a grant and US\$250 million as a credit from the IDA Scale-Up Facility (SUF) (Table 2).

Table 2. Program Financing (US\$ million)

Source	Amount (US\$ million)	% of total
Household in-kind contribution	34	9
GoBF	31	8
IDA		
Grant	50	14
IDA Scale-Up Facility (SUF)	250	68
Total Program financing	365	100

8. The Water Supply and Sanitation Program consists of three Results Areas (**RAs**) that are mapped to the national PN-AEP, PN-AUE and PN-GIRE programs. The geographical scope of the planned activities under the different result areas is presented in Table 3.

Table 3. Geographical scope of activities

Results Area	Urban	Rural
RA 1. Improved access to water supply	11 centers of ONEA : Ouagadougou, Kaya, Korsimoro, Boussouma, Yako, Gourcy, Boussé; Gon-Boussougou, Mogtédo, Béguédo, and Tiébélé	Selected communities of 64 municipalities of four targeted regions: Hauts-Bassins, Boucle du Mouhoun, Cascades, and the Southwest
RA 2. Improved access to sanitation	The 11 centers above plus Dédougou, Nouna, and Bobo-Dioulasso	
RA 3. Improved access to reliable information on water resources	Nationwide	
Cross-cutting. Human capital strengthening	Nationwide	

9. In urban areas the Program will intervene in a total of 14 urban centers. In 11 urban centers the interventions will include water supply and sanitation, while in three urban centers the Program

will intervene only for delivery of sanitation services². Activities include strengthening of the already existing systems, creating new water supply systems following the GoBF strategy for urban water, and boosting access rates to improved sanitation facilities. About 69 percent of the total urban population (or 3,664,745 inhabitants in 2017) resides in the cities of Ouagadougou, Bobo-Dioulasso, Kaya, Gourcy, Yako, Dédougou, Nouna, Gon-Boussougou, Tiébélé, Korsimoro, Béguédo, Boussé, Boussouma, Mogtéo. These cities are characterized by rapid and uncontrolled growth and strong urbanization driven by rural migration. Ouagadougou and Bobo-Dioulasso have an average growth rate of 7 percent per year between 1996 and 2006, while other urban centers are growing even faster (8.5 percent per year). Newcomers often settle in areas that are not covered or recognized by official urban planning. The selection of urban areas also considers the low level of production and pumping capacity in the Kaya and Yako, the reinforcement of which will be the basis to improve services to satellite towns of Korsimoro-Boussouma, Gourcy, and Boussé. Finally, the Program will intervene in four new centers where the current access to improve water supply is below 30 percent.

10. In rural areas the Program will intervene in four targeted regions: Hauts-Bassins, Boucle du Mouhoun, Cascades, and Southwest. These regions were selected based on the low rates of access to improved water supply (less than 70 percent), which are among the lowest rates of the country; and, the low rates of access to improved sanitation facilities (less than 12 percent), also among the lowest in the country. The selection also considered the on-going support provided by other developing partners like the French Development Agency (Agence Francaise du Développement), the EU, United Nations Children's Fund (UNICEF), and other donors in the remaining nine regions.

11. The Program will intervene in selected beneficiary communities within 64 municipalities distributed among the four targeted regions as follows: 24 of the 47 municipalities in the Boucle de Mouhoun Region; 10 of the 17 municipalities in the Cascades Region; 16 of the 33 municipalities in the Hauts-Bassins Region; and 14 of the 28 municipalities in the Southwest Region. The selected beneficiary communities are expected to gain access to improved water supply at the household level or at the communal level, and access to improved sanitation at the household level by means of improved latrines. The selection of the beneficiary communities will be based on a number of criteria, of which the most important will be: (a) availability of water sources, developed by other projects or by this program, so that people in the community can gain access to improved water supply; (b) completion of sanitation, hygiene and behavioral change campaigns; (c) commitment of the municipal authority towards latrine campaigns and reduction of open defecation; and, (d) level of commitment of the households in the community to build the superstructure of the latrines with their own resources. Whereas household commitment is expected to be 100 percent, a minimum of 80 percent will be required. This will ensure that the Program brings about a robust solution to water and sanitation challenges and maximizes the impact of IDA support. The Program will intervene in selected beneficiary municipalities at the household level and at the communal level to the possible extent.

² For Dédougou, Nouna, and Bobo-Dioulasso the Program will intervene only for sanitation as DANIDA is currently intervening in these three urban centers on water supply.

1.3 RA 1. Improved access to water supply

Context

12. **On the urban water front** major policy reforms of the water sector, coupled with a utility transformation program³ and important capital investments, led to a significant increase in access to improved water in urban areas from 37 percent to 91 percent between 1990 and 2016 (Table 4). Today ONEA is considered one of the best-performing water utilities in Sub-Saharan Africa, with 2.8 staff per 1,000 connections, 18 percent of NRW, and 92 percent of the urban population provided with access to improved water.

Table 4. Access to urban drinking water by regions within ONEA centers

Region	Population (#)	Household connections (#)	Standposts (#)	Population served (#)	Access rate (%)
Ouagadougou	2 560 049	248 647	1 885	2 544 568	99
Bobo-Dioulasso	1 154 970	75 176	905	1 018 322	88
North West	749 054	44 192	890	618 208	83
North East	677 413	32 446	639	505 611	75
Total	5 199 859	400 461	4 319	4 686 709	91

Source: ONEA 2016 Annual Report

13. Looking forward, the sustainability of the urban water sector faces two major challenges associated with the low water availability and weak financial viability. An increased demand for water resources is driven by strong population growth and urbanization, which is aggravated by an uncontrolled expansion of the urban space. In some regions, addressing increased demand is challenging in view of the low availability of groundwater resources in the hard rock aquifers that cover 80 percent of the territory.⁴

14. ONEA has been able to maintain its financial equilibrium as it is able to fully cover operation and maintenance (O&M) costs and debt service, and even make a partial contribution to capital investments, with the revenues collected from its operations. However, ONEA's financial viability is threatened by: (a) the lack of regular tariff adjustments to reflect pass-through changes to operational expenditures such as energy, chemicals and labor; (b) a tariff structure that heavily relies on industrial and commercial customers to subsidize the lifeline tariff, which applies to every customer regardless of income level; (c) the significant change in the customer profile, whereby increasingly more customers fall under the highly subsidized lifeline tariff below 8 m³ per month; (d) rapid urbanization, in particular of Ouagadougou and Bobo-Dioulasso peri-urban areas that require significant investments to expand the services; and (e) the absorption of fast growing centers where the existing water infrastructure is limited.

³ Key measures taken include the recruitment of dedicated and experienced management staff, the increase in water supply by the construction of the Ziga Dam, a service contract with a private operator, and the introduction of cross-subsidy tariffs and block rates.

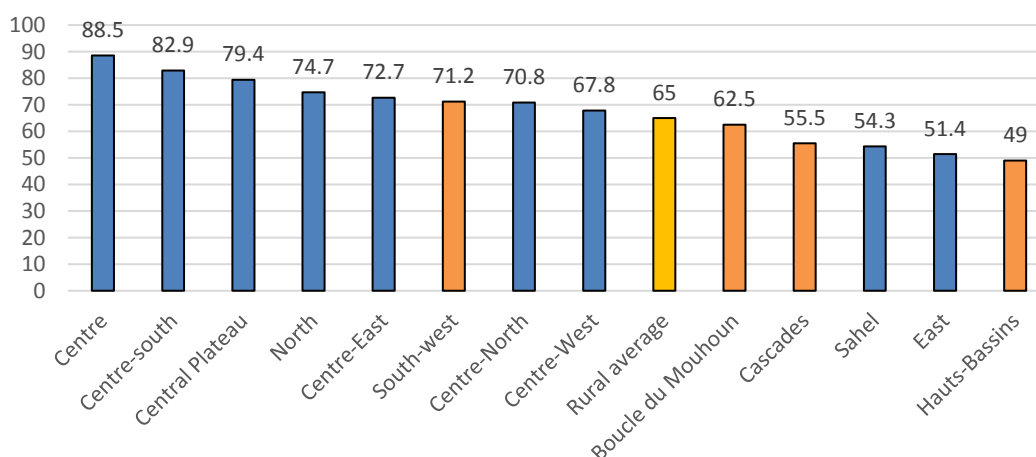
⁴ High yield sedimentary aquifers cover 20 percent of the territory and are mainly located in the South West. Sedimentary aquifers in the North and South East of the territory are small.

15. ONEA’s financial equilibrium is largely sustained by one main center: Ouagadougou. 60 percent of ONEA’s revenue is derived from water supply connections within the city of Ouagadougou alone, hence cross-subsidizing services to secondary and smaller centers. Although non-revenue water in the Ouagadougou system can be considered acceptable by international standards, it has increased during the last three years from 17 percent to 18.3 percent and 18.7 percent due to increased physical losses in the distribution network.

16. The Program provides incentives to ONEA to address the threats to its financial viability by means of: a new tariff structure that better allocates costs while remaining affordable to low income people; the sectorization of the Ouagadougou water distribution network, combined with a leak detection program; improved customer management services; and an energy audit to reduce energy costs. All these planned activities should significantly improve the financial performance of ONEA.

17. **On the rural water front** progress has been accompanied by a major service delivery reform. Between 1990 and 2016 access to an improved water sources increased from only 10 percent to 65 percent, though significant disparities remained with the southwestern regions mostly lagging (Figure 1).

Figure 1 Rural access rate to improved water supply, by region



Notes: [1] Column in yellow denotes the average of the 13 regions for access to rural water supply; [2] Columns in orange indicates the four targeted regions included in the Program

Source: Balance Report of the PN-AEPA 2015

18. In 2000 the GoBF introduced a substantial reform for the service provision in rural water supply. Stand-alone boreholes equipped with hand pumps needed to be managed by water users’ associations (WUAs) through a delegation agreement signed between the municipality and the WUA. Furthermore, in 2009 the GoBF transferred the responsibility of the provision of water supply and sanitation services to municipalities, except for those under the responsibility of ONEA. Measures have been implemented to revitalize the WUAs. The technical agent and president of the municipal council play an important role as representatives of the municipalities in these agreements. The maintenance and repair of the pumps is ensured by a private provider based on a contract signed with the municipality. Rural water supply systems are to be managed by a third party (private operators, NGOs, or ONEA) recruited by the municipality based on public bidding.

19. The successful implementation of the reform is demonstrated by a remarkable functionality rate: 88.6 percent for the hand pumps and 84.3 percent of the rural water systems. Currently, 6,834 WUAs of 8,059 recognized WUAs had signed a delegation agreement with the municipality (84.8 percent); 155 of 623 recognized private providers had signed a contract for O&M; and 12 operators

had been delegated the management of 445 water supply systems (60 percent of the existing 780 systems), of which 22 are operated by ONEA and 267 by private operators (mainly local). In 2014, the GoBF undertook several initiatives to address the challenge of securing provisions for O&M and extend rural water supply systems such as adopting the AMOC, developing a tariff study for rural water; and developing a public-private partnership (PPP) strategy for the water sector.

20. To further progress in rural areas, the sector needs to increase water production capacities in low yield hard rock aquifers, which cover 80 percent of the territory. Other challenges include professionalizing private sector operations, improving the management of water supply systems, strengthening local capacities for the management of water supply systems, and ensuring equal access to water supply and sanitation services across regions.

Description of activities

21. For urban water this RA supports the priorities of the GoBF established in the PNDES, the PN-AEP, and the Ouagadougou Water Master Plan. The Program will incentivize the development of priority infrastructure to improve urban water supply service delivery: (a) expand access to improved water supply; (b) expand water production capacity, pumping and storage facilities in selected urban centers; (c) increase metered service connections (household and public standposts); and, (d) develop a master plans for Ouagadougou for after 2030, and pre-feasibility studies for secondary centers included in the Program.

22. In Ouagadougou the Program will support: (a) the increase in the storage capacity of 8,000 m³, (b) the extension of the network of 725 km, (c) the installation of 70,000 social connections and the construction of 100 standposts, including in two informal neighborhoods of the city; and (d) a comprehensive study that identifies alternative sources of water to ensure water supply to the city beyond 2030.

23. In secondary centers the Program will support significant water supply system enhancements. In response to the increasing water demand in the centers of Yako, Gourcy and Boussé, the Program will increase the water production capacity (with 500 m³/h), expand distribution (163 km of network) and increase connections (2,575 connections and 50 standposts). Similarly, the Program will support the extension of the Kaya system to include the Korsimoro and Boussouma secondary centers and adding production capacity (200 m³/h), the increase in the storage capacity of 2,600 m³, the extension of the network of 125 km, and the installation of 3,100 social connections and 60 standposts. Finally, the Program will support the creation of four stand-alone water supply systems in Gon-Boussougou, Mogtédo, Béguédo, and Tiébélé with a total combined production capacity of 6,330 m³ per day; a storage capacity of 1,200 m³; and the installation of 92 km of network, 6,210 social connections, and 123 standposts. In addition to infrastructure works, the Program will support the development of master plans based on the priorities established by the PN-AEP.

24. The Program seeks to incentivize improvements in the operational and financial efficiency of ONEA by: (a) improving the GIS system; (b) sectorizing the water supply network in Ouagadougou to identify and reduce water losses, based on the recommendations of the on-going non-revenue water study financed by AFD; and, (c) strengthening the capacity of its operational and management staff by means of technical and training programs, and short-term training programs supported by the PforR, and the hiring of key specialists. In the POM an indicator on the “Ratio of volumes of potable water billed to potable water produced in the Ouagadougou system”, based on the indicator included in ONEA’s Contract Plan, will be included to monitor the level of water losses.

25. The Program also seeks to incentivize the strengthening of ONEA's financial equilibrium by: (a) adjusting the existing water supply tariff and adopting a new water supply structure⁵; (b) optimizing production costs (improve energy efficiencies during operational management and strengthen the capacities of staff in the management of water losses); and (c) developing tools and applications to improve customer support and monitor service performance.

26. **For rural water** the Program will support (a) the installation of 1,100 boreholes equipped with hand pumps, including 400 in health centers and schools; (b) the construction of 90 new water supply systems; (c) the rehabilitation of 60 existing water supply systems; and (d) the development of 10 feasibility studies for clustered water supply systems. To optimize water service provision costs the Program will promote solar pumping, as also intended in the PN-AEP⁶.

27. The Program will incentivize the strengthening of its human capital by providing training opportunities to staff at ONEA, the DGEP, DREAs, and municipal technical services, and the hiring of selected specialists, in particular at the municipal level in support of the AMOC.

28. Asset management will be aligned with the policies for water supply in Burkina Faso. Stand-alone boreholes equipped with hand pumps will be managed by WUA. The operation and management of water supply system will be delegated to a third party, such as an NGO, a private operator, or ONEA. The management of the water supply system by the partner follows the prescriptions of the tariff study, the PPP strategy and the AMOC. The service contracts for the management of the water supply system will be for a renewable contract period of 15 years and at least 20 supply systems will be assigned per operator. The rehabilitation of 60 existing systems may be carried out by a private partner that will be responsible for the management of the works and will also mobilize the financial resources to enable an expansion of the network that responds to the water demands until 2030.

29. The indicative number of household connections, standpoints and boreholes by year, by rural and urban areas, is presented in Table 5.

Table 5. Indicative Schedule of Connections Per Year [1]

Targeted Area	Type of improved water source	POM Indicator [3]	YR 1	YR 2	YR 3	YR 4	YR 5	Total
Urban	Household connection	Number of new household connections build under the Program in target urban areas	18,000	20,500	20,500	20,500	2,385	81,885
	Standposts	Number of new standpost build under the Program in	50	150	100	33	0	333

⁵ A tariff study will be conducted and take into account the affordability, efficiency and required investments to achieve the targets of SDG 6. This tariff study will lead to a new tariff model and tariff structure.

⁶ The option to power the water supply systems by solar energy will be considered a priority. Since the 1990s, Burkina Faso has accumulated considerable experience in the use of solar energy for water supply systems, including the Regional Project Phase Solar I (PRS-I) and Phase II (PRS-II). The electrical network of the SONABEL or other producers of electricity should supplement/complement the solar energy where this is needed. The use of thermal generators should be considered as a last resort and only in combination with the solar systems. Thermal generators should only be considered in areas without electricity network and when water production does not cover the daily needs of the locality with the operation time of the only source of solar energy.

Targeted Area	Type of improved water source	POM Indicator [3]	YR 1	YR 2	YR 3	YR 4	YR 5	Total
		targeted urban areas						
Rural	Household connection	Number of household new connections build under the Program in target rural areas	392	504	304	0	0	1,200
	Standposts	Number of new standpost build under the Program in targeted rural areas	315	401	254	0	0	970
	Boreholes equipped with manual operated pumps for household use [2]	Number of new boreholes equipped with manual operated pumps for household use build under the Program in targeted rural areas	192	443	65	0	0	700
Total	Household connection	Number of household new connections build under the Program	18,392	21,004	20,804	20,500	2,385	83,085
	Standposts	Number of new standpost build under the Program	365	551	354	33	-	1,303
	Borehole for household use [2]	Number of new boreholes equipped with manual operated pumps for household use build under the Program	192	443	65	-	-	700

Notes: [1] Figures per year (not cumulative); [2] The total number of boreholes financed by the Program is 1,100 (all in rural areas), of which 700 will be installed for household use and 400 in institutions such as schools and health centers; [3] The POM will included the indicators presented in the table

30. The results included in the table above will be monitored as part of the Program Implementation Plan. For that end, the POM will include the indicators presented in Table 5.

31. The norms regarding the number of people served per type of water source are presented in Table 6.

Table 6. Norms Applicable for the Calculation of Beneficiaries

Type of Connection/Facility	Number of People per Type of Connection/Facility		
	Urban		Rural
	Ouagadougou	Other urban centers	
Household connection	6	7	10
Standpost	300	400	500
Borehole equipped with hand pumps	Not applicable		300

32. *Long-term water supply sustainability.* Through the DLIs the Program encourages measures that will allow for more efficient and accountable water supply service delivery. This includes, among others adjustments of the existing urban water supply tariff; adoption of new tariff in urban and rural areas, which would enable financial equilibrium while maintaining affordability to low income people; support for the delegation of rural water systems to independent operators; strengthened the M&E function; and roll over of a substantial human capital strengthening program, which includes the hiring of staff for the MEA, ONEA, an/or municipal technical services. These measures

are critical elements for the long-term sustainability of the sector, and will have positive impacts on service delivery.

33. The development of citizen engagement guidelines will ensure the effective participation of and consultation with local people, targeted beneficiary community, and vulnerable groups, and will include adequate gender-sensitive consultations in selection of interventions, management of WUAs, and in implementation of all the components of the Program.

1.4. RA 2. Improved access to sanitation

Context

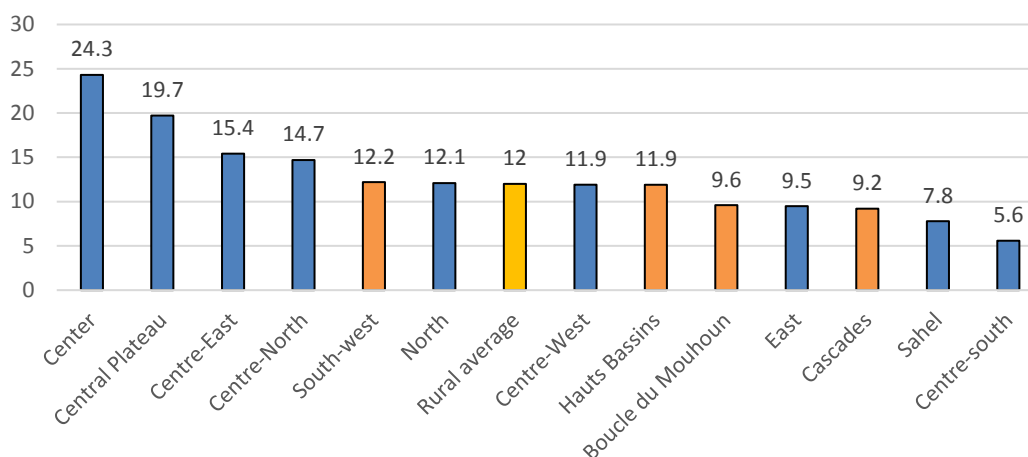
34. **In urban areas**, only 38 percent of the population has access to adequate sanitation services (Table 7), with about 12.8 percent of the urban population still practicing open defecation. Among those that use latrines, 12.9 percent of households have improved latrines, while 87.1 percent of households continue to use inadequate facilities (non-hygienic traditional latrines). Despite the close-to-universal reliance on on-site sanitation facilities, sludge emptying is informal and only four sludge treatment plants exist in Ouagadougou and Bobo-Dioulasso with a combined treatment capacity of less than 1,000 m³/day of sludge. Sewerage networks only exist in Ouagadougou business district and serve less than 1 percent of Ouagadougou's population. Sanitation fees are insufficient, varying between US\$0.03 and US\$0.10 per m³ of water consumed, depending on the type of sanitation facility.

Table 7. Access to sanitation services by regions within ONEA centers

ONEA's Region	Population (#)	Household facilities (#)	Sewer connections (#)	Population served (#)	Access rate (%)
Ouagadougou	2 594 465	124 996	1 105	1 261 009	49
Bobo-Dioulasso	1 167 868	37 899	274	381 730	3
North West	755 366	19 474	-	194 737	6
North East	682 161	15 524	-	155 236	23
Total	5 199 859	197 892	1 379	1 992 712	38

35. **In rural areas**, only 14 percent of the population have access to improved sanitation facilities and around 75 percent of the rural households still practice open defecation (Figure 2). Awareness campaigns and education and behavioral change programs are needed to increase access to sanitation in Burkina Faso, since part of the population does not understand or is not convinced of the beneficial effects of latrines.

Figure 2 Rural access rate to improved sanitation, by region



Notes: [1] Column in yellow denotes the average of the 13 regions for access to improved sanitation in rural areas; [2] Columns in orange indicates the four regions of the Program support for improved sanitation in rural areas

Source: Balance Report of the PN-AEPA 2015

36. Latrines in schools, health centers and public places in both urban and rural areas, are insufficient and often poorly built and without permanent handwashing facilities. In addition, the existing ones are often poorly managed and insufficiently maintained leading to the latrines not being utilized or abandoned.

37. Adequate planning, managing and monitoring of sanitation services require the participation and involvement of many stakeholders (ranging from central to regional and local level government institutions, sanitation specialists, NGOs, private operators, masons, sanitation committees and people in general). The Program will support and provide incentives for addressing current issues in targeted areas, which the GoBF could scale up to the rest of the country, and for strengthening human capital at national, regional and local levels.

Description of activities

38. This RA supports the priorities of the GoBF established in the PNDES (2016–2020), the PN-AEUE and Ouagadougou's Strategic Sanitation Plan. The Program will support and incentivize increasing access to sanitation services, by means of: (a) awareness and behavioral change campaigns aiming at improving hygiene practices and promoting the use of latrines; (b) provision of partial subsidies for household latrines, provided that sufficient demand is generated and the household is committed to complete the latrine superstructure; and (c) provision of sanitation cabins in schools, health centers and public places in blocks equipped with permanent handwashing facilities, including developing management arrangements to ensure that latrines are operational and adequately maintained.

39. In targeted urban areas the Program will support: (a) the construction of 42,500 new household latrines and the rehabilitation of 42,500 latrines in targeted ONEA urban centers (only type VIP or TCM) (Table 8); (b) the construction of 1,050 new sanitation cabins with male, female, and handicapped compartments, provided with water and permanent hand-washing facilities, at schools, health centers and public places; (c) the development of sanitation plans in eight secondary centers. Fecal sludge management will be improved by strengthening capacities in the cities of Ouagadougou and Bobo-Dioulasso by developing a fecal sludge management strategy.

Table 8 Distribution of household latrines and sanitation cabins, by ONEA center

ONEA Center	Number of household latrines	Number of sanitation cabins
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	(VIP or TCM)	Schools	Health centers	Public Places	Total
Ouagadougou	50,000	195	36	99	330
Bobo-Dioulasso	20,000	135	24	66	225
Kaya	3,000	21	9	15	45
Dedougou	2,000	21	6	18	45
Gourcy	2,000	21	6	18	45
Nouna	1,500	18	6	18	42
Yako	1,250	15	6	18	39
Gombousgou	500	15	3	21	39
Mogtedo	1,000	15	6	21	42
Beguedo	1,000	15	3	21	39
Tiebele	625	15	3	21	39
Bousse	1,000	15	6	21	42
Korsimoro	750	15	3	21	39
Boussouma	375	15	3	21	39
Total	85,000	531	120	399	1,050

40. These activities will be in line with the operational implementation strategy of ONEA, focused on generating demand by means of awareness and behavioral change campaigns, and based on the principles of local stakeholder involvement. Information and awareness campaigns will promote the development of local actors, such as artisans and small businesses, to participate in the delivery of latrines by manufacturing their components and building the latrines. These latrines will be built in areas and to households that, following sensitization campaigns, have a demand for latrines and are committed to pay for or build its superstructure, and to operate and maintain the latrine and follow adequate hygiene practices.

41. In the selected rural municipalities of the four targeted regions, the Program will support: (a) the construction of 50,000 new household latrines (only type VIP) (Table 9); (b) the provision of 10,200 sanitation cabins with male, female, and handicapped compartments, provided with water and permanent hand-washing facilities, to be located at schools, health centers, and public places; (c) the implementation of community awareness and behavioral change campaigns at the municipal level; (d) the development of key research in the sanitation field; and (e) the development of strategies for adequate management and sustainability of public latrines. The capacity of MEA, the DGA, and municipal technical services will be strengthened by providing technical support, tracking progress, and ensuring a continued social mobilization in the area of sanitation and water supply at the municipal level.

Table 9 Distribution of VIP household latrines, by targeted region

Targeted region	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Boucle du Mouhoun	0	5,850	5,850	5,850	1,950	19,500
Cascades	0	2,700	2,700	2,700	900	9,000
Hauts Bassins	0	4,200	4,200	4,200	1,400	14,000
Sud-Ouest	0	2,250	2,250	2,250	750	7,500
Total	0	15,000	15,000	15,000	5,000	50,000

42. In view of the low capacity of local actors, in rural areas the construction of new latrines, except for its superstructure, will be executed by construction companies that will be accompanied

and supervised at all times (in anticipation, during construction, and post construction) by a social engineering company, in addition to the needed supervision of works. Procurement of construction companies will be done competitively in packages that will group communities where the sensitization campaigns have generated a minimum participation of the households that want latrines and are committed to build the superstructure and to an adequate use of the latrine. In order to strengthen the capacity of local communities to build and rehabilitated latrines after the latrines had been constructed, the contracts will include a capacity building role whereby local masons and artisans are trained in the fabrication of spare parts and installation of latrines.

43. In order for the result to be verified as per DLI 4, all household latrines built under the Program must comply with the technical specifications by the national government and have the superstructure completed. The indicative number of household latrines by year, by rural and urban areas is presented in Table 10.

Table 10. Indicative Schedule of New Household Latrines Per Year [1]

Targeted Area	YR 1	YR 2	YR 3	YR 4	YR 5	Total (cumulative)
Urban	15,000	20,000	20,000	20,000	10,000	85,000
Rural		15,000	15,000	15,000	5,000	50,000
Total	15,000	35,000	35,000	35,000	15,000	135,000

Note: [1] Figures per year (non- cumulative)

44. In order for the result to be verified as per DLI 5, all sanitation cabins built under the Program in urban and rural areas must comply with the technical specifications by the national government, including that the blocks of latrines are equipped with permanent handwashing facilities and cabins for male, females, and handicapped. A cabin for females with menstruation should be part of the block of latrines. A cabin is defined as an improved latrine with a door dedicated for individual used at a time. Also, the Program will incentivize the adoption of a facility management plan so to guarantee that institutional latrines are operational and properly maintained. Further specifications will be provided in the POM.

45. The indicative number of sanitation cabins built in in rural and urban areas, and by year is presented in Table 11. The POM should include indicators to allow tracking of the results presented in Table 11 by rural and urban areas.

Table 11. Indicative Schedule of new sanitation cabins, per Year [1]

Targeted area	Type of institution	Year 1	Year 2	Year 3	Year 4	Year 5	Total (cumulative)
Rural	Schools	-	700	1,400	1,400	700	4,200
	Health centers	-	400	1,200	600	200	2,400
	Public places	-	600	1,200	1,200	600	3,600
Urban	Schools	90	180	141	120	-	531
	Health centers	30	30	30	30	-	120
	Public places	30	90	129	150	-	399
Urban and rural	Schools	90	880	1,541	1,520	700	4,731
	Health centers	30	430	1,230	630	200	2,520
	Public places	30	690	1,329	1,350	600	3,999
	Total	150	2,000	4,100	3,500	1,500	11,250

Note: [1] Figures per year (non- cumulative)

1.5. RA 3. Improved access to reliable information on water resources

Context

46. The sustainability of water resources is a significant concern in Burkina Faso, in particular, in view of the multiple water uses that underpin the economy such as agriculture (80% total employment), hydropower, domestic water supply, and industry (mining). Domestic water supply is strongly dependent on groundwater resources, particularly in smaller towns and rural areas. In Bobo Diolasso drinking water supply relies entirely on groundwater while for the capital groundwater reserves represents a reliable source of freshwater in the dry season. In Ouagadougou less than 20 percent of water supply is from groundwater sources.

47. **Challenges.** Rapid population growth, climate change, environmental degradation, and pollution of water resources⁷ increases the vulnerability of Burkina's hydrological systems. Evidence-based decision making and water allocation models is hampered by insufficient, unreliable, and outdated knowledge of the location and quantity of surface and groundwater resources. Furthermore, economic development is often concentrated in certain parts of the country (growth poles) and as such a very high localized water demand increases pressure on water resources. This will require improving and expanding the existing monitoring network of surface and groundwater at national scale and disseminate the water-related information. Even though there still are uncertainties related to the conclusions issued from the climate models, Burkina Faso is vulnerable to climate change.

48. In view of the scarcity of surface water, on the one hand, and of the heavy demands for groundwater on the other, the knowledge of groundwater resources becomes a fundamental aspect for their sustainable management. An adequate knowledge of the resource (the location and characterization of the aquifers, the amount of water available, the development of the resource under the effects of climate and well pumping, the water pollution risks, etc.) should allow for evidence based decision making, in particular for water allocation across sectors and uses. The Program provides incentives for the development of a decision and support model for the management of the aquifers to better understand ground water resources laying in the hard rock aquifer and the western sedimentary aquifer. Likewise, the design and equipment of an optimized piezometric network is planned, in order to sustain a continuous monitoring of groundwater resources.

Description of activities

49. This RA supports the priorities of the GoBF established in the PN-GIRE 2016–2030. The Program aims at strengthening IWRM by: (a) strengthening surface water knowledge and monitoring ; (b) strengthening groundwater knowledge and monitoring; and (c) operationalizing the SNIEau.

50. Strengthened surface water knowledge and monitoring. Under this RA, the Program will support: (a) the optimization of the existing hydrometric network by undertaking a study for the optimization of the network, acquiring and installing needed equipment and software to modernize maximum of 20 stations, and equipping and training the staff of the departments in charge of data

⁷ Water resources are increasingly polluted due to mining and industrial, agricultural (pesticides and herbicides for cotton), and even lack of urban sewage facilities.

collection (Unités de Collecte et de Diffusion de l'Information sur l'Eau [UCDIEau] at the MEA); and, (b) the optimization of the surface water quality network by undertaking an study for optimization of the network, and undertaking semi-annual sampling campaigns.

51. Strengthened groundwater knowledge and monitoring. Under this RA, the Program will support: (a) the optimization of the existing piezometric network by undertaking a study for the optimization of the network; (b) the organization and update of existing data on groundwater resources; (c) the development of productive boreholes in the hard rock aquifer by undertaking a multicriteria analysis for the identification of 50 favorable zones for productive boreholes and the drilling of 50 productive boreholes; and, (d) the development of a model for the management of aquifers of the western sedimentary basin by undertaking geophysical seismic and electric campaigns, the drilling of 16 deep recognition wells equipped with 14 piezometers, reports on water withdrawals, and calibrated geological and hydrogeological models.

52. Operationalization of the SNIEau. Under this RA, the Program will support the operationalizing of the already created SNIEau to make water-related data publicly available for users and policy makers. This includes: (a) providing support for the development of the SNIEau web-platform to be used for data dissemination, (b) preparing of a draft decree to institutionalize the SNIEau, (c) establishing data exchange protocols between SNIEau and its partners, and (d) publicizing the water data repository. All the water resource information developed under RA 3 should be made available through the SNIEau. The data obtained from the DISE system will be available through the SNIEau, as well as all the process and results for the technical and training programs financed under the Program. Emphasis will be placed on improving quality of and access to water information, and on expanding public access beyond data to analytical results (trends, water balance, among others).

1.6. Cross-cutting. Human capital strengthening

Context

53. The human resources base for water supply, sanitation, and WRM is limited in terms of number of staff and skills set. This has been identified as a key constraint for the development of the sector by the PGEA 2016-2030. The operation plan of the PGEA seeks to ensure an efficient, effective and quality management of the human resources by developing plans for: (a) the development and forward planning of human resources of the actors of the water and sanitation sector; and (b) improving managers' managerial capacities. The PGEA places an important emphasis on increasing the participation of women on technical and leadership positions.

54. The relative low number of staff vis-à-vis the needs are explained by the lack of financing of institutions, in particular for municipal technical services; and the lack of financing of students to access education. The shortages in general are significant and concern the following profiles⁸: technical field: hydro-geologists, geophysicists, hydrologists, civil engineers; technical field (other): agronomists, architects, mechanical engineers; administration and finance: managers, accountants, secretaries, administrative staff; and, social development specialists: sociologists, community mobilization, and lawyers, communication specialists, health workers (health education).

⁸ Mapping human resource capacity gaps in the water supply and sanitation sector. Data collected 2011-2012, report published April 2013. International Water Association.

55. The deficit in staff numbers is compounded by the fact that current staff in MEA, ONEA, and municipal technical services are not adequately and appropriately educated to meet the challenges of increasing drinking-water and sanitation service provision, and IWRM.

56. *Human resource capacity of MEA.* Most of MEA's staff are within the management and finance discipline, including large numbers of supporting staff (administrative, and secretary functions). The technical staff are limited and MEA faces a barrier in hiring due to market constraints, in particular in regard to WMR. Only 44 percent (i.e. 319 specialists of 734 total employees) of MEA staff is composed by experts that are mainly specialized in rural development and engineering, with a major challenge in the field of surface water and ground water resources. MEA is particularly understaffed of technicians⁹ in the field of hydraulic structures and rural works. It is estimated that a total of 340 specialists are additionally required (of which 70 in the field of WRM and 270 in the field of rural water and sanitation) to enable MEA to fulfill its mission.

Table 12 MEA staff, by job type and gender

Job type	Men	Women	Total	% of woman
Technical	251	68	319	21
Non- technical	269	146	415	35
Total	520	214	734	29

57. *Human resource capacity of ONEA.* At ONEA, 57 percent of total employees are technical staff (i.e. 534 specialists of 929 total employees). ONEA is expanding its services into new centers and these will require more technical staff. Also, as ONEA is advancing in expanding its sludge treatment capacity, waste water capacity, and extension of sewerage additional staff trained in these areas is required.

Table 13. ONEA staff, by job type and gender

Job type	Men	Women	Total	% of woman
Technical	514	20	534	4
Non- technical	235	160	395	41
Total	749	180	929	19

58. *Human resource capacity of municipal technical services.* In the four regions where the Program will intervene for rural water supply and sanitation activities, technical municipal services are currently understaffed or have not staff at all, limiting their ability to take over the functions assigned as part of the decentralization process. Municipal services are supposed to be staffed by at least one technical expert on water supply and sanitation, but this is often not the case. The AMOC foresees significant support for supporting the staffing of technical services with qualified staff by providing financial resources from MEA to the hiring of technical staff. The financial resources are expected to completely fade out in 10 years, but intend to fully finance the salaries of the technical services for 5 years, and thereafter to partially fund them.

59. *Gender.* Women represent a small share of the total staff of MEA and ONEA, and even a lower share of the technical staff. Within MEA only 29 percent all staff are woman; and the

⁹ The number of technicians should be more than doubled for handling the implementation of all planned structures

percentage drops to 21 percent when considering the share of women in technical positions. In ONEA, women represent only 19 percent of the total labor force; and the participation rate of woman in professional positions merely represents 3.7 percent (i.e. 20 female specialists in total).

60. The high proportion of men working in the water supply, sanitation, and WRM sectors is partly explain due to unequal distribution in graduate outputs. Burkina Faso has a legacy of excluding women from the education sector and concomitantly from the workforce. In addition, the prevalence of certain discriminatory perceptions, suggesting that a man is more productive than a woman, favors the recruitment of men. Furthermore, in previous years socio-cultural and economic factors predisposed families to enroll boys in school rather than girls¹⁰.

61. There are several national wide gender equality policies, aiming at: (a) eradicating discriminatory gender practices through encouraging girls' education and the provision of scholarships for women; (b) creating an environment conducive to employing women, as per the rules of the labor law and labor code; and (c) changing the perception that women cannot do the work previously reserved for men.

62. The Program will seek to actively encourage women to apply to the scholarships for technical and training programs provided through the Program, and to benefit MEA and ONEA female staff of the opportunities provided through specialization, doctoral and short-term training. The Program would encourage women to participate by intense communication campaigns in public media (including television, radio, newspapers, and social media) to reach women potential candidates, and publishing opportunities in MEA's and ONEA's websites.

63. **Supply of human resources to the water supply, sanitation, and WRM sectors.** There are several national and international institutions (universities, research institutes, and training centers) available to provide the market with the needed skills to work in the water supply, sanitation, and IWRM sectors. However, the number of people being trained each year for absorption into the labor market, especially IWRM, is not enough to fill the gap. It is a fact that there is a mismatch between the training provided and the needs in the field¹¹.

64. In particular the Centre of Water Businesses of ONEA (CEMAU) provides short term training in project management for communal water supply and sanitation, utility management, simplified water supply systems, production and distribution of drinking water, sanitation (sewage and excreta). This institute trains about 500 people at municipal level each year. After a five-year period of technical assistance (2010-2015), CEMEAU has an organization, facilities, training programs and technical resources that are generally satisfactory¹².

65. The CEMEAU capacity is limited due to weakness of its human resources, mainly as regards the trainers. Today, training is provided almost entirely by external consultants. Their competence is not in question, but their availability is limited and impacts the responsiveness of the CEMEAU to

¹⁰ Mapping human resource capacity gaps in the water supply and sanitation sector. Data collected 2011-2012, report published April 2013. International Water Association.

¹¹ Mapping human resource capacity gaps in the water supply and sanitation sector. Data collected 2011-2012, report published April 2013. International Water Association.

¹² Mission d'appui au developpement et a l'autonomisation du Centre des Metiers de l'eau (CEMAU de l'ONEA. Rapport de fin de mission, 25 août 2016. EU/ONEA.

meet requests for training setup. More seriously, the lack of CEMEAU staff with both pedagogical skills and skills on the themes of the AEPA prevents it from capitalizing on the actions carried out. The pedagogy implemented at CEMEAU, which is also perfectly adapted to the chosen target (operational training aimed at all levels, but mainly workers and technicians, and which privilege the know-how to the theoretical knowledge) uses technical forms, practical work, case studies. These can only be built progressively by specialized thematic trainers¹³.

Description of activities

66. The Program will incentivize the strengthening of the human capital base of the MEA, ONEA and municipalities on two main aspects. On one hand to increase the number of staff in MEA, ONEA and technical services of the municipalities, which currently are severely constrained, in particular for technical fields. On the other hand, to strength the skills of existing staff of MEA and ONEA, the private sector, and municipal actors in critical areas of services delivery, with a particular emphasis on WRM where most of the needs laid. The lack of quality as well as the low numbers of human resources working in the water supply and sanitation sector is directly linked to the low financial capacity of organizations to meet the demands for water and sanitation facilities¹⁴.

67. The Program will finance four types of programs: (a) technical and training programs, (b) specialization, (c) doctoral programs; and (d) short-term training, as follows:

68. **Technical and training programs.** The Program will provide scholarships for technical and training programs that last between 2 to 3 years. These programs are intended to compensate the current under-representation of certain professions within MEA and ONEA in the fields of water supply and sanitation and WRM. Potential candidates should be currently external to MEA/ONEA and will be selected on a competitive basis. Selection procedures are planned at the start of year 1, year 2, and year 3. Financial support will cover tuition, room, board and transportation costs are needed.

69. After completion of technical and training programs, the Program seeks to incentive that a number of graduates of technical and training programs be integrated into the MEA, ONEA, and the municipal technical services ("Public Administration" (Table 14). Therefore, it is expected that the Program provides a solid foundation for the sustainability of results by increasing the current levels of staff within MEA, ONEA and municipal technical services. In line with the provisions of the AMOC, MEA is engaged to provide the funding to pay the salaries of the new hires for the municipal technical services for a total of 10 years, of which 5 years will be fully paid and 5 years will be a partial support. In order to qualify for payment under DLI 7, the staff absorbed by the administration should be hired under a labor contract of at least 5 years duration.

Table 14. Indicative schedule of beneficiaries of technical and training programs [1]

Areas of technical and training programs	YR 1	YR 2	YR 3	YR 4	YR 5	Total
IWRM	45	25	0	0	0	70
Rural water and sanitation	85	80	35	0	0	200

¹³ Mission d'appui au développement et a l'autonomisation du Centre des Métiers de l'eau (CEMEAU de l'ONEA. Rapport de fin de mission, 25 août 2016. EU/ONEA.

¹⁴ Mapping human resource capacity gaps in the water supply and sanitation sector. Data collected 2011-2012, report published April 2013. International Water Association.

Urban water and sanitation	7	3	0	0	0	10
Total beneficiaries of technical and training programs	137	108	35	0	0	280
of which integrated into the administration	0	0	82	65	21	168

Note: [1] Figures per year (non- cumulative), except for total

70. *Specialization.* Specialization programs funded through the Program are to last between 9 months and two years, after which a professional master's degree will be granted. Specialization programs will focus on WRM (see Table 1.15), as this is an area of major deficit within MEA. Potential candidates of specialization programs should be currently employed by MEA and/or ONEA to acquire certain skills and knowledge that will help them to better fulfill their current job.

Table 15. Indicative schedule of beneficiaries of WRM specialization programs [1]

Areas of Specialization	YR 1	YR 2	YR 3	YR 4	YR 5	Total
Hydrogeological modeling	0	5	0	0	0	5
Flood Forecasting	0	0	5	0	0	5
Water Chemistry and Quality Standards	10	0	0	0	0	10
Geological modeling	0	2	0	0	0	2
Information systems	0	0	2	0	0	2
Biology Ecology and Aquatic Ecosystems Management	10	0	0	0	0	10
Total beneficiaries	20	7	7	0	0	34

Note: [1] Figures per year (non- cumulative), except for total

71. *Doctoral programs.* The Program will finance two doctoral students in the fields of IWRM and one doctoral student in sanitation. The selection of students will take place in year 1 and year 2 and the doctoral program will last for 4 years. Doctoral opportunities will be advertised externally and hence staff currently employed by MEA and ONEA can also benefit from these opportunities.

72. *Short-term training.* The Program will incentivize the provision of short term trainings of less than one month for the staff of MEA, ONEA, and municipal technical services, which will be organized as practical or theoretical sessions. A large share of the training programs will be delivered by the CMAU, providing an opportunity for the Center to grow and consolidate its external offerings.

73. The short-term trainings will allow existing staff to update their knowledge and learn from the latest technological or research developments in the areas of water supply, sanitation, WRM, and program management. Also, of particular importance is the training to be provided to CMAU trainers on learning methodologies to reinforce the capacity of the Center to provide the training required under the Program. These trainings will be open to participants throughout the Programs' duration (Table 16).

Table 16. Indicative schedule of beneficiaries of short-term training [1]

Areas of short term training	YR 1	YR 2	YR 3	YR 4	YR 5	Total
IWRM	45	61	55	30	0	191
Rural water and sanitation	60	70	25	0	0	155
Urban water and sanitation	171	123	80	105	0	479

Management and finance	177	152	90	90	0	509
Total beneficiaries	453	406	250	225	0	1334

Note: [1] Figures per year (non- cumulative), except for total

74. The number of beneficiaries of human capital strengthening programs financed under the Program per year are shown in Table 17.

Table 17 Beneficiaries of human capital programs

Type of program [1]	YR 1	YR 2	YR 3	YR 4	YR 5	Total
Beneficiaries of technical and training programs	137	108	35	0	0	280
Beneficiaries of specialization	20	7	7	0	0	34
Beneficiaries of doctoral programs	1	2	0	0	0	3
Beneficiaries of short-term training	453	406	250	225	0	1334

Note: [1] Figures per year (non- cumulative), except for total

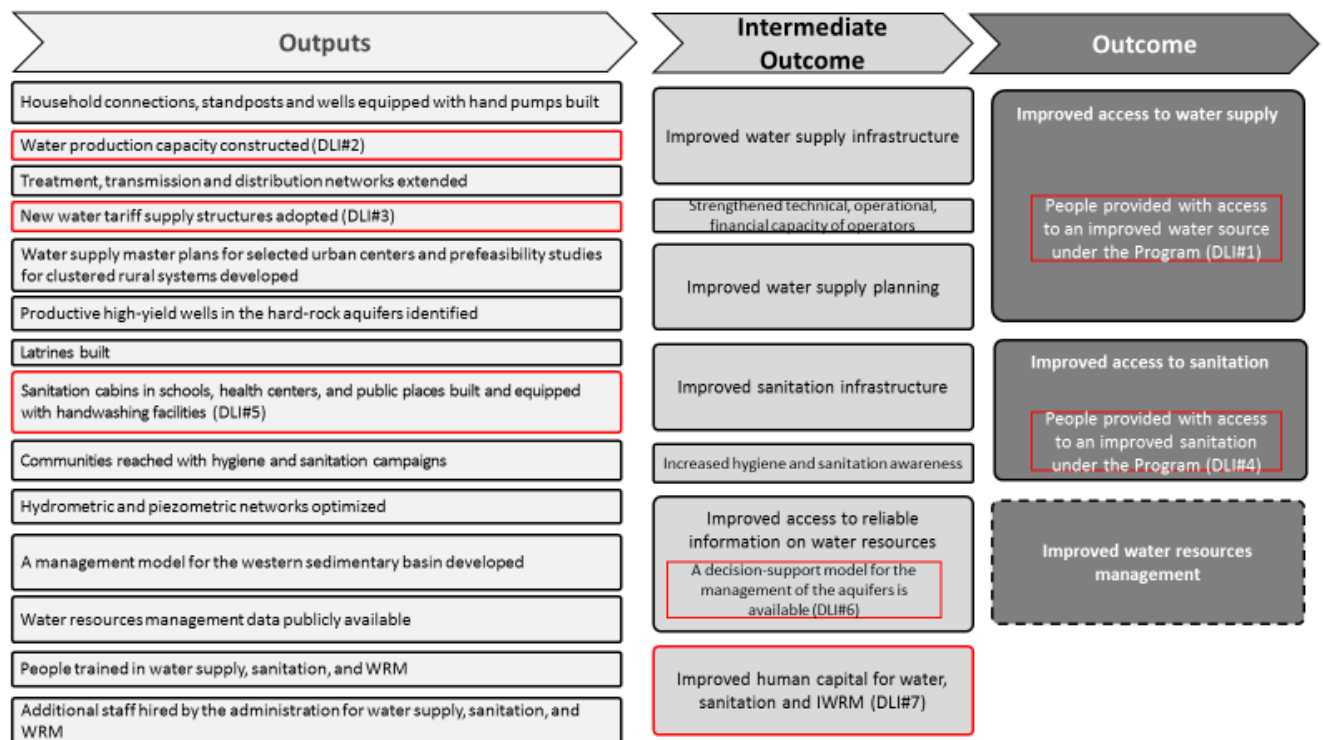
75. The management of the programs financed under the PforR will be delegated to the Human Resources Directorate (*Direction des Ressources Humaines, DRH*) of MEA and ONEA, respectively. The respective DRH will manage the selection process of the beneficiaries of technical and training programs, specialization, and doctorates; and the recruitment processes of the graduates of technical and training programs that will be absorbed by the MEA, ONEA, and municipal technical services. The DRHs will also be in charge of the needed agreements with the institutions (universities, institutes, and training centers) in charge of delivering the programs. Finally, the DRHs will be in charge of consolidating in an annual report the results of the programs financed by the PforR.

76. **Other capacity building activities.** In addition to the four types of programs describe above, the Program includes several capacity building activities to stakeholders in the sector that will also contribute to strengthening the human capital base for water supply and sanitation. This include, among others, training on the following areas

- Contract management, accountability, reporting, new tariff structure, PPP strategy for rural water system for water supply operators
- Management of water supply systems for water supply operators and municipal technical services
- Technical aspects of water supply and sanitation service delivery for water supply operators and municipal technical services
- Manufacturing of sanitation materials, in targeted urban centers for local artisans (masons, bricklayers, etc.), and promote
- Hygiene practices, at the national and local level
- The decision support system for WRM, in both the hard rock aquifer and the western basin sedimentary aquifer.

77. The result chain of the Program is depicted in Figure 3. As shown, the incentives provided by the DLIs constitute key links of the results chain that will work in tandem to achieve the Program development objective.

Figure 3. Program’s results chain



Excluded Activities

78. The Program will exclude activities that are likely to have significant adverse impacts on the environment and/or affected people, including but not limited to schemes that involve construction or rehabilitation of dams that are greater or equal to 10 m in height, sludge treatment plans, extensions of the sewerage system, groundwater-based schemes in overexploited and critical basins that do not integrate source sustainability measures, undertaking of any activity that uses asbestos, and undertaking of any activity involving major land acquisition. It is envisaged that there is no high-value contract exceeding Operations Procurement Review Committee threshold¹⁵ value that would qualify for procurement exclusions.

1.8. Coordination and implementation arrangements

79. A Steering Committee (*Comité de Revue*), chaired by the General Secretary of MEA, will provide oversight of the Program and ensure convergence towards the Program objectives. The Steering Committee will meet twice per year (ordinary sessions), with the purpose of: (a) reviewing and adopting the Program’s implementation plan; (b) reviewing and adopting the Program’s evaluations; (c) reviewing and adopting the financial reports; the annual activity, budget, and procurement plans; among other function established in the Decree 2018-0092 of 2018. The Program will have two implementing agencies: MEA and the ONEA.

¹⁵ Operations Procurement Review Committee threshold value is as follows: (a) works (including turnkey, supply and installation of plant and equipment, PPPs), estimated to cost US\$75,000,000 equivalent or more per contract; (b) goods, information technology, and non-consulting services, estimated to cost US\$50,000,000 equivalent or more per contract; (c) consultant services, estimated to cost US\$20,000,000 equivalent or more per contract.

80. A Program Coordination Unit (PCU) will be established within MEA. The PCU will act as the interlocutor with the World Bank on behalf of the GoBF. The PCU will ensure that the Program is implemented according to the Program Operations Manual (POM), and will be responsible for the coordination, day-to-day management of the Program activities, monitoring results, and generating performance and financial reports on Program implementation. The PCU will be responsible for providing relevant information to the IVA for the independent verification of results. The PCU will be responsible for preparing the consolidated interim financial reports and the consolidated annual financial GoBFments. The PCU will be at least staffed with: a Program Coordinator, a M&E specialist, a procurement specialist, a financial management specialist, an accountant, an environmental safeguard specialist, a social safeguard specialist, and an internal controller. The PCU Program Coordinator, M&E specialist, procurement specialist, and financial management specialist will be recruited on a competitive basis. Furthermore, a full time, dedicated financial and public procurement controller will be appointed by MINEFID and assigned to the PCU to speed up processing of transactions and payments.

81. The ONEA will establish a Program Support Unit (**PSU**) dedicated exclusively to support the implementation of Program activities under the ONEA’s responsibility, and report on results achieved by ONEA. The PSU will be at least staffed with: a PSU Coordinator, a M&E specialist, a procurement specialist, a financial management specialist, an environmental safeguard specialist, and a social safeguard specialist. The PSU Coordinator, M&E specialist, procurement specialist, and financial management specialist will be recruited on a competitive basis. The internal control will be done by ONEA’s Internal Control Department. ONEA PSU will report to the PCU.

82. Program activities will be implemented by MEA’s directorates and ONEA departments. Formal implementation responsibility has been established as follows:

- Within MEA, the General Directorate for Water Supply (*Direction Générale de l’Eau potable, DGA*) and the General Directorate for Sanitation (*Direction Générale de l’Assainissement, DGA*) will implement the Program activities related to rural water supply and rural sanitation included in RA 1 and RA 2. The DGA and DGEP will work through the Regional Directorates for Water and Sanitation (*Direction Régionale de l’Eau et de l’Assainissement, DREAs*) to implement Program activities related to rural water supply and sanitation, in particular to ensure data collection for the verification of results. The Permanent Secretariat for Integrated Water Resource Management (*Secrétariat Permanent de la Gestion Intégrée des Ressources en Eau, SP-GIRE*) will implement the activities under RA 3, working in close collaboration with the General Directorate for Water Resources (*Direction Générale des Ressources en Eau, DGRE*). The Human Resources Directorate (*Direction des Ressources Humaines, DRH*) will be in charge of the management of the programs for human capital strengthening supported the Program related to MEA and the municipal technical services.
- Within ONEA, the Ouagadougou Works Department (*Direction Projec AEP Ouaga, DPAEP*) will implement the Ouagadougou water supply-related activities included in RA 1. The Department of Planning and Investment (*Direction de la Planification et des Investissements, DPI*) will implement the urban water supply-related activities in the remaining 10 urban centers where the Program will intervene for urban water supply. ONEA’s Department of Sanitation (*Direction de l’Assainissement, DASS*) will implement all the sanitation-related activities included in RA 2 in the fourteen targeted urban centers. ONEA’s DRH will be in charge of the management of the programs for human capital strengthening supported by the Program related to ONEA.

Table 18. Role of MEA and ONEA Departments in relation to RAs

Results Area (RA)	Urban	Rural
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RA 1. Improved access to water supply	ONEA/ Department of Water Investments for Ouagadougou ONEA/ Department of Water Investments for Secondary Centers	MEA/DGEP
RA 2. Improved access to sanitation	ONEA/ Division of Sanitation	MEA/DGA
RA 3. Improved access to reliable information on water resources	MEA/ SP-GIRE	
Cross cutting. Human Capital Strengthening Activities	ONEA/DRH	MEA/DRH

83. The MINEFID plays a central role in achieving the Program results. The MINEFID will be responsible for the execution of the Program budget (ensuring fund flows) and setting standards and processes for the financial management of the Program.

84. Given the complex and multidimensional nature of the program, and in view of its implementation challenges, the DGA, DGEP, SP-GIRE and ONEA departments will be assisted by strategic implementation support consultants (**SISC**) in technical aspects, including providing technical inputs into: (a) TORs, feasibility level and detailed design studies, (b) tendering and procurement processes, and (c) quality control of main deliverables of studies conducted under the Program. The SISC will be competitively selected with relevant national and international experience. The SISC will provide support and guidance and provide the opportunity for implementing agencies' staff to learn on the job. It is important that the TOR for the SISC give adequate emphasis to this capacity development role.

85. Given the GoBF's desire to initiate Program implementation immediately after declaration of effectiveness, it has been agreed that conditional to the extension of the closing date of the on-going Urban Water Sector Project (currently December 31, 2018), remaining Project funds will be available for financing the PCU, the PSU, and the SISC, and the Government will shortly initiate the process of recruiting the PCU and PSU staff and hiring the SISC.

II. STRATEGIC RELEVANCE

86. The three Result Areas of the Program will contribute to the achievement of SDG6, which calls for universal and equitable access to safe drinking water, sanitation and hygiene for all by 2030. In particular, PforR will contribute to the achievement of SDG6 Target 1: "By 2030, Achieve Universal and Equitable Access to Safe and Affordable Drinking Water for All", SDG 6 Target 2 "By 2030, ensure access to adequate and equitable hygiene for all and eradicate open defecation", and SDG 6 Target 5: "By 2030, implement integrated water resource management at all levels, including through transboundary cooperation, where appropriate".

2.1 Strategic Relevance

87. **The Program is strategically relevant** and perfectly aligned with the GoBF's strategic priorities for the water sector. The Program will contribute to the achievement of three national programs (PN-AEP, PN-AEUE and PN-GIRE) that aim to improve access to water supply and sanitation services and WRM.

88. Since the early 2000's Burkina Faso adopted a program approach for improving water supply and sanitation services and water resource management, starting with the adoption of the first generation of programs in the 2000's, which includes the Action Plan for IWRM (*Plan d'Action pour la gestion intégrée des ressources en eau*, PAGIRE, 2003–2015) and the National Program for Water

Supply and Sanitation (*Programme National d'Approvisionnement en Eau Potable et d'Assainissement*, PN-AEPA, 2007-2015). The GoBF has recently adopted a second generation of programs, comprised of five national sectoral programs for the 2016–2030 period, based on the National Program for Economic and Social Development (*Programme national de développement économique et social*, PN-DES, 2016–2020), the National Water Policy (2016–2030) and the Sustainable Development Goal #6 (SDGs)¹⁶:

- National Water Supply Program (*Programme national d'approvisionnement en eau potable*, PN-AEP, 2016–2030)
- National Sanitation and Sewerage Program (*Programme National d'Assainissement des Eaux Usées et Excréta*, PN-AEUE, 2016–2030)
- National Program for Integrated Water Resource Management (*Programme National pour la Gestion Intégrée des Ressources en Eau*, PN-GIRE, 2016–2030)
- National Water and Sanitation Governance Program (*Programme Gouvernance du secteur Eau et Assainissement*, PGEA, 2016–2030)
- National Program for Dam Development (*Programme National des Aménagements Hydrauliques*, PN-AH, 2016–2030)

89. There is clearly a strong rationale for the government's provision of water and sanitation infrastructure. The delivery of these services has a strong impact on public health, the environment and national water resources. Unsafe drinking water and the lack of basic sanitation and hygiene practices cause the death of more than 1.5 million children under five years each year, the occurrence of diarrhea other water-borne diseases, suffer from health problems and developmental delay according to the United Nations. Hygiene and even simple handwashing can reduce the morbidity and mortality associated with diarrhea, pneumonia and other infectious diseases, including the risk of spreading bird flu. In recent years, there has been an increased urgency for government intervention in urban sanitation to manage the huge amounts of wastewater that is the refuge for disease vectors.

90. Government actions in these areas are also motivated by the importance of poverty in the country which does not allow households to release financial resources to cope with the high costs of investments for access to drinking water and sanitation and to ensure full coverage of recurrent costs. Indeed, it was estimated that in 2014, 40.1 percent of the population lived below the poverty line - estimated at FCFA 153,530.

91. Finally, government investments in water and sanitation contribute to job creation in both rural and urban areas. For example, the completion of the Program will create permanent and temporary jobs in rural areas. Temporary jobs include local masons and the emergence of income-generating activities.

92. The strategy adopted in the execution of the investments relies on the private sector for the aspects relating to the engineering studies, the completion and control of the works, the management of the septic tanks and fecal sludge sectors, the delegated management of the works while the NGOs ensure the awareness of beneficiaries and implement IEC actions.

¹⁶ For the WSS sector, SDG 6 provides for universal and equitable access to safe and affordable drinking water, sanitation and hygiene, and end to open defecation by 2030.

93. IWRM capacity building will have significant socio-economic effects as it will, on the one hand, provide knowledge of the country's available water resources so that the government can find a balance between the different water requirements for sanitation activities, supply of drinking water, irrigated agriculture, animal husbandry, mining and manufacturing, etc. and on the other hand, to prevent the pollution caused by the use of fertilizers and polluting and toxic processes of the mining industry, and to strengthen cooperation with downstream countries, particularly in Ghana and Côte d'Ivoire, which receive the water drainage flowing from Burkina Faso.

94. PforR aligns with the Bank's dual goals of ending extreme poverty and enhancing shared prosperity, in line with the government's priority to improve Burkina Faso's human, physical, natural and institutional capital. Improving the delivery of water services and eliminating open defecation are essential to reduce poverty. Improving key water and sanitation infrastructure is essential to share prosperity through the expected reduction in waterborne illnesses which cause absenteeism from work and/or school, and the costs associated with direct medical expenses and loss of income. The Program will help promote inclusion and shared prosperity in Burkina through improved rural water supply and sanitation services and their associated economic benefits. By strengthening knowledge about water resources and monitoring the Program, evidence-based decisions can be made and trade-offs between multiple uses can be planned, thus reducing socio-economic and environmental vulnerabilities.

2.2 Technical soundness

95. **The Program is technically sound.** It will allow addressing a number of identified weaknesses of the water supply and sanitation sectors in the urban and rural space through an emphasis on supporting the decentralization agenda with necessary financial resources in targeted areas and sufficient skilled capacities, strengthen the technical and operational efficiency and financial viability of the implementing agencies and support the implementation of water supply and sanitation infrastructure. In addition, the knowledge base on water availability and use, especially in the case of groundwater resources, will be improved and shared with different water users.

96. **The present technical assessment has led to the identification of a few technical weaknesses of the implementing agencies** as these are understaffed, especially with technicians in charge of field works, and lack key expertise in water resources management and hydrology. During Program implementation different capacity building activities will be held such as short-term trainings, specialization courses, doctoral programs and technical training programs to strengthen the existing capacities. In addition, these weaknesses will be addressed through the creation of Program Coordination Unit (UCP) within the Ministry of Water and Sanitation (MEA) and a Program Support Unit (PSU) within the National Office for Urban Water Supply and Sanitation (ONEA). Both units will be staffed with an environmental safeguard specialist and a social safeguard specialist. However, more importantly, the implementing agencies will be supported by the Strategic implementation support consultants (SISCs) during the duration of the Program and will provide technical inputs to ToRs, feasibility level and detailed design studies, tendering and procurement processes, and quality control of main deliverables of studies conducted under the Program.

2.3.1 RA 1: Improved Access to Water Supply

97. Access to drinking water has always been a strong demand from rural and urban populations and for this reason, it has been included in the various government programs (PRSP, SCADD and PNDS 2016-2020). As such, a substantial effort has been made in budget allocations in favor of access to water (around FCFA 390 billion between 2008 and 2014) despite the pressing needs in other sectors of activity. In rural areas, the need for drinking water services encourages people to

sometimes contribute to basic investments up to FCFA 150 000 per facility. PforR interventions will help to increase the level of access and will adjust regional disparities.

98. Similarly, improved access to drinking water is strongly supported by the civil society, which provides strong advocacy through a contribution to the organization of the annual National Water Forum. Similarly, the establishment of two central accountability entities, namely ONEA and DGEP, is part of the national will to improve the indicators of the domain and to ensure an ongoing dialogue with stakeholders.

99. **Beneficiaries.** The stakeholders in Result Area 1 consist of the populations of 11 secondary centers of ONEA (the large systems of Ouagadougou, Kaya-Korsimoro-Boussouma and Yako- Gourcy-Boussé; and small stand-alone systems of Gon-Boussougou, Mogtédo, Béguédo, and Tiébélé) and four regions (Hauts-Bassins, The Boucle du Mouhoun, Cascades, and the Southwest) that will have an increased access to drinking water supply. These will include households and communities but also schools, health centers and public places in rural areas.. As for the indirect beneficiaries, they consist of water user associations (WUA), private operators and service providers, NGOsstandpost, MEA, ONEA and municipalities.

2.3.1.1 Water supply in urban areas

100. The PforR contributes to the implementation of the priority actions defined in the PN-DES and the phasing of the PN-AEP.

101. More specifically for the city of Ouagadougou, the Program covers the activities of the second phase of Ziga project, while the first phase is being implemented according to the Ouagadougou Water Master plan developed in 2013.

102. For the other centers, the selected activities address the problems of insufficient capacity in production, distribution and access, which are experiencing enormous difficulties in mobilizing water resources. For the construction of the water production centers due attention should be given that selected prime contractor and technicians have the adequate skills to guarantee the optimized operation of the systems, a control over the operating expenses, and the continuity of service. ONEA has a maintenance service of good quality, that is adequately equipped for maintenance and repair of the various components of the water supply networks. Similarly, water quality is regularly monitored by ONEA and the LNSP and corrective measures are implemented where necessary. Master plans and studies will be developed and include the revision of former studies to specify necessary activities and optimizations.

103. At strategic level, the financial viability of ONEA is strongly influenced by the performance of large urban centers, such as the capital city, in the equalization system in urban areas. The Program seeks to incentivize improvements in the operational and financial efficiency of ONEA by improving the GIS system and model the subsectors of the water supply system of the capital to establish the basis for a proper management of the network. The Program will also incentivize the improvement of the financial viability of the subsector by reforming tariffs, optimizing production costs (improve energy efficiencies during operational management and strengthen the capacities of staff in the management of physical water losses), and developing tools and applications to improve customer support and monitor service performance.

104. A tariff study will be conducted and take into account the affordability, efficiency and required investments to achieve the targets of SDG6. This tariff study will lead to a new tariff model and tariff structure. ONEA implements a pricing policy in urban areas by a highly subsidized lifeline

tariff below 8 m³ per month to allow poor private households to access drinking water. For standposts the water is sold at FCFA 300 per m³.

105. The lessons learned from past programs should be taken into account, in particular, the recommendations to update the manual of implementation, and of monitoring and evaluation, and the revitalization of monitoring and supervision entities. Independent technical auditors will assess the achievement of quantitative and qualitative results and provide reports that will contribute to improved performance. Similarly, the implementation of an external mid-term evaluation will allow for an overall assessment of the Program's performance according to international standards and will be a contribution to possible reorientations of the actions.

2.3.1.2 Water Supply in rural areas

106. The Program will provide for the installation of boreholes equipped with manual operated pumps, the construction and rehabilitation of existing and new water supply systems; and the development of feasibility studies for establishing multivillage water supply systems.

107. The beneficiary populations of the rural drinking water component make a financial contribution to the investment as a starting condition for the works. It is important to specify the timelines for the contributions to enable the activities to proceed.

108. Sensitization activities and works will be carried out by national companies and NGOs recruited by the DREA. At this level, several evaluation reports have highlighted the poor quality of some of the work carried out and field control to be performed by the consulting firms and the DREA staff should be enhanced.

109. The works will be managed by WUA for the human-operated pumps. Water supply networks are to be managed by a third party (private operator, non-governmental organization [NGO], or ONEA) recruited DREA in cooperation with the municipality based on public bidding. In the event that there is already an operator present in a municipality, its contract will be extended to the new works given the weaknesses in water consumption observed upon the commissioning of new investments. Close monitoring of the management of the WUA and third parties in charge of the management of the water supply is crucial for the sustainability of the investments and in this context, the funding modalities in the post-Program phase will have to be solved through a regulatory document developed by the government.

110. **Implementation Technology.** The technologies that will be developed are boreholes equipped with manual operated pumps and simplified drinking water supply networks. These works are those set up during the previous projects and do not present a particular difficulty of implementation for the private companies and the administration of the Program. However, some measures must be taken to ensure the sustainability of the investments. Concerning the manual operated pumps the multiplicity of types of pumps in the same municipality or region is a factor that penalizes the maintenance mechanism if the after-sales service is not effective. At this level, the literature databases provide an overview of the manual operated pumps by region and efforts will be made to acquire the most common ones.

111. **In terms of service quality,** in rural areas, the availability of spare parts for manual operated pump is ensured by several providers, but it is noted that users have difficulty in meeting the costs of maintenance and repairs. Concerning the water supply networks, the permanence of the service is often undermined by the lack of parts of the generators, the inverters and solar immersed pumps. Spare part lots will be provided by the companies during the construction of the infrastructures. The monitoring of water quality is ensured through a continuous chlorination and water analyzes carried

out at least twice a year, and the corrective measures including the cleaning of the implemented network. It should be noted, however, that the monitoring of water quality is not systematic at manual operated pump level.

112. **In terms of water prices**, in rural areas water is priced at FCFA 500 per m³. This is being revised by the GoBF to ensure equity with the urban environment with the support of the Program.

113. **Activity monitoring.** The monitoring of the implementation of the activities will be ensured at regional level by the DREA, at central level by the implementing agencies and by the independent audit agency. The monitoring procedures implemented by the implementing agencies, which are the on-site controls, the preparation of the monthly, semi-annual and annual implementation reports make it possible to assess the results achieved at technical and financial level.

2.3.2 RA 2. Improved access to sanitation

114. Access to sanitation has been promoted over the past two decades by the GoBF as a means of improving the living conditions and hygiene through recent government programs (SCADD and PN-DES, 2016-2020). This has led to an increased demand for sanitation services by rural populations and an implication in budget allocations. In rural areas, the implemented IEC strategies contribute to a growing awareness of the population on the usefulness of sanitation services as a means of improving health, preserving privacy and encouraging school attendance by girls.

115. Improving access to sanitation is strongly supported by the civil society, which provides strong advocacy through the organization of the annual National Water Forum. Similarly, the recent establishment of a central accountability entity, which is the DGA, expresses the national commitment to improve access to improved sanitation services.

116. **Beneficiaries** The stakeholders in Result Area 2 are the populations of the 11 secondary centers of ONEA plus the centers of Dédougou, Nouna, and Bobo-Dioulasso, and the four regions (Hauts-Bassins, The Boucle du Mouhoun, Cascades, and the Southwest) that will have access to sanitation and hygiene. These will include households and communities but also schools, health centres and public places in rural areas. As for the indirect beneficiaries, they consist of private companies, small businesses and craftsmen, ONEA, MEA and the municipalities.

117. It should be pointed out that the cleanliness of household latrines and sumps and their effective use is the responsibility of the households of the parents' associations, health centers and private households ensuring their management in community places. The status of this aspect will be regularly monitored through the IEC activities of the Program. The PforR will support the implementation of a strategy to promote adequate and sustainable management of latrines and drainage products. In addition, households will be encouraged to use agricultural waste products because of their high nitrogen, phosphorus and potassium content.

118. The technologies that will be developed are improved sanplat-type latrines, ecosan, double pit VIP, TCM, and sumps. The latrine slabs are designed to support heavy weights and a fence made of cement bricks or local materials is provided for their protection. These works have been constructed during previous projects and do not present a particular difficulty for companies and various service providers. However, the evaluation reports have highlighted the poor quality of some of the works carried out and has led to disputes.

119. This RA supports the priorities of the GoBF established in the PN-DES (2016–2020), the PN-AEUE and Ouagadougou's Strategic Sanitation Plan.

2.3.2.1 Sanitation in urban areas

120. The Program will support the construction of household and public latrines in schools and markets, and will also develop sanitation plans for secondary centers.

121. The development of sanitation infrastructure is based on a multi-stage approach as follows: (a) demand development and social marketing by local actors (NGOs and local associations equipped with new knowledge of the participatory approach), (b) training and setting up teams of craftsmen capable of producing family and community latrines, (c) support by social engineering companies that help the correct construction and ensure proper use of the works, (d) control by providers, (e) households choose and co-finance services and facilities adapted to their financial possibilities; they ensure the maintenance of their works, (f) the municipalities ensure the regulation, receive support for the development of their technical and management capacity (g) funding is provided by the beneficiary according to the type of work requested in supporting the excavation, the mason's fees and the materials, and PforR provides a variable subsidy range from 17 percent to 83 percent by taking care of the slabs and sump, the doors and plates, the bricks of the pit, the ventilation pipes and siphons and defecation bowls. With the exception of the roof sheets subject to a procurement process, the other parts related to the grant will be made by local craftsmen trained and approved by ONEA. With regard to the rehabilitation of traditional latrines, a threshold will be set for the subsidy and the household will contribute to complement the amount.

122. This strategy has a proven track record in promoting urban sanitation and can be sustained. The major change is the transfer of marketing activities to NGOs and local associations with a view to strengthen skills at local level aiming at the sustainability of the approach.

2.3.2.2 Sanitation in rural areas

123. The Program will support the construction of household and public latrines, the implementation of community behavior campaigns, the development of a strategy for the management of public latrines in markets. The MEA will further support the municipalities with tracking progress, technical capacity (maintaining or rehabilitating constructed latrine pits), and ensure a continued social mobilization in the area of sanitation (and water supply) at decentralized level. Furthermore, information, education and communication campaign at the national level will seek for improving hygiene behavior, promote the use and maintenance of latrines.

124. The development of sanitation infrastructure is based on a multi-level approach: beneficiary identification is carried out through various IEC actions and by the municipal authorities on the basis of their municipal water and sanitation development plan. Beneficiary lists are reviewed and approved in consultation with DREA departments at annual planning meetings.

125. Faced with the difficulties encountered because of the diversity of approaches, the actors in the subsector have agreed on a harmonized intervention strategy through a partial subsidy consisting of materials (cement and iron for the slab, ventilation chimneys, fly screens) combined with the contribution of households (excavation, aggregates, superstructure materials) and reinforced by a good implementation of the IEC. A total subsidy will be provided by PforR to households with elderly and disabled people.

126. The intervention strategy supports the promotion of self-realization, the objective of which is to bring the various households in rural areas to systematically pay for the acquisition of their own sanitation facilities. An incentive of an amount equivalent to the cost of the work will be given to such households.

127. The works and awareness-raising activities of the population will be carried out by national companies and NGOs recruited through a tender process by the DGA. These providers should be recruited at local level to improve the impact of the Result Area on the local economy, especially by favoring NGOs that have more flexibility to do this kind of work.

128. The services will be monitored by companies experienced in the domain, as well as the sections of the DREA. In order to significantly improve the quality of the work, it is useful to identify and train local craftsmen (local masons, sanitation shop managers, tank cleaners, etc.) from the relevant regions at the beginning of the Program.

2.3.3 RA 3. Improved access to reliable information on water resources

129. Improved water information enables the GoBF to make sound decisions and prevent cross-border conflicts. Water information systems typically strengthen the planning capacity of national programs and attain the goals laid down in the PNDES and PN-GIRE. Estimating the available water and planning in accordance its use in a temporal and spatial context is required for sound decision making. The intervention will allow research and training institutes to improve their knowledge through the data that will be acquired.

130. Burkina Faso has made efforts in previous programs to ensure this sovereign task by continuously allocating financial resources for the implementation of IWRM activities. As such, approximately FCFA 18 billion were allocated to IWRM between 2011 and 2015 and a legal reform has been undertaken since 2001 and resulted in the creation of accountable water agencies with greater administrative and financial autonomy such as the SP-GIRE and DGRE. The involvement of the parties in the development of the national plan PN-GIRE (2016-2030) should also be noted, as well as the formulation of this Program through the participation to validation workshops, working sessions and consultations.

131. Beneficiaries. The stakeholders of Result Area 3 are the authorities and populations of Burkina Faso, research institutes, students of MEA staff, the countries (Ghana, Mali, Niger, Ivory Coast, Togo, Benin) involved in transboundary water management, as well as regional and international entities such as UNESCO, WMO, ABN, ABV, ECOWAS, etc.

132. **Intervention strategy.** Works and activities related to the studies, supply of equipment, geophysical prospection, drilling, installation of specialized equipment (automatic probes), leveling of water sources and update of the database of technical information will be performed by private providers (consulting firm, independent expert, specialized companies and various suppliers). The activities related to the gauging campaigns and the monitoring of the observation networks will be carried out by the UCDEau with ad hoc support from the DGRE while the sampling and the periodic analyzes of the samples will be carried out by the water laboratory of DGRE.

133. The intervention strategy did not integrate the piezometers operated by various previous programs including the RESO. In addition, it is important to build a database to store the large amount of data and information that will be generated by geophysical surveys, deep drilling and various studies.

134. The problems facing the post-project monitoring networks are of several kinds, including the difficult mobilization of the resources required to carry out the activities and the maintenance of station equipment, the multitude of databases using incompatible data formats; insufficient capacity for processing and updating the collected data; insufficient training on data collection and processing. In order to contribute to the resolution of these issues, the Government has included in the 2016-2030 PN-GIRE, the reform of the management structure of the SNIEau to give it greater

administrative and financial autonomy. This activity is important for strengthening the water information base.

135. **Implementation Technology.** The technologies that will be implemented include major geophysical research equipment, deep drilling, piezometers, automatic sensors, digital recording stations and staff gauges). Technologies such as deep drilling and geophysical equipment have not yet been implemented by the implementing agencies. As far as drilling is concerned, it is important to know the type of equipment that is suitable for reaching the depths and to perfectly command the drilling technique by containing landslides that could obstruct equipment. The tests associated with drilling, which are pumping, logging tests, require adapted equipment and specialized personnel. As for the geophysical activities, they require a set of geophysical devices to investigate at great depths, and expert knowledge for the interpretation of the results. For this purpose, bidding documents will be developed by a consultant with proven expertise and an international bidding process will be launched to enable the selection of experienced companies for this type of work.

136. Geophysical research and drilling activities will enable the country to collect data and information on the potential of the water resources in the crystalline basement and the sedimentary zone at great depth, as well as on the characteristics of the different rock and geological layers that cross them. Likewise, it is foreseen to estimate the rates of flow of the numerous water sources in the sedimentary zone.

137. In order to improve the understanding of the huge amount of data that will come from geophysics, in-depth drilling, piezometers, and source flows, a geological model and a hydrogeological model will be established, which will be schematic representations of the existing aquifers, thus making it easier to communicate the generated knowledge. The modeling process is a learning opportunity for the human resources of the MEA and the research institutes, providing information to the actors, as well as all the thematic studies leading to the establishment of a reliable baseline situation on groundwater resources (assessment of aquifer recharge, study to estimate available water reserves, assessment of uses) and the development of the aquifer mapping.

138. Regarding the SNIEau, its objective is to provide all useful information relating to available water resources, water uses, related water risks, and the water requirement of the environment. The design and implementation plan of the SNIEau have been defined in 2004 and describe different aspects of monitoring as well as administration and dissemination of the information system¹⁷. In this regard, the knowledge of water resources and their monitoring as well as aspects related to its administration, procedures, systems and mechanisms are essential components for the dissemination of information and the effectiveness of the execution of operations which have been identified.

139. The PforR will support the operationalizing of the National Water Information System through improved data collection and dissemination tools (design, development, operation and maintenance of web services), formalization of data management procedures (quality assurance system, data repository), the coordination of the consultation, the procedure for the adoption of a regulatory text concerning the administration of the SNIEau (revision of the design document, regulatory text on its adoption).

¹⁷ Design and Implementation Plan for the National Water Information System (SNIEau) - Full Final Version-November 2004

2.3.4 Cross cutting. Human Capital Strengthening

140. Human resources are the main holders of knowledge and experience within the entities and their existence in quantity and proven competence in the various aspects of the activities is one of the important pillars of the strategies of the implementation of the programs in order to achieve the expected results.

141. The Program will incentivize the strengthening of the human capital based of the several actors intervening in the water supply, sanitation, and WRM sectors in Burkina Faso. Considering the existing capacity within the country, especially the field of integrated water resources management and hydrology requires strengthening. Besides the already mentioned professions, the authorities are also understaffed with technicians in the field of hydraulic structures and rural works.

142. The human capital strengthening activities financed by the Program include four types of Programs: (a) technical and training programs, (b) specialization, (c) doctoral programs, and (d) short-term training

143. Given the current situation of the MEA and ONEA staff, the different types of the Program training as well as the areas covered and the selection of beneficiary staff members in all entities and at municipal level will help maintain an appropriate level of resources for the design and the management of sector programs during their implementation and in the post-Program period. It can therefore be mentioned that strengthening human resources is an action which contributes to the achievement of the Program objectives. From the critical analysis, we note that the Program mainly focuses on technical training and the achievement of results.

144. **Intervention strategy.** The capacity building activities aim to train experts that would be integrated within the existing water supply and sanitation authorities (technical and training programs) and by improving the knowledge of the personnel already working within the entities (continuous training). The method for recruiting human resources for initial training is based on an open public test and is organized according to the procedures of the Civil Service, while the recruitment for continuous training is based on the selection of beneficiaries by an internal committee of the MEA. The strategy is based on formalized approaches (Public Service Test and Public Procurement) that contain the necessary procedures to complete the recruitment process.

145. The trainings will be carried out by national and sub-regional training centers and by the University of Ouagadougou according to two contractual modalities which are the protocols of agreement (initial training, specialization, doctoral) and service contracts with private firms or consultants (continuing professional development) through calls for tender. It is useful to introduce a shortlisting procedure followed by an interview and a site visit in order to better assess their abilities before the final proposals.

2.3 Assessment of implementation agencies capacity

146. The selected implementing agencies are those that have implemented previous programs (PN-AEPA and PAGIRE) as well as the new programs of 2016-2030 (PN-AEP, PN-AEUE, PN-GIRE). These agencies have the services indicated for the execution of the Program, including planning, monitoring and evaluation, financial management and control.

147. The DGEP and the DGA are in charge of carrying out such activities and are the national manager of the implementation of PN-AEP and PN-AEUE. They associate the DREAs at the regional level, which in turn will work with the municipalities. This execution model is the one used in previous programs and justifies the choice of the DGEP as executing agency. However, there is a need to clarify the roles of the DGEP, the DREA and the municipalities under the Program to better

identify the responsibilities in the achievement of the results, especially since the three involved entities do not belong to the same hierarchical line, and that collaborative relations are to be established.

148. The SP-GIRE of MEA is the entity in charge of the formulation of PN-GIRE, while the DGRE is responsible for the execution of the planned activities and DEIE is the unit that manages the water resources knowledge and monitoring. Capacities of technical and financial management of SP-GIRE to implement the activities is deemed acceptable, subject to the institutional strengthening proposed under the Program. However, a formal implementation protocol will be approved by both parties to clarify the responsibilities for achieving the results. Likewise, the SP-GIRE will design the implementation protocol with DREA regarding the involvement of the UCDEs which are under their administrative supervision.

149. ONEA is in charge of similar missions in urban areas and has been the executing agency of previous programs. ONEA will develop in collaboration with the DGEP the technical, planning, monitoring and evaluation activities of the Program activities that will support to achieve the national sanitation goals (PN-AEP, 2016-2030).

150. **Capacity of training/research centers** to support HR development. The main training centers that will be involved in PforR are the University of Ouagadougou (UO), the International Institute of Water and the Environment (2iE), the Center of Water Professions of ONEA (CMEau), the AGRHYMET Center, the Bureau of Geology and Mines (BUMIGEB) and the National Meteorology Agency. All these institutions have training capacities relevant for the proposed Program.

- ONEA has a Center of water professions (CEMEAU), which can accommodate 300 to 400 people per week for trainings. They offer a wide range of trainings in different water related topics.
- The University of Ouagadougou (UO), created in 1974, consists of seven training and research units (UFR), and three Institutes: Languages, Arts and Communications; Social science; Legal and political sciences; Economic Science and Business Administration; Exact applied sciences; Health Sciences; Life and Earth Sciences, the Burkinabe Institute of Arts and Professions (IBAM), the Higher Institute of Population Sciences (ISSP), and the Pan-African Institute for Media, Information and Communication Studies and Research (IPERMIC).
- The 2iE is an interGoBF institute of higher education and research in the fields of water, energy, environment and infrastructure based in Ouagadougou. The institution was founded in 1968, it has trained over 4000 engineers and technicians in the fields of hydraulic engineering, rural engineering, water and sanitation.
- The AGRHYMET Regional Center established in 1974, is a specialized agency of the Inter-GoBF Standing Committee for Drought Control in Sahel (CILSS), of which thirteen countries are members. The center has trained most of the hydrologists in Burkina Faso.
- The mission of BUMIGEB is to carry out, by all appropriate methods, studies and works for the improvement of geological knowledge. Its expertise could be of great use in the description of deep borehole lithology in Results Area 3.
- The National Meteorological Agency is the main provider of weather and climate information and has a tradition of working with MEA's central entities in the provision of data and information and in building the capacity of the staff in terms of training. Like the services of the MEA, the ANAM needs to strengthen its capacities in the fields of training of these human resources, the extension and the improvement of the observation network.

151. **Capacity of private companies and various service providers.** Previous programs were programs for the implementation of works and other services through different types of construction companies, NGOs, consulting firms and craftsmen. This national capacity is supplemented by sub-

regional and international private companies. At the end of 2016, there were 76 consulting firms and 197 contractors, 582 the repair craftsmen. The assessment of capacity by domain is as follows:

152. Provision of drinking water. In urban areas, the execution capacity is sufficient for the implementation of the private subscriptions and the capacity of production. Capacity is limited for other works. In rural areas in 2016, 1693 modern wells and equipped boreholes, 83 water supply systems, 220 standposts were established. With regard to PforR, the annual projected works are 220 boreholes, 30 water supply systems and 210 standposts, approximately. It should be noted that the execution capacity is sufficient for drilling and limited for the water supply systems and standposts.

153. Sanitation. Sanitation implementation capacity is sufficient for the planned works in view of the significant potential margins that exist between the 2016 achievements and the annual PforR projections.

154. Water information. There is a shortfall in implementation capacity in geophysical prospecting, deep sedimentary drilling, modeling, bathymetric studies and installation of equipment for monitoring purposes. These services will be carried out through an international bidding process. National capacities for major services (bathymetry, seismic geophysics and deep drilling) are low and the specifications allow for open international competitive bidding.

155. **Appropriate provisions for Program implementation.** PforR implements two types of provisions to allow the follow-up of the execution through the independent technical auditors who verify the effectiveness of the achievement of the results according to the specifications, and other agencies (such as the external control institutions: Court of Accounts, Superior GoBF Control and Anti-Corruption Authority - ASCE-LC, and MEA Technical Inspection Services - will play complementary roles. Program coordination requires sufficient communication with the entities involved through seminars and follow-up meetings, as well as forums to inform the representatives of the target groups. These provisions will be included in the Program Operations Manual. Similarly, all implementing agencies have monitoring and evaluation units that will be adequately strengthened where necessary during the Program.

156. **Clarity of the decision-making process within the implementing agencies.** The Program is implemented by administrative entities that are accustomed to decision procedures that are not adapted to the achievement of the results. Sometimes, decisions are delayed or simply ignored, leading to delays with dire consequences. Similarly, frequent changes in the people in charge of the entity or the departure of certain key staff members contribute to weakening the decision-making process. The Program Operations Manual will specify the decision-making process, while the implementing agencies will designate at least one senior staff member who will be responsible for the Result Area acting on behalf of the Directors General. These people will participate in all activities.

157. **Clear accountability structure for the Program.** The accountability of the Program is provided by the PIU consisting of staff, some of whom are appointed and others recruited in accordance with the regulations governing the type of program and from various backgrounds.

158. **Borrower's commitment.** The Program approach implemented at country level as well as the oversight by civil society organizations has increased the commitment of the ministerial departments in the implementation of the programs and the achievement of their results. The Program performance monitoring by MPs is one way to improve the commitment of implementing agencies. The dialogue with these stakeholders that will be implemented through an annual accountability meeting is a factor in maintaining the borrower's commitment.

PARTIE B - EXPENDITURE FRAMEWORK

3.1 Public expenditure

159. Basic investments in the water sector are most often funded by the Government own resources, by donors (grants, donations) and international NGOs, and sometimes by the payment of the water service by the household water (ONEA), or initial contribution by rural populations. The same actors work in the funding of maintenance and infrastructure renewal operations through repair interventions.

3.1.1 Public investment expenditures

160. Public expenditure includes all expenditures made by public entities (GoBF budget, permanent funds of local authorities, ONEA). These expenditures amounted to FCFA 467.85 billion between 2008 and 2014 and are mainly allocated to drinking water (83 percent). There was an increase in spending over the 2011-2013 period and a slight decrease in 2014.

Table 19. Public expenditure on water supply, sanitation and IWRM, by year (FCFA billion)

Subsector	2008	2009	2010	2011	2012	2013	2014	Total
Sanitation	7.98	9.31	10.44	8.82	9.72	9.38	10.05	65.70
Water Supply	38.47	47.88	52.94	69.07	63.62	64.53	53.91	390.42
IWRM	1.46	1.23	1.25	1.43	2.28	2.47	1.61	11.73
Total	47.91	58.42	64.63	79.32	75.62	76.38	65.57	467.85

Source: Public Expenditure Review of the water and sanitation sectors May 2016-MEA-EU

161. Expenditures by funding source indicate a clear improvement in the GoBF's contribution through its own resources. ONEA was able to maintain its average level of funding on own resources at FCFA 22.33 billion per year.

Table 20. Water, sanitation and IWRM public expenditures, by year (FCFA billion)

	2008	2009	2010	2011	2012	2013	2014	Total
Total public expenditure on water and sanitation	47.91	58.42	64.63	79.32	75.62	76.38	65.57	467.45
On own resources	21.42	26.66	30.44	27.23	32.69	35.14	34.65	208.23
On external funding	26.49	31.76	34.19	52.09	42.93	41.24	30.92	259.62
Total water and sanitation expenditures ONEA	25.47	32.71	37.19	49.63	40.16	42.35	39.98	267.49
On own resources	17.63	20.76	23.13	22.30	22.41	25.01	25.08	156.32
On external funding	7.84	11.95	14.05	27.33	17.76	17.34	14.90	111.17

Source: Public Expenditure Review of the water and sanitation sectors May 2016-MEA-EU

3.1.2 Operating and maintenance expenditures

162. The analysis of expenditure by economic nature under the GoBF budget indicates most of the expenditures are devoted to investments, about 97 percent. The staff and the operations respectively accounted for 1.33 percent and 0.56 percent, which does not guarantee the sustainability of the investments

Table 21. Total Expenditure on the GoBF Budget by Economic Nature (FCFA billion)

Economic nature	2008	2009	2010	2011	2012	2013	2014	Total
Staff	0.19	0.24	0.27	0.33	0.41	0.5	1.48	3.42
Operations	0.04	0.07	0.09	0.1	0.13	0.39	0.63	1.45
Transfer	0.37	0.32	0.32	0.32	0.5	0.41	0.39	2.63
Investment	23.75	25.27	34.2	46.67	45.95	44.91	29.81	250.56
Total	24.35	25.90	34.88	47.42	46.99	46.21	32.31	258.06

Source: Public expenditure review of the Water and Sanitation sector, May 2016-MEA -UE

3.1.3 Budget structure and classification

163. The budget is broken down into several sections that provide visibility for the various types of expenditure for each structure and each national program. Even each type of expenditure is referenced by a chapter number which allows the automatization of the categories of expenditure, thus facilitating the follow-up. It is also noted that the same information is provided by program budget. However, under the Program, the items "current expenditures" and "procurement of goods and services" need to be detailed.

Table 22. Allocations by type of expenditure (FCFA thousand)

Type of expenditure	2016 allocation	2017 Allocation	
		Authorization of Commitment (AE)	Payment credits (CP)
Current expenditures	1,190,923	-	3,620,071
Staff expenditures	-		1,911,062
Procurement of goods and services	998,824		626,653
Current transfer expenditures	192,099		1,082,356
Capital expenditures	46,556,106	103,300,282	106,064,699
Investments executed by the GoBF	46,556,106	103,300,282	106,064,699
On own resources	37,103,493	82,158,969	96,096,195
Subsidies	2,948,023	4,038,070	1,990,321
Loans	6,504,590	17,103,243	7,978,183
Total	47,747,029	103,300,282	109,684,770

Source: Financial Report to the 2nd CASEM 2016 MEA

3.2 Financial Viability of the Program and Predictability of Funding

164. Investment, operation, and maintenance expenses have always been borne by the GoBF, donors, NGOs, and associations. As for the GoBF, the Ministry of Economy and Finance established the Economic and Multi-Year Budget programming Document (DPBEP) and it allows to communicate a triennial envelope (sector MTEF) to each entity. The table below presents the 2018-2020 budget forecasts for the Water and Sanitation sector. The rate of variation in the forecasts between 2018 and 2020 is -23 percent, this decrease is attributable to the decrease of the financial contributions outside the sector.

Table 23. 2018-2020 Budget Forecasts for the Water and Sanitation Sector

Label	2018	2019	2020
Own resources	75,008,467,000	80,072,130,000	63,529,194,000
External Resources	17,089,044,000	9,416,780,000	7,481,200,000
Total	92,097,511,000	89,488,910,000	71,010,394,000

Source: MEA-Directorate of Administration and Finance

165. The budget forecasts are arbitrated at different levels (MEA, MINEFID, etc.) during each annual budget process, so that the allocations of the result areas are not known in advance. This is a matter of concern for the funding that the GoBF must provide from its own resources for PforR.

166. The mobilization of external funding represents a major challenge for the implementation of the various programs because, indeed, the amounts of funding for water and sanitation programs in the regions of intervention, and for IWRM during the 2016-2020 period are respectively estimated at FCFA 64,296 billion, FCFA 22,683 billion and FCFA 269. 9 billion, for a total of FCFA 113,808 billion, or an annual average of FCFA 22. 78 billion. The annual contribution of the GoBF is estimated at 5. 262 billion, i.e. a forecast of FCFA 26. 31 billion over five years, while the funding to be sought to cover the needs during the same period is respectively FCFA 54. 07 billion, FCFA 20. 122 billion and FCFA 20. 051 billion, for a total of FCFA 94. 243 billion with an annual average of FCFA 18. 84 billion. It is therefore not sure that the funding needs will be covered.

167. It should be noted that the rates of execution of the own resources are respectively 99. 27 percent in 2015, 98. 35 percent in 2016 and 63 percent as of 15 December 2017. The main difficulties have been the mobilization of external resources. It is important to mention that there have also been socio-political unrest and recent terrorist actions during the years 2014 to 2016 that have penalized the execution of the budgets. However, the weakness of the execution rate over several years shows a certain incapacity of the MEA to execute its budgets.

Table 24. Status of Implementation of the MEA Budget

Source	2014	2015	2016	2017
Own resources	33,373,393,902	71,104 120,000	25,743 126,000	86,437,767,000
External Resources	41,974,595,579	106,594,250,000	9,452,613,000	9,203,313,000
Total budget	75,347,989,481	177,698,370,000	35,195,739,000	95,641,080,000
Execution	37,622,508,905	91,848,610,099	26,090,380,649	54,466,515,884
Execution rate	49. 93	51. 69	74. 13	56. 95

Source: Directorate of Finance Administration-MEA 2017

3.3 Matching the Budget Allocations with Government Priorities

168. Payment credits for the water, sanitation, and IWRM programs accounted for FCFA 20,311 billion, FCFA 8,152 billion and FCFA 4,699 billion respectively in 2017, for a total amount of FCFA 33,162 billion. If this level is maintained, the actual expenditure would approximately represent FCFA 166 billion in five (5) years. The amounts of funding sought in the programs' action plans for the 2016-2020 period are respectively FCFA 418. 462 billion, FCFA 253. 789 billion and FCFA 26. 909 billion, i.e. a total of FCFA 699. 16 billion. There is therefore a significant mismatch between the priorities and the budget allocation possibilities.

3.4. Efficiency of budget allocation expenditures

169. Efficiency of budget allocation is acceptable for the drinking water subsector under previous programs. Indeed, the cost per capita amounts to FCFA 53,206 against FCFA 77,091 provided in the PN-AEPA. The competition of companies in this domain is at the basis of this efficiency. The Program will continue this strategy. Efficiency is rated "average" for the sanitation subsector. Indeed, the cost per capita is FCFA 20,355 against FCFA 12,429 provided in the PN-AEPA. The origin of this average efficiency is not well determined. In terms of IWRM, there is an alignment between financial and physical performance that denotes a certain efficiency in the use of financial resources.

PART C - RESULTS FRAMEWORK AND MONITORING AND EVALUATION (M&E)

4.1. Program's M&E

170. PforR's M & E system will be based on the results framework with monitoring at all levels, including: activities, outputs and milestones. M & E will be at four levels of detail and frequency:

- The daily monitoring of the Program management carried out by the PIU regarding the implementation of the infrastructure and the usual daily monitoring systems used by the implementing agencies.
- The monthly/quarterly program reports prepared by the DREAs and ONEA detailing activities and results during the month/quarter and include updated cumulative measurements as well as the issues and decisions of the PIU.
- An assessment for the annual validation will be prepared by the Independent Verification Officer (IVA) to verify the DLI results framework and annual achievements.
- A mid-term review by the Bank after two (2) years will be undertaken where M & E may be revised as necessary.

171. An important lesson learned by PSEU and other programs is that it is important to monitor performance and take corrective actions as soon as possible. A considerable amount of monitoring and evaluation capacity will be provided under the Program, including:

- The establishment of a new PforR PIU within the MEA with a core M & E function;
- The recruitment of consulting firms through the loan to support both CU/PforR and implementing agencies, including contributions to monitoring and evaluation activities;
- The recruitment of an independent verification agency.

172. The PIU will assist the implementing agencies to appropriately measure progress using the M & E system described above and will collect the results to assess progress in achieving the DLI. Results in the four different regions and at ONEA for Result Area 1 and Result Area 2 will be aggregated as a basis for DLI achievement. Once satisfied with the accuracy of the report, UC/PforR will present proof of DLI achievement to the IVA, which is responsible for verifying the results. In order to validate the disbursement request submitted by UC/PforR, the IVA will verify all DLI target indicators through a desk review and a physical inspection.

173. **The IVA** will validate the basic information submitted by the implementing agencies and evaluate the results achieved during the Program. Several DLIs do not require a baseline number. For other DLIs, implementing agencies already have provisional baseline data. The results will be verified by a physical inspection that tests the accuracy and quality of the claimed results.

174. In accordance with good audit practices, physical verification will be done as part of sampling and frequency. The physical inspection will focus on the establishment of household-level water subscriptions, household-level working latrines and school/health-care/market-level latrines, including the gender aspects of utilization.

175. Based on these two steps, the IVA will prepare a results verification report that will be shared with UC/PforR and the Bank. A key use of the results verification report will be to determine the amount of eligible disbursement to be made, based on the achieved results. If the Bank finds that the disbursement request meets the conditions of the Credit, the Bank will disburse the corresponding funds to MINEFID.

176. **Advances.** Advances of up to 25 percent of the total PforR funding ("advance") will be made available to MINEFID by the Bank. After consultation with stakeholders, MEA and MINEFID will jointly determine the amount of the advance that will be requested, but for planning purposes it is assumed that the 25 percent maximum will be requested.

177. When the DLI(s) for which an advance has been disbursed is (are) achieved, the amount of the advance will be deducted (recovered) from the total amount to be disbursed under this/these DLI (s). The anticipated amount recovered by the Bank is then available for additional advances ("revolving advance").

178. The Bank requires the borrower to repay all advances (or any portion thereof) if the DLI (s) have not been met (or only partially fulfilled) prior to the closing date, as soon as the Bank issues a notice. If, after the closing date, the Bank establishes that the withdrawn funding balance exceeds the total amount paid for PforR expenditures, excluding any amount funded by another donor or by the Bank under any other loan, credit or grant, the Borrower shall repay to the Bank, promptly after notification from the Bank, any excess of the balance of withdrawn funds. The Bank will then cancel the amount repaid of the withdrawn funding balance.

4.2. Results Framework

Table 25. PDO-Level Indicators

PDO-Level Indicator	Core	DLI	Unit	Baseline	Targets [1]					Frequency	Data Source/ Collection
					YR 1	YR 2	YR 3	YR 4	YR 5		
Program Development Objective: Improve access to water supply and sanitation services in targeted areas											
People provided with access to an improved water source under the Program	X	1	Number	0	284,920	701,960	1,002,700	1,141,900	1,158,595	Annual	Annual verification of results, IVA Census 2006, 52% of population are women
Of which female			Number	0	148,158	365,019	521,404	593,788	602,469		
Of which urban			Number	0	123,500	289,500	470,500	609,700	626,395		
Of which rural			Number	0	161,420	412,460	532,200	532,200	532,200		
People provided with access to improved sanitation facilities under the Program	X	4	Number	0	150,000	500,000	850,000	1,200,000	1,350,000	Annual	Annual verification of results, IVA Census 2006, 52% of population are women
Of which female			Number	0	78,000	260,000	442,000	624,000	702,000		
Of which urban			Number	0	150,000	350,000	550,000	750,000	850,000		
Of which rural			Number	0	0	150,000	300,000	450,000	500,000		

Note: [1] Cumulative results presented in the table

Table 26. Intermediate Results Indicators

Intermediate Results Indicator	Core	DIJ	Unit	Baseline	Targets [1]					Frequency	Data Source/ Collection
					YR 1	YR 2	YR 3	YR 4	YR 5		
Program Development Objective: Improve access to water supply and sanitation services in targeted areas											
Water production capacity constructed under the Program		2	Cubic meters/day	0	1,680	3,544	17,544	17,544	17,544	Annual	Civil works supervision reports, ONEA, and IVA
Adoption of water supply tariff structures [2]		3	Yes/No	No	-Adoption of rural water supply tariff structure - Adjustment of urban water tariff	Completion of urban water tariff study and development of new water tariff structure	Validation of the proposed new water tariff structure, including public hearings	Adoption of new urban water tariff structure		Annual	IVA
Percentage of complaints resolved within the established timeframes			%	0	0%	40%	50%	60%	70%		ONEA
Number of rural water systems built under the Program delegated for management to a third part			Number	0	0	0	30	40	50	Annual	DGEP
Number of latrines built or rehabilitated under the Program in targeted urban areas		4	Number	0	15,000	35,000	55,000	75,000	85,000		Civil works supervision reports, ONEA, and IVA
Number of new latrines built under the Program in targeted rural areas		4	Number	0	-	15,000	30,000	45,000	50,000		Civil works supervision reports, DGA, and IVA
Number of new sanitation cabins in schools, health centers, and public places built under the Program equipped with handwashing facilities		5	Number	0	150	2,150	6,250	9,750	11,250	Annual	Civil works supervision reports, ONEA, and IVA
Percentage of sanitation cabins in schools, health centers, and public places equipped with handwashing facilities built under the Program that are operational and properly maintained		5	%	0	N/A	>=70%	>=70%	>=80%	>=80%	Annual	Civil works supervision reports, DGA, and IVA

Intermediate Results Indicator	Core	DIJ	Unit	Baseline	Targets [1]					Frequency	Data Source/Collection
Percentage of hydrometric and piezometric stations operational			Percent	##%	A plan for the optimization of the hydrometric network completed	20 hydrometric stations equipped with digital recorders and scales limnometric	A plan for the optimization of the piezometric network completed	90% of hydrometric stations of the optimized network are operational, data collected at given intervals, and providing reliable data	90% of the hydrometric and piezometric stations of the optimized networks are operational, data collected at given intervals, and providing reliable data	Annual	SP-GIRE, DGRE
Number of productive boreholes in the hard rock aquifer drilled under the Program		6	Number	0	A multicriteria analysis for the identification of 50 favorable zones for productive boreholes in the hard rock basin completed	25	50	50	50	Annual	SP-GIRE, DGRE
A model for the management of aquifers of the western sedimentary basin is available [2]		6	Yes/No	No	- 1 geophysical seismic and electric campaign completed	- 2 geophysical seismic and electric campaigns completed - 6 deep recognition wells with six (6) piezometers drilled	- 10 deep recognition wells with eight (8) piezometers drilled - A report on water withdraws completed	- Reports on aquifer geometry, lithology and aquifer characteristics, and a calibrated geological model completed	-A calibrated hydrogeological model completed - Hydrogeological maps of the aquifer are updated	Annual	Annual verification of results, IVA
A database for groundwater resources established and updated [2]			Yes/No	No			A consolidated and organized database of existing data on groundwater available		The database is updated with the data obtained from optimized monitoring stations	Annual	SP-GIRE, DGRE, and IVA
Water resources management data and information available to the public through the SNI Eau			Yes/No	No	SNI Eau web portal designed	SNI Eau web portal tested	SNI Eau web portal accessible to the public, with uploaded data on water supply and sanitation from the DISE	SNI Eau web portal accessible to the public, with uploaded data on water supply and sanitation from the DISE	SNI Eau web portal accessible to the public, with uploaded data on water supply and sanitation from the DISE, and optimized	Annual	SP-GIRE, DGRE

Intermediate Results Indicator	Core	DIJ	Unit	Baseline	Targets [1]					Frequency	Data Source/Collection
								and optimized hydrometric stations	hydrometric and piezometric stations		
Number of beneficiaries of technical and training programs financed by the Program		7	Number	0	137	245	280	280	280		Annual verification of results, IVA
Number of female beneficiaries of technical and training programs financed by the Program		7	Number	0	10	20	30	30	30		Annual verification of results, IVA
Number of beneficiaries of specialization programs financed by the Program		7	Number	0	20	27	34	34	34		Annual verification of results, IVA
Number of beneficiaries of doctoral programs financed by the Program		7	Number	0	1	3	3	3	3		Annual verification of results, IVA
Number of beneficiaries of short-term training financed by the Program		7	Number	0	453	859	1,109	1,334	1,334		Annual verification of results, IVA
Number of beneficiaries of technical and training programs financed by the Program integrated into the Public administration		7	Number	0	0	0	82	147	168		Annual verification of results, IVA

Note: [1] Cumulative results presented in the table, except otherwise noted in the indicator; [2] Prior results that are achieved between the approval of the Program Concept Note (November 30, 2017) and the loan signing.

PART D- ECONOMIC ANALYSIS

179. The Program will benefit approximately 1.1 million people who will receive improved water supply services and 1.3 people who will have access to an improved sanitation facility. Beneficiaries will have to spend less time fetching water and will benefit from higher drinking water quality. They will be able to access greater water volumes, in line with minimum standards for hygienic practices and will suffer from less service interruptions due to technical breakdowns. Particular attention will be paid to ensuring that women and girls can benefit from improved access, so that they can in turn benefit from greater economic opportunities (including from being involved in water service delivery) and educational opportunities. In addition, the Program will generate local jobs in the area of water supply and sanitation delivery and will reduce pressure on the use of local groundwater resources (through stronger monitoring and management of these resources) and of energy sources (through an emphasis on connecting piped rural water supply systems to the grid or relying on solar energy). Finally, the decline in child morbidity among children will undeniably be a major impact of the Program, but this impact was not assessed in monetary terms.

180. On the sanitation side, one of the major benefits of the Program is the saving in health expenditure following the implementation of the Program; its impact is especially greater in rural areas because of the predominance of waterborne diseases. In addition, the health system as a whole will benefit from reduced workloads at the health facility level because the flow of waterborne disease patients will drop significantly. The Program, supported by a sustained information-facilitation-hygiene awareness campaign, will contribute to reducing the prevailing prevalence rates by (a) improving household hygiene and hygiene and sanitary facilities; (b) reducing pollution of streets and public places; (c) training in the use and maintenance of latrines in families, public places, and schools; and (d) acquiring the habit of using water and soap for natural needs and domestic tasks.

181. An economic analysis was conducted to compare costs and benefits with and without the Program. Costs and benefit streams were projected over 30 years and discounted at a social discount rate of 6 percent based on the World Bank guidance for preparation of Economic Analysis. Costs included Program costs associated to delivery of water supply and sanitation services as well as operating and maintenance costs and households' contributions to connection costs.

182. The analysis yielded a benefit-cost ratio of 5.7, which is in line with international estimates of similar investments in areas with limited access to water supply. The net present value of costs and benefits is US\$ 1.5 billion when a 6 percent discount rate is used. A sensitivity analysis was conducted on a number of parameters, including the discount rate, the value of time and the impact of the investments on diarrheal illness reduction, and operating costs. The NPV remained very highly positive under all these scenarios, which implies that the Program will generate high positive returns for the economy.

183. **Climate change mitigation, adaptation, and co-benefits.** The adaptation co-benefits are based on specific activities supported by the RAs, due to water supply infrastructure being designed to be climate resilient and the activities linked to water resource knowledge strengthening. The improvement in schemes would result in more climate change resilient water supply infrastructure and the increased adoption of solar pumping technology that potentially carry climate mitigation co-benefits. Prudent O&M activities would reduce losses, increase efficiency, and reduce energy costs. The drop in both energy consumption and the use of diesel pump sets will lead to reduction in fossil fuel usage which will have a climate change mitigation effect. The increased knowledge of location, quantity, and quality of groundwater resources will contribute toward climate adaption by providing critical information for development and investment planning, including, but not limited to, water allocations across sectors and sources of water supply for domestic use.

PART E - INPUTS FOR THE PROGRAM ACTION PLAN (PAP)

184. Based on the experience gained from previous programs, the choices made by the new programs and considering the current institutional arrangements, additional actions are needed to enable PforR to achieve the expected results with a required high standard of quality. The proposed actions are summarized in the table:

Table 27. Actions to be included in the Program Action Plan

Action Description	DLI*	Responsible Party	Completion Measurement
Open a Dedicated Treasury Special Account (Compte d’Affectation Spéciale ouvert au Trésor, CAST)		MINEFID, after authorization of National Assembly	CAST opened at the
Complete and disseminate the Program Operations Manual (POM)		MEA, with inputs from ONEA	POM submitted to the Bank
Staff the PCU within MEA with at least a Program Director, an M&E specialist, a procurement specialist, a financial management specialist, an environmental safeguard specialist, a social safeguard specialist, and an internal controller with functions; resources agreed with the World Bank, and with staff in adequate numbers and qualifications, experience, and terms of reference agreed with the World Bank		MEA	Appointment of the PCU staff
Staff the PSU within ONEA with at least a PSU manager, an M&E Specialist, a procurement specialist, a financial management specialist, an environmental safeguard specialist, a social safeguard specialist, and an internal controller with functions; resources agreed with the World Bank, and with staff in adequate numbers and qualifications, experience, and terms of reference agreed with the World Bank		ONEA	Appointment of the PSU staff
Recruit SISCs			
Recruit the Independent Verification Agency (IVA)			
Prepare, adopt, and disseminate a fecal sludge management strategy for urban centers			

PART F - TECHNICAL RISK ASSESSMENT

185. The risk assessment is informed by the results of the technical, fiduciary, and environmental and social systems assessments. The overall risk rating of the operation is Substantial.

186. **The political and governance risk is rated as Moderate.** On the political side, there is a cautious optimism that has prevailed after peaceful elections in November 2015. However, the tenuous security situation is posing a risk to stability. The overall governance environment in Burkina Faso is conducive for reforms and the water supply, sanitation, and WRM sectors are ahead of many sectors in the reform process, though the decentralization of water supply and sanitation services is not yet fully implemented.

187. **The technical design risk has been assessed as Substantial.** Some of the activities under RA 3 are part of the current work plan of the SP-GIRE (observation networks), but others are new in the context of Burkina Faso and hence require the strong support of SISC. The proposed interventions for water and sanitation are not complex, but for rural activities the implementation of Program activities requires strong coordination between MEA and its decentralized offices (DREAs). Also, sanitation activities require strong information, education and communication campaigns to create demand for latrines and ensure the household contribution to the investment, as well as the operation and maintenance of facilities.

188. **The risk associated with institutional capacity for implementation and sustainability is assessed as Substantial.** There are two implementing entities: the MEA and ONEA. Whereas ONEA has demonstrated strong capacity for project implementation, the technical departments of MEA are at a different level. The Program implementation arrangements place significant emphasis on improving institutional capacity to address MEA's capacity constraints. With the aim of strengthening the financial sustainability of water service delivery in urban and rural areas, the Program includes DLI 3 which refers to the adoption of cost-recovery tariff structures.

189. The SISC will be hired at Program start to ensure adequate technical support, in particular in regards to water resources activities. In addition, a PCU within MEA and a PSU within ONEA will be staffed with dedicated, full time specialist to ensure adequate coordination, and sufficient support during program implementation, in particular in regard to M&E, fiduciary and safeguards aspects. The World Bank team will ensure close supervision during the first year of implementation.

190. The Program Action Plan and mitigation measures address these key risks.

PART G - CONTRIBUTIONS TO THE PROGRAM IMPLEMENTATION SUPPORT PLAN

191. The Implementation Support Plan is based on the implementation support guidelines for the PforR operations, adapted to the design and risk profile of the Program. The borrower is responsible for the Program's overall implementation, including its technical aspects. The PforR operation in Burkina Faso will require considerable focused support from the World Bank team, particularly during the early stages of implementation. The implementation agencies and the DREAs will need to make a rapid shift in the focus of their planning to ensure that available funding can be absorbed and results delivered in time and within budget envelopes. The team recognizes that the PforR mode of operation, which transfers performance risk to the implementing agencies, lays down a challenge to change numerous operational practices and norms. The basic mandate for the World Bank implementation support under the PforR is to

- Review implementation progress and achievement of Program results and DLIs;
- Provide support for resolving emerging Program implementation challenges;
- Provide technical support for the implementation of the PAP, the achievement of DLIs and other results, and institutional development and capacity building;
- Monitor systems' performance to ensure their continuing adequacy through Program monitoring reports, audit reports, and field visits; and
- Monitor changes in risks to the PforR and compliance with legal agreements and, as needed, the PAP.

192. Key to effective implementation support will be the coordination of its timing with critical points in the timelines of planning and verification of results for payments request to the World Bank. The first implementation support mission will take place as soon as possible after effectiveness

to provide direct feedback and implementation support with critical inputs and involvement of environmental, social, and fiduciary teams.

193. To support Program implementation, a POM will be jointly prepared and implemented by MEA and ONEA. The POM will provide overall guidance on Program implementation and will include information such as the detailed project description, financing plan, roles and responsibilities for implementing agencies, the role of the World Bank during implementation, key actions required to meet the PDO, fiduciary requirements (procurement, financial management and fraud and corruption), environmental and social safeguards, and the M&E arrangements. The World Bank will support implementation through regular missions and will provide guidance on implementation arrangements.

Table 28. Main Focus of Implementation Support

Time	Focus	Skills Needed	Resource Estimate	Partner Role
First 12 months	Design of water supply schemes and water resource knowledge related activities, procurement of SISC, revision of guidelines and manuals, gender strategy, establishment of arrangements for independent verification, strengthening of DISE	Team leader, Legal; gender; procurement; financial management; social and environment; water and sanitation specialist; WRM specialist; M&E		
12–48 months	Reviewing implementation progress, field verification of verification reports from the IVA	Team leader, Legal; gender; procurement; financial management; social and environment; water and sanitation specialist; WRM specialist; M&E		
Other	Independent audit/assessment of verification of results	Independent technical expertise		

Table 29. Task Team Skills Mix Requirements for Implementation Support

Skills Needed	Number of Staff Weeks (annual)	Number of Trips (annual)	Comments
Task team leader	24	4	International / country
WRM	12	3	International / country
Water supply and sanitation	20	None	Country office based
M&E/Verification	6	2	International / country
Procurement	8	None	Country office based
Financial management	8	None	International / country
Governance	3	2	International / country
Environment safeguards	8	None	Country office based
Social safeguards	8	None	International / country
Gender	4	2	International / country
Legal	2	None	International / country
Team assistance	4	None	Country office based

Annex 1. PforR background

1.1 The national context

1. Burkina Faso remains one of the poorest countries in the world, with more than 40 percent (or 7.7 million) of the population ¹⁸ living below the poverty line in 2014. Poverty is largely a rural phenomenon, with about 90 percent of the poor living in rural areas. Members of poor households remain almost completely excluded from a number of basic services and access to infrastructure. Per capita gross national income was US\$ 750 in 2014. The country was ranked 185 out of 188 countries on the 2015 Human Development Index.

2. Burkina's relatively high economic performance, averaging a 5.5 percent growth per year over the last 15 years, has not yet translated into a substantial reduction in poverty. Burkina Faso's economy is highly dependent on agricultural production (especially cotton), with about 80 percent of employment linked to subsistence agriculture and contributing to 40 percent of GDP. Gold contributes to a substantial share of export revenues. However, lower cotton and gold prices, compounded by lower cereal production and political instability, have contributed to low tax revenue collection leading to slower poverty reduction.

3. The country is increasingly facing severe weather conditions, which hampers the efforts to reduce extreme poverty. A large part of the country lies in the expanding Sahel, which is increasingly affected by droughts and more intense floods during major rain events. The slow disappearance of rain-dependent agricultural livelihoods in rural areas has fueled migration to urban centers. The lack of monitoring systems, including up-to-date data on the quantity, location and quality of water sources, prevents the adequate planning of water uses in all sectors.

4. The population of Burkina Faso is rapidly growing. With an annual growth rate of 3.1 percent, the population is estimated at 19.03 million in 2016 and is expected to reach 29 million in 2030. While Burkina Faso has one of the fastest urbanization rates on the continent, at 5.7 percent per year, by 2030, it is expected that 60 percent of the population will still live in rural areas. Population growth will continue to put increasing pressure on the existing water supply and sanitation systems. In the context of increasing drought, extreme temperatures and climate change, managing the growing demand for water - to reduce pressure on the already limited resources - is a priority. The population is characterized by its extreme youth. In fact, 47 percent of the population is under 15 years old, 67 percent under 25 years old and 33.2 percent of young people are between 15 and 35 years old.

5. Burkina Faso is also a sub-Saharan landlocked country with a surface area of 274,000 km², located in the heart of West Africa, where water resources are very limited and highly dependent on erratic rainfall. The country is at the head of a river basin; it receives no contribution in terms of water flow because all waters flow towards the bordering countries. Recurring droughts are the cause for severe water shortages, low agricultural productivity, famines, desertification and decimation of herds and wildlife. More than 3.5 million people, or about 20 percent of the population, are food insecure and approximately 50 percent of rural people cannot produce enough food to ensure their daily calorie intake. Given these major concerns, large-scale initiatives have been developed by the Government.

¹⁸ The population of Burkina Faso is estimated at 19,034,397 in 2016 and could reach 21,510,181 inhabitants by 2020 and 21,510,181 inhabitants in 2020.

6. With few natural resources and a deteriorating environment, Burkina Faso faces many challenges that hinder its development (lack of infrastructure, high production costs, etc.). It is also subject to the hazards of a Sahelian climate where rainfall is usually insufficient or poorly distributed. From 1960 to 1994, per capita income only increased by about 2 percent per year.

7. The national context is also marked by the decentralization of land management initiated since 1995, and transfers some skills to the municipalities in terms of water supply and IWRM, including drinking water mobilization, treatment and distribution; the construction and management of wells, boreholes, standposts and water supply systems; participation to the protection and management of groundwater, surface water and fisheries resources; the treatment of sewage waters and excreta; the development and implementation of local mobilization, treatment and distribution plans in the field of drinking water supply, as well as local sanitation plans.

1.2 The water, sanitation, and IWRM sector

8. The GoBF has made the control of water and its management, and sanitation important axes of economic and social development strategies for over four decades to improve the health of people and their living conditions, to increase the resilience of populations to recurring droughts that decimate agricultural and livestock production and to promote the development of other sectors of the economy which use water (hydroelectricity, fishing resources, irrigated agriculture, etc.)¹⁹.

9. At the end of 2016, at national level, the rate of access to improved water is 72. 4 percent (i. e.: 13,473,755 people). However, disparities in access to drinking water and sanitation services persist between the cities served by ONEA and the rural areas. The respective access rates for drinking water are (91 percent) for cities served by ONEA and (65. 3 percent) for rural areas. The rate of functionality of Human Powered Pumps (manual operated pumps) and Simplified Drinking Water Supplies (PSSA/EWS) are 89 percent and 85 percent respectively in 2015. This relatively high rate is also obtained by rehabilitating the investments that have been implemented.

10. At the end of 2016, at national level, the rate of access to sanitation remains an ongoing challenge for the country with a national access rate of 19. 8 percent (i.e.: 3,768,810 persons) with 36. 8 percent in the urban areas and 12 percent in rural areas. According to the 2014 Continuous Multisector Survey (CME)²⁰, open defecation (in the wild) is the most common practice. This concerns half of the households (50. 5 percent). This practice differs according to the place of residence. Defecation in the wild is a more rural (67. 3 percent) than urban (7. 8 percent) phenomenon. Among latrines users, 11. 5 percent of households use improved latrines, 88. 5 percent of households still use inadequate facilities (unhygienic traditional latrines). Furthermore, eradicating open defecation (OD) in a context of behavioral change, organizing the management of fecal sludge in an environmental conservation perspective remain major challenges.

1.3 Regulatory and institutional sector framework

11. Burkina Faso has gradually adopted a coherent regulatory and institutional sector framework: (a) adoption in the late 1990s of "Water Policy and Strategies", serving as a sector policy (b) Consolidation of the regulatory framework with the adoption of various laws and the main sector reference standards such as the Action Plan for IWRM/PAGIRE (2003-2015), and the National

¹⁹ These commitments are clearly set out in the Poverty Reduction Strategy Paper (PRSP-2000-2010), the Strategy for Accelerated Growth and Sustainable Development (SCADD-2011-2015) and the National Program for Economic and Social Development. (PNDES-2016-2020).

²⁰ INSD, Continuous Multisector Survey (CME) 2014, November 2015

Drinking Water Supply and sanitation Program/PN-AEPA (2007-2015) supported by the donors through a first generation of sector budget support, the maintenance of the GoBF/ONEA triennial plan, regularly audited by two independent auditors (technical plan, and financial and accounting plan), the transfer of some powers in water and sanitation to local authorities and the creation of a Ministry in charge of water and sanitation.

12. This framework has made possible to achieve certain results, including the creation of central entities specific to drinking water and sanitation (Directorate General for Drinking Water /DGEP, Directorate General of Sanitation/DGA), the establishment of the credit management mechanism delegated to the regional level, the gradual transfer of the implementation and management of the works to the municipalities, the implementation of the goal-based program budget and monitoring-evaluation tools, the training of human resources, a greater autonomy of the regional water and sanitation directorates in planning, credit management, dialogue with municipalities and investment monitoring.

13. Similarly, the performance of ONEA has been greatly improved, including a water service rate of 91 percent and a private recovery rate of 97.6 percent. At the end of 2016, financial balance was ensured with a net cash of FCFA 6.5 billion, network yield was 80.7 percent, a physical productivity of 2.7 agents per 1000 subscribers, and a financial productivity of 25 percent (load of staff/turnover), and the number of service centers constantly increased (36 centers in 2007, for 57 centers in 2016). Regarding sanitation in urban areas, one can observe an embryonic collective network for the two big cities of Ouagadougou and Bobo-Dioulasso, the improvement of the access rate at the national level, the existence of intervention strategies (PSA for urban areas and harmonized intervention strategy), and the creation of central directorates in charge of promoting sanitation.

14. In addition, concerning the country's IWRM, five water agencies and their management entities have been set up in the five management areas created for this purpose. To date, two agencies have a master plan for water management (SDAGE) validated by the Cabinet. The process is underway for the other three. Finally, in application of the "user pays" principle in the national water policy, the agencies started to collect taxes (FCFA 80 million in 2013, FCFA 210 million in 2014, FCFA 640 million in 2015) from identified operators.

15. Despite these results, the sector still faces several challenges, including:

- Frequent changes of the institutional set-up, which usually results in a merger of the ministerial department into another entity. The consequences are generally the reduction/changes of the number of national programs, central entities, and the creation of new regional directorates in accordance with the new entity
- Lack of clarity of the roles of the various stakeholders (central, decentralized and municipal levels, target groups) to facilitate the description of the intervention strategies, the assessment of coordination and management costs, as well as the monitoring and evaluation system
- Revision of the main regulatory instrument used in rural water supply which is decree n° 2000-514/PRES/PM/MEE on November 3, 2000, adopting the framework document for the reform of the hydraulic infrastructure management system of water supply in rural and semi-urban areas. This decree should be revised in the light of the achievements of the PN-AEPA, the water legislation, the new PPP laws and the change of the sector framework
- Sustainability of the achievements, better targeting of beneficiaries and equity that have not been well understood in previous programs will be an important area of work for the Program
- Low tariffs and insufficient financial incentives to cover operational, maintenance and capital costs hinder the financial sustainability of WSS services. For ONEA this means a deterioration in financial performance and for rural areas, higher water prices than in urban areas, especially for the poorest segment of the population

- Poor knowledge of surface and groundwater resources and the maintenance of an effective system of monitoring, collection and processing of related data have not been achieved by previous programs to enable the country to monitor the permanent matching of the growing needs and the availability of water resources. Similarly, important decrees allowing the extension of the financial water contribution (*Contribution Financière d'Eau*, CFE) have not been adopted.

16. In view of these challenges, the Government through the PNDES 2016-2020 aims to continue to provide access to a decent living conditions, to water and quality sanitation for all. The interventions will consist in increasing the rate of access to drinking water from 71 percent in 2015 to 79 percent in 2020, to improve sanitation, increasing its rate from 18 percent in 2015 to 34 percent in 2020, to increase the number of municipalities with a functional solid waste management system from 13 percent in 2015 to 25 percent in 2020, to reverse the trend of environmental degradation and to ensure the sustainable management of natural resources. For IWRM, interventions will consist of advancing the percentage of surface water retention with riverbank protection from 13 percent in 2015 to 25 percent in 2020, the proportion of water agencies having a SDAGE from 40 percent in 2015 to 100 percent in 2020, and maintaining the rate of recovery of the CFE to 100 percent.

1.4 The main stakeholders

17. **The sector is under the responsibility of MEA.** The implementation of the national policy and its programs is ensured by: (a) the Directorate General of Drinking Water (DGEP) for the water supply in rural areas, (b) the Directorate General of Sanitation (DGA) for the AEUE in rural areas, (c) the Directorate General of Hydraulic Infrastructures (DGIH) for hydraulic planning, (e) the Directorate General of Statistics and sector Studies (DGESS) for sector governance, (f) the Secretariat Permanent Integrated water resource management (SPIWRM) for IWRM; and ONEA for EAF and EASE in urban areas.

18. In accordance with decentralization, **local authorities** are key actors in the implementation of these programs with the support of decentralized units and branches of ministries (the DREAs for the MEA), the private sector and NGOs. Decentralization suffers, however, from chronic woes, which are the weakness of the budgetary allocations for the operations, and the progressive reduction of the technical staff, a weakness of the project management function since the phase of selection of the providers until the control of the quality of services.

19. **The private sector is** playing an increasingly important role in the development of the sector, gradually taking over many services that were still provided by the GoBF. They include, in particular, consulting firms, supply and works companies, repair and maintenance craftsmen, spare parts distributors, bricklayers, small and medium - sized civil engineering contractors and public service contractors for drinking water and sanitation that participate in the daily management of the water supply systems.

20. The **civil society organizations** composed of associations, NGOs and community-based organizations working in the area of drinking water supply and sanitation, contribute to the objectives designed by the GoBF in terms of water and sanitation. They participate in WASH oversight and advocacy; contribute to the funding of the rehabilitation of drinking water supply and sanitation facilities; contribute to the protection and conservation of water resources and ensure awareness, information and training of stakeholders. It is important to point out that the water administration has contributed to the creation of **water user associations (WUA)** as part of the infrastructure management reform to ensure the management of manual operated pump at village level, but the various evaluations of the sector reveal that their operationalization is not effective.

21. Households/water users participate in the management of the public water service by ensuring a rational and hygienic use of water; by paying for the water service and informing the water service provider in case of malfunctions of the manual operated pump. They participate in the funding of basic investment in rural areas in accordance with the decree on management reform. Actual household contributions and the modalities of their management have not been documented under the PN-AEPA. Similarly, some evaluation documents question the relevance of this contribution as it would have no impact on the appropriation of the facilities.

1.5 National programs

22. The GoBF's areas of intervention focus, on one hand, on promoting adequate access to drinking water and sanitation by rural and urban populations as an essential means for improving health and living conditions, and on the other hand, the improvement of the water information system, the search for more appropriate institutional frameworks for the management of water resources, the reinforcement of the dialogue between the stakeholders, the hydro-agricultural capacity building including the provision of human resources to the sector. The first generation of programs included the PN-AEPA (2007-2015) and the PAGIRE (2003-2015). The second generation of programs, inspired by the SDGs, comprises five programs to be implemented between 2016 and 2030: the PGEA, the PN-GIRE, the PN-AEP, the PN-AEUE and the PNAH.

1.5.1 First generation of programs: 2003-2015

23. The Government's intervention strategy is based on long-term programs and builds on the experiences gained between 2003 and 2015 in the execution of the PN-AEPA 2007-2015 and the PAGIRE 2003-2015, established in 2003 and 2007 respectively. These programs have enabled to improve the performance of the sector by improving people's access to drinking water and sanitation services, protection and knowledge of the uses of water resources.

24. Earlier programs and projects were implemented in a context dominated by a multitude of projects supported by various donors with no coordination mechanism and limited dialogue among development partners. Each partner reserved an exclusive region of intervention to implement its own strategies and intervention tools. The adoption of the Millennium Development Goals in 2000, the 2005 Paris Declaration on Aid Effectiveness, have helped to design and implement the two programs. It is important to mention that some issues (gender, equity, outcomes and impacts) were not considered in these programs.

1.5.1.1 The PN-AEPA (2007-2015)

25. The estimated cost of the PN-AEPA over the 2007-2015 period is at FCFA 406 billion exclusive of all taxes in rural areas and FCFA 137.8 billion. Program closure activities continued in 2016 and the results of this last year are reflected in their consolidated balance sheets.

26. In rural areas the rate of access to drinking water is 65 percent against the 76 percent planned in the MDGs. Approximately 12,139 modern wells and equipped boreholes and 2,367 standposts were constructed from 2007 to 2015, corresponding to 68 percent of the needs of the MDGs. Based on the estimates, the number of additional served people is 2.97 million, or 42 percent of the target. The rate of functionality of Human Powered Pumps (manual operated pumps) and Simplified Drinking Water Supplies (water supply systems/PEA) are 89 percent and 85 percent respectively in 2015. This relatively high rate is also obtained by rehabilitating the investments that have been implemented. It should also be noted that the existence of community development plans in AEPA facilitated the acceleration of the implementation of the drinking water component as they made it possible to quickly better target the beneficiaries of investments.

27. The average rate of the execution of budgetary allocations is estimated at 82 percent, showing a certain control of the expenditure chain and the technical issues on the construction of the infrastructures.

28. Many of the WUA established for the management of manual operated pumps experience dysfunctions, so that the management of the facilities is not relevantly ensured. In addition, some facilities are out of order right after the first year of their construction and this denotes a poor quality of work.

29. In urban areas, the rate will increase by 27 percentage points in 10 years, from 68 percent in 2007 to 91 percent in 2016 with an additional 3,253,469 people covered. A strong improvement in ONEA's operating performance is also noted: 80 percent network efficiency; bacteriological quality: 99 percent of analysis in compliance with the standards; a recovery rate of 97.6 at the end of 2016; private recovery period: 59 days - end 2016; physical productivity ratio of the staff: 2.7 agents for 1,000 users. However, there is a fragile financial equilibrium due to an inappropriate pricing policy, a deterioration of the network performance since 2014 and the high cost of energy.

30. Efficiency is rated "good" for the drinking water subsector. In fact, the cost per person served in rural areas amounts to FCFA 53,206 against FCFA 77,091 provided in PN-AEPA. In urban areas, the cost per person served is FCFA 33,195 against FCFA 60,000 provided in the program.

31. **In terms of equity**, the guidelines for its implementation are stipulated in the law of 2011, which requires managers of the public water service to "comply, in particular with the principle of equality between users, the principle of continuity, according to which the service must operate in a regular and uninterrupted way, and to the principle of adaptation of the service to the evolution of the collective needs and the requirements of the general interest".

32. Available information indicates the level of implementation is low as regional disparities in access to drinking water have not been eliminated. At least five (5) regions (Boucle du Mouhoun, Cascades, Est, Hauts Bassins, Sahel) have access rates that are below the national average of 65 percent in 2015.

33. **In terms of the price of access to drinking water**, there are disparities between rural and urban areas and a corrective effort is undertaken by the MEA. It is noted, however, that the initiatives taken in rural areas to adapt the service to the changing needs of the community call for an in-depth reflection on the planning of the implementation of the new programs. The other aspects of inequity relate to the initial contributions requested from the beneficiaries in rural areas, which are FCFA 150 thousand for drilling and FCFA 400 thousand for an water supply systems in order to test their capacity to join the construction of the equipment. The effectiveness of the payment of this contribution by all the beneficiary villages is not proven.

34. The main achievements of PN-AEPA in rural and urban water supply are shown in the table A1.

Table A1. Key achievements of PN-AEPA in water supply

Main aspects	Unit	Achievements		
		Rural	Urban	Total
Mobilized financial resources	billions of FCFA	181	108	289
Rate of access to drinking water	percent of the population	65.3	91	72.4
People served	millions	3.22	3.25	6.47
Completion of individual subscriptions	number	13,758	26,795	13,758
Performed/rehabilitated drilling	number		26,795	26,795
Standposts	number	2,584	1,973	4,557
Increased production capacity	M3/day		99,832	13,758
Increased storage capacity	m3/day		36,850	
Network installations			4,840	
Delegation of the management of water supply systems to the private sector	Number of delegated systems	445		
Programming and monitoring-evaluation capacity		Reinforced at entity level		
Decentralization		Progressive [1]		

Notes: [1] Transfer of financial resources to some municipalities, technical approvals, training, road map assistance to the Contracting Authority (AMOC)

Source: PN-AEPA Annual Implementation Reports

35. The cumulative total expenditure of the sector over the 2013-2015 period (FCFA 470,460,718,888) is mainly focused on the "drinking water supply" and "hygiene services" subsectors for an average of 58.14 percent and 34.25 percent. They rose from FCFA 151,002,176,079 in 2013 to FCFA 158,288,159,056 in 2014 and FCFA 161,170,383,753 in 2015. The contributions of the different donors are shown in Table A2.

Table A2. Total Cumulative Expenditures of the Sector over the 2013-2015 Period

Donor	2013	2014	2015	Annual average
<i>Bilateral donors</i>	<i>18,211,239,320</i>	<i>16,187,660,169</i>	<i>12,928,280,867</i>	<i>15,775,726,785</i>
Austria			36,080,000	36,080,000
Belgium	8,971,000	171,240,000	6,000,000	62,070,333
Canada	27,100,000	7,290,000		17,195,000
Denmark	5,262,100,927	3,044,538,969	2,641,853,954	3,649,497,950
France	4,044,329,000	2,093,233,170,170	644,946,000	2,260,836,057
Germany	3,032,609,632	8,166,607,128	5,526,172,489	5,575,129,750
Italy	24,650,000			24,650,000
Japan	20,310,000	633,250,000	1,674,300,000	775,953,333
Sweden	1,442,513,961	856,276,585	731,060,425	1,009,953,233
Switzerland	209,110,000	978,500,000	273,780,000	487,130,000
United GoBFs (USAID)	26,190,000		98,900,000	62,545,000
Other bilateral donors and unspecified bilateral donors (n. c. a)	4,113,354,800	236,724,317	1,295,188,000	1,881,755,706
<i>Multilateral donors</i>	<i>18,415,584,412</i>	<i>19,078,762,641</i>	<i>12,859,373,565</i>	<i>16,784,573,539</i>
AfDB	1,213,881,000	37,500,000	1,014,090,000	755,157,000
AfDF		1,088,196,160	43,933,445	566,064,803
EU institutions	11,526,871,337	9,169,855,982	6,036,673,740	8,911,133,686
World Bank (IDA + IBRD)	4,411,079,000	7,551,400,510	4,200,124,380	5,387,534,630
UNDP	5,578,750			5,578,750

Donor	2013	2014	2015	Annual average
UNFPA	121,806,425	47,958,232		84,882,329
UNICEF	1,054,175,000	978,300,000	675,475,000	902,650,000
WHO	8,000,000	49,740,512		28,870,256
Other Multilateral Donors and Unspecified Multilateral Donors (n. c. a)	74,192,900	155,811,245	889,077,000	373,027,048
Rest of the world unspecified (n. c. a)			12,241,346,000	12,241,346,000

Source: Trackfin final report, Burkina Faso, IRC, May 2017

36. **The PN-AEPA 2007-2015 included a sanitation component** which made it possible to increase the access rate from 0.8 percent in 2010 to 13.4 percent in 2016 in rural areas, and from 15 percent in 2007 to 36.8 percent in 2016 in urban areas. Approximately 184,505 latrines were provided in rural areas compared to 165,117 in urban areas, serving nearly 2.1 million people in rural areas compared to 1.65 million in urban areas.

37. The functionality of the built latrines is not documented to assess the sustainability of the investments. In addition, the efficiency of the management of the family and community facilities is not assured and there is a lack of relevant data and information.

38. The efficiency of the subsector is rated average in rural areas and acceptable in urban areas. Indeed, the cost per person served in rural areas amounts to FCFA 20,355 against FCFA 12,429 provided in the PN-AEPA and in urban areas it amounts to FCFA 17,330 against the expected FCFA 27,142.

39. In terms of equity, data from the 2010 national survey and the 2015 PN-AEPA indicate significant disparities in the progress made by the different regions. Seven (7) regions have access rates below the national average of 12 percent in 2015 (Boucle du Mouhoun, Cascades, Center West, Center Sud, Est, Hauts Bassins and Sahel).

40. The main achievements of PN-AEPA in sanitation are shown in Table A3.

Table A3. Main achievements of PN-AEPA in sanitation

Main aspects	Unit	Achievements		
		Rural	Urban	Total
Mobilized financial resources	billions of FCFA	37.71	32.73	70.44
Rate of access to drinking water	percent of the population	13.4	36.8	19.8
People served	number	2.1	1.9	3.1
Family latrines	number	184,505	165,117	349,622
Construction of school latrine blocks and public latrines	number of blocks	8,584	2,443	2,443
Connecting users to the collective network	number		1,375	1,375
Installation of collective sewage networks	Number of kms		62.4	62.4
Number of built treatment plants	number		1	1
Number of constructed sludge stations	number		4	4
Adopted Strategic Sanitation Plans	number		56	56
programming and monitoring-evaluation capacity	number	Reinforced at entity level		
Decentralization		Progressive [1]		

Notes: [1] Transfer of financial resources to some municipalities, technical approvals, training, road map assistance to the Contracting Authority (AMOC).

Source: PN-AEPA Annual Implementation Reports

1.5.1.2 The PAGIRE (2003-2015)

41. Public action in the area of water resource management was organized through the two-phase structured PAGIRE, in 2003-2009 and 2010-2015, which has two specific objectives: (a) designing, planning and implementing the foundations of the new water resource management framework indicated by the water policy and enshrined in the Water Management Guidance Act; and (b) taking urgent measures to ensure the protection of water resources.

42. The PAGIRE has achieved important results: the creation and operation of five (5) water agencies, the adoption of the law on the CFE, the consolidation of the legal and regulatory basis for the water sector by adopting the implementing texts of the Water Management Guidance Act, the establishment and the effective operations of the intersector coordination and advisory bodies that are the National Council of water (CNEau), the Technical Committee on Water (CTE) and the National Steering Committee of PAGIRE (CNP), the design and organization of the National Water Information System (SNIEau) as one of the central tools is the database (BD SNIEau), the creation of five water agencies, the adoption of the SDAGES of the management areas of Mouhoun and Comoé. The reinforcement of the human resources through the training of about ninety (90) engineers and technicians to ensure the piloting of the water sector during the next decades was also carried out.

43. In terms of efficiency, the analysis of the performance per stakeholder shows that the SP/PAGIRE has been more efficient in the execution of its work plan and budget (execution of 82 percent of its budget programming over the 2010- 2015 period) than the other executing entities such as the DGRE and the Water Agencies, of which the rates are 56 percent and 58 percent respectively. The average physical performance rate over the same period is 80 percent. There is an alignment between the financial and physical performance, which indicates a certain efficiency in the use of financial resources.

1.5.1.3 Capacity building

44. The implementation of previous programs was supported by capacity building activities related to a Unified Response Framework (strengthening of RWSS sector management capacity, management of public water service, management and implementation works and services, implementation of PN-AEPA instruments) which ensures coherence and complementarity of interventions, a steering, planning and programming and monitoring and evaluation system.

45. The effectiveness of capacity building has been moderate²¹. Indeed, 69 percent of the PCD-AEPA (245/354) are to be updated at the end of 2016 to serve as a basis for the 2016-2020 programming, 68. 5 percent (5723 WUA) are functional out of a total of 8352, 64. 7 percent (5723) repairing craftsmen (8,352) were approved while the delegation of water services management concerned 445 water supply systems/PEA out of a total of 1,034. In terms of training, they involved about 16,916 regional actors (households, WUA, NGOs, municipal councilors, focal points, etc.) and 167 engineers and technicians but did not mitigate the MEA human resources deficit. In addition, many obstacles (empowerment of municipalities, mobilization of beneficiaries' financial contributions to investment, slow pace of the procurement process, lack of technical equipment and vehicles, implementation of transferred funds, etc.) have not been mentioned by the programs.

²¹ Source: National 2016-PN-AEPA report

1.5.1.4 Lessons from past programs

46. The programmatic approach adopted by PN-AEPA has been a catalyst for the mobilization of resources for the sector, in particular the mobilization of external funding but also of investments on own national resources. The direct support provided by technical and financial cooperation in terms of human resources to the various implementation entities, both at central and decentralized level (technical assistance and project management) was a decisive factor that boosted the actions themselves, even if the expected results of these programs have not been achieved.

47. The stability and skills of the staff involved in the activities is essential and crucial to ensure the program's performance. The weak capacity to manage the changes has been a hindrance to the effective implementation of the program.

48. DREAs play a central role in achieving the results of the sector's investment programs. The municipality adopts, with the support of the regional directorates, its programming instrument, which is the municipal water and sanitation development plan (PDC-AEPA). The existence of an updated PDC-AEPA at the start of the programs is one of the keys to success of the intervention strategy.

49. The approaches to the construction of sanitation facilities have encouraged the entities to seek a consensus in terms of an intervention strategy that consists in supporting households through a partial subsidy of materials (cement and iron for the slab, ventilation chimneys, fly screens) combined with the contribution of households (excavation, aggregates, superstructure materials) and reinforced by a good implementation of the information, education and communication (IEC) campaigns. Choosing a competent IEC entity for each region seems to be one of the keys to improving the achievement of results.

50. The experience of an independent program implementation unit (Ziga Contracting Authority and an urban component for the PN-AEPA) was essential for the expected of results.

51. The PAGIRE experienced underperformances that led to the non-functionality of the SNIEau database despite the importance of the financial allocations.

52. The existence of program steering and dialogue frameworks has made it possible to address significant obstacles to the progress of the programs and the sector as a whole.

53. Periodic audits have been a definite guarantee of quality and performance in the implementation of the programs.

54. The discontinuity between the physical realizations of the facilities and the implementation of the management devices jeopardizes the sustainability of the service.

55. Delegation of service management has improved the performance of the sector (reduction of failure rates).

56. Defining the content of capacity building is an important part of the program design phase to ensure that the implemented resources contribute to removing the identified barriers to the sector;

57. The search for the viability of organizational management systems is an essential element of capacity building.

1.5.2 Second generation of programs: 2016-2030

58. Burkina has adopted a second generation of programs in the water, sanitation and IWRM sector, based on the following National Water Policy Guiding Principles:

59. Ensure the right of universal access to improved water and sanitation, on the basis of the human rights-based approach, with particular attention to the poorest and most vulnerable populations. This Guiding Principle is to be developed through the following implementation strategies:

- Implement whenever possible the “clustered-village” approach to satisfactorily providing rural water service
- For water supply and for the sanitation apply a “service approach” rather than an “asset approach”. In the specific case of the water supply, this strategy will consist of the promotion of private connections and the densification of standposts in rural areas.
- Promote the use of Information and Communication Technologies (ICT)

60. Improve knowledge and management of the country's water resources through the development of research and capacity building to ensure better management. Effective water resources management needs to focus on the issues of concern: (i) pollution resulting from the development of agricultural and mining activities; (ii) overexploitation of water resources; (iii) degradation and silting of waterways; and (iv) the recovery of the financial resources necessary for the sustainable management of the country's water resources.

61. Promote Sustainable Development to ensure the sustainability of actions undertaken in the water and sanitation sector, which meets the conditions of economic efficiency, environmental sustainability and social equity. The requirement of sustainability requires among others:

- Partner with the private sector (PPP approach) for water supply and irrigation, in view of the decline in public aid to development, and the need to ensure the sustainability of investments
- Give priority to rehabilitation, consolidation of infrastructure, considering the large number of hydraulic structures to be rehabilitated (dams, hydro-agricultural development, water supply systems, etc.), granting high priority to the maintenance of existing investments
- Increase the mobilization of internal resources for sustainable financing of the water sector
- Promote regional and international cooperation in the management of shared water resources.

62. The second generation of programs includes five national programs for the period 2016-2030 that will contribute to the implementation of the PN-DES 2016-2020, and SDGs. These programs are:

- The National Drinking Water Supply Program (PN-AEP, 2016-2030)
- The National Program for Wastewater and Excreta Sanitation (PN-AEUE, 2016-2030)
- The National Integrated water resource management Program (PN-GIRE 2016-2030)
- The National Program for Water and Sanitation Governance (PGEA 2016-2030)
- The National Program for Hydraulic Development (PN-AH 2016-2030)

63. These five operational programs reflect the government's response to sector issues and challenges, but they require continuity in the effort to mobilize financial resources, good governance, a focus on the outcomes and impacts of investments, and a strong and reliable sector framework including an administration with the capacity to make good decisions, as well as a stable legal framework known to users, businesses and investors. The 2016-2020 action plans were adopted in 2018.

64. The second generation of national programs have been designed to respond to the high demand for drinking water expressed by the population, the necessary improvement of the living conditions with proven health impacts, and the integrated management of water resources in order to match the status of water resources with the demands of different economic sectors, of the water-related ecosystems and to protect them against the various degradations due to pollution by chemicals, hazardous materials, wastewater and solid transport that clog the water reservoirs.

65. The 2016-2030 program documents provide guidance for all stakeholders on important actions and approaches that can contribute to solving sector issues in order to meet the national objectives in the relevant areas. The overall cost of these programs is estimated at FCFA 2,746 billion, of which 649 (24 percent) would come from the GoBF and communities, 1,617 (59 percent) from donors and NGOs, 463 (17 percent) from other stakeholders (populations and private sector) and 15 (1 percent) from the CFE. Compared with the funding plan of PN-AEPA, the contribution of donors and NGOs decreases from 77 percent to 59 percent.

66. The PN-AEP, PN-AUE and PN-GIRE national programs are implemented through five-year action plans, the first of which covers the period 2016-2020 with a projected overall budget of US\$ 1088 million, of which 62 percent for the PN-AEP, 35 percent for the PN-AUE, and 4 percent for the PN-GIRE. The total requirements to fund the three programs from 2016 to 2030 is US\$4212 million.

Estimated budget for the PN-AEP, PN-AEUE, and PN-GIRE (US\$ million)

National Program	2016-2020	2021-2025	2026-2030	Total
PN-AEP	671	706	903	2280
PN-AEUE	377	777	674	1828
PN-GIRE	40	33	31	104
Total	1088	1516	1607	4212

Source: PN-AEP 2016-2030, PN-AEUE 2016-2030, and PN-GIRE 2016-2030,

67. The Program is integrated with GoBF's priorities to provide universal access to water and sanitation services, and to strengthen water resource management. On the basis of the objectives and actions proposed in the government sector programs, the Program will fund a subset of investments included in the PN-AEP and the PN-AEUE in targeted geographical areas, and some key actions included in the PN-GIRE. The Program builds upon GoBF's policy priorities and will support the objectives articulated within the PN-AEP, PN-AUE and PN-GIRE in selected urban and rural areas²².

Objectives and Actions of the PN-AEP, PN-AEUE, and PN-GIRE

Government Program	Specific Objective of the Government Program ²³	Actions	PforR Program Supported
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²² The Program supports the objectives of these programs as follows: (a) for the PN-AEP, the objectives defined in Table 16 of Section 3.6. of the PN-AEP; (b) for the PN-AEUE, the objectives defined in Section 2.1.2 of the PN-AEP; and (c) for the PN-GIRE, the objectives No. 5 and 6 defined in Table 3 of Section 6 of the PN-GIRE.

²³ The Program supports the objectives of these programs as follows: (a) for the PN-AEP, the objectives defined in Table 16 of Section 3.6. of the PN-AEP; (b) for the PN-AEUE, the objectives defined in Section 2.1.2 of the PN-AEP; and (c) for the PN-GIRE, the objectives No. 5 and 6 defined in Table 3 of Section 6 of the PN-GIRE.

Government Program	Specific Objective of the Government Program ²³	Actions	PforR Program Supported
National Water Supply Program (PN-AEP)	Ensure sustainable access to improved water supply services	Implementing sustainable access to drinking water	Yes
	Sustainable manage water supply infrastructure	Managing water supply services	Yes
	Improve capacity for water supply management	Strengthening the institutional framework and management tools	Yes
National Sanitation and Wastewater Program (PN-AEUE)	Ensure sustainable access to improved sanitation services	Implementing sustainable access to sanitation	Yes
	Eradicate open defecation by promoting behavioral change	Eradicating open defecation and promoting adequate hygiene and sanitation practices in rural and urban areas	Yes
	Optimize wastewater and sludge management	Optimizing management and collection of wastewater and sludge	Yes
	Develop research in the field of wastewater treatment and on-site sanitation	Undertaking research in the field of sanitation	Yes
	Build capacity for subsector financing, management and steering	Providing capacity building for sector financing, management, and steering	Yes
National Program for Integrated Water Resource Management (PN-GIRE)	Improve water resources information for decision making	Improving information on water resources	Yes
	Develop reliable decision-making support tools	Operationalizing the National Water Information System (SNI Eau)	Yes
	Increase capacity and efficiency of river basin organizations	Adopting and implementing river basin management plans	No [1]
	Increase the financial water contribution for the protection of water resources	Defining and implementing a strategy to increase the financial water contribution	No [1]
	Sustainably preserve the quality of the water resources for the various uses	Protecting water sources for different water uses	No [1]
	Protect water sources	Defining and implementing an action plan for preventing invasion of water plants	No [1]
	Incorporate transversal or cross sectoral issues within water management	Strengthening technical capacities for the monitoring of cross sectoral issues	Yes
	Change stakeholders' behavior regarding the protection and uses of water	Adopting communication campaigns in this domain	No [1]
	Reduce regulatory offenses in water	Enforcing IWRM regulations	No [1]

Note: [1] These actions of the PN-GIRE are supported by EU, DANIDA and Sida on-going programs.

1.5.2.1 The PN-AEP 2016-2030

68. The strategic objective of PN-AEP 2016-2030 is to sustainably meet water supply needs of the population in quantity and quality and thus contribute to the achievement of the SDG 6. The strategic axes selected for the PN-AEP are:

- Axis 1. Knowledge of the water sector:
 - To develop action research for water supply service delivery
 - Strengthen capacity for knowledge, monitoring and evaluation of water resources for water supply
 - Promote the acquisition, use, and dissemination of water data for use with water supply system

- Reduce water-related risks by better understanding these risks and implementing preventive measures.
- Axis 2. Mobilization of water resources:
 - Promote the “water service approach” rather than an “asset approach”
 - Increase investments for the mobilization (production, treatment, transport, distribution and marketing) of groundwater and surface water resources for drinking water, with a view to achieving universal access to water while targeting priority villages / localities / neighborhoods without access to improved water
- Axis 3. Management of water supply service:
 - Pursue the implementation of the reform of water supply management system in rural and semi-urban areas, while ensuring that the state and the local authorities ensure that the poorest people have access to the infrastructure. water, through the establishment of appropriate mechanisms that ensure equity and sustainability.
 - In urban areas, improve the efficiency and effectiveness of water service delivery while taking appropriate measures to maintain the financial equilibrium of the urban water supply sub-sector.
 - Promote the development of PPPs in infrastructure management and public water service.
- Axis 4. Management of the water sector:
 - Ensure better management of the sector by putting in place an effective institutional mechanism, a unified intervention framework and efficient management and control tools.
 - Implement a human resources development plan for the sector

69. The expected results linked to the urban component of the PN-AEP 2016-2030 are: (a) to increase the access rate to improved water supply from 91 to 100 percent, with the increase of the number of people served from 3.3 million at the end of 2016 to around 8 million by the end of 2030; and, (b) the creation of 20 new centers, increasing the number of existing urban centers served by ONEA from 57 to 77 centers. The estimated cost of the Program for urban areas is FCFA 483 billion (or about FCFA 60,375 per additional person).

70. The expected results linked to the rural component of the PN-AEP 2016-2030 are: (a) to increase the access rate to improved water supply from 65 to 100 percent by (i) increasing the population served by standposts from 7 percent in 2014 to 24 percent in 2030 and (ii) increasing the population served by private connections from 0.3 percent in 2014 to 56 percent in 2030. By 2030 about 20 percent of the rural population (about 3.5 million people) will still be served by boreholes equipped with manual operated pumps. This will require the completion of (a) 467 water production centers, (b) 11,428 Km of distribution network, (c) 8,577 standposts, (d) 994,548 private subscriptions, (e) 9,358 boreholes equipped with manual operated pumps, (f) rehabilitation of 9,427 boreholes equipped with manual operated pumps, and (g) rehabilitations and upgrading of 397 water supply systems. The goal is that by 2030 all the population living in rural areas (about 13.65 million people) will have access to an improved water system, with at an estimated cost of FCFA 824 billion, (or about FCFA 89,000 per person).

Objectives PN-AEP Rural Component (2015-2030)

Period	Rural water systems (#)		Connections		Boreholes equipped with manual operated pumps (#)		Water distribution mains (Kms)
	New	Rehabilitated	Standposts (#)	Private Connections (#)	New	Rehabilitated	
2015 - 2020	100	225	4.854	104.004	5.406	3.899	3.883
2020 - 2025	136	86	3.008	289.093	3.900	2.795	4.395

2025 - 2030	222	86	734	603.823	2.323	2.911	4.253
Total (2015 – 2030)	458	397	8.596	996.920	11.629	9.605	12.531

Source: PN-AEP 2016-2030

71. It is envisaged that where the water resource is available water production centers will be built, which will provide drinking water to the target populations, gradually, through standposts and private subscriptions. A "typical water production center" with a production capacity of 600 m³/day can, by applying the targets of consumption and level of service in 2030, cover a population of about 30,000 people.

72. The PN-AEP 2016-2020 Action Plan for PN-AEP foresees a number of achievements for the five year period including: (a) the construction of 4,402 manual operated pump in rural areas, (b) the construction of 515 new water supply systems, (c) the increase of the ONEA production capacity by 248,400 m³, and (d) the creation of 8 new centers at a cost of FCFA 418. 5 billion.

Funding for the PN-AEP for the four PforR Regions (FCFA)

Regions	Needs of the national Program (2016-2020)	Budget forecast (2016-2020)		Partner funding (DANIDA + IDB/UEMOA) (2016-2020)	Funding to be sought (2016-2020)
		Own resources	Transferred resources		
Boucle du Mouhoun	20,104,869,833	4,848,087,000	492,500,000		14,764,282,833
Cascades	10,238,939,320	2,994,660,000	189,500,000		7,054,779,320
Hauts Bassins	25,441,650,587	4,145,830,000	483,000,000		20,812,820,587
Sud Ouest	8,510,705,257	3,311,074,000	222,500,000		4,977,131,257
TOTAL	64,296,164,997	15,299,651,000	1,387,500,000	23,475,000,000	34,013,997

Source: CID/PN-AEP supplemented by support projects documents from DABIDA and BID/UEMOA communication

1.5.2.2 The 2016-2030 PN-AEUE

73. The overall objective of PN-AEUE 2016-2030 is to ensure sustainable access to sanitation services (including on-site and network services), and achieve the SDG 6 concerning sanitation. The strategic axes selected for the PN-AEUE are:

- Axis 1. Ensure universal access to sanitation. This strategic axis aims to ensure the right of universal access to sanitation on the basis of the human rights-based approach, taking into account the concerns of the poorest and most vulnerable population. This includes:
 - End open defecation through community-based approaches such as community/leader led total sanitation
 - Ensure adequate and sustainable sanitation services in all institutions and public places
 - In rural areas, the strategy is to improve the rate of access to a sustainable sanitation service by stimulating self-realization and setting up a diversified technological offer
 - In urban areas, in addition to self-realization and the establishment of service delivery options, it will also proceed to rehabilitate and develop sanitation networks in the main urban areas to increase the rate of access to a sustainable sanitation service.
- Axis 2: Ensure sustainable financing of the sanitation sub-sector
 - Large-scale promotion of Leader Led Total Sanitation

- The development of the PPPs for sanitation
- The development of new endogenous financing mechanisms
- The development of mechanisms to encourage self-realization
- Axis 3: Promote communication for behavioral change. The communication strategy will focus on advocacy, outreach and mass communication:
 - Community-based communication will rely on community relays that will be trained beforehand and equipped with communication tools adapted to each community and based on participatory approaches
 - Mass communication will be done through radio, television, print press, public entertainment, theaters forums and other innovative tools
 - School-based hygiene education to induce changes across children (school governments, school health clubs) and through community-based training (with village or community health committees)

74. The total cost of the Program for 2016-2030 amounts to FCFA 1,216 billion distributed in FCFA 735 billion for rural areas, FCFA 481 billion for urban areas and FCFA 49 billion for environmental and social impact assessments. The mobilized and/or predictable amounts to date for the intervention area amount to FCFA 7.9 billion, or 35 percent of the program budget.

75. In terms of the urban component, the expected results are (a) the coverage of the intervention area from 57 to 77 centers ii) the progression of access from 37 percent to 100 percent with the increase of the additional number of people with access to adequate sanitation from 1,886,875 at the end of 2016 to 11,340,300, thus ensuring universal access to sanitation of wastewater and excreta in urban areas, in accordance with the SDGs, while respecting the financial balance of ONEA, (c) ODF Sector Rates (*), (d) Number of ODF Sectors. The cost of the Program is estimated at FCFA 480.5 billion, i.e. an additional cost per person of FCFA 42,371.

Projected number of urban latrines under the PN-AEUE

Program Phase	Estimated urban population	Population to be served	Targeted access rate to improved sanitation (%)	# of households	# of latrines to be built
2016-2020	7,008,229	3,854,526	55%	727,269	249,899
2021-2025	8,991,033	7,192,802	80%	1,357,132	326,900
2026-2030	11,340,300	11,340,300	100%	2,139,679	395,476

Source : PN-AEUE 2016-2030

76. As for the rural component of the 2016-2030 PN-AEUE the expected results are (a) ending open defecation in 100 percent of rural municipalities and (b) changing the rate of access to sanitation from 13.4 percent in 2016 to 100 percent in 2030. According to the PN-AEUE, it is estimated that 19.43 million people will have access to adequate sanitation at an estimated cost of FCFA 735 billion, or about FCFA 28,000 per person.

Projected number of rural latrines under the PN-AEUE

Program Phase	Estimated rural population	Population to be served	Targeted access rate to improved sanitation (%)	# of households	# of latrines to be built
2016-2020	14,480,929	3,620,232	25%	517,176	210,342
2021-2025	16,043,904	12,032,928	75%	1,718,990	992,951
2026-2030	17,331,400	17,331,400	100%	2,475,914	740,189

Source : PN-AEUE 2016-2030

77. The 2016-2020 Action Plan for the National Wastewater and Excreta Water Sanitation Program provides, among other things, for the construction/rehabilitation of 210,342 household latrines, 362,023 domestic catch basins, and the construction/rehabilitation of 200 institutional and public facilities at a cost of FCFA 253. 8 billion.

Funding for the PN-AEUE in the four PforR regions (FCFA)

Regions	Needs of the national Program (2016-2020)	Budget forecast (2016-2020)		Partner funding (DANIDA + IDB/UEMOA) (2016-2020)	Funding to be sought (2016-2020)
		Own resources (delegated to DREA)	Transferred resources		
Boucle du Mouhoun	8,729,077,452	795,089,000	150,000,000		7,783,988,452
Cascades	3,978,803,835	856,484,000	177,778,000		2,944,541,835
Hauts Bassins	6,548,675,788	927,485,000	100,000,000		5,521,190,788
Sud Ouest	3,427,060,600	638,342,000	0		2,788,718,600
TOTAL	22,683,617,675	3,217,400,000	427,778,000	4,258,000,000	14,780,439,675

Source: CID/PN-AEP supplemented by support projects documents from DABIDA and BID/UEMOA communication

1.5.2.3 The 2016-2030 PN-GIRE

78. The strategic objective of the 2016-2030 PN-GIRE is to sustainably contribute to the meet the needs of users and aquatic ecosystems for freshwater. The strategic approaches of the PN-GIRE are:

- Engage all stakeholders in carrying out concrete actions to protect water resources in the field
- Develop and consolidate water agencies
- Strengthen the water police
- Advance in the implementation of the CFE
- Develop and sustain the national water information system
- Develop the interactions between IWRM and decentralization processes
- Continue the development of regional and international cooperation
- Integrate gender, poverty, growth, human rights and climate change aspects in the planning, implementation of actions and their monitoring and evaluation in the field of water resources

79. The main expected results are: (a) the reduction of water-related offenses, (b) the improvement of the recovery of the CFE from 55 percent in 2015 to 100 percent in 2030, (c) the adoption of all Water Development and Management Master Plans (SDAGE) as well as multi-year intervention programs, (d) increasing the density of measurement networks, (e) improving the knowledge and management of water resources.

80. The estimated budget of the PN-GIRE for 2016-2030 to FCFA 69 billion, FCFA 15 billion (22 percent) of which will be funded by the GoBF, FCFA 15 billion by the CFE, and the rest by the donors, up to 56 percent. The amounts mobilized to date total to 9. 6 billion FCFA, i.e.: 35 percent of the Program's budget.

81. The 2016-2020 action plan for the PN-GIRE provides for: the establishment of the water police, the improvement of the collection of the CFE, the institutional framework and the management instruments as well as the extension of the SNIEau networks, the promotion of research and development in the field of water.

Annex 2. Water and sanitation Sector reform in urban areas

83. ONEA is a SOE, of which the purpose is the creation, management and protection of drinking water gathering facility, supply and distribution for urban and industrial needs; and the creation, promotion and improvement and management of collective, individual or autonomous sanitation facilities for the disposal of wastewater and excreta in urban and semi-urban areas.

The relationship between ONEA and the GoBF is governed by a performance contract which sets out the reciprocal obligations of each party. ONEA is responsible for the implementation of the urban AEPA component of PN-AEPA. It is in charge of:

- Seeking the necessary funding
- Developing annual work plans and budgets
- Preparing progress and activity reports
- managing the works
- capacity building
- managing the facilities
- monitoring and evaluating the urban activities of the PN-AEPA
- coordinating the interventions of the donors of urban PN-AEPA

84. The main entities of ONEA and their functions under the PN-AEPA are the following:

85. **The Director General** plays the role of the deputy secretariat of the national steering committee; coordinates and harmonizes the activities contributing to the achievement of the objectives of the urban PN-AEPA; mobilizes funding for PN-AEPA; validates and transmits PN-AEPA documents to DGRE and partners.

86. **Ziga's Project Management Directorate** is responsible for coordinating all the Ziga project interim phase and phase 2 project interventions: procurement, technical follow-up, accounting and cash management, follow-up of commitments and liquidation of expenditures; and developing monitoring reports and calculates indicators.

87. **The Directorate of Planning and Investments** prepares and updates the municipal water supply development plans as well as the ONEA development plan and investment plan; drafts annual business plans and investment budgets for the water supply exclusive of Ziga and ensures the consolidation of annual investment plans and budgets and monitoring reports for urban water supply; ensures the procurement, monitoring and control of studies and works of the water supply exclusive of Ziga in relation with the project teams.

88. **The Directorate of Sanitation** develops strategic plans for city sanitation; updates the investment plan for wastewater and excreta sanitation; develops business plans, annual budgets and urban sanitation implementation reports; ensures the award of contracts, the monitoring and control of studies and works; conducts independent sanitation activities; organizes awareness and education campaigns on hygiene; and ensures the operation and maintenance of collective sanitation facilities.

89. **The Finance Directorate** manages ONEA's financial model; manages the commitments and the liquidation of the expenses of the projects on own resources and external funding; manages the loans; and develops budget monitoring reports;

90. **The Operations Directorate** ensures the operation and maintenance of the facilities; ensures the control of operating expenses; conducts water loss reduction programs in the centers, particularly in Ouaga and Bobo; and ensures that water quality standards are met.

91. **The Customer Department** ensures the development of access to water through subscriptions, manages relations with customers and ensures the recovery, conducts a tariff study taking into account the PN-AEPA.

92. **The Human Resources Directorate** implements the policy of strengthening staff skills and motivation; ensures the expansion of the capacity of the CMEAU: project management, management of the AEPA systems.

93. **The Regional Directorates** represents ONEA in the regional steering committee, organizes the relationship with the regional and municipal authorities, participates in the drilling, subscription, and network extension works under the responsibility of the DPI.

94. ONEA's centers participate in the design of development plans of the centers with the municipalities; prepares the annual programs and budgets of the centers with the municipalities; and ensures the day-to-day operation and management of the centers

95. Project teams play a critical role in the implementation of projects. Thus, the project teams supervised by the Planning and Investment Directorate have a double mission: project management with the obligation to transfer the know-how to the ONEA and to ensure the conditions of a good facility management in the future; project execution mission with obligation to ensure the quality of studies and works for a sustainable management of facilities. Therefore, the project teams must ensure the quality of the design, to ensure a good definition of the costs of the component, to ensure the smooth running of the procedures for the choice of the providers in charge of the studies and works, to ensure the respect of the quality of the works, to ensure the optimization of the costs of the component, ensure compliance with the plans of studies and works, and ensure the coordination of all stakeholders. The composition of the project teams is defined according to the nature of the work to be undertaken. In all cases, they bring together the representatives of the main ONEA entities involved in the construction or operation of the equipment.

Reform of the urban water sector

96. The urban water supply sector in Burkina Faso is managed by ONEA, created in 1985 as a commercial public entity (EPIC) and transformed into a GoBF-owned company in 1994. ONEA currently manages 59 centers throughout the country. The need to ensure the survival of the company, to increase the coverage of the service, to restore continuity of service, particularly in Ouagadougou in a context of structural adjustment of the economy, led to the launch of a reform that has affected all areas of management and allowed a profound transformation of the ONEA whose results are:

Institutional and regulatory matters: (a) redefinition of the institutional framework with the clarification of the role of the actors, (b) greater autonomy of management of the ONEA, (c) obligation to report with the contractualization of the regularly audited relations between the GoBF and ONEA.

Regarding the company: (d) a relevant customer-oriented organization of the company, (e) a financial viability supported by an appropriate tariff policy, five-year investment programs resulting from a long-term development plan of the company and a relevant cost control program, (f) cost recovery, (g) increased service coverage (viii) improved quality of service to the customer.

The consolidation of the results of the reform continued with: (a) enhanced ONEA leadership through the development of a strategic planning with the alignment of strategic objectives, annual work plans and budgets with a vision, values shared and annually broken down to all staff and evaluated during annual interviews; (b) results-based management; (c) anchoring the customer culture in the

company with the implementation of the quality approach and ISO 9001 certification since 2009; (d) strengthening the reporting system with the establishment of the supervisory committee of the activities of the ONEA which is the privileged framework to assess the performance of the sector of urban hydraulics through the management and performance report, the annual activity report, the annual report of the urban component of the national drinking water and sanitation program, and the technical, financial and accounting audit reports.

97. These reforms have allowed ONEA to be a credible company in view of its results: 91 percent water supply rate and 97.6 percent private recovery rate; end of 2016: financial balance, 80.7 percent network efficiency, cost control policy, constantly improving coverage rate.

The originality of this reform lies in the fact that it has remained in the public domain and has benefited from the involvement of a service agreement with professional in terms of customer and financial functions. The results show that a public company can perform well when there is political will and leadership and if the performance made available to the customers guides the management of the company and the actions of its staff.

Financial performance of ONEA and comparison with companies in the sub-region

98. The management and performance report makes it possible to assess the performance of ONEA through its ability to cover the expenses of the cashable products, the repayment of the debt service and the self-funding capacity. A finer analysis makes it possible to assess the financial productivity through the control of the expenses measured by the positive or negative evolution of the speed of growth of the products and the operational expenses.

99. ONEA's financial simulation model is a sector model developed for the urban water sector. It is regularly updated by a dedicated internal team. This is a physico-financial simulation model. It allows water demand to be projected (service rate, number of subscribers, volumes sold and produced per center), the investment program (projects in progress, investments beyond each center, renewals), investments funding and renewals, ONEA's financial accounts (income GoBFment, balance sheet, job-resource chart).

100. The purpose of the model is to project ONEA's financial accounts based on some assumptions and constraints. It is thus possible to determine the conditions of the financial balance of the company, particularly in terms of income and cash flow. The model calculates each year the unit cost per m³ billed for the provided services. It projects the average tariff of the water service to make the assumptions and scenarios (service objectives, investment Program, debt service, energy cost, staff, debt and debt clearance, etc.) compatible with an equilibrium in the accounts. The model calculates an average tariff of the service, and does not address the tariff system that can be applied from this average rate. The tariff structure is an integral part of a tariff study. The analysis of the two reports allows the following summary of ONEA's financial situation:

101. **The financial situation of the subsector was sound.** The subsector has been in financial balance since December 2006 in accordance with one of the objectives of the Ziga project, as shown by a positive cash position of FCFA 6.5 billion on December 31, 2016. This cash position hides a reality because this net cash is composed of 3 billion of undisbursed Danida budget support and a 2.8 billion AFD security for direct loans. Both elements taken into account, the net cash position is reduced to around \$ 700 million, which is contrary to the target set for the 3.5 billion cash balance. This very precarious situation is justified by the negative impact of the tariff increase and the fall in turnover. According to the financial projections of the model, the technical auditor strongly recommends to increase the tariff with extension to all the units.

102. This is why it is necessary to start the reflections on the sustainable financial balance of the ONEA right now, with new funding schemes, in the context of the major investments planned under the PN-AEP and the particularly needed investment effort in the subsector of urban sanitation to catch up the delay accumulated in this subsector compared to the hydraulic through the EN-AEUE.

103. The intermediate balances of ONEA from 2014 to 2016 indicate positive net results obtained through the resumption of investment grants.

104. With less than a billion net cash, cash pressures are currently noticeable.

105. The recoveries make it possible to cover the operating expenses and the debt service with the failure to meet the contractual deadlines of payment of supplier bills and in particular the electricity bill with SONABEL. However, the coverage of expenses (operating expenses) and charges (including amortizations) with cashable products is greater than 120 percent and therefore in line with good practice.

Table A7. Comparison of ONEA Indicators with those of other Countries

Indicator	unit	Senegal	Burkina Faso	Ivory Coast	Cameroon	DRC
Type of management		PPP	public	PPP	PPP	public
Population of the country	inhabitants	14	17	20	20	70
Population of the perimeter	inhabitants	6	4. 4	nd	9. 5	30
Coverage rate	percent	99 percent	86 percent	90 percent	48 percent	40 percent
Turnover	Millions USD	138	62	145	73	126
Number of active subscribers	u	570,000	267,000	740,000	350,000	291,000
Inactive subscriber rate	percent	10 percent	13 percent	nd	18 percent	45 percent
Recovery rate	percent	96 percent	97 percent	97 percent	nd	61 percent
Water loss rate	percent	20 percent	18 percent	24 percent	25 percent	40 percent
Average price	USD/m3	0. 9	0. 9	0. 8	0. 68	0. 75
Physical productivity	Staff/1000 ab	2. 5	3	2. 5	6	13
Financial productivity	Personnel/CA	19 percent	23 percent	17 percent	40 percent	39 percent
Average investment over 5 years	percent of turnover	51 percent	100 percent	nd	82 percent	40 percent

Annex 3. SWOT analysis of sector institutions

Table A8. Analysis SWOT

Involved Stakeholders	Strengths	Weaknesses	Opportunities	Threats	Recommendations
ONEA					
Permanent Secretariat for IWRM (SP/IWRM)	Reference Entity on Sector Reforms Access to GoBF financial resources Capacity to steer changes	Instability of human resources	IWRM taken into account by the PNDES Interest of donors in the sound management of water resources Existence of water agencies	Continuing uncontrolled interventions by stakeholders on water resources Unclear community intervention procedures Uncontrolled impacts of activities on water resources	Support to the water police Community intervention procedures to be clarified Better knowledge of water resources and impacts Support to the water information system Operationalize the IWRM Program
MEA's Secretary General					
Central Entities	Presence of skilled human resources Availability of most planning instruments	Instability of human resources Working procedures with non-formal decentralized and territorial entities	Interest of donors for a better management of water resources	Unexpected mergers or splits of entities Conflicts of competence	Continue refocusing tasks Implement mission sharing with the private sector and civil society Improve procedures Operationalize the 2016-2030 programs
Directorate General for Water Resources (DGRE)	Presence of skilled human resources Availability of most planning instruments Access to GoBF financial resources	Instability of human resources non-formalized working procedures with decentralized and territorial entities Insufficient human resources	Interest of donors for a better management of water resources	Unexpected mergers or splits of entities Conflicts of competence	Refocus on a "core profession" Seek a better position for the management of the national water information system (SNIEau) Accelerate the adoption and implementation of control tools and municipal support in accordance with the laws Accelerate the adoption of a code of good practice with decentralized entities
Drinking Water Branch (DGEP)	Presence of competent human resources Availability of most planning	non-formalized working procedures with decentralized and	Interest of donors for better management of water resources	Unexpected mergers or splits of structures Conflicts of competence	Accelerate the adoption and implementation of control tools and municipal support in accordance with the

Involved Stakeholders	Strengths	Weaknesses	Opportunities	Threats	Recommendations
	instruments Access to GoBF financial resources	territorial entities Insufficient human resources	People's willingness to pay for water services		laws Accelerate the adoption of a code of good practice with decentralized entities Continue the adoption of the Rural Water Price system
Directorate General of Sanitation (DGA)	Presence of skilled human resources Availability of most planning instruments Access to GoBF financial resources	poorly defined working procedures with decentralized and territorial entities Insufficient human resources Fecal sludge management poorly known	Interest of donors for better management of water resources Acceptance of the population to pay for the construction of their latrines	Unexpected mergers or splits of entities Conflicts of competence	Monitor the maintenance of the works Document fecal sludge management and take corrective action
Decentralized Entities					
Regional Directorate for Water and Sanitation (DREA)	Entity closer to populations and centers of operation Access to GoBF financial resources and associations Good appreciation by local authorities and other decentralized GoBF entities	More acute weaknesses in human, material and financial resources poorly defined working procedures with decentralized and territorial entities Inadequate technical level Poor quality of services Poor governance quality	Important actors in the management of skill transfer to municipalities Position as an important regional player in water and sanitation issues	Conflicts of competence with communities Unexpected mergers or splits of entities Institutional position contrary to decentralization	Support DREA to improve governance quality Substantially strengthen the resources for actions
Directorate for Human Resources (DHR)	Relatively young staff Presence of specific technical staff	Insufficient workforce Staff mobility Insufficient	Continuous recruitment by the GoBF Capacity of the related entities to gradually recruit	GoBF budget constraints do not allow adequate recruitment	Set up management tools Consider sharing work with the private sector and civil society

Involved Stakeholders	Strengths	Weaknesses	Opportunities	Threats	Recommendations
		management methods and tools	their staff	Low job attractiveness	
Directorate of Finance Administration	Strong commitment of the GoBF and partners	Low devolution of management	Rise power of the CFE municipal budgets	Conflicts with local authorities in the administration of resources	Continue the transfer of resources to the municipalities Give priority to the CFE
Territorial collectivities	Strong stability Presence of management bodies Municipal and regional budgets Regional and municipal development plans Existence of PDC-AEPA	Resumption of capacity building after the elections Poor skills in water issues	Projects supporting the reinforcement of the municipal project management Progressive transfer of skills and resources	Poor quality of services to populations	Continue strengthening the municipal project management capacity
Rural populations	Can contribute to the equipment function Knowledge of innovative solutions seen in other countries Political strength	Extreme poverty Concerned with different urgent expenses	Growth in income level Existence of external support GoBF commitment in the sector	Rainfall variability Price inflation	Enhance accountability for rights and duties Encourage the most deserving
Private sector	Diversified technical skills High capacity for innovation Ability to fund and manage core investments Good ability to dialogue with the public	A lot of very small entities Conflicts of interest in the execution of contracts Cash generated by low benefits Difficulty in providing continuing training for staff High mobility of staff	Continuous training of human resources by the public administration Interest of many young people for the private sector Existence of different financial products Growing support to public policies Increasingly stable legal framework	Financial resources coveted by other actors Hard for some actors to accept the private sector Competition from NGOs and associations Low tax policy incentive	Respect the legal framework Consider the contributions of the private sector in public decisions Continue to include the private sector in training
NGOs and associations	Strong integration within the	Funding most often	Existence of development	Shortfall of external funding	Enhance accountability for rights and

Involved Stakeholders	Strengths	Weaknesses	Opportunities	Threats	Recommendations
	population Strong capacity in social intermediation Power of interpellation Spearheading proposals	provided by external resources High mobility of staff	programs Several issues to address Need for social services raised by the populations	Growing competition on the same issues	duties Encourage the most deserving