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Report No: PAD5329

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

PROGRAM APPRAISAL DOCUMENT

ON A

PROPOSED LOAN

IN THE AMOUNT OF EUR 327.9 MILLION
(US$ 350 MILLION EQUIVALENT)

TO THE

KINGDOM OF MOROCCO

FOR A

WATER SECURITY AND RESILIENCE PROGRAM

June 23, 2023

Water Global Practice
Middle East and North Africa Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective {May 31, 2023})

Currency Unit =	Moroccan Dirham (MAD)
MAD 10.13 =	US$ 1
US$ 0.10 =	MAD 1

FISCAL YEAR
January 1 - December 31

Regional Vice President:	Ferid Belhaj
Regional Director:	Meskerem Brhane
Country Director:	Jesko S. Hentschel
Practice Manager:	Michael Haney
Task Team Leaders:	Carolina Dominguez Torres, Marcus J. Wishart

ABBREVIATIONS AND ACRONYMS

ABH	River Basin Agency (*Agence du Bassin Hydraulique*)
ABHBC	Bouregreg-Chaouia River Basin Agency *(Agence du Bassin Hydraulique du Bouregreg-Chaouia*)
ABHL	Loukkos River Basin Agency *(Agence du Bassin Hydraulique du Loukkos)*
ABHOER	Oum Er Rbia River Basin Agency *(Agence du Bassin Hydraulique de l'Oum Er Rbia)*
ABHS	Sebou River Basin Agency *(Agence du Bassin Hydraulique du Sebou)*
ABHSM	Souss Massa River Basin Agency *(Agence du Bassin Hydraulique du Souss Massa)*
ABHT	Tensift River Basin Agency *(Agence du Bassin Hydraulique du Tensift)*
APP	Annual Procurement Plan
BCM	Billion cubic meters
BOD	Biological Oxygen Demand
CAPEX	Capital Expenditures
CCDR	Country Climate and Development Report for Morocco
CNCP	National Public Procurement Commission (*Conseil National des Commandes Publiques*)
CoA	Court of Accounts (*Court des Comptes*)
COD	Chemical Oxygen Demand
COVID	Corona Virus Disease
CPF	Country Partnership Framework
DLI	Disbursement-Linked Indicator
DLR	Disbursement-Linked Result
DMA	District Metered Area
E&S	Environmental and Social
EEP	Public establishments and entreprises (*Etablissements et entreprises publiques*)
e-GP	e-Government Procurement
EIA	Environmental Impact Assessment
ERR	Economic Rate of Return
ESMP	Environmental and Social Management Plan
ESMS	Environmental and Social Management System
ESSA	Environmental and Social Systems Assessment
EUR	Euro
FM	Financial Management
GDP	Gross Domestic Product
GFDRR	Global Facility for Disaster Reduction and Recovery
GHG	Greenhouse Emissions
GIS	Geographic Information Systems
GoM	Government of Morocco
GRS	Grievance Redress Service
GWSP	Global Water Security Partnership
IBRD	International Bank for Reconstruction and Development
IFSA	Integrated Fiduciary Systems Assessment
IGAT	Inspectorate General of Local Administration for the MoI (Inspection générale de l'Administration territorial)
IGF	Inspectorate General of Finance (*Inspection Générale des Finances*)
IVA	Independent Verification Agency
M&E	Monitoring and Evaluation
m3	Cubic meter
MAD	Moroccan Dirham
MAPMDREF	Ministry of Agriculture, Fisheries, Rural Development and Water, and Forests (*Ministère de l'Agriculture, de la Pêche Maritime, du Développement Rural et des Eaux et Forêts*)
MCM	Million cubic meters
MEE	Ministry of Equipment and Water (*Ministère de l'Equipement et de l'Eau*)
MEE-DGH	Ministry of Equipment and Water, General Direction of Hydraulics (*Direction Générale de l'Hydraulique*)
MEE-DRPE	Ministry of Equipment and Water, Direction of Research and Planning (*Direction de la Recherche et la Planification)*
MEF	Ministry of Economy and Finance (*Ministère de l'Economie et des Finances*)
MEM	Ministry of Energy and Mining (*Ministère de la Transition Energétique et du Développement Durable*)
MTEDD-DDD	Ministry of Energy Transition and Sustainable Development, Sustainable Development Department (*Ministère de La Transition Energétique et du Développement Durable, Département du Développement Durable*)
MENA	Middle East and North Africa
MoI	Ministry of Interior (*Ministère de l'Intérieur*)
MoI-DRPL	Ministry of Interior, Direction of Public Local Networks (*Direction des Réseaux Publics Locaux*)

MPPP	Moroccan Public Procurement Portal
M&E	monitoring and evaluation
NCSP	National Communication and Sensibilization Plan for the PNAEPI
NDC	Nationally Determined Contribution
NDM	New Development Model (*Nouveau Modèle de Développement*)
NPV	Net Present Value
NRW	Non-revenue water
O&M	Operations and Maintenance
O&M	Operation and Maintenance
ODP	Observatory of Payment Delays
ONEE	National Office for Electricity and Potable Water (*Office National de l'Electricité et de l'Eau Potable*)
OP	Operational Policy
OPRC	Operational Procurement Review Committee
ORMVA	Regional Agricultural Development Office (*Office Régional de Mise en Valeur Agricole*)
PAP	Program Action Plan
PCU	Program Coordination Unit
PDAIRE	Integrated Water Resources Management Master Plans (*Plans Directeurs d'Aménagement Intégrée des Ressources en Eau*)
PDO	Program Development Objective
PEF	Program Expenditure Framework
PEFA	Public Expenditure and Financial Accountability
PFM	Public Financial Management
PforR	Program-for-Results
PNA	National Sanitation Plan (*Programme National d'Assainissement Liquide et d'Epuration des Eaux Usées*)
PNAEPI	National Program for Potable Water Supply and Irrigation (*Programme National pour l'Approvisionnement en Eau Potable et l'Irrigation*)
PNAM	National Mutualized Sanitation Program (*Plan National de l'Assainissement Mutualisé*)
PNE	National Water Plan (*Plan National de l'Eau*)
POM	Program Operations Manual
PPD	Public Procurement Decree No. 2-22-431 of 2023
PPP	Public-Private Partnership
PRAMS	Procurement Risk Assessment and Management System
RADEEC	Autonomous Operator for Water and Electricity Distribution in Chaouia (*Régie Autonome de Distribution d'Eau et d'Electricité de la Chaouia*)
RADEEF	Intercommunal Autonomous Operator for Water and Electricity Distribution in Fès (*Régie Autonome Intercommunale de Distribution d'Eau et d'Electricité de Fès*)
RADEEJ	Intercommunal Autonomous Operator for Water, Electricity, and Liquid Sanitation Management in the Provinces of El Jadida and Sidi Bennour (*Régie Autonome Intercommunale de Distribution d'Eau, d'Électricité et de gestion d'Assainissement liquide des Provinces d'El Jadida et de Sidi Bennour*)
RADEEL	Intercommunal Autonomous Operator for Water and Electricity Distribution in the Province of Larache (Régie Autonome Intercommunale de Distribution d'Eau et d'Electricité de la Province de Larache)
RADEEM	Autonomous Operator for Water and Electricity Distribution in Meknes (Régie Autonome de Distribution d'Eau et d'Electricité de Meknès)
RADEEMA	Autonomous Operator for Water and Electricity Distribution in Marrakech (*Régie Autonome de Distribution d'Eau et d'Electricité de Marrakech*)
RADEES	Intercommunal Autonomous Operator for Water and Electricity Distribution in Safi (*Régie Autonome Intercommunale de Distribution d'Eau et d'Electricité de Safi)*
RADEET	Intercommunal Autonomous Operator for Water and Electricity Distribution in Tadla (*Régie Autonome Intercommunale de Distribution d'Eau Et d'Électricité de Tadla*)
RADEETA	Autonomous Operator for Water and Electricity Distribution in Taza (*Régie Autonome de Distribution d'Eau et d'Electricité de Taza*)
RAK	Autonomous Operator for Water and Electricity Distribution in Kenitra (*Régie Autonome de Distribution d'Eau et d'Electricité de Kenitra*)
RAMSA	Autonomous Multiservice Operator in Agadir (*Régie Autonome Multi-Services d'Agadir*)
SNIEAU	National Water Information System (*Système National d'information sur l'Eau*)
SRM	Regional Multiservice Companies (*Sociétés Régionales Multiservices*)
TGR	General Treasury of the Kingdom (*Trésorerie Générale du Royaume*)
TSA	Treasury Single Account
TWW	Treated Wastewater
US$/USD	US Dollar
VAT	Value added tax
WUA	Water Users Association
WWTP	Wastewater Treatment Plant

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DATASHEET

BASIC INFORMATION

Country(ies)	Project Name	
Morocco	Morocco Water Security and Resilience Program	
Project ID	Financing Instrument	Does this operation have an IPF component?
P179192	Program-for-Results Financing	No

Financing & Implementation Modalities

[ ] Multiphase Programmatic Approach (MPA)	[ ] Fragile State(s)
[ ] Contingent Emergency Response Component (CERC)	[ ] Fragile within a non-fragile Country
[ ] Small State(s)	[ ] Conflict
[ ] Alternate Procurement Arrangements (APA)	[ ] Responding to Natural or Man-made Disaster
[ ] Hands-on Enhanced Implementation Support (HEIS)	

Expected Project Approval Date	Expected Closing Date
17-Jul-2023	31-Dec-2028

Bank/IFC Collaboration

No

Proposed Program Development Objective(s)

The Program Development Objective is to strengthen water sector institutions and increase water availability in selected areas in Morocco

Organizations

Borrower :	Kingdom of Morocco
Implementing Agency :	Ministry of Equipment and Water (MEE)
Contact:	M. Abdelaziz ZEROUALI

Title:	Directeur Direction de la Recherche et de la Planification d
Telephone No:	212661318696
Email:	azlso@yahoo.fr
Implementing Agency :	Ministry of Interior (MoI)
Contact:	Mustapha EL HABTI
Title:	Director of Public Local Networks (DRPL)
Telephone No:	0537286157
Email:	melhabti@interieur.gov.ma

COST & FINANCING

SUMMARY

Government program Cost	573.00
Total Operation Cost	350.00
Total Program Cost	349.13
Other Costs	0.88
Total Financing	350.00
Financing Gap	0.00

Financing (USD Millions)

International Bank for Reconstruction and Development (IBRD)	**350.00**

Expected Disbursements (USD Millions)

Fiscal Year	2024	2025	2026	2027	2028	2029
Absolute	88.00	57.00	70.00	76.00	59.00	0.00
Cumulative	88.00	145.00	215.00	291.00	350.00	350.00

INSTITUTIONAL DATA

Practice Area (Lead)
Water

Contributing Practice Areas
Agriculture and Food

Climate Change and Disaster Screening
This operation has been screened for short and long-term climate change and disaster risks

SYSTEMATIC OPERATIONS RISK-RATING TOOL (SORT)

Risk Category	Rating
1. Political and Governance	Moderate
2. Macroeconomic	Substantial
3. Sector Strategies and Policies	Substantial
4. Technical Design of Project or Program	Substantial
5. Institutional Capacity for Implementation and Sustainability	Substantial
6. Fiduciary	Substantial
7. Environment and Social	Substantial
8. Stakeholders	Substantial
9. Other	Moderate
10. Overall	Substantial

COMPLIANCE

Policy

Does the program depart from the CPF in content or in other significant respects?

[ ] Yes [✓] No

Does the program require any waivers of Bank policies?

[ ] Yes [✓] No

Legal Operational Policies

	Triggered
Projects on International Waterways OP/BP 7.50	No
Projects in Disputed Areas OP/BP 7.60	No

Legal Covenants

Sections and Description

Section I.A.1(A) of Schedule 2 of the Legal Agreement -- No later than ninety (90) days after the Effective Date, or such later date as agreed by the Bank, establish, and thereafter maintain, throughout Program implementation, a Program Coordination Unit ("PCU") within the MEE's Direction of Research and Planning, responsible for the monitoring of day-to-day implementation of the Program, including the preparation of the Program's semi-annual progress reports, preparation of pertinent financial statements, and staffed with adequate professional, fiduciary, administrative and technical personnel, with qualifications, experience and terms of employment acceptable to the Bank, all as described in the POM

Sections and Description

Section I.B.1 of Schedule 2 2 of the Legal Agreement -- To facilitate the carrying out of the Program activities under the responsibility of each ABH, the Borrower, through the MEE, shall, no later than ninety (90) days after the Effective Date, or such later date as agreed by the Bank: (a) enter into a framework agreement ("Convention Cadre ABHs") with all participating ABHs under terms and conditions acceptable to the Bank and set forth in the POM, including the obligation of each ABH to implement the Program activities under its responsibility in accordance with the pertinent actions under the Program Action Plan and the POM (including the Anti-corruption Guidelines); and (b) exercise its rights and carry out its obligations under the Convention Cadre ABHs in such manner as to protect the interests of the Borrower and the Bank and to accomplish the purposes of the Loan. In case of any conflict between the provisions of the Convention Cadre ABHs or those of this Agreement, the provisions of this Agreement shall prevail.

Sections and Description

Section I.B.2 of Schedule 2 of the Legal Agreement -- To facilitate the carrying out of the Program activities under the responsibility of each Régie, the Borrower, through the MoI, shall, no later than ninety (90) days after the Effective Date, or such later date as agreed by the Bank: (a) enter into a framework agreement ("Convention Cadre Régies") with all participating Regies under terms and conditions acceptable to the Bank and set forth in the POM, including the obligation of each Regies to implement the Program activities under its responsibility in accordance with the pertinent actions under the Program Action Plan and the POM (including the Anti-corruption Guidelines); and (b) exercise its rights and carry out its obligations under the Convention Cadre Régies in such manner as to protect the interests of the Borrower and the Bank and to accomplish the purposes of the Loan. In case of any conflict between the provisions of the Convention Cadre Régies or those of this Agreement, the provisions of this

Agreement shall prevail.

Sections and Description

Section I.B.3 of Schedule 2 of the Legal Agreement -- The Borrower shall: (a) through the PCU, no later than ninety (90) days after the Effective Date, or such later date as agreed by the Bank, prepare a manual under terms and conditions acceptable to the Bank ("Program Operational Manual" or "POM"); and (b) immediately thereafter, carry out the Program in accordance with the POM. The Borrower shall not amend or waive any provision of the POM without the Bank's prior written consent. In case of any conflict between the terms of the POM and those of this Agreement, the terms of this Agreement shall prevail.

Conditions

Type	Financing source	Description
Disbursement		No withdrawal shall be made: (a) on the basis of DLRs achieved prior to the Signature Date. (b) for any DLR under Categories (1) to (8), until and unless the Borrower has furnished evidence satisfactory to the Bank that said DLR has been achieved. 2. Notwithstanding the provisions of Part B.1(b) of this Section, the Borrower may withdraw an amount not to exceed EUR 81,975,000 as an advance; provided, however, that if the DLRs in the opinion of the Bank, is/are not achieved (or only partially achieved) by the Closing Date, the Borrower shall refund such advance (or portion of such advance as determined by the Bank in accordance with the calculation formula provisions set forth in the table immediately above) to the Bank promptly upon notice thereof by the Bank. Except as otherwise agreed with the Borrower, the Bank shall cancel the amount so refunded. Any further withdrawals requested as an advance under any Category shall be permitted only on such terms and conditions as the Bank shall specify by notice to the Borrower. 3. Notwithstanding the provisions of Part B.1(b) of this Section, if any of the DLRs under Categories (1) to (8) has not been achieved, the Bank may, by notice to the Borrower: (a) reallocate all or a portion of the proceeds of the Loan then allocated to said DLR to

		any other DLR ; and/or (b) cancel all or a portion of the proceeds of the Loan then allocated to said DLR.

I. STRATEGIC CONTEXT

A. Country Context

1. **After two decades of uninterrupted expansion the Morocco economy is facing several challenges.** Economic structural reforms launched in the late 1990s led to increase the country's real gross domestic product (GDP) by nearly 120 percent between 2000 and 2019, expand per capita income by 72 percent, and almost eradicate extreme poverty. However, real GDP fell by 6.3 percent in 2020 – according to recent estimates- due to the COVID-19 pandemic, the largest contraction on record. After the gradual lifting of restrictions, economic activity began to pick up in late 2020, and Morocco's real GDP grew by 7.9 percent in 2021. This was supported by a successful vaccination campaign, a series of measures adopted to respond to the multifaceted nature of the shock, an extraordinary agricultural season, solid manufacturing and agro-industrial export, supportive counter-cyclical fiscal and monetary measures, and an unprecedented level of remittances. GDP growth dropped to just 1.2 percent in 2022,[1] resulting from overlapping shocks, including the sharp contraction in agricultural GDP due to the drought, the commodity price shocks triggered by Russia's invasion of Ukraine, a slowing global economy, and higher global energy and food prices. In response to the drought, in 2022 the Government of Morocco (GoM) adopted a US$1 billion emergency recovery package for farmers, including agricultural insurance and rescheduling debt mechanisms. Economic growth is expected to accelerate to 2.5 percent in 2023. [2]

2. **The economic growth model that served Morocco well in recent decades shows signs of slowing down and needing to adapt to changing realities**. The drought has exposed the economy's vulnerability to hydroclimate shocks. More than half of GDP growth in recent decades was driven by fixed capital accumulation, which surpassed 30 percent of GDP since the early 2000s with two-thirds originating from public sources. The economy has not generated enough jobs to absorb a growing working-age population and overall unemployment remains high at around 12.8 percent in 2022, with urban youth unemployment reaching 33.4 percent. The female participation rate in the labor force in Morocco is low and declining, with important implications for women's autonomy and the country's economic potential. Despite the parity article of the 2011 Constitution,[3] gender inequalities have rather increased over the past decade:[4] in 2020, Moroccan women accounted for 23 percent of the working population compared to 27 percent in 2010.[5] While Moroccan women perform better than men at school (on average), only 13 percent of Moroccan businesses were led by women in 2019, only 23 percent of managers in the public sector were women. Similarly, women were only represented in 21 percent of regional and local councils. As evidenced by a Human Development Index of 0.5, Morocco's lags in human development represent a structural bottleneck that constrains productivity growth.

3. **Morocco's New Development Model (NDM) presents a new vision for the country's development.**[6] The structural reforms launched two decades ago gave way to a sustained period of economic growth and poverty reduction that is unparalleled in the country's contemporary history. But, even before the abrupt recession triggered by the pandemic, the model exhibited signs of exhaustion, prompting the launch of an inclusive dialogue on how to reinvigorate Morocco's path toward sustained economic growth and social inclusion. This dialogue resulted in 2021 in the NDM, which sets ambitious development targets with a 2035 horizon, including doubling per capita GDP levels.

[1] World Bank Group (2023). Morocco Economic Update, Responding to Supply Shocks. Winter 2022/23.
[2] World Bank Group (2023). Global Economic Prospects. June 2023.
[3] The Article 19 stipulates that "the State contributes to achieving parity between men and women".
[4] Moulineonur, S. and Herzog, O. (2022, January 19) A big step forward for women's leadership in Morocco.
[5] Le Haut-Commissariat au Plan Publie (2022). » La femme Marocaine en chiffres: 20 ans de progress ».
[6] CSMD (2021). "The New Development Model, releasing energies and regaining trust to accelerate the march of progress and prosperity for all". Special Commission on the New Development Model (CSMD).

This goal would require (a) sustaining an average annual growth rate of almost 7 percent for the next 12 years; (b) prioritizing actions to foster structural transformation and rebalancing investments to leverage more private sector investment; (c) unlocking bottlenecks that prevent women and youth from entering the labor force; and; (d) raising the levels of human capital through better education and health services. Building a sustainable Morocco will require preserving natural resources, enhancing the resilience to climate change, and safeguarding water resources through more efficient use and management of its scarcity. [7]

4. **The essential role that water plays in Morocco's development has been emphasized by His Majesty King Mohammed VI.** Highlighting the challenges that Morocco faces in terms of the water structural deficit in his speech to the opening of the Parliament on October 14, 2022, [8] and subsequent -meetings on the National Program for Potable Water Supply and Irrigation (*Programme National pour l'Approvisionnement en Eau Potable et l'Irrigation;* PNAEPI) 2020-2027, His Majesty King Mohammed VI emphasized the need to continue the policy of building additional storage, the development of water transfers for inter-basin solidarity and the construction of seawater desalination plants and recognized the need to implement policies to improve water use efficiency- especially in irrigation. In his speech, His Majesty King Mohammed VI outlined four main guiding principles for water resources management in the context of increasing water deficits: (a) launching more ambitious programs and initiatives, and leveraging modern technology, particularly for water savings and wastewater reuse; (b) improving the rational exploitation and preservation of groundwater resources, in particular by curtailing illegal pumping and well digging; (c) fostering cross-sectoral coordination and updating sectoral strategies on a continuous basis, in light of their pressure on water resources and the need to build a water secured Morocco; and, (d) considering the real cost of water, accounting for each stage of the water mobilization process, and promoting transparency and awareness about all the drivers of cost of water.

5. **Climate change presents several risks to Morocco's development aspirations.**[9] Considered as one of the world's climate hotspots,[10] Morocco's average temperatures increased by almost 1.36°C between the 1970-2019 period (0.34°C per decade), while precipitation patterns showed a downward trend with increasing variability, more frequent and intense droughts, and severe flood events. Hydro-climatic shocks have become a major source of macroeconomic volatility,[11] with particularly adverse impacts on the agricultural sector and complex transmission channels creating cascading and compounding effects across the entire economy. In response, Morocco has taken some decisive steps to combat climate change, with a revised Nationally Determined Contribution (NDC) that deepens and expands the Kingdom's ambitions in terms of adaptation. The 2021 NDC**'s** financing requirements amount to US$78.8 billion for the 2020-2030 period (i.e. an average of around US$7.2 billion per year or about 5.2 percent of 2022 GDP), with more than half targeted toward adaptation measures. According to the Country Climate and Development Report for Morocco (CCDR),[12] the greatest potential for putting Morocco on a climate-resilient and low-carbon pathway lies in (a) tackling water scarcity and droughts, notably through the nexus of water and agriculture; (b) enhancing resilience to floods to preserve urban and coastal economies and livelihoods; and (c) decarbonizing the economy for a zero-net emission pathway by the 2050s. The CCDR highlights the need for improved inter-institutional coordination[13] and mainstreaming climate actions into economic, fiscal, and financial policies.

[7] World Bank Group (2022). Morocco Country Climate and Development Report; Rapport sur le Climat et le Développement au Maroc. CCDR Series; World Bank, Washington, D.C.
[8] Speech by HM King Mohammed VI to Parliament on Occasion of Opening of 1st Session of 2nd Legislative Year of 11th Legislature.
[9] World Bank Group (2022). Morocco Country Climate and Development Report.
[10] IPCC. 2022. Climate Change: Impacts, Adaptation and Vulnerability
[11] On average, rainfall shocks explain close to 37 percent of the variance of Morocco´s output over the medium-term.
[12] Ibid.
[13] A rapid Climate Change Institutional Assessment (CCIA) was conducted as part of the preparation of the CCDR.

B. Sectoral and Institutional Context

6. **Morocco is among the world's most water-stressed countries, with water scarcity imposing major constraints on the economy**. The country experienced a sharp decrease in water availability, from 2,560 m^3 to about 620 m^3 per person per year between 1960 and 2020, due primarily to population growth and compounded by a reduction in rainfall and an increase in temperature. The water deficit between supply and demand in 2020 was estimated at 1.8 billion cubic meters (BCM) per year, with demand expected to increase by 15 percent between 2020 and 2050.[14] Water security challenges are compounded by the unequal distribution of water over space and time, with most of the surface water resources concentrated in the northwest of the country.[15] Surface water shortages have led to the over-exploitation of groundwater resources, which are being abstracted faster than they are being replenished. Current groundwater withdrawals exceed exploitable levels by 28 percent,[16] requiring pumping from deeper levels and increasing energy-related greenhouse gas (GHG) emissions. Water shortages are further aggravated by the loss of existing storage due to high dam sedimentation rates,[17] water pollution, and saline intrusion in the coastal regions.

7. **Climate change will have compounding and cascading effects on Morocco's water security**. A warmer climate and the expected decline in average annual precipitation[18] - leading to increased interannual variability and more frequent, intense storm events - are projected to result in severe reductions in surface-water availability and changes in groundwater recharge. Hotter and drier conditions are also expected to increase demand, with crop water requirements predicted to increase by up to 12 percent, increasing demand for irrigation and placing further demands on limited water resources. These changes in supply and demand could result in a deficit of between 4 to 7 BCM per year by 2050.[19] Such constraints could significantly affect the Moroccan economy,[20] with water scarcity exacerbating competition among water users and potential causing a 6.5 percent decline in real GDP under extreme conditions.[21]

8. **To address the country's water challenges, the GoM is implementing comprehensive large-scale water sector investment programs**. These include the National Program for Potable Water Supply and Irrigation (*Programme National pour l'Approvisionnement en Eau Potable et l'Irrigation;* PNAEPI) 2020-2027, adopted in January 2020, which encompasses the first phase of the draft National Water Plan (*Plan National de l'Eau*, PNE) and outlines an ambitious set of investments. This builds on a long tradition of water resource development, with 135 large dams providing 17.5

[14] Total water demand by 2050 is expected to be between 18.7 and 20 BCM per year taking climate change into account. Agriculture-related withdrawals are expected to rise by 10 percent in the next 30 years (from 14.5 BCM in 2020 to 16 BCM year in 2050). Water demand from uABHn households is expected to increase by 50 percent (from 1.1 to 1.7 BCM per year) during the same period, with corresponding increases in effluent quantities. Expected industrial demand growth is similar (from 241 to 370 MCM per year), and water from tourism is expected to more than triple by 2050 (from 33 to 106 MCM per year). Based on an estimated population growth of 1.5 percent per year and economic growth of 4 percent per year. Source: Ministry of Equipment, Transport, Logistics, and Water: Draft National Water Plan 2020–2050. Submitted for review to the Interministerial Water Commission, December 2019.

[15] Ministry of Equipment, Transport, Logistics, and Water: Draft National Water Plan 2020–2050. Submitted for review to the Interministerial Water Commission, December 2019.

[16] Equivalent to roughly 1.1 BCM per year. Source: Ministry of Equipment, Transport, Logistics, and Water: Draft National Water Plan 2020–2050. Submitted for review to the Interministerial Water Commission, December 2019.

[17] Estimated 75 MCM per year. Source: Ministry of Equipment, Transport, Logistics, and Water: Draft National Water Plan 2020–2050. Submitted for review to the Interministerial Water Commission, December 2019.

[18] An annual decline in precipitation of between 10 to 20 percent is expected nationally, including a 10 to 30 percent decrease during the wet season (October to April) and a 10 to 40 percent decrease during the dry season (from May to September). Source: World Bank Group (2021). Climate Risk Profile: Morocco.

[19] Ministry of Equipment and Water, 2019. Draft National Water Plan 2020–2050. Submitted for review to the Interministerial Water Commission, December 2019.

[20] Taheripour, Farzad; Tyner, Wallace E.; Haqiqi, Iman; Sajedinia, Ehsanreza. 2020. Water Scarcity in Morocco: Analysis of Key Water Challenges. World Bank, Washington, D.C.

[21] Diaz Cassou, Javier; Iraqi, Amina; Megevand, Carole; Marzo, Federica. (2022) Morocco Economic Update: The Recovery is Running Dry. Washington, D.C.: World Bank Group. [link]

BCM of storage capacity and 220 million cubic meters (MCM) per year of installed desalination capacity at the end of 2022.[22] The PNAEPI continues to promote supply-side solutions, with investments aimed at increasing the mobilization of water resources through the construction of 21 large dams accounting for a total storing capacity of between 6 to 8 MCM3, the implementation of desalination station for an installed capacity of about 1 MCM3 and the development of wastewater reuse projects for about 100 million m3. These investments are important in adapting to the potential magnitude and uncertainty associated with future climate conditions. However, there is also recognition that increasing resilience to climate change requires ambitious policy reforms that reflect the value of water, increase the transparency of costs along the water value chain, balance competing demands, and incentivize more efficient and rational uses. The PNAEPI acknowledges the incremental cost of new water supplies and the need for strong policy reforms, establishing targets for reducing water-losses, including provisions for the reduction of dam sedimentation and reforestation of watersheds, incentives for water savings in agriculture, drinking water, tourism, and industry, along with the preservation of groundwater resources. The PNAEPI is accompanied by a communication strategy, adopted in 2021, to raise awareness and change behaviors relating to water conservation and its value.

9. **The governance of the water sector is evolving in response to the changing nature of water resources and the new socio-economic vision**. The legal and institutional system integrates religious tradition and customs alongside modern provisions introduced since independence in 1956.[23] The Law 10-95 (1995) stipulated the rules for integrated, decentralized, and participatory water resources management to guarantee the right of Moroccans to water, including the creation of River Basin Agencies (*Agences du Bassin Hydraulique, ABHs*) as technical and financially independent entities responsible for planning and managing water resources at the basin level.[24] The Water Law 36-15 (2016) retained and re-enforced the foundational elements aimed at improving water use efficiency, providing universal access, reducing disparities between rural and urban areas, and ensuring water security. It further emphasized decentralized, integrated, and participatory management and planning of water resources; strengthened consultation and coordination by establishing river basin councils and the adoption of the PNE by the Superior Council of Water and Climate; established the legal foundations to diversify sources of supply through the use of unconventional water resources; mandated the establishment of water information systems at national and river basin levels; and strengthened mechanisms for the protection and conservation of water resources (raw water abstraction and pollution fees and participatory groundwater management contracts). As part of the continued commitment to *régionalisation avancée*, the GoM plans to establish regional multiservice companies (*Sociétés Régionales Multiservices,* SRM) for energy and potable water distribution and wastewater collection and treatment, to substitute autonomous municipal public utilities (*Régies*).[25]

10. **As part of this evolution of the water sector, Morocco has taken concrete measures to promote gender equality and women empowerment**. In keeping with the Constitutional goal of increasing women's political and economic participation, the Water Law 36-15 (2016) emphasizes a gender approach in the sector by promoting equitable access to water for women and men and ensuring equal participation in decision-making. The Strategy for Gender Mainstreaming in the Water Sector (2017)[26] focuses on developing institutional capacity to promote gender equality in the sector at the policy and program level by increasing women's representation in decision-making and in technical

[22] While desalinization represents less than 2 percent of all mobilized water resources, it provides a high level of water security, with 44 percent for potable water, 41 percent for irrigation, and 14 percent to phosphate production.
[23] Doukkali, M.R. (2005). Water institutional reforms in Morocco. Water Policy, 7, 71-88.
[24] Their duties include preparing river basin management plans, authorizing water abstractions and discharges, and maintaining a public register; collecting fees for abstraction and effluent discharges; providing financing and technical assistance for water pollution prevention; ensuring efficient water use; monitoring water quality; enforcing laws related to water resource protection; setting up an emergency response system; and promoting public awareness about water resource management.
[25] The Draft Law 83-21, providing for the creation of SRMs, was submitted for Parliament discussion in December 2022.
[26] Stratégie d'Institutionnalisation de l'intégration du genre dans le secteur de l'eau, GoM and UN Women (2017). Available at http://81.192.10.228/wp-content/uploads/2016/08/Rapport-mission-3-IEG-final-F-POUR-ATELIER-12-6-2017-fin.pdf

positions. Finally, the PNAEPI recognizes female empowerment, workplace gender equity, and women's participation as critical aspects of Morocco's prosperity. These commitments are being translated into implementation through a range of initiatives, including gender-responsive budgeting[27]. These efforts notwithstanding, the persistent challenges in the sector require a sustained effort to achieve greater gender equality and ensure women empowerment.

11. **The ongoing transformations in Morocco's water sector have significant implications for its financial sustainability**. The upscaling of non-conventional water resources has important implications for the country's water balance and the associated cost structure for the sector. Production and retail water supply tariffs and sanitation fees do not fully reflect production and distribution costs and are generally insufficient to cover operational and maintenance costs. Financial sustainability is further undermined by the under-collection of raw water abstraction and water pollution fees.[28] The lack of a robust financing strategy for the sector could present barriers to the realization of the GoM's ambitious plan for expanding desalination capacity, particularly for irrigation purposes, and compromise the sector's financial viability with impacts on future water security. Even if technological advances continue to reduce the cost of desalination,[29] capital, and operating costs would remain significant and energy-dependent, potentially exacerbating the sector's financial fragility. The evolution of the sector illustrates the challenges in positioning water in the political-administrative ecosystem and, simultaneously, adapting to its complex interrelation between different sectors,[30] and the uncertainty imposed by climate change. In this context, an enhanced governance model is needed to ensure an integrated approach to water production and distribution, optimize allocation decisions, ensure financial sustainability, and ensure that decisions about water are made to maximize socio-economic outcomes in alignment with the development model for Morocco.

C. Relationship to the CPS/CPF and Rationale for the use of Instrument

12. **The Program for Results (the Program) aligns with the World Bank's twin goals of ending extreme poverty and promoting shared prosperity within the context of the World Bank Group's Country Partnership Framework (CPF) for Morocco FY19-24**.[31] The CPF aims to contribute to social cohesion by improving the conditions for growth and job creation and reducing social and territorial disparities. Specifically, the Program supports Focus Area 3 "Promoting Inclusive and Resilient Territorial Development", directly contributing to the three objectives of: (a) improving the performance of key infrastructure delivery services to cities; (b) improving access to sustainable water resources; and, (c) enhancing adaptation to climate change and resilience to natural disasters. It also contributes to improving the efficiency of public spending and the cross-cutting themes of "Gender – Empowering Women and Girls for Shared Prosperity" and "Harnessing Digital Economy for Jobs and Faster Growth."

13. **The Program contributes to the World Bank's strategic priorities in the MENA Region, particularly around climate change and gender.** The Program contributes to implementation of the recommendations of the Morocco

[27] See the latest report on Gender-Responsive Budgeting in Morocco (MEF, 2023). Available at https://depf.finances.gov.ma/rapports-sur-le-budget-axe-sur-les-resultats-integrant-laspect-genre/

[28] Between 2012 and 2017, water basin organization collected less than US$7 million per year on raw water and water pollution fees, of which water pollution fees represented less than 4 percent. Over the period, only US$1 million was collected on discharge fees of a potential of US$19 million. Source: Cour des Comptes. 2018.

[29] Desalination costs have dropped from a range of US$2.5 to US$44 per cubic meter in the 1980s to now less than US$1.5 per cubic meter, and in many locations have fallen as low as around US$0.5 to US$0.6 per cubic meter. In addition to technological advances and economies of scale achieved by larger plants, falling costs are driven by project development choices, such as colocation of desalination plants with power plants, and enhanced competitiveness from more efficient methods of project financing and delivery. World Bank. 2019. The Role of Desalination in an Increasingly Water-Scarce World. Washington, DC.

[30] Othman, M., Ayoub, S., Mohamed, S., Qarro, M., Mustapha, N., Mohamed, C. and Ayoub, A. (2022). Water in Morocco, Retrospective at the Political, Regulatory and Institutional Levels. Open Journal of Modern Hydrology, 12, 11-31.

[31] World Bank Group (2019). Morocco - Country Partnership Framework for the Period of FY19-FY24. Washington, D.C. Report number 131039-MA.

CCDR,[32] the *World Bank's Climate Change Action Plan* (2021-2025)[33], and the *World Bank Group Roadmap for Climate Action in the Middle East & North Africa* (2021-2025).[34] The Program also contributes to the MENA Region's efforts for Green, Resilient, and Inclusive Development[35] by: (a) emphasizing the protection of natural resources and promoting water resource use efficiency; and, ((b) strengthening the capacity to adapt to climate shocks such as increased water scarcity and droughts. The gender focus on female participation contributes to the *Regional Gender Action Plan,*[36] as does ensuring that water benefits are equitably and sustainably accessible to all by empowering women to fully engage, influence, and benefit from water resources and services. The Program further contributes to the four pillars of the WBGs Global Crisis Response Framework[37] that is aimed at helping countries navigate multiple, compounding crises by strengthening resilience and supporting paths to build long-term resilience, while strengthening policies, institutions, and investments. The Program's financial support is complemented by analytical, diagnostic, and advisory work to advocate for and support well-tailored, evidence-based development policies.

14. **A PforR has been identified as the most appropriate instrument to help improve the targeting and results-orientation of public expenditures in support of the PNAEPI**. The Program builds on the GoM's experience with the PforR instrument and the Government's successful experience with results-based financing in various sectors, ranging from agriculture to education, early child development and urban development, among others. The Program focuses on a portion of the PNAEPI where the Government aims at enhancing efficiency, effectiveness, and impact of expenditures by linking the disbursement of funds to the achievement of specific results based on the existing performance-based budget system. The Program will further enhance mechanisms for coordination, monitoring, and evaluation of the PNAEPI and sector reform. The Program will provide a platform for national and local entities to incentivize sustained progress of the government reform program, including on water valuation, state-owned enterprises, and the *régionalisation avancée*.

II. PROGRAM DESCRIPTION

A. Government Program

15. **The Government program is defined by the National Program for Water Supply and Irrigation (2020-2027 PNAEPI: *Programme National pour l'Approvisionnement en Eau Potable et l'Irrigation*)**. Based on the orientations provided by His Majesty King Mohamed VI, in 2017, a technical commission - under the guidance of the Interministerial Water Commission - was charged with the preparation of a program to accelerate investments in the water sector to strengthen drinking water supply and irrigation, in particular for the areas most impacted by the successive droughts impacting the country since 2015.[38] With investments estimated at MAD 143 billion (US$ 14.4 billion), the PNAEPI is expected to be financed through a combination of public subsidies, user contributions, and a combination of the private sector, climate financing, and international financing institutions. Also, it is expected to be fully executed by end of

[32] Ibid
[33] World Bank Group (2021). World Bank Group Climate Change Action Plan 2021–2025: Supporting Green, Resilient, and Inclusive Development. World Bank, Washington, D.C.
[34] World Bank Group (2021). The World Bank Group's Roadmap for Climate Action in the Middle East and North Africa (MENA). World Bank, Washington, D.C.
[35] World Bank (2021). Green, Resilient, and Inclusive Development. World Bank, Washington, D.C.
[36] World Bank (2017). MENA Regional Gender Action Plan (RGAP) FY18-23.
[37] World Bank (2022) Navigating Multiple Crises, Staying the Course on Long-term Development: The World Bank Group's Response to the Crises Affecting Developing Countries. Washington, D.C.: World Bank Group.
[38] The technical commission composed of representatives of the Ministry of the Interior, the Ministry of Agriculture, Maritime Fisheries, Rural Development, Water and Forests, the (then) Ministry of Economy, Finance and the Reform of the Administration, the (then) Ministry of Equipment, Transport, Logistics and Water, the (then) Ministry of Energy, Mines and the Environment, and the National Office for Electricity and Water Potable (ONEE).

2028. The PNAEPI is the first tranche of the draft PNE, which is under preparation and shall be adopted by Decree after the review by the Superior Council of Water and Climate (chaired by the Prime Minister).

16. **The PNAEPI aims to diversify the sources of supply, guarantee water security, and reduce climate change impacts by accelerating investments to strengthen water supply for drinking and irrigation uses**. The PNAEPI's major objectives are: (a) expanding water supply by increasing water storage capacity and the contribution of non-conventional sources to the water matrix (wastewater reuse and desalination), and safeguarding groundwater resources; (b) improving water efficiency by reducing water losses in conveyance and distribution networks (potable water and irrigation) and improving water productivity in the irrigated agriculture sector; (c) strengthening access to potable water supply in rural areas; and (d) increasing awareness on the value of water. Among other factors, the successful implementation of the PNAEPI relies on: (a) boosting cross-sectoral coordination; (b) re-thinking the sector financial framework to reflect the increasing cost of water mobilization; (c) adopting critical regulations relating to non-conventional water resources, participative aquifer management contracts, and water data management and information systems; (d) strengthening the performance of ABHs, in particular concerning water withdrawal control and enforcement; and (e) supporting the on-going reform of the potable water and wastewater service sector aimed at improving service delivery and financial sustainability.

17. **The institutional arrangements for implementing the PNAEPI reflect water's cross-sectoral nature and the GoM's high-level commitment towards water security**. The PNAEPI's Inter-Ministerial Steering Committee (chaired by the Prime Minister) meets yearly to evaluate the PNAEPI's progress and adjust the program. The Steering Committee is responsible for securing PNAEPI's financing and examining the annual financing plan. The Inter-Ministerial Technical Committee (chaired by the Minister of the MEE) ensures the PNAEPI's coordination and implementation consistency, maintains a dashboard on the country's water supply situation and program implementation, proposes adjustments to the PNAEPI; and defines the annual communication program. Regional Committees (chaired by the *Wali of the region*) define regional needs related to small dams and drinking water supply in rural areas and monitor program implementation at the territorial level. In addition to the concerned institutions (MEF, MEW, MoI, MAF, MEM, and ONEE), activities under the PNAEPI are implemented by several institutions, including the ABHs, water supply operators (ONEE, *Régies*, private concessionaires), Regional Agricultural Development Offices (*Office Régional de Mise en Valeur Agricole, ORMVAs*), and the OCP Group.

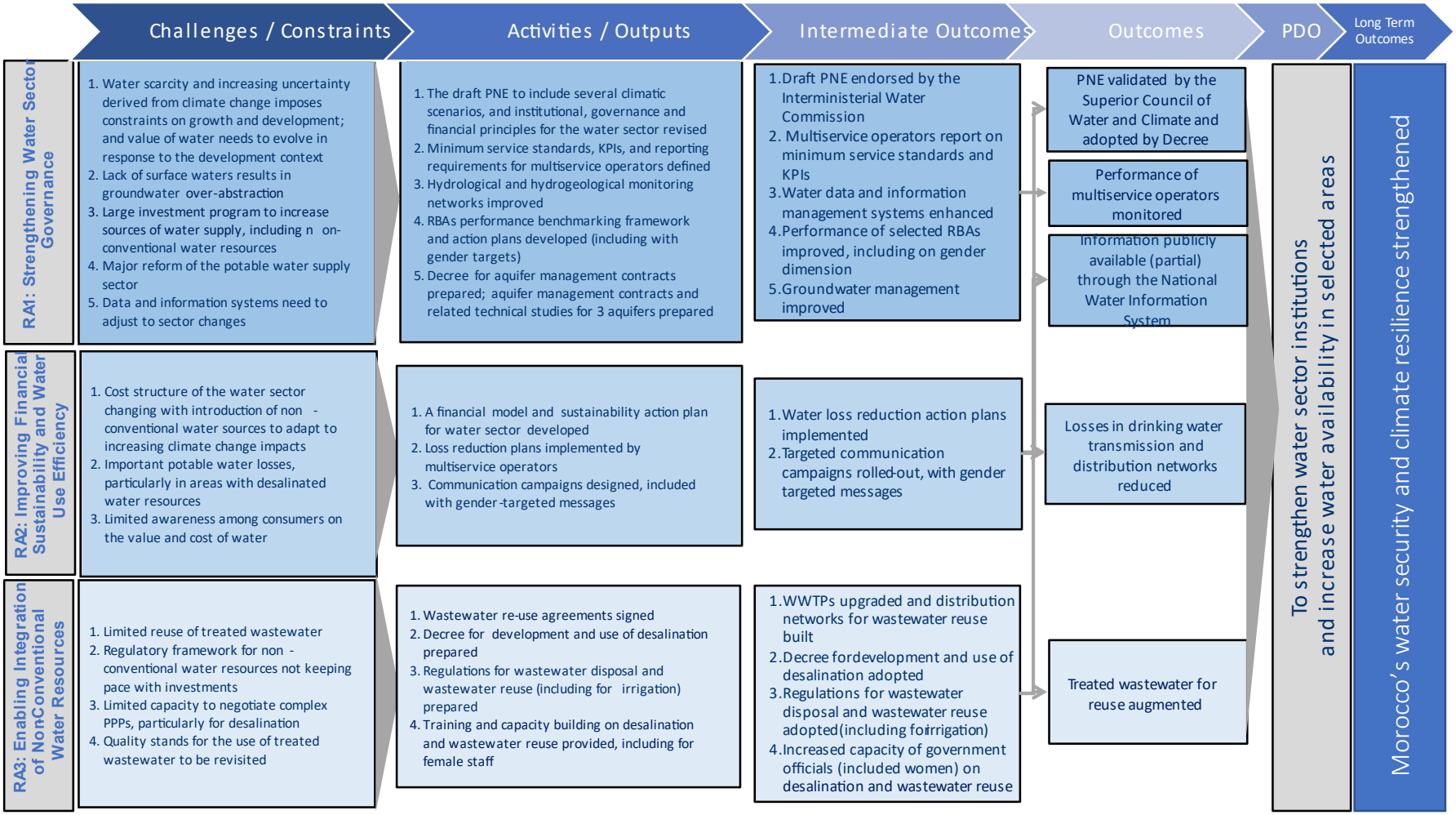
B. Theory of Change

18. **The Theory of Change outlines the Program logic and its contribution to the water-related development challenges in Morocco**. Figure 1 shows the Program's Theory of Change, with specific interventions supported by the Program within the context of the government's PNAEPI across three results areas, which are well aligned with the pillars of the government program. The Program will support interventions that address the water challenges on three levels: (a) sector-level governance focused on water planning, strengthening of groundwater management, basin-level capacity to manage water resources, data and information management systems; and performance of water and wastewater operators; (b) improvement of the financing sustainability of the sector, including through local-level improvements to improve water use efficiency and reduce non-revenue water; and, (c) promote non-conventional water, from the regulatory perspectives and by supporting investment to scale-up wastewater reuse. A detailed description of the Program's structure, activities, and outcome indicators is presented in section II.C.

19. **Critical elements (assumptions) are required for the Program's success.** These include: (a) there is willingness and political commitment to work toward the common vision outlined in the PNAEPI; (b) the PNE will identify key issues and actions to inform evolution of the sector governance, institutional and financial aspects in response to the changes in the sector; (c) data and information are available and will inform planning and lead to better decisions around the integration and sustainable development of water resources; (d) the financial model is able to capture the relevant costs and revenue streams from different parts of the value chain for the water sector; (e) the policies and regulation

adopted under the Program are enforced and not contradicted by actions taken by stakeholders within the sector; (f) there are no major natural or political crises that significantly affect the productivity of the water sector; and, (g) the GoM provides incentives to youth and women to participate in the water sector, which is mainstreamed in the Program design.

Figure 1. Theory of Change



Note: PNE = National Water Plan; WWTP= wastewater treatment plant; multiservice operators refer to utilities in charges of energy and potable water distribution and wastewater collection and treatment.

C. PforR Program Scope

20. **The Program will support a subset of activities from the PNAEPI**. The scope and boundaries of the Program are based on the activities identified in the PNAEPI and defined by priorities that contribute to the following: (a) strengthening the governance of the water sector; (b) improving the valuation and financial sustainability of the water sector; (c) creating a water-savings culture and reducing water losses; and (d) providing an enabling environment for the integration of non-conventional water resources. The scope and boundaries of the Program consider: (a) the registration of activities contributing to the Program in the Finance Laws and duly included in the government budget; (b) the exclusion of activities that are likely to have significant adverse impacts that are sensitive, diverse, or unprecedented on the environment and/or affected people; and, (c) the inclusion of activities that can be implemented within the Program timeframe from 2023–2028.

21. **Except with respect to activities related to the adoption of sector-level frameworks, the Program's geographic boundaries are defined by six priority ABHs.** These are the Loukkos, Sebou, Bouregreg-Chaouia, Oum Er Rbia, Tensift, and Souss Massa basin agencies, all of which are located along the coast in the northwestern part of the country. These ABHs account for roughly 80 percent of the surface water resources, around 50 percent of the population and approximately 75 percent of GDP. The selection also takes into consideration the increasing reliance of these areas on desalinization with all of these ABHs, except for Loukkos and Sebou, experiencing extreme water shortages. The ABHs will be responsible for targeted activities within their geographic responsibility (including river basin data and information systems, performance improvement, installation of smart meters for groundwater withdrawals' monitoring, and aquifer management contracts). Program related activities within the *Régies* are also located within the geographical area of these ABHs, including activities such as water loss management and wastewater reuse projects, contributing to the overall water security within these areas. The 11 Régies are: RADEEMA (Marrakech), RAK (Kenitra), RADEEJ (El Jadida), RADEES (Safi), RADEEL (Larache), RAMSA (Agadir), RADEET (Tadla), RADEEC (La Chaouia), RADEEF (Fès), RADEETA (Taza) and RADEM (Meknès); which serve 7 million people and have average water losses of 23.3 percent of the water produced.

22. **The Program is structured around three Results Areas (RA) that provide mutually reinforcing incentives for the completion of activities needed to achieve the Program PDO**. These include support for the GoM's efforts to adapt the framework governing the sector to ensure that it is fit for purpose and deliver on Morocco's expectations related to achieving longer-term goals of water security, recognizing the value of water, and ensuring the integration of non-conventional sources of water. This approach is built on: (a) strengthening the water sector governance; (b) improving financial sustainability and water use efficiency, and (c) enabling the integration of non-conventional water resources. The choice of these three RAs was strategically informed through a detailed technical assessment and international practices relevant to the Moroccan context.

23. **RA 1: Strengthening Water Sector Governance** aims to strengthen the sector's governance for sustained water resource management. Activities include: (a) the preparation and adoption of the PNE as the Borrower's framework based on a long-term strategy that reflects the increasing uncertainty due to climate change exacerbated vulnerabilities such as increased water scarcity and drought, and including the definition of principles of water valuation considering primarily economic and financial aspects of water; (b) the development, adoption, and implementation of regulatory instruments and consultative processes to improve implementation of participative aquifer management contracts; (c) the preparation and signature of participative aquifer management contracts in three selected aquifers; (d) the installation of smart meters for measuring groundwater withdrawals from large users and reducing withdrawals or demand thus increasing water availability during drier months; (e) the development, implementation, and adoption of a performance benchmarking framework to strengthen the performance of selected ABHs to deliver on their core functions of planning, managing, developing and protecting water resources, and operating and maintaining of infrastructure; (f) the operationalization of water information systems (SNIEAU and river basin); (g) improvements in water data management and information management systems, including regulations, formal specifications, and benchmarking for data generation, sharing, and access, quality assurance and control standards, upgrade, equipment, and maintenance of monitoring and information systems; (h) the installation and rehabilitation of hydrological stations and piezometers (integrating climate resilient design); and, (i) the operationalization of multiservice operators (energy and water supply distribution, and wastewater collection and treatment) performance systems and adoption of minimum service standards.

24. **RA 2: Improving Financial Sustainability and Water Use Efficiency** aims to enhance climate resilience by improving water valuation, reduce water losses from existing distribution systems, and encourage water conservation through communication campaigns. Activities include: (a) the development of a Financial Sustainability Framework for the sector, including the development of a financial model for the sector to inform pricing strategies for specific sub-sectors and the adoption of a financial sustainability action; (b) the implementation of the PNAEPI communication strategy to raise awareness of the importance of water conservation, including baseline and end-strategy impact evaluations; and, (c) the implementation of water loss reduction plans, including the deployment of geographical information management systems (GIS) and hydraulic models; meters deployment (bulk- and micro-meters), network sectorization and pressure control program; and, leakage detection and rehabilitation campaigns.

25. **RA 3: Enabling the Integration of Non-Conventional Water Resources** aims to improve the enabling environment for non-conventional water resources and scale-up of treated wastewater reuse. Activities include: (a) the development of regulations to strengthen the enabling environment and facilitate the scaling-up of non-conventional water resources, focused on desalination (including provisions for limiting GHG emissions by promoting the use of renewal energies) and wastewater reuse; (b) the signature of conventions for use of treated wastewater; and, (c) the implementation of conventions for the use of treated wastewater, including: (i) upgrade of wastewater treatment plants (WWTPs) to increase the capacity for tertiary treatment and reuse of treated effluent for green spaces, industrial, aquifer recharge, and agricultural uses; and, (ii) construction of distribution systems for conveyance of treated wastewater reuse, including pipelines, pump stations and storage tanks.[39]

[39] The design of the distribution systems will consider resilient infrastructure design principles, such as those described in the World Bank (2020). "Resilient Water Infrastructure Design Brief".

Table 1. Summary of key attributes and scope of the Government program and the Bank-financed Program

Feature	Government program	Bank financed Program
Name	National Program for Drinking Water Supply and Irrigation (PNAEPI 2020-2027)	Water Security and Resilience Program
Objective	Consolidate and diversify water supply sources, boost water security, and reduce climate change impacts	To strengthen water sector institutions and increase water availability in select areas in Morocco.
Duration	2020-2027. The Government Program is scheduled to end 2027 but some of the activities will be launched in 2027 will be completed beyond 2028	2023-2028
Geographic Coverage	Sector wide	Adoption of sectoral wide frameworks Activities implemented in six ABHs (Loukkos, Sebou, Bouregreg-Chaouia, Oum Er Rbia, Tensift, and Souss Massa) and *Régies* within the geographical area of the six ABHS included in the Program
Results Areas	GP1: Water Supply Development GP2: Water Demand Management GP3: Wastewater Re-use GP4: Rural Water Supply GP5: Communication and Awareness	RA1 supports GP1, GP2, GP3, and GP5 RA2 supports GP2 and GP5 RA3 supports GP1 and GP3
Overall Financing	US$14.4 billion, of which US$350 million is financed by IBRD in relation to the US$ 573 million expenditure framework associated with the activities under the program	US$ 350 million

Note: GP= Government Program; RA= Results Area

Program Financing

26. **Program financing**. Total program financing over the World Bank fiscal years 2023 - 2028 is expected to be MAD 5,801 million (equivalent to US$ 573 million). Of this, an expected US$ 223 million equivalent (38.6 percent) will be funded by the GoM, and US$ 350 million equivalent (61.4 percent) will be financed through an IBRD loan. The Program will finance various categories of activities implemented by different Government agencies per result area (Table 2):

Table 2. Allocation Summary by Results Area

Results Area	Implementing Entity	Activity	Amount	
			(US$ Million)	(% of total expenditure framework)
RA 1: Strengthening Water Sector Governance	MEE and ABHs MoI and *Régies*	Studies	131	23
		Goods and Services	66	12
		Works	30	5
RA 2: Improving Financial Sustainability and Water Use Efficiency	MEF MoI and *Régies*	Studies	3	1
		Goods and Services	76	13
		Works	120	21
RA 3: Enabling the Integration of Non-Conventional Water	MEE MoI and Régies	Works	146	26
Total Expenditure Framework			**573**	**100**

Note: RA= Results Area

27. **Exclusions**. The Program will exclude high-risk activities judged to have potentially adverse impacts on the environment or people. In addition, the Program will exclude activities that involve the procurement of (a) works estimated to cost US$ 75 million equivalent or more per contract; (b) goods estimated to cost US$ 50 million equivalent or more per contract; (c) non-consulting services, estimated to cost US$ 50 million equivalent or more per contract; or (d) consulting services estimated to cost US$ 20 million equivalent or more per contract.

D. Program Development Objective(s) (PDO) and PDO Level Results Indicators

28. The PDO is to strengthen water sector institutions and increase water availability in selected areas in Morocco.

29. The PDO indicators are:

Indicator 1. National Water Plan (PNE) adopted (value).
Indicator 2. Water information systems operationalized (value).
Indicator 3. Potable water savings in distribution water supply networks (m3).
Indicator 4. Treated wastewater made available for reuse (m3).

30. The PDO-level indicators were selected to measure the key achievements that the Program should reach within the implementation period and promote institutionalization and sustainability of the Government's efforts under the PNAEPI. Further details on the PDO indicators are found in Annex 1.

E. Disbursement Linked Indicators and Verification Protocols

31. The Disbursement Linked Indicators (DLIs) have been selected to create a set of incentives in support of Government's efforts to realize the objectives of the Program and track progress during implementation. All the DLIs: (a) represent improvements in key aspects of the GoM program and the key priorities in each results area; (b) are within the GoM's control; (c) are achievable in the Program period, and (d) are verifiable. To facilitate harmonization with the Government program, the DLIs prioritize using existing indicators and reporting mechanisms within the Government system, where possible and as appropriate.

Table 3. Rationale for Disbursement Linked Indicators, by RA

Disbursement Linked Indicator (DLI)	Rationale for selection	Allocation	
		US$ million	%
RA 1: Strengthening Water Sector Governance			
DLI 1: National Water Plan Adopted (PNE)	This DLI aims to incentivize the adoption of the PNE, which will set the 30-year vision for the water sector. It shall reflect the increasing uncertainty derived from climate change such as increased water scarcity and drought; and the principles to strengthen the sector's governance, institutional, and financial aspects (including defining water valuation). The preparation of the Plan entails significant coordination efforts among the relevant stakeholders, including the MEF, MEE, MoI, MAPMDREF, OCP Group, and service providers (irrigation and water supply and sanitation services); and reflects the water needs of sector-specific plans (notably the Generation Green Plan and OCP Group Water Plan). The Superior Council of Water and Climate, chaired by the Prime Minister, will validate the PNE and it will be adopted by decree of MEE.	53.000	15.14%
DLI 2: Groundwater management for selected aquifers improved	This DLI seeks to support the GoM efforts to improve groundwater resources and ensure long-term sustainability, including enhanced resilience to climate change exacerbated drought and water scarcity. This DLI will incentivize developing, adopting, and implementing legal provisions and consultative processes for participatory aquifer management contracts. Also, the DLI provides incentives for signing participatory management contracts in three significantly overexploited aquifers (Berrechid,	36.000	10.29%

Disbursement Linked Indicator (DLI)	Rationale for selection	Allocation	
		US$ million	%
	Maamoura, and Bahira). Finally, the DLI supports GoM's effort for improved groundwater management by deploying smart meters to monitor groundwater abstraction in aquifers within the Program area, which will simultaneously increase water savings and reduce GHG emissions.		
DLI 3: River Basin Agency performance framework adopted and performance improved	This DLI provides incentives to strengthen river basin agencies (ABHs), key institutions for water resource management at the basin level. To this end, the DLIs will support the adoption of a performance benchmarking framework, which will allow ABHs to assess their performance in delivering key functions (managing, planning, protecting water resources, and operating and maintaining public water infrastructure especially considering rising climate change vulnerabilities such as droughts and water scarcity) based on a maturity matrix. Based on the ABHs' performance assessment, the DLIs will incentivize the adoption of annual action plans to improve their scores and reward the improvement of performance scores. Finally, the ABH performance framework will facilitate the benchmarking of ABHs performance and trends, including publishing a report on the performance evolution of ABHs under the Program.	34.000	9.71%
DLI 4: Water Information Systems operationalized and used for decision-making	This DLI seeks to incentivize improved content, quality, accessibility, and use of water data. To this end, the DLI will incentivize the adoption of the Decree establishing the SNIEAU and ABHs' Water Resources Information Systems and the operationalization of the systems, which entail: (a) interoperability between the SNIEAU and ABHs' Water Resources Information Systems; (b) interoperability with relevant databases (stored water volumes in dams, inventory of wells by the National Conservation Agency, water quantity and quality, among others); and (c) their partial accessibility to the public. Finally, the DLI provides incentives for publishing the status of the annual hydrological situation, including water uses and water quality within the jurisdiction of the ABHSs included in the Program.	43.600	12.46%
DLI5: Water Service Operators' performance information system operationalized	This DLI aims at establishing the foundations of the regulatory systems for the publicly owned multiservice operators (energy and potable water distribution; and wastewater collection and treatment)- including two major elements: (a) KPIs reporting requirements feeding into an MoI digitalized performance information system; and (b) the definition of minimum service standards for electricity and water supply distribution and the wastewater collection and treatment.	45.400	12.97%
RA 2: Improving Financial Sustainability and Water Use Efficiency			
DLI 6: Financial sustainability framework of the water sector improved	This DLI seeks to improve the sector's financial sustainability across the entire water value chain by developing a Financing Sustainability Framework comprising a financial model, financial sustainability action plan, and regional water financing strategies. The Framework will be developed based on the water valuation and cost-recovery principles included in the PNE (DLI #1). These tools will facilitate GoM decision-making to bridge the gap between cost and revenues along the water value chain (including water mobilization through wastewater reuse and disposal), particularly considering the significant transformation of the water matrix envisaged under the PNAEPI. In particular, the DLI will support developing a financial model and adopting a financial sustainability action plan. All these tools will consider relevant costs (CAPEX and OPEX) and revenues (tariffs, transfers, and taxes).	41.000	11.71%
DLI 7: Volume of potable water savings in distribution water supply networks	This DLI seeks to incentivize demand management efforts in the distribution systems by implementing non-revenue water reduction plans by Régies in the Program area. Through the Program, 20 million m3 of potable water will be saved by Régies in the Program areas through network sectorization and pressure management, improved leakage control and repair, deployment of GIS tools, and rehabilitation of distribution mains leading to enhanced climate resilience during times of drought by increasing the availability and quality of water. Additionally, leakage control and repair will lead to water savings and subsequently GHG emissions saved.	40.000	11.43%

Disbursement Linked Indicator (DLI)	Rationale for selection	Allocation	
		US$ million	%
RA 3: Enabling the Integration of Non-Conventional Water Resources			
DLI 8: Wastewater reuse scaled-up	This DLI supports the GoM's ambition to scale up treated wastewater for productive uses (green spaces, golf, industry, tourism, agriculture, and others) as a strategic resource to mitigate increasing water scarcity risks. Through this DLI, the Program will support the adoption of the bylaw defining the norms for wastewater reuse for agricultural purposes, noting that the general use of wastewater is already adopted. In addition, the DLIs will incentivize the implementation of treated wastewater reuse projects, including expanding the installed capacity to the treatment level required for reuse and the distribution network from the wastewater treatment plant to the off taker of the treated effluent. The Program will make 52 million m3 of treated wastewater available for reuse, thus enhancing resilience by reusing treated wastewater and increasing availability of freshwater resources for alternate uses (equivalent to 52 percent of the PNAEPI target).	56.125	16.04%
Front-end fee		0.875	0.25%
Total		**350.00**	**100.0%**

Note: DLI= Disbursement linked indicator; MEF= Ministère de l'Economie et des Finances, MEE= Ministère de l'Equipement et de l'Eau; MoI= Ministère de l'Intérieur, MAPMDREF= Ministère de l'Agriculture, de la Pêche Maritime, du Développement Rural et des Eaux et Forêts.

32. **The DLIs are designed to contribute to the Program's climate change adaptation and mitigation benefits.** The governance measures are intended to address the challenges of climate change-exacerbated water scarcity and the increased uncertainty in future water variability through incentivizing the incorporation and mainstreaming of measures in the data, information, and planning processes. This includes specific provisions to incorporate climate change models and considerations into the PNE, and the performance evaluation framework for the ABHs. In addition to the contribution to the adaptation agenda, the Program includes several mitigation measures, specifically through the reduction in energy consumption as a result of reduced water losses that will generate savings in GHG emissions.

33. **Independent verification of DLIs will be carried out by the Inspectorate General of each of the Ministries responsible for achieving the results linked indicators (RLIs)**. Verification will be carried out according to the protocols outlined in Annex 2 and summarized here:

- **Data Source.** Each implementing entity will be responsible for collecting the data and reporting on the achievement of individual DLIs and transmitting the results - along with evidence and supporting documentation - to the Program Coordination Unit (PCU) for compilation.
- **Data Oversight.** Each implementing entity will be responsible for monitoring the progress toward the expected Program results, compiling data, and supporting documentation, and submitting this to the PCU.
- **Data Consolidation.** The PCU, nested at the MEE, will coordinate the timely consolidation and provision of monitoring data and supporting documents to the IGF and the World Bank.

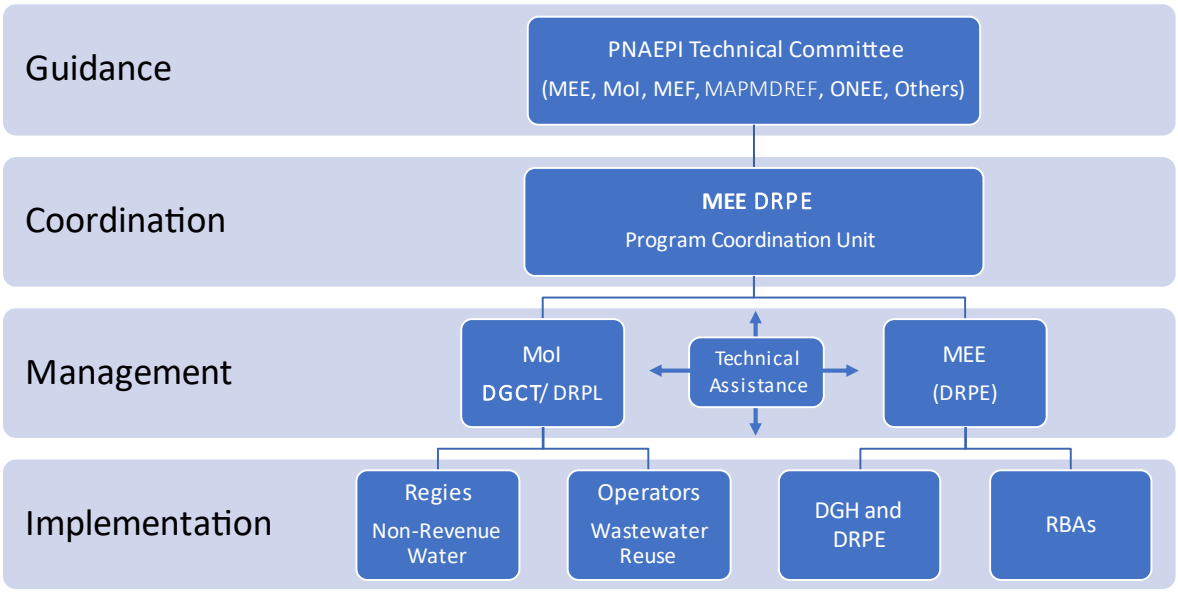
- **Verification Protocols.** Verification protocols are based on existing Government technical guidelines, supported through a strengthened verification system of random-sample inspections and field surveys. The respective general inspection (See Annex 2) will be responsible for reviewing and approving the reports prepared by the PCU and submitting the verification results, along with any supporting documentation, to the MEF for subsequent transmission to the World Bank.

III. PROGRAM IMPLEMENTATION

A. Institutional and Implementation Arrangements

34. **The implementation arrangements for the Program are aligned with the PNAEPI's implementation arrangements**. These are designed to ensure joint ownership by all stakeholders and reflect the multi-stakeholder and partnership-based nature of the PNAEPI, which relies on a close collaboration between actors across local, regional, and national tiers. The implementation arrangements involve a three-tiered structure including: (a) the PNAEPI's Technical Committee; (b) a Program Coordination Unit; and (c) execution by the implementing entities.

Figure 2. Program implementation arrangements



35. **The PNAEPI Technical Committee will be responsible for strategic oversight of the Program**. The Technical Committee is chaired by the Minister of the MEE and includes representatives from the MEF, MoI, MAPMDREF, and ONEE, among others. The Technical Committee is required to meet as necessary, but at least twice a year, and is responsible for monitoring implementation of the PNAEPI. Specific responsibilities include: (a) ensuring PNAEPI's coordination and implementation consistency; (b) establishing and informing a dashboard about the country's water resources and the progress of the implementation of the program; (c) proposing adjustments to the PNAEPI's based on the water resources situation and the results of the studies carried out; and (d) overseeing the annual communication program. The PNAEPI's Technical Committee will provide oversight and strategic guidance of the Program to ensure convergence between the PNAEPI and the Program objectives.

36. **The MEE will be responsible for overall Program management through a Program Coordination Unit (PCU) established in the DRPE**. The PCU will be responsible for coordinating overall implementation, consolidating semi-annual progress reports submitted by the implementing entities, monitoring and reporting of DLIs, financial management and audits, and ensuring stakeholder coordination. The PCU will report to the PNAEPI Technical

Committee and be responsible for ensuring that the Program is implemented according to the Program Operations Manual (POM)[40]. The PCU shall be established and the POM adopted within 90 days of effectiveness. The POM will define the staffing requirements for the core team within the PCU, including, at a minimum, a Program Director, financial, procurement, environmental and social (E&S) specialists. The PCU will also include Focal Points from other relevant entities involved in Program implementation. The PCU will be supported throughout implementation by technical assistance to be funded through the corresponding government budget lines.

37. **Program implementation and management will rely on several government entities**. Management will be ensured through the MEE and MoI who are responsible for overseeing execution of Program-related activities contributing to the DLIs by the respective implementing entities. *Conventions Cadre* (Framework Agreements) between MoI and MEE are to be signed no later than 90 days after declaration of effectiveness to facilitate the carrying out of the Program activities under the responsibility of the Regies and ABHs (respectively) included in the Program. The implementing entities will be responsible for financial management, procurement quality control and management, compliance with E&S requirements, and reporting as per the POM. The implementing entities will be supported by specialized technical assistance, which will be reflected in the respective budget lines of the implementing entities. The implementation of Program related activities relating to the achievement of results by DLI is presented in the table below.

Table 4. DLI by lead implementing agency

DLI No.	DLI Name	Lead Implementing Entity
1	National Water Plan (PNE) Adopted	MEE
2	Groundwater management improved	MEE and ABHs included in the Program
3	ABH performance framework adopted and ABH performance improved	MEE and ABHs included in the Program
4	Water Information Systems operationalized and used for decision-making	MEE and ABHs included in the Program
5	Operators' performance information system operationalized	MoI and Régies included in the Program
6	Financial sustainability framework of the water sector improved	MEF
7	Volume of potable water savings in distribution water supply networks	Régies included in the Program
8	Wastewater reuse scaled-up	MoI and Régies included in the Program

38. **The World Bank will provide implementation support based on the detailed Implementation Support Plan** (Annex 7) the focus of which will be on the timely implementation of the agreed Program Action Plan (PAP) (Annex 6), provision of necessary technical support, conducting of fiduciary reviews, and monitoring and evaluation activities. These will be done as part of regular implementation support visits and through reviews of data and documents, discussions with government and nongovernment counterparts and relevant partners, and visits to Program sites and facilities, as needed.

B. Results Monitoring and Evaluation

39. **The monitoring and evaluation (M&E) of results is detailed in the Results Framework, including the indicators, their definition, and intermediate targets** (Annex 1). Program reporting on the monitoring and evaluation of results will rely on existing systems within each of the implementing entities. Each implementing entity will be responsible for

[40] The POM will be prepared by the PCU, in coordination with the implementing agencies (MEE, MoI, MEF, ABHs and Régies). 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 implementations, PCU staffing requirement, fiduciary requirements (procurement, financial management and fraud and corruption), E&S technical manual, and M&E arrangements.

preparing semi-annual M&E reports on the progress toward achievement of the Program's results and submitting these through the respective management entities (MEE and MoI) to the PCU. The M&E arrangements incorporate good practices and lessons from the portfolio and practice of PforR operations in Morocco. This includes incorporating protocols, reports, and recommendations from the Independent Verification Agency (IVA).

40. **The PCU will be responsible for consolidating all the data and documentation necessary for monitoring, verification, and evaluation purposes**. The PCU will bear the responsibility for monitoring overall progress toward achievement of the Program's results and ensuring timely collection and provision of monitoring data and verification documents for the World Bank and IVA. The PCU and implementing entities will prepare and submit semi-annual progress reports (including M&E reports), a mid-term review report, and a Program Implementation Completion and Results Report by Program close. Reporting on the Program will be consolidated by the PCU based on reports from the implementing entities. The PCU will submit a consolidated mid-term review report and the completion report covering the entire Program to the PNAEPI Technical Committee for strategic guidance and to the World Bank.

C. Disbursement Arrangements

41. **Disbursements will be made at the request of the Borrower based on the achievement of DLIs according to the verification protocols**. Once any given DLI has been verified, based on the data and supporting documentation provided by the PCU, the IVA will submit the results of the verification, along with any supporting documentation, to the MEF for subsequent transmission to the World Bank. Once the World Bank has notified the Government in writing that it has accepted evidence of the achievement of the indicator and the amount of the eligible payment, the MEF will then submit applications for withdrawal per the amounts allocated to individual DLIs. The withdrawal amount against the DLIs achieved will not exceed the amount of the financing allocated by the World Bank for the specific indicator.

42. **The Program-financed results areas are embedded in the budget and expenditure management processes of the country system.** Program funds will be entirely reflected within the participating entities' budgets. All payments of the Program will be made through the centralized Treasury Bank accounts held at the Central Bank (Bank Al-Maghrib). The GoM, through its budget, will transfer the funds to the MEE and MoI based on the expenditure framework and activities to be executed by the directorates and agencies involved in the Program and thus prefinance the expenditure. The Public Accountant (*comptables publics*) of each participating ministry/entity oversees making the payments. An advance equivalent to 25 percent of the loan amount will be available for disbursement once the Program becomes effective. This advance will be available throughout Program implementation on a revolving basis to facilitate the achievement of DLI results. For advances and achieved results, the funds will be disbursed to the GoM's Treasury Single Account opened at the Bank Al-Maghrib. The disbursements under the DLIs will be reconciled with actual program expenditures incurred to achieve the DLIs.

D. Capacity Building

43. **The Program includes capacity-building activities to strengthen technical, E&S, and fiduciary aspects**. Specific actions are included in the PAP based on the findings of the assessments carried out during preparation. Focal points of participating entities will be equipped and trained on identifying E&S risks and impacts regarding national regulations and international practices; the definition, implementation, and monitoring of mitigation measures; and the reporting and evaluation of the Environmental and Social Management System (ESMS). Fiduciary capacity building will include (a) monitoring fiduciary implementation progress; (b) supporting the Government to resolve implementation issues and carry out institutional capacity building; and, (c) complying with audit reports.

44. **Several capacity-building and institutional strengthening activities are envisaged to strengthen implementation support and achieve the objectives of the Program**. The Bank has leveraged trust fund resources to support the achievement of the Program results, particularly for activities to be carried out during the first two years

of implementation. A Bank-executed Trust Fund (US$ 600,000) from the Global Facility for Disaster Reduction and Recovery (GFDRR) was secured to support the RA 1, specifically advising on the optimization of existing monitoring networks and issues around dams' sedimentation. Also, for the same RA, Bank-executed Trust Funds have been secured (US$ 400,000) from the Global Water Security and Sanitation Partnership (GWSP), specifically in guiding international experience and appropriate options to inform the development of institutional mechanisms for the water sector in Morocco, including guiding the development of a performance benchmarking framework for ABHs. Similarly, resources from GWSP will support the achievement of results under RA 2 on Improved Financial Sustainability and Water Use Efficiency through international experience and approaches to the development of financial models and strategies to improve the sustainability of the sector, and international experience in formulating campaigns to influence water conservation behavior.

45. **Capacity building and institutional strengthening will leverage synergies with other activities and Programs supported by the World Bank**. The Bank is supporting the preparation of a Public Finance Review in Morocco, including a deep dive into public expenditure analysis in the water sector. This will help inform the preparation of the financing strategies for selected sub-sectors under RA2. Also, efforts under the Program will be closely coordinated with efforts made by the General Meteorological Direction (*Direction General de la Météorologie*) and the National Agency on Water and Forest (*Agence Nationale des Eaux et Forêts*) under the Morocco Climate Operation / Support to Morocco's Nationally Determined Contribution PforR (P178763; approved by the Board in June, 2023). Finally, coordination with the Blue Economy PforR (P172926; approved by the Board on May 23, 2022) will be encouraged for contribution to the development of regulations relating to desalination. Also, the Program will leverage prior experience in integrating collaborative leadership approaches for results achievement, notably under the Blue Economy PforR.

IV. ASSESSMENT SUMMARY

A. Technical

46. **The technical assessment confirmed the strategic relevance of the Program.** The strategic rationale for the PNAEPI has been reinforced by the most recent drought in Morocco, which is the most severe in more than 40 years. This has had severe social and economic impacts and highlighted the need to improve resilience and secure water for sustained social and economic development. The PNAEPI recognized the need to respond to the challenges of climate change and contribute to a green transition with a clear set of investments and accompanying measures that are critical for ensuring success. The arrangements for implementation, monitoring, and evaluation of the PNAEPI have proven effective, with four Steering Committees held in March 2020, October 2021, November 2022, and December 2022, resulting in adjustments to the changing circumstances in the first two years of implementation.

47. **The Program's strategic relevance is further underscored by its contribution to Morocco's NDC for climate change mitigation and adaptation**. The Program will support the country's climate adaptation priorities of reducing the impacts of water scarcity, droughts, and floods. This will be achieved by strengthening the institutional framework for managing the development of water resources under increasing uncertainty due to climate change through the preparation and adoption of the PNE, enabling the introduction of non-conventional water resources, strengthening data and knowledge to inform more robust investment planning and decision-support systems, including contingency preparedness and responses to extreme hydroclimatic events, and improving the understanding and management of strategic groundwater resources. The Program will also directly support the emissions reduction target in the NDC through investments in wastewater treatment and the energy efficiency gains that can be realized through investments in water loss reduction in distribution networks.

48. **The Program is technically sound and integral to achieving the objectives of the Government's program.** The Program is built around three distinct but complementary results areas that emphasize efforts to strengthen the

governance framework, improve water resource management, augment sources of supply through the integration of non-conventional resources into the water accounts, improve financial sustainability in response to the changing value of water, and improve the water data quality, information, and knowledge needed to inform more robust decision making. These activities balance ambition, and the pragmatism needed to respond to the immediate need to secure water and are well-balanced to achieve the Program's expected results. They are based on a broad consensus among the stakeholders implementing the PNAEPI. The selection of activities is also intended to promote the upscaling of innovative approaches considering international best practices.

49. **The Expenditure Framework Assessment established a sound boundary for the Program, and it is adequate to support the achievement of Program results.** Program expenditures are estimated at MAD 5,801 million (equivalent to US$ 573 million) and will finance activities at the central level by the MEE and the MoI, and at the local level by the ABHs and *Régies*. The Program expenditure framework is anchored in the General Budget and includes: (a) the General Sector Budget; (b) special accounts, and (c) entities that benefit from central government transfers (selected ABHs and Régies); and the budget of the ABHS and Régies. All expenditures are programmed following the budget nomenclature and functional classification and will be incurred between 2023 and 2028. The Program's budget structure identifies the sources of funding, specific budgetary lines, and expenditure categories. This facilitated the exclusion of high-risk activities -such as large-scale civil works related to desalination- and procurement of works estimated to exceed the Bank's thresholds. There is a high degree of predictability in the timely release of budget appropriations, and the sustainability of the expenditure framework of participating entities is assured. The analysis of expenditures shows that these have been efficient and respond to the need set forth in the PNAEPI – and hence are adequate to support the achievement of Program results as the budget lines retained in the expenditure framework are closely aligned with the Program activities (See Annex 3 for budget lines included in the expenditure framework). The Finance Laws (*Lois de finances*) for 2021, 2022, and 2023 include specific provisions for the implementation of measures envisaged under the PNAEPI aimed at increasing water availability, such as projects related to water transfers, seawater desalination, and the reuse of treated wastewater. As a result, the alignment of the budget with government priorities, classification, sustainability, and predictability is considered sufficient.

50. **The financial sustainability of the Program is assured by the Government's overall medium-term budget trajectory**. The medium-term budgetary prospects of Morocco are adequate to ensure the Program's sustainability. In 2020, the COVID-19 pandemic, coupled with a poor agricultural harvest due to drought, led to an increase in the budget deficit and public debt, which reached 7 percent and 67 percent of GDP -respectively. The overall public debt ratio rose from 80.4 percent of GDP in 2019 to 94 percent in 2020. Morocco's external debt experienced a significant increase at the end of 2022, to nearly 10 percent of GDP (MAD 229 billion; US$ 21.7 billion). The budget deficit is MAD 73.1 billion against an initial forecast of MAD 72.6 billion.[41] The MEF revised its budget deficit and growth forecasts for 2023 to 5.3 percent and 1.5 percent of GDP, respectively.

51. **An evaluation of the costs and benefits confirms the economic rationale for the Program.**[42] The Program's economic feasibility analysis compared its estimated economic benefits and costs. The cost-benefit analysis estimated the economic feasibility of the Program by calculating the net present value (NPV) of cost and benefit streams and determining the Program ERR. This includes converting financial cash flows associated with activities contributing to results under RA 2 and RA 3 into economic cash flows to eliminate distortions caused by taxes, subsidies, and other

[41] Ministry of Economy and Finance, Report on budget execution and three-year macroeconomic framework published in connection with the 2023 finance law.

[42] The Cost-benefit analysis is a method for comparing the economic pros and cons of policies and Programs to help policymakers identify the best or most valuable options to pursue. Cost-benefit analysis monetizes all major benefits and all costs associated with a project so that they can be directly compared with each other as well as to reasonable alternatives to the proposed project. A cost-benefit analysis is generally considered the most comprehensive approach and, in many ways, the gold standard. World Bank, Investment Project Financing Economic Analysis Guidance Note, 2014.

externalities and using these to estimate economic costs and benefits. Benefits include (a) increased water revenues resulting from physical and commercial loss reductions; (b) decreased operational costs resulting from leak detection and reduced energy requirements; (c) revenue from the sale of treated wastewater; (d) GHG emission reductions owing to reduced energy requirements, and (e) reductions in local pollutants from WWTP effluents. Also, the economic analysis considered the incremental O&M savings from reducing production, pumping, and energy consumption costs. Reducing water loss will reduce energy consumption in the sector, generating savings in GHG emissions. The economic analysis yielded an NPV of US$231.8 million and ERR of 15.5 percent inclusive of the shadow price of carbon.[43]

52. **A range of climate co-benefits and benefits are realized through reducing GHG emissions.** Significant GHG emission savings are expected from water loss reduction programs leading to an overall decrease in energy usage and a reduction in localized pollutants resulting from the increased tertiary treatment capacity of WWTPs. Over the Program's life, over 28,419 tons of CO2 emissions will be avoided. A reduction in localized pollutants is expected from WWTPs upgrades to increase the capacity for tertiary treatment and reuse of treated effluent for green spaces and industrial and agricultural uses. These improvements in effluent quality will decrease pressure on scarce freshwater resources in the receiving water body.

53. **The Program will generate additional positive externalities not quantified in the economic analysis.** The Morocco CCDR estimated that a reduction in water availability could reduce GDP by up to 6.5 percent. Investments in water loss reduction will postpone the need to invest in non-conventional water sources. Treated wastewater and desalination represent consistent water sources for urban demand and irrigated agriculture, especially in droughts, as diversifying the water supply will increase resilience and water security. Supporting the enabling environment and regulatory framework will provide Morocco with a viable path to securing its water future. Similarly, the principles for water valuation (included under DLI#1) are key to informing water pricing and allocation decisions and promoting more efficient water allocation. Demand management and conservation strategies will be increasingly important as water scarcity increases to strengthen climate resilience. Therefore, the estimated Program benefits are conservative, and it can be reasonably assumed that the actual benefits will be larger than those estimated.

54. **The Program is expected to improve the water sector's financial sustainability**. In addition to the interventions of the Program, which are expected to increase revenues and reduce operational costs, a financial model of the water sector will be developed to improve financial sustainability and inform policy decisions. It will allow multiple institutions (ABHs, Régies, and water supply operators, among others) to improve the overall financial efficiency of the water sector and public expenditure management by combining capital expenditure planning with water pricing and ongoing operations. Integrating the valuation of water services will allow service providers to consider water pricing strategies across users that enable smart water usage and inform water allocation decisions.

55. **Citizen engagement**. The NDM recognizes that the Moroccan people are at the center of addressing the country's water challenges as beneficiaries and change agents. Thus, the new vision for the country shall be accompanied by inclusive participation channels, including consultation mechanisms and digital platforms. The Program results are intended to support these efforts by fostering accountability, transparency, and trust in the water sector by (a) developing information systems at the national and river basin levels to provide access to regularly updated data to citizens; (b) engaging citizens through communication campaigns to influence perceptions and awareness of water use and improve water conservation; and (c) developing groundwater management contracts with the participation of water users. A dedicated indicator related to citizen engagement is included in the result framework in relation to results achieved under DLI#4 and refers to “users’ feedback on water information systems and services”, aiming at

[43] A shadow price is the true economic value or opportunity cost of an activity (as opposed to the market price). World Bank. Guidance note on shadow price of carbon in economic analysis. Nov 12, 2017.

monitoring users' satisfaction on water resources related data and information services (such as dashboard and decision support tools available in water resources information systems) operationalized under the Program.

56. **Gender and Inclusion**. The technical assessment identified that despite progress in gender equality, the share of women staff in water institutions is still limited. In 2019, the share of women in leadership positions[44] within MEE-DGH and the ABHs was 30 percent and 19 percent, respectively. A large share of technical jobs, such as supervision of construction sites, dam management, and stations for meteorological and hydrological observations, are held by men. Traditional expectations of women's role in society, safety issues, and mobility challenges to reach remote locations prevent women from acquiring relevant experience and access to capacity-building programs to advance their careers. Limited performance incentives, diagnostics, and planning tools further deter progress in improving gender outcomes, particularly related to integrating a gender approach in programs, projects, and activities by the MEE and the ABHs. As of 2023, gender has been mainstreamed in potable water supply projects. Other activities implemented by the water institutions still require incorporating a gender approach to reach women more effectively (e.g., water-related communication and awareness campaigns and water resources management and protection activities).

57. **The Program will address these gaps by building on existing initiatives**. The Program will support the implementation of the priorities identified in the 2017 Sector Gender Strategy and the MEE gender-sensitive budget program. In particular, the Program will address gender gaps in three areas (Annex 3): (a) female representation in ABH leadership positions; (b) women awareness of water efficiency; and (c) women's participation in deliberations related to aquifer management contracts. For (a), under the ABH Performance Framework (under DLI#4), a gender composite index will be included to incentivize and track progress in specific gender areas and define gender-targeted actions (as part of ABHs annual action plans). The composite index will measure progress in women's representation in managerial and technical positions, women-focused capacity development programs (including specific training in managerial, organizational, and financial skills, and measures to enhance safety in the workplace and provide flexible work arrangements); and the percentage of women benefiting from water awareness campaigns implemented by ABHs included in the Program. A dedicated indicator is included in the Results Framework (annex 1) to monitor progress on the ABH gender composite index. Also, as part of DLI#3 the GoM shall publish a benchmarking report on ABHs performance, which shall encompass the evolution over the years on the gender-composite index. For (b), the water communication campaigns supported by the Program will include specific objectives and messages targeted to women to improve the efficiency in water use. Also, the baseline and end-Program communication campaigns evaluations (supported under the Program) will include specific group discussions with women to identify awareness of water scarcity issues, perception of the campaigns and ways to improve them to reach women more effectively, and motivations for actions to identify specific gender-related barriers to engage in water conservation behaviors. For (c), the Program will support the inclusion of explicit provisions in the Decree for participatory aquifer management contracts to ensure women's voices and participation are guaranteed through deliberations leading to the adoption of such contracts.

B. Fiduciary

58. **An Integrated Fiduciary Systems Assessment (IFSA) of the Program was carried out following the World Bank Policy on PforR Financing**. The objective of the assessment was to examine whether Program systems provide reasonable assurance that the financing proceeds will be used for the intended purposes, with due attention to the principles of economy, efficiency, effectiveness, transparency, and accountability. Based on the Program boundaries and expenditure framework, the IFSA covered the MEE through the DRPE, the selected ABHs, and the Régies. The IFSA was conducted based on the FSA team's knowledge of the country's PFM systems applicable to this Program, the

[44] Female staff that occupy high-level or managerial positions such as Secretary General, Director, or Chief of Division.

documents and data collected from the implementing entities through a fiduciary questionnaire, and the experiences derived from PforR operations in Morocco.

59. **The IFSA concluded that the existing fiduciary systems of implementing entities meet Bank PforR Financing requirements, subject to the mitigation measures and actions included in the PAP**. The internal controls of the implementing entities' fiduciary systems provide reasonable assurance that financing proceeds will be used to support the achievement of Program objectives, with due attention to the principles of economy, efficiency, effectiveness, transparency, and accountability. Public financial management -including country procurement systems followed by the entities and assessed by the IFSA- is acceptable to the Bank and meets the requirements for implementing a PforR. For the entities assessed, there is a strong legal and institutional framework, effective public financial management planning and budget systems, and strong internal control systems with clear and relevant segregations of duties at each step of the budget execution. Additionally, the Public Procurement Decree (PPD) No. 2-22-431 of 8th March 2023[45] - which will government procurement under the Program- broadens the scope to include public entities besides the State (ministries) and local governments (territorial collectivities). The PPD includes several enhancements, such as introducing rated criteria, the selection of the most advantageous bid, competitive dialogue, and establishing an observatory for public procurement. Implementing the PPD will result in higher value for money with adequate levels of transparency, competitiveness, efficiency, and fairness by all Program entities.

60. **The overall fiduciary risk is deemed to be substantial.** The key fiduciary risks identified in the IFSA include procurement and financial management (FM) risks. On the procurement front, risks include (a) challenges in capacity for procurement planning and execution; (b) operationalization of the PPD and E&S requirements, which impact the quality and timeliness of procurement; (c) the lack of an agile procurement-related complaints handling mechanism within most of implementing entities; (d) lack of procurement performance reporting mechanisms; and, (e) a lack of suspension and debarment check mechanism, which might result in awarding a contract to firms and individuals debarred or suspended by the Bank. On the FM front, risks include (a) delayed execution of budgets by some ABHs and Régies and commitments of funds due to the challenges derived from the implementation of the PPD and the compliance with E&S requirements; (b) delayed preparation of consolidated financial statements and submission of Program audit reports due to a large number of implementing entities located around the country which requires an effective and adequate fiduciary coordination mechanism; (c) the lack of familiarity with PforR financing instruments of most of the entities (e.g., ABH, Régies, and DRPE) involved in the Program implementation combined with the use of "Excel" spreadsheets to prepare consolidated financial reports may impact the fiduciary performance of the Program, including the quality and timeliness; and, (d) follow up of audit recommendations and the internal audit unit at the MEE as per the Decree No.05-2019. Bank operations in the sector linked to water and irrigation, such as the Morocco Rural Water Supply Project and the Morocco Large Scale Irrigation Modernization Project, have faced challenges, with an extension of the closing date required to complete works and last payments.

61. **The PAP includes specific, time-bound actions aimed at mitigating fiduciary risks, ensuring adequate budget and procurement execution of the public expenditure framework, effective accountability and transparency mechanisms, and achievement of expected results**. The PforR instrument provides an opportunity to strengthen the transparency and predictability of resources, and budget execution, including procurement planning and execution, contract management, financial reporting, and anti-corruption mechanisms. Existing systems in implementing entities will require capacity and systems strengthening to ensure adequate and timely budget planning and execution, effective accountability, and transparency mechanisms, and achieving expected results. The procurement-related risks will be addressed through the following key actions: (a) ensure that activities and procurement plans are finalized 90 days before the start of a given calendar year based on realistic assumptions and that procurement is implemented

[45] Approved by the Council of Government on December 29, 2022, and published in the Official Bulletin No. 7176 dated March 9, 2023. The PPD will be in force from September 1st, 2023, and will replace the existing Decree No. 2-12-349 (dated March 20, 2013).

promptly; (b) develop and implement a capacity-building program on the PPD[46]; (c) maintain a register of all procurement-related complaints and ensure that they are treated promptly, (d) including as part of the semi-annual report a section on the Program's procurement performance, including key performance indicators; and, (e) include in the bidding documents an eligibility check clause requiring implementing entities to ensure that any person or entity debarred or suspended by the Bank is not awarded a contract, or otherwise allowed to participate in or benefit from the Program during the period of such debarment or suspension by the Bank. To strengthen the fiduciary coordination, expenditure reconciliation, and financial reporting, the PAP will support (a) the development of standard tools and documents for fiduciary reporting to relevant implementing entities (to be included as part of the POM); and (b) the deployment of performance management with the support of the Bank fiduciary team through monitoring of key fiduciary performance indicators. The Program will support the implementation of the Decree No.05-2019-ND/CP on the internal audit function at the MEE and strengthen the follow-up mechanisms of audit recommendations.

62. **The implementing entities will execute the activities following the World Bank's "Guidelines on Preventing and Combating Fraud and Corruption in Program-for-Results Financing" (dated February 1, 2012, and revised July 10, 2015)**. The Program ex-ante and ex-post arrangements were found adequate to address the risk of fraud and corruption. With support from the institutions in charge of the fight against corruption, the PCU will share information with the World Bank regarding all allegations of fraud and corruption in connection with the Program in the semi-annual Program reports, investigate all credible allegations received, report to the World Bank on actions taken, and cooperate in any inquiry that the World Bank may conduct into allegations or other indications of fraud and corruption in connection with the Program. Implementing entities will monitor and abide by the World Bank's debarred/suspended firms list. A protocol/arrangement on compliance with the Anti-corruption Guidelines during Program implementation will be included in the POM, including the format and content of the reporting on fraud and corruption.

63. **Procurement exclusion**. The Program is not expected to procure any large contracts valued at or above the Operational Procurement Review Committee (OPRC) thresholds (US$75 million for works, US$50 million for goods and non-consulting services, and US$20 million for consultant services), which are based on a "Substantial" risk rating. This conclusion is drawn based on an analysis of procurement data of the agencies for procurement.

C. Environmental and Social

64. **An Environmental and Social System Assessment (ESSA) was carried out following the World Bank Policy on PforR Financing**. The Program encompasses eligible non-structural and structural activities, with the ESSA identifying measures to strengthen the E&S management system. Preparation of the ESSA has benefited from various sources of information and a broadened consultation process, including a review of available documentation, data, related regulatory frameworks, and consultative meetings with the technical staff of the implementing entities and key stakeholders. The ESSA report was publicly disclosed on the World Bank's website on March 15, 2023, and a summary was disclosed before a public consultation workshop held on April 18, 2023, with Government agencies, development partners, civil society organizations, and the private sector. Comments provided during the workshop were addressed in the ESSA report.

65. **The Program is expected to have positive E&S benefits**. Through water reduction programs and WWTPs upgrades to the tertiary treatment level, the Program will support Morocco's climate adaptation priorities, safeguarding water for domestic, industrial, and agricultural purposes. This will increase the sustainable and safely managed drinking water available for households, reduce waterborne diseases, improve water quality, reduce the

[46] These include: (i) deliver a training to Procurement Officials and other stakeholders on the PPD; (ii) develop guidance notes on the new features such as rated criteria and competitive dialogue with more targeted training on these new features; and (iii) update the Bidding Documents in line with the PPD.

pollution and degradation of soil and groundwater resources, and improve community health. The extension and rehabilitation of potable water distribution systems and the WWTPs upgrades will positively benefit direct and indirect job creation during the work phase. They will induce demand for goods and services that benefit local, regional, or national companies. The Program will also (a) advocate a participatory and collaborative approach to the implementation of activities using collaborative leadership approaches, which will give boost citizen engagement; (b) introduce positive behavioral changes among stakeholders in terms of management and prudent use of water resources; and (c) contribute to strengthening the grievances redress mechanisms (GRMs).

66. **Potential E&S risks have been identified and can be managed or mitigated**. The ESSA report reviewed investments in the PNAEPI and concluded that 27 have potentially significant negative E&S impacts. Following the World Bank's Operational Policy on PforR, these have been excluded from the Program.[47] The ESSA estimated that the potential negative impacts of additional 22 activities would be reversible, specific risk mitigation measures have been identified, and their implementation will prevent negative impacts.

67. **Potential environmental risks are mostly related to structural activities and expressed during construction.** Works will be limited to those areas of the water network where leaks have been detected, inside the perimeter of existing treatment plants, along the pipeline route for the conveyance of treated wastewater, and at sites where pumping stations will be installed. For those activities that do not require an environmental impact assessment (EIA) according to the EAI Law 12-03 (2003) -such as the rehabilitation of drinking water networks- an ESMP must be prepared before the start of works to ensure that (a) its requirements are included in the works contract; and, (b) that monitoring of the required mitigation measures is effective, documented and evaluated. For activities listed in the EAI Law -such as WWTPs- the EAI Law stipulates that any change to the approved design requires an updated EIA. Therefore, all WWTPs under the Program must update the EIA and comply with the joint order 1276-01 (dated October 17, 2002) governing wastewater reuse.[48]

68. **Potential social risks are mainly related to rehabilitating or constructing water supply and wastewater systems**. These activities will likely have temporary and small-scale permanent land acquisition implications, if any. The E&S technical manual, as part of the POM, will include a screening procedure to ensure that these impacts are well-managed and affected people are compensated before the start of works. The information and consultation activities may not sufficiently include vulnerable populations, particularly illiterate people and people with disabilities that limit their access to certain communication channels. These risks can be mitigated by choosing appropriate inclusive communication techniques and media. Preference will be given to meetings or the dissemination of audio or audiovisual messages rather than written documents. The inclusion of women in the dialogue between the project and its stakeholders will be ensured through dedicated meetings with women. The gender-based violence risk exists for all construction activities but is low as most workers will be from local areas.

69. **The E&S management system is considered adequate within the context of the PforR Policy, and some actions will be included to strengthen its performance**. Specific gaps identified during the preparation of the ESSA include (a) the integration of social aspects in impact studies, including resettlement and land acquisition-related activities; (b) the integration of ESMP in impact studies; (c) the implementation of public consultations by involving the stakeholders and parties affected by the Program; and (d) documenting the monitoring, and evaluation of mitigation measures. The management of complaints is a relatively recent practice in Morocco and does not yet provide a comprehensive mechanism that ensures independent, effective, and responsive redress of grievances. The complaints management

[47] Paragraph 10: Activities deemed likely to have negative impacts that are significant, diverse, or unprecedented on the environment and / or on people are not eligible for PforR funding and are excluded from the Program.

[48] The reuse of wastewater in Morocco is governed by the joint order 1276-01 (dated October 17, 2002) of the (then) Ministry of Equipment and the Ministry in Charge of Regional Development, Environment, Urban Planning and Housing, that establishes water quality standards for irrigation and the obligations of users regarding monitoring the quality of treated wastewater before reuse.

system, the "chikaya.ma" portal, is operational since 2018 and was effective during the outbreak of the COVID-19 pandemic as it provided the only means to contact the Moroccan administration.

70. **Several measures have been identified to ensure that all activities with moderate E&S effects implement the required mitigation measures**. Each implementation agency will conduct a screening of possible risks and their rating, prepare the necessary instruments (ESIAs, ESMPs, RAPs, etc.), identify adequate social and environmental mitigation measures, and prepare and implement the corresponding action plans based on the following:

- Environmental and Social Impact Assessments (ESIAs), including resettlement action plans as necessary (RAPs), for all activities involving moderate E&S risks
- Environmental and Social Management Plans (ESMPs) for all activities involving moderate E&S risks
- Screening checklists for all activities with low E&S risks
- Community participation plans and stakeholders' engagement plans as required by the ESSA Action Plan and as per the E&S Technical Manual
- Establishment of functional and accessible GRMs for all project-related activities as stated in the ESSA Action Plan.

71. **The capacity for managing E&S aspects related to the Program activities requires significant strengthening measures**. The EIA Law 12-03 provides the administrative authorizations for any project subject to a decision of environmental acceptability based on an EIA. The procedures and principles governing the context of the EIAs are generally in line with international practice, and the environmental management and EIA procedures are clear at the technical level and sound at the institutional level. However, the capacity of the various institutions responsible for managing E&S aspects related to the Program activities requires significant strengthening. Thus, the Program will support specific measures to strengthen the performance of the Moroccan E&S management systems, including aspects related to (a) E&S management systems; (b) M&E; and (c) E&S management capacities.

72. **Grievance Redress**. Communities and individuals who believe that they are adversely affected due to a Bank-supported PforR operation, as defined by the applicable policy and procedures, may submit complaints to the existing program grievance mechanism or the Bank's Grievance Redress Service (GRS). The GRS ensures that complaints are promptly reviewed to address pertinent concerns. Project-affected communities and individuals may submit their complaints to the Bank's independent Accountability Mechanism. The Accountability Mechanism houses the Inspection Panel, which determines whether harm occurred, or could occur, as a result of the Bank's non-compliance with its policies and procedures, and the Dispute Resolution Service, which provides communities and borrowers with the opportunity to address complaints through dispute resolution. Complaints may be submitted at any time after concerns have been brought directly to the Bank's attention and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the Bank's Grievance Redress Service (GRS), please visit http://www.worldbank.org/GRS. For information on how to submit complaints to the Bank's Accountability Mechanism, please visit https://accountability.worldbank.org.

V. RISK

73. **The overall risk rating for the Program is Substantial,** due to substantial risks associated with the macroeconomy, sector strategies and policies, institutional capacity for Implementation and sustainability, fiduciary, E&S, and stakeholders (see datasheet). A series of mitigation measures are included in the Program design. Timebound actions are included in the PAP (Annex 6) to support the Program in delivering its results and have been agreed with the GoM.

74. **The macroeconomic risk is rated as Substantial.** Global market conditions and frequent droughts due to climate change may continue to pressure commodity prices and adversely affect the post-COVID-19 recovery. A further downturn in the global economic outlook could reduce exports, tourism receipts, and foreign direct investment. Inflationary pressures remain strong, eroding households' purchasing power and thus consumption, while the monetary policy tightening has increased the sovereign's domestic borrowing costs. This could reduce the Government's ability to reverse the upward trajectory of the debt-to-GDP ratio over the medium term. In addition, the resulting accumulation of debt globally could trigger an episode of international financial instability, affecting Morocco's ability to access external finance, increasing the cost of covering its financial needs, and reducing the potential for increased public spending. The New Development Model and the reform agenda launched by the GoM would improve the attractiveness of Morocco for private investment, especially in promising sectors with high value-added, and mitigate the impact of these potential risks. The IMF has recently approved a precautionary Flexible Credit Line, which will boost Morocco's external buffers contributing to mitigate residual macroeconomic risks.

75. **The risk of Sector Strategies and Policies is considered Substantial**. Reducing the gap between water demand and supply, while protecting and securing water resources and building resilience to increasing hydro-climatic variability due to climate change, is a priority of the GoM. Activities contributing to the Program objectives of mobilizing water resources while strengthening the capacity for improved water resources planning and management are also key to climate change adaptation as per the country's NDCs. Mitigating risks related to data sharing and access are central to the Program, including developing standardized data-sharing protocols and facilitating data transfer, as a share of the Program's success depends on data-sharing and data-access policies of the ministries involved and ABHs. The creation of SRMs after the passing of the Law in Parliament (expected in 2023) may impact Program implementation if it involves Régies included under the Program. Under the reform, existing *Régies* will be consolidated and reconfigured into new entities with discrete geographical delimitations. During consolidation, activities under RA2 and RA3 may be delayed, given a normal transition period. Since the regionalization process is expected in the coming years, specific mitigation measures will be identified during Program implementation as needed. This risk does not affect the technical design of the Program.

76. **The Program's Technical Design is considered a Substantial risk**. The Program includes a sub-set of activities from the PNAEPI, covering a large geographic area with several activities contributing to the Program objective implemented through various institutions. The Program incorporates innovative activities requiring significant changes from "business as usual" and considerable institutional capacity development to ensure sustainability. The Program also supports a series of important institutional reforms, including measures to improve the valuation of water and financial sustainability. Preparing annual activity plans by implementing entities will support the outline of the technical, financial, and human resources needed to achieve specific results and targets and ensure accountability. The investment capacity building under the Program will establish a strong institutional basis for the sustainable continuation of the systems and services.

77. **The Institutional Capacity for implementation and sustainability is considered a Substantial risk**. The changing nature of water resources in Morocco has important implications for the institutions in the water sector. The increasing investment in non-conventional water resources, particularly desalination, is also changing the sector's cost structure. These require a re-assessment and re-alignment of the institutional architecture to respond to the changes and ensure a financially sustainable framework for the sector. A series of measures have been integrated into the results framework to support the process of building consensus on the roadmap required to ensure the institutions and the financial structure of the sector are sustainable, including through the adoption of the PNE. The institutional results chain and the performance benchmarking of the ABHs will provide a structured, logical, and measurable process to facilitate the diagnostics needed to inform the options and agree on a roadmap. These reforms will be supported by aligning with the high-level inter-ministerial mechanisms established under the PNAEPI. The lack of familiarity of institutions in the water sector with the PforR instrument will also require significant efforts during implementation to

ensure adherence to the policy requirements, strengthened monitoring, and timely submission of reports to ensure disbursements in line with the Program objectives.

78. **The fiduciary risk is assessed as Substantial.** The key fiduciary risks identified in the IFSA are presented in paragraph 60, and mitigation measures in paragraph 61, and more details are presented on Annex 4 (IFSA).

79. **The E&S risks are assessed as Substantial**. The Program is expected to bring significant E&S benefits by strengthening sector institutions and increasing water availability. Some activities required to achieve the Program's objectives include civil works, which have potentially adverse E&S impacts. Activities with high risks are excluded from the Program. Construction activities required to achieve the Program's objectives are largely limited to small-scale, localized works related to reducing water losses in distribution networks and upgrading existing WWTPs and associated infrastructure for reuse. Although these impacts are well-known, temporary, and reversible, and will be managed through well-established mitigation measures, none of the implementing entities has previous experience with the PforR instrument. It is not expected that there will be an influx of construction workers, with the attendant risks of sexual exploitation, abuse, and harassment, as most of the workforce will be local. There are no Indigenous Peoples present in the Program area.

80. **The stakeholder risk is assessed as Substantial.** The Program's success relies heavily on cooperation among different sectors at the central and local levels and coordination among different levels of government. This introduces several risks to achieving the Program's intended outcomes but reflects the complexity of the various measures needed to improve water security along the water value chain. This includes stakeholders involved in managing the development of water resources, those involved in the provision of services, along with a wide range of users in various sectors. These challenges define the objectives and inform the design of the activities supported under the Program and the expected outcomes, part of which is focused on strengthening institutions in the water sector. Provisions have been included in the implementation arrangements to strengthen this coordination, including budgeted technical assistance for the PCU and focal points from the different implementing entities. Specific results are included to incentivize collaboration, including technical working groups for the institutional and financial sustainability aspects – which will be adopting innovative approaches such as collaborative leadership. Finally, conventions will be signed with ABHs, and Régies included in the Program to formalize agreements around those results dependent upon them.

ANNEX 1. RESULTS FRAMEWORK

Results Framework
COUNTRY: Morocco
Morocco Water Security and Resilience Program

Program Development Objective(s)

The Program Development Objective is to strengthen water sector institutions and increase water availability in selected areas in Morocco

Program Development Objective Indicators by Objectives/Outcomes

Indicator Name	DLI	Baseline	Intermediate Targets				End Target
			1	2	3	4	
Strengthened Water Sector Institutions							
National Water Plan (PNE) Adopted (Text)	DLI 1	A revised draft of the National Water Plan incorporating climate scenarios and considerations and the principles to strengthen governance, institutions and financial aspects prepared	A revised draft of the National Water Plan prepared	The draft National Water Plan endorsed by the Interministerial Commission for Water	The draft National Water Plan endorsed by the Superior Council of Water and Climate		The draft National Water Plan incorporating climate scenarios and considerations and the principles to strengthen governance, institutions, and financial aspects adopted by decree and published
Water information systems operationalized (Text)	DLI 4	BADRE21 is the water resources information system in place, comprising key data on water resources at ABH and MEE A prototype SNIEAU platform developed in 2017 at MEE	The water resources information systems upgraded for two (02) ABHs' included in the Program Three (03) protocols for data sharing signed	Two (02) ABHs' included in the Program have operationalized a water resources information system	The SNIEAU operationalized, interconnected with relevant databases, and interoperable with ABHs water resources information systems		The SNIEAU is partially accessible to the public pursuant to the decree and used as a decision support tool for water resources evaluation, management and planning.

Indicator Name	DLI	Baseline	Intermediate Targets				End Target
			1	2	3	4	
		ABHs water information systems at different stages of development reporting data to the BADRE21 Water databases managed by other entities not interoperable with ABHs water information systems					Two (02) ABHs published annual hydrological status, including water uses and evolution of the water quality, in the SNIEAU.
Increase water availability in selected areas in Morocco							
Volume of potable water savings in distribution water supply networks (Volume m3) (Text)	DLI 7	6,500,000 m3 of potable water savings in distribution water supply networks in 2022 (compared to 2021) for Regies under the Program	5,250,000	4,000,000	4,000,000	3,250,000	3,500,000
Volume of treated wastewater made available for reuse under the Program (Volume m3) (Text)	DLI 8	0 m3 of treated wastewater made available for reuse under the Program	7,000,000	4,700,000	3,400,000	11,900,000	25,000,000

Intermediate Results Indicator by Results Areas

Indicator Name	DLI	Baseline	Intermediate Targets				End Target
			1	2	3	4	
RA1. Strengthened Water Sector Governance							
Participatory groundwater management improved (Text)	DLI 2	The Agreement between the MEE and MAPMDREF for managing selected aquifers signed	Decree on participatory groundwater management contracts adopted	Three (03) technical studies supporting participatory groundwater management contracts prepared	Three (03) participatory groundwater management contracts prepared and consulted		Three (03) participatory groundwater management contracts signed
Smart meters for monitoring groundwater withdrawals by large users installed under the Program (Text)		0 smart meters for monitoring of groundwater withdrawals for large users installed under the Program	10.00	10.00	10.00	10.00	10.00
ABH performance framework adopted and ABH performance improved (Text)	DLI 3	There is no ABH performance framework in place	The ABH performance framework adopted by the MEE in CY24	An annual action plan for performance improvement adopted by each of the six (06) ABHs' included in the Program	An annual action plan for performance improvement adopted by each of the six (06) ABHs' included in the Program The performance score for three (03) ABHs improved compared to prior year	An annual action plan for performance improvement adopted by each of the six (06) ABHs' included in the Program The performance score for three (03) ABHs improved compared to prior year	An annual action plan for performance improvement adopted by each of the six (06) ABHs' included in the Program The performance score for three (03) ABHs improved compared to prior year Publication by MEE in the SNIEAU of a report on ABH performance improvement, including comparative assesment and gender disaggregation as appropriate

Indicator Name	DLI	Baseline	Intermediate Targets				End Target
			1	2	3	4	
ABH gender performance score improved (Text)		Women are underrepresented in leadership roles and are not effectively targeted in communication campaigns in ABHs	The adopted ABH performance framework includes gender specific performance scoring	The adopted annual action plan for performance improvement for each of the six (06) ABHs' included in the Program includes gender specific actions	The adopted annual action plan for performance improvement for each of the six (06) ABHs' included in the Program includes gender specific actions Three (03) ABHs with improved gender performance scores	The adopted annual action plan for performance improvement for each of the six (06) ABHs' included in the Program includes gender specific actions Three (03) ABHs with improved gender performance scores	The adopted annual action plan for performance improvement for each of the six (06) ABHs' included in the Program includes gender specific actions Three (03) ABHs with improved gender performance scores
Decree on water information systems adopted (Text)		The Water Law 36-15 provided for the establishment of water information systems at national (SNIEAU) and ABH levels	The draft Decree establishing the SNIEAU and ABHs' water resources information systems prepared	The draft Decree establishing the SNIEAU and ABHs' water resources information systems agreed upon with relevant stakeholders			The Decree establishing the SNIEAU and ABHs' water resources information systems adopted
Users' feedback on water information systems and services (Text)		No users' feedback mechanism is available in prototype SNIEAU and ABHs water information systems	Users' satisfaction baseline is established once the water resources information systems in three (03) ABHs are operationalized	Users' satisfaction baseline is established once SNIEAU is operationalized			10 percent increase in users' satisfaction on water data and information services from the SNIEAU and from basin-level water information systems is achieved
Hydrological and hydrogeological data quality improved (Text)		Hydrological stations and piezometers are installed in ABHS under the Program and report data	Diagnostic of the hydrological and hydrogeological data measurement chain	An action plan, and guidelines/manuals to improve hydrological and hydrogeological	Quality and Control Assurance Plan for hydrological and hydrogeological data	Quality and Control Assurance Plan for hydrological and hydrogeological data	The Quality and Control Assurance Plan for hydrological and hydrogeological data

Indicator Name	DLI	Baseline	Intermediate Targets				End Target
			1	2	3	4	
			prepared	measurements prepared The water data management system developed	prepared Regulatory texts on standards for the hydrological and hydrogeological measurement chain prepared	adopted	operationalized in one (01) ABH
Number of stations and piezometers reporting data (Text)		Hydrological stations and piezometers are installed in ABHs under the Program and manually reporting data	Six (06) studies for stabilizing gauged sections prepared	12 new or existing stations reporting data automatically 30 new or existing piezometers reporting data automatically	12 new or existing stations reporting data automatically 30 new or existing piezometers reporting data automatically		12 new or existing stations reporting data automatically 30 new or existing piezometers reporting data automatically
Multiservice operators' performance information system operationalized (Text)	DLI 5	Absence of minimum service standards for electricity and water supply distribution and the wastewater collection and treatment by multiservice operators. Annual reporting of operational and financial performance by multiservice operators included under the Program to the MoI though certified management reports.	The MoI has adopted a Circular stipulating the minimum service standards for electricity and water supply distribution and for wastewater collection and treatment to be complied with by multiservice operators in charge of electricity and water supply distribution, and wastewater collection and treatment	The MoI has developed a digitalized performance information system, including (1) KPIs for operational and financial performance and reporting requirements by multiservice operators; and (2) tools for performance benchmarking	At least 50% of multiservice operators in the Program area provide annual performance reports through the digitalized performance information system	At least 75% of multiservice operators Program area provide annual performance reports through the digitalized performance information system	An annual report produced by the MoI on multiservice operators' performance, including comparative KPI benchmarking, available in the SNIEAU
RA2. Improved Financial Sustainability and Water Use Efficiency							

Indicator Name	DLI	Baseline	Intermediate Targets				End Target
			1	2	3	4	
Financial sustainability framework of the water sector improved (Text)	DLI 6	There is no financial model for the water sector, no financial sustainability action plan, and no sector specific financing strategies	The Technical Working Group established	A financial model for the water sector endorsed by the Technical Working Group	A financial sustainability action plan for the water sector endorsed by the Technical Working Group		The financial sustainability action plan for the water sector adopted by the Interministerial Commission for Water
Communication campaigns for the reduction of water consumption implemented (Text)		The PNAEPI communication strategy was adopted in 2021	The baseline evaluation on the effect of communication campaigns prepared	Two (02) communication campaigns implemented	Two (02) communication campaigns implemented	Two (02) communication campaigns implemented	The impact evaluation of communication campaigns completed
Number of District Metered Areas established in potable water distribution networks (Text)		400 District Metered Areas (DMAs) established as of end-2022 in the Regies under the Program	50.00	50.00	50.00	50.00	50.00
RA3. Enabled Integration of Non-Conventional Water Resources							
Enabling environment for integration of desalinated water improved (Text)		The Water Law 36-15 includes provisions for the development of regulations concerning seawater desalination	100 people trained on PPP contracts and their management	The draft decree on seawater desalination consulted with relevant stakeholders			The decree on seawater desalination adopted
Enabling environment for integration of wastewater reuse improved (Text)		The Decree No. 2-97-875 of 1998 on the modalities for wastewater reuse has not been updated based on the Water Law 36-15 of 2016 There is no regulation concerning the norms for wastewater reuse for irrigation purposes	100 people trained in wastewater re-use	The draft decree on wastewater reuse consulted with relevant stakeholders The draft bylaw defining the norms for wastewater reuse for irrigation purposes consulted with relevant			The draft decree on the modalities for wastewater reuse adopted The bylaw defining the norms for wastewater reuse for irrigation purposes adopted by the MEE

Indicator Name	DLI	Baseline	Intermediate Targets				End Target
			1	2	3	4	
				stakeholders			
Number of agreements for wastewater reuse projects signed (Text)		0 agreements for treated wastewater reuse projects signed by relevant stakeholders under the Program	3.00	3.00	3.00	3.00	3.00

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Monitoring & Evaluation Plan: PDO Indicators					
Indicator Name	**Definition/Description**	**Frequency**	**Datasource**	**Methodology for Data Collection**	**Responsibility for Data Collection**
National Water Plan (PNE) Adopted	This indicator will be led by MEE. This indicator monitors the preparation and adoption of the National Water Plan (PNE). The Water Law 36-15 provides for the adoption by Decree of the National Water Plan, which the MEE shall prepare in coordination with all the relevant stakeholders, including the MEF, MAPMDREF, MoI, ONEE, OCP, services providers (irrigation and potable water) -among others. The MEE prepared a draft PNE submitted for review by the Interministerial Commission for Water in December 2019. Given the increasing risk of water insecurity and the renewed vision for the country outlined in the New Development Model Report (April 2021), the	Semi-Annual	Semi-annual progress reports produced by the MEE	Semi-annual progress reports produced by the MEE detail information on progress made.	MEE

	existing draft PNE shall be reviewed and updated as needed. This indicator is achieved as follows: Year 2024: The MEE prepares a revised draft PNE. The revisions shall consider the recommendations included in the New Development Model Report. It shall reflect the increasing uncertainty derived from climate change; and the principles to strengthen the sector's governance, institutional, and financial aspects. The revised draft PNE shall be prepared using participative approaches, as provided by the Water Law, including contributions of the MEF, MEE, MoI, MA, OCP, service providers (irrigation and water supply and sanitation services), and others. The revised draft PNE shall				

	encompass the following: (a) A comprehensive diagnosis of the water sector (b) An assessment of the major sector challenges and threats -including the impacts of climate change- and potential scenarios of evolution of demand and supply under several climatic scenarios (c) The long-term vision, objectives, and strategic orientations of the water sector (d) The principles for water resources mobilization and their use, and the protection of water resources (surface and groundwater) (e) The principles to strengthen the sector's governance, institutional, and financial aspects (principles for water valuation) for water security. The water valuation and cost-recovery principles should be tailored to the Moroccan context in order				

	to inform an appropriate mix of policies and instruments for sustainable water management and include details on the priorities and levels of assurance for allocating different water sources among different sectors, the principles of cost recovery, and the elements to ensure full cost accounting across the water sector (including CAPEX, OPEX, and environmental and social externalities). (f) Mechanisms for monitoring and implementation, including obligations from the executing entities for regular reporting and the preparation of annual progress reports. Year 2025: After consultation with relevant stakeholders and incorporating their comments, the revised draft PNE has been endorsed by the				

	Interministerial Commission for Water Year 2025: After consultation with relevant stakeholders and incorporating their comments, the revised draft PNE has been endorsed by the Superior Council of Water and Climate. The revised draft PNE shall encompass the elements listed above. Year 2026: The revised draft PNE has been adopted by Decree and published. The published PNE shall encompass the elements listed above.				
Water information systems operationalized	This indicator will be led by the MEE. The water information systems under this indicator are for the ABHs included in the Program (Loukkos, Sebou, Bouregreg-Chaouia, Oum Er Rbia, Tensift, and Souss Massa). This indicator monitors progress to establish and	Annual	MEE ABHs concerned	MEE collects progress reports and accompanying documentation from the ABHs included in the Program and prepares consolidated progress reports on operationalization of water information systems and their use for water resources	MEE

	operationalize the SNIEAU and the water information systems in two (02) ABHs included in the Program. This indicator is achieved as follows: Year 2025: Two (02) ABHs included in the Program have developed or upgraded their water information system for measurement and management of water quantity and quality. AND Three (03) protocols for data sharing are signed between the MEE and at least one entity at central level; or between an ABH included in the Program and at least one subnational level entity within the domain area of the ABH concerned. The protocols for data sharing shall, at a minimum, include: the type, accessibility (free/for pay,			evaluation, planning and management.	

	public/non-public), frequency, and format of the data, as well as data sharing tools. Further specifications will be detailed in the MOP. Year 2026: The water information systems in two (02) ABHs included in the Program area are operationalized and meet the following minimum criteria: (a) The systems are developed or upgraded in conformance with regulations in force (b) The systems include data supplied by the concerned ABH and relevant sub-national level entities within the domain area of the ABH concerned (c) A minimum of four (04) sub-national level entities within the area of the ABH concerned are provided with access/user account and provide feedback on the use of the system (d) The concerned ABH conducts and reports every				

	two months functionality tests, confirming data is updated and shared and incorporates feedback from users through the established feedback mechanism Year 2027: The SNIEAU is operationalized, interconnected with relevant databases, and interoperable with ABHs water resources information systems and meet the following minimum criteria: (a) The SNIEAU is developed or upgraded in conformance with regulations in force (b) The SNIEAU includes data supplied by MEE and from at least two (02) ABHs included in the Program (c) The SNIEAU includes a Geographic Information System (GIS) for water resources data, which include -at a minimum- tools to search, access, visualize, and download water data, and generate				

	maps, charts, and reports (d) A minimum of four (04) stakeholders are provided with access/user account and provide feedback on the use of the system (e) The MEE conducts and reports monthly functionality tests, confirming data is updated and shared and incorporates feedback from users through the established feedback mechanism. Year 2028: The SNIEAU is partially accessible to the public and used as a decision support tool for water resources evaluation, planning and management and meets - at a minimum - the following criteria: (a) The SNIEAU is partially accessible to the public via a website portal, including web apps or other means of access (b) Decision support tools linked to the SNIEAU consist of the user-data-				

	model interface corresponding to the specific decision-objective to be informed, including evaluation scenarios or reference indicators or thresholds for triggering decisions, and information is generated and disseminated to decision-makers and users (e.g reports, bulletins, short message services, etc.) AND Two (02) ABHs have published the annual hydrological status in the SNIEAU, including water uses and the evolution of water quality, and meet - at a minimum - the following criteria: (a) Annual status includes surface water, groundwater, desalinated and reuse water and water use (b) Annual status reported at the river-basin scale and aggregated at the level of the concerned ABH				

	(c) Annual status is available online, and reports include methodology and descriptions as applicable.				
Volume of potable water savings in distribution water supply networks (Volume m3)	This indicator will be closely coordinated by the MoI-DRPL and implemented by the Regies included in the Program (RADEEF, RADEEJ, RADEEL, RADEEMA, RADEES, RADEET, RAK, RAMSA, RADEETA, RADEM and RADEEC). This indicator measures the annual volume of potable water savings in distribution water supply networks achieved by Régies included in the Program due to the loss reduction programs implemented each year. "Water savings" are defined as the volume of water (m3) that the operator is not buying or producing in a given year due to the efforts implemented to improve	Annual	MoI Annual Report based on Régies operational reports	Régies prepare operational reports on water loss reduction activities including the volume of water savings MoI prepares annual report which consolidates the volume of water savings from the Régies included in the Program	Régies and MoI-DRPL

	the efficiency of the network, such as leakage detection, localization and reparation works performed on distribution networks, sectorization of the network, etc. The volume of water savings are calculated in cubic metres as per the following formula: [[Efficiency of the network in year N+1] – [Efficiency of the network in year N]] X [volume of water sold in year N+1]. The efficiency of the network in year N is calculated as follows: [Volume of water sold in year N] / [Volume of water produced and bought in year N] This result is scalable up to 10 percent of 20,000,000 m3 of potable water savings in distribution water supply networks achieved by Régies included in the Program				

	during the Program implementation.				
Volume of treated wastewater made available for reuse under the Program (Volume m3)	This indicator will be coordinated by the MoI-DRPL and implemented within the Program area. This indicator monitors the volume of treated wastewater in cubic meters made available for reuse as established in the signed treated wastewater reuse agreements to be executed within the Program area. For the treated wastewater to be made available for reuse, the works defined in the concerned signed treated wastewater reuse agreements shall be completed, including the expansion of the wastewater treatment plant capacity for the required level of treatment for reuse purposes, the distribution network, and associated infrastructure (pumping stations, storage tanks, electric line, and others).	Annually	Implementation progress reports prepared by (a) the monitoring committee established in the reuse agreement, and (b) the construction companies selected for the reuse agreement associated works.	The monitoring committee established in the reuse agreement prepares semi-annual performance reports, which include data on the quantity and quality of treated wastewater made available for reuse.	MoI

	The treated wastewater shall comply with the regulations in force concerning wastewater reuse for productive purposes (green spaces, golf courses, agriculture, industry, commercial, aquifer recharge, and others). This result is scalable up to 10 percent of 52,000,000 m3 of treated wastewater in cubic meters made available for reuse within the Program areas during the Program implementation.				

Monitoring & Evaluation Plan: Intermediate Results Indicators					
Indicator Name	**Definition/Description**	**Frequency**	**Datasource**	**Methodology for Data Collection**	**Responsibility for Data Collection**
Participatory groundwater management improved	This indicator monitors progress in improving groundwater management for selected aquifers under the Program (Berrechid, Mamoura, and Bahira), which are under the geographic jurisdiction of ABHs included in the Program (Loukkos, Sebou, Bouregreg-Chaouia, Oum Er Rbia, Tensift, and Souss Massa). This indicator is achieved as follows: 2024: A Memorandum of Understanding (MoU) is signed between the MEE and MAPMDREF, outlining the roles and responsibilities for collaborative groundwater management for the three aquifers under the Program. The MEE will lead the process of preparation of the MoU.	Annual	MEE and MoA ABHs and ORMVA	MEE prepares annual progress reports	MEE

	2025: The Decree on participatory groundwater management contracts is adopted according to current regulations. The MEE will lead the process of preparation of the Decree. The Decree shall contain, at a minimum, the following: (a) The process for preparing and adopting the participatory groundwater management contract, including engagement of relevant stakeholders and communities (including women representatives) (c) The minimum studies required for the establishment of the participatory groundwater management contract, including technical, economic/financial analysis, and impact analysis (c) The minimum content of the participatory groundwater management contract, including at least the following:				

	- Delimitation of the public domain that is subject to the participatory groundwater management contract - Monitoring mechanisms of the previsions set for in the participatory groundwater management contract - Compliance and enforce mechanisms 2026: Three (3) technical studies supporting participatory groundwater management contracts for the three (03) aquifers included in the Program are completed by the concerned ABHs. The studies shall include – at a minimum- a model of the aquifer and the identification of alternative sources of water that could be made available to existing users of the aquifer (as relevant) 2027: For the three (3) aquifers included in the Program and for which the				

	studies had been completed in prior years, three (3) participatory groundwater management contracts are prepared and consulted with stakeholders according to the regulations in force. 2028: For the three (3) aquifers included in the Program, three (3) participatory groundwater management contracts are signed according to the regulations in force.				
Smart meters for monitoring groundwater withdrawals by large users installed under the Program	This indicator will be implemented by the ABHs included in the Program (Loukkos, Sebou, Bouregreg-Chaouia, Oum Er Rbia, Tensift and Souss Massa), with support from the MEE. This indicator monitors the progress in the installation of smart meters for the monitoring of groundwater withdrawals. The targets indicated in the results framework are the indicative results to be	Annual	Annual progress reports produced by the ABHs included in the Program for which smart meter for monitoring groundwater withdrawal have been installed and reporting	MEE produced a consolidated Annual report based on the information received from the ABHs included in the Program for which smart meter for monitoring groundwater withdrawal have been installed and reporting	MEE

	achieved each year (no cumulative). This result is scalable up to 10 percent of 50 of smart meters for monitoring groundwater withdrawals by large users installed in Program areas during the Program implementation.				
ABH performance framework adopted and ABH performance improved	This indicator will be implemented by the MEE and the ABHs included in the Program (Loukkos, Sebou, Bouregreg-Chaouia, Oum Er Rbia, Tensift and Souss Massa). This indicator monitors progress in adopting and operationalizing an ABHs performance framework. The performance framework includes a set of indicators and a methodology for assessing the level of maturity of ABHs. It encompasses the measurement of key ABH functions. The indicator also monitors progress in adopting and implementing annual action plans to	Annual	ABHs and MEE	MEE collects Resolutions of the ABHs Board of Director and ABH's annual action plans, and prepares consolidated reports each year related to the adoption and operationalization of ABH performance framework	MEE

	strengthen ABH performance. This indicator is achieved as follows: Year 2024: The ABH performance framework is developed with a participatory approach under the leadership of the MEE and is adopted by the MEE. In addition, each of the six (06) ABH included in the Program undertake a self-assessment based on the adopted ABH performance framework. Year 2025: Based on the self-assessment undertaken in year 2024, the Board of Directors of each ABH included in the Program adopts, by Resolution, an annual action plan to strengthen its performance. The annual action plan shall include - at a minimum- defined objectives and priority areas, costed actions, identified sources				

	of financing, monitoring indicators, and an implementation timeline. Year 2026: Based on the self-assessment undertaken in year 2025, the Board of Directors of each ABH included in the Program adopts, by Resolution, an annual action plan to strengthen its performance. The annual action plan shall include - at a minimum- defined objectives and priority areas, costed actions, identified sources of financing, monitoring indicators, and an implementation timeline. AND Three (03) of the six (06) concerned ABHs have improved their performance score relative to the score in year 2025, as indicated by Resolution of the respective Board of Directors. This result is scalable up to six (06) ABHs				

	included in the Program. Year 2027: Based on the self-assessment undertaken in year 2026, the Board of Directors of each ABH included in the Program adopts by Resolution an annual action plan to strengthen its performance. The annual action plan shall include - at a minimum- defined objectives and priority areas, costed actions, identified sources of financing, monitoring indicators, and an implementation timeline. AND Three (03) of the six (06) concerned ABHs have improved their performance score relative to the score in year 2026, as indicated by Resolution of the respective Board of Directors. This result is scalable up to six (06) ABHs included in the Program.				

	Year 2028: Based on the self-assessment undertaken in year 2027, the Board of Directors of each ABH included in the Program adopts by Resolution an annual action plan to strengthen its performance. The annual action plan shall include - at a minimum- defined objectives and priority areas, costed actions, identified sources of financing, monitoring indicators and an implementation timeline. AND Three (03) of the six (06) concerned ABHs have improved their performance score relative to the score in year 2027, as indicated by Resolution of the respective Board of Directors. This result is scalable up to six (06) ABHs included in the Program. AND				

	The MEE has published in the SNIEAU a report on the ABH performance framework and scores over 2024-2027, including a comparative assessment of ABHs performance (disaggregated by gender as relevant)				
ABH gender performance score improved	This sub-indicator monitors improvements in the ABH performance score for ABHs included in the Program (Loukkos, Sebou, Bouregreg-Chaouia, Oum Er Rbia, Tensift, and Souss Massa). The gender performance composite score is part of the ABH performance framework to be developed and implemented under the Program, and it is calculated for each ABH under the Program. The ABH gender performance composite score measures: (a) The percentage of women in leadership position in the ABH in a given year	Annual	ABHs and MEE	MEE collects progress reports and accompanying documentation from the ABHs included in the Program and prepares annual reports on progress towards indicator targets	MEE

	(b) The percentage of women staff in the ABH trained in a given year (c) The percentage of women benefiting from water awareness campaigns implemented by ABHs included in the Program. This indicator is achieved as follows: Year 2024: The ABH performance framework is developed with a participatory approach under the leadership of the MEE and is adopted by the Circular of the MEE and includes a gender performance composite score. Year 2025: Based on the self-assessment undertaken in year 2024, the Board of Directors of each ABH included in the Program adopts by Resolution an annual action plan to strengthen its performance, which				

	includes gender specific objectives based on the gender performance composite score of 2024, costed actions, identified sources of financing, monitoring of implementation progress metrics and an implementation timeline. Year 2026: Three (03) of the six (06) concerned ABHs have improved their gender performance composite score relative to the score in year 2025 (expressed in percentage changes), as indicated by Resolution of the respective Board of Directors. Year 2027: Three (03) of the six (06) concerned ABHs have improved their gender performance composite score relative to the score in year 2026 (expressed in percentage changes), as indicated by Resolution of the respective Board of				

	Directors. Year 2028: Three (03) of the six (06) concerned ABHs have improved their gender performance composite score relative to the score in year 2027 (expressed in percentage changes), as indicated by Resolution of the respective Board of Directors.				
Decree on water information systems adopted	This indicator will be implemented by the MEE. This indicator monitors progress made on the preparation and adoption of the Decree for establishing the National Water Information System (System National d'Information sur l'Eau, SNIEAU) and ABH water resources information systems, as defined by articles 129 and 130 of the Water Law 36-15 or relevant regulations in force. This indicator is achieved	Annual	MEE	MEE prepares an annual report containing information of progress made towards the results included in the indicator	MEE

	as follows: Year 2024: The draft Decree for establishing the SNIEAU and ABH water resources information systems is prepared by the MEE and ready to be consulted with the concerned technical entities. Year 2025: The draft Decree for establishing the SNIEAU and ABH water resources information systems is consulted according to the regulations in force. Year 2026: The Decree for establishing the SNIEAU and ABH water resources information systems is adopted and published in the Official Gazette according to the regulations in force.				
Users' feedback on water information systems and services	This indicator monitors users' satisfaction on water data and information services operationalized under the Program. The	Annual	MEE ABHs concerned	MEE collects progress reports and accompanying documentation from the ABHs included in the	MEE

	indicator is defined as the percentage of users satisfied with water data and information services, including timeliness, accessibility, and use of information products and on the navigation of the data-user-interface platform. Users' satisfaction will be monitored monthly through the established feedback mechanism within these systems. Year 2026: Users' satisfaction baseline is established once the water resources information systems in three (3) ABHs are operationalized Year 2027: Users' satisfaction baseline is established once SNIEAU is operationalized Year 2028: 10 percent increase in users' satisfaction on water data and information services from the SNIEAU and from			Program, and prepares consolidated progress reports including on users' satisfaction of water data and information services	

	basin-level water information systems is achieved				
Hydrological and hydrogeological data quality improved	This indicator will be led by the MEE and implemented by the ABHs included in the Program (Loukkos, Sebou, Bouregreg-Chaouia, Oum Er Rbia, Tensift, and Souss Massa). This indicator monitors improvements in data quality assurance, related to the completeness, timeliness, and consistency of hydrological and hydrogeological data across the data measurement chain. This indicator is achieved as follows: Year 2024: A diagnostic of the hydrological and hydrogeological data measurement chain is prepared by the MEE. The diagnostic shall include, at a minimum, a needs assessment to improve hydrological and	Semi-Annual	MEE and ABHs concerned	MEE collects progress reports and accompanying documentation from the ABHs included in the Program, and prepares semi-annual reports on the improvement of hydrological and hydrogeological data quality.	MEE and ABHs concerned

	hydrogeological data generation, including investments and capacity-building requirements. The data measurement chain encompasses: (a) Data acquisition (measurement, gauging, data collection) (b) Data transmission and storage (processing, treatment, analysis, control, validation, and storage) (c) All other related data organizational and regulatory aspects Year 2025: The action plan and guidelines/manuals to improve hydrogeological and hydrogeological measurements are prepared by MEE. The action plan shall detail, at a minimum, the priority actions and associated investments, including those for capacity building and regulatory aspects. The guidelines/manuals shall detail, at a minimum, the				

	standards and procedures for data measurement. AND The water data management system is developed. The water data management system shall contain, at a minimum, the necessary functionalities and modules for data acquisition, processing, and storage based on the diagnostic and action plan produced in prior years. Also, it shall be functional in MEE and in at least three (03) of the six (06) ABHs concerned by the Program. Year 2026: A quality and control assurance plan for hydrological data is prepared by the MEE. AND The regulatory texts on standards for the hydrological and hydrogeological data measurement chain are				

	prepared by the MEE. The regulatory texts shall be in accordance with the manuals/guidelines prepared in year 2025 related to article 129 of the Water Law 36-15, specifically to the "carrying out of measurements, observations, inquiries and investigations", and include a Decree and number of orders/general circular concerted with the relevant agencies and procedures as defined in the POM, and issued to the relevant agency for approval. Year 2027: The quality and control assurance plan for hydrological data is adopted by the MEE. Also, workshops for capacity building on all aspects of improving the quality of hydrological and hydrogeological data measurement are carried-on in at least one (01) ABH under the Program.				

	Year 2028: The quality and control assurance plan for hydrological data is implemented in at least one (01) ABH included in the Program. In addition, hydrological or hydrogeological data produced by an ABH has been certified, hydrological and hydrogeological data are measured, collected, transmitted, and stored in accordance with guidelines/manuals and procedures prepared for quality assurance and quality control.				
Number of stations and piezometers reporting data	This indicator will be led by the MEE and implemented by the ABHs included in the Program (Loukkos, Sebou, Bouregreg-Chaouia, Oum Er Rbia, Tensift, and Souss Massa). This indicator monitors progress towards the number of new or existing stations and the number of new or existing piezometers in the ABHs included in the Program	Semi-Annual	MEE and ABHs concerned	MEE collects progress reports and acompanying documentation from the ABHs included in the Program, and prepares semi-annual reports on the improvement of hydrological and hydrogeological data quality.	MEE and ABHs concerned

	that are reporting data to the ABH and MEE. A “new station” is defined as a station constructed and equipped under the Program, and includes hydrological, climatological, or pluviometric stations. An “existing station” is defined as a station that is modernized, maintained, or calibrated under the Program. It can also include a gauged section that has been stabilized under the Program. A “new piezometer” is defined as a piezometer that is constructed and equipped under the Program. An “existing piezometer” is defined as a piezometer that is maintained or equipped under the Program. This indicator is achieved as follows:				

	Year 2025: Six (06) studies for the stabilization of gauge sections are prepared by ABHs included in the Program. The studies for the stabilization of gauged sections shall include, at a minimum, the minor civil works design and topographic evaluation or technical specifications for the stream cross sections of the gauged stations to be stabilized. Year 2026: 12 new or existing stations in the ABHs included in the Program are producing and communicating relevant data for water resources evaluation to the ABH and MEE. AND 30 new or existing piezometers in the ABHs included in the Program are producing and communicating relevant data for water resources				

	evaluation to the ABH and MEE. Year 2027: 12 new or existing stations in the ABHs included in the Program are producing and communicating relevant data for water resources evaluation to the ABH and MEE. For the purposes of this result, the stations that were already reported as a result in year 2026 are not considered. AND 30 new or existing piezometers in the ABHs included in the Program are producing and communicating relevant data for water resources evaluation to the ABH and MEE. For the purposes of this result, the piezometers that were already reported as a result in year 2026 are not considered. Year 2028: 12 new or existing stations in the				

	ABHs included in the Program are producing and communicating relevant data for water resources evaluation to the ABH and MEE. For the purposes of this result, the stations that were already reported as a result in years 2026 and 2027 are not considered. AND 30 new or existing piezometers in the ABHs included in the Program are producing and communicating relevant data for water resources evaluation to the ABH and MEE. For the purposes of this result, the piezometers that were already reported as a result in years 2026 and 2027 are not considered.				
Multiservice operators' performance information system operationalized	This indicator will be led by MoI. This indicator monitors progress to establish the foundations of the regulatory systems for the	Annual	Annual progress reports produced by the MoI	Annual progress reports produced by the MoI detail information on progress made	MoI

	SRMs, including: (a) KPI reporting requirements for multiservice operators feeding into an MoI digitalized performance information system; and, (b) the definition of minimum service standards for electricity and water supply distribution and wastewater collection and treatment. This indicator is achieved as follows: 2024: The MoI has adopted by Circular the minimum service standards for electricity and water supply distribution and wastewater collection and treatment to be complied with by multiservice operators in charge of electricity and water supply distribution and wastewater collection and treatment. 2025: The MoI has developed a digitalized performance information				

	system, including (a) KPIs on the operational and financial performance and reporting requirements by multiservice operators; and (b) tools for performance benchmarking. 2026: At least 50% of the multiservice operators in the Program area provide annual performance reports through the digitalized performance information system. The result is not scalable. 2027: At least 75% of the multiservice operators in the Program area provide annual performance reports through the digitalized performance information system. The result is not scalable. 2028: An annual report produced by the MoI on multiservice operators' performance, including comparative KPI benchmarking, is available in the SNIEAU.				

Financial sustainability framework of the water sector improved	This indicator monitors the development and operationalization of tools to strengthen the financial sustainability of the water sector (financial model and a financial sustainability action plan). These tools will facilitate GoM decision-making to bridge the gap between cost and revenues along the water value chain (including water mobilization through wastewater treatment and reuse), particularly considering the significant transformation of the water matrix envisaged under the PNAEPI. This indicator is achieved as follows: Year 2024: A Technical Working Group led by MEF comprised of key stakeholders in the water sector is established and maintained for the duration of the Program. This result is achieved by adopting the Terms of	Semi-Annual	Semi-annual progress reports produced by the Technical Working Group	Semi-annual progress reports produced by the Technical Working Group provide detailed information on progress made	MEF

	Reference of the Technical Working Group, which define the scope of works of the Technical Working Group, its members (including, at a minimum, representatives of the MEF, MEE, MAPMDREF, MoI, and ONEE), the roles and responsibilities of the different members, the regularity of meetings (-at a minimum three times per year), the mechanisms for coordinating and adopting decisions, and reporting requirements. Year 2025: The financial model for the water sector is endorsed by the Technical Working Group, under the MEF leadership. The financial model shall capture the costs and revenues associated with the key elements of the water value chain, according to the principles of water valuation included in the draft PNE, and provide forecasts of their				

	evolution. The financial model shall encompass water mobilization, water resource management at national and local levels, service delivery (potable water production and distribution, wastewater collection and treatment, and irrigation services), wastewater reuse, and flood control. The financial model shall capture CAPEX and OPEX and the different revenues, including national transfers and local contributions, taxes, and users' contributions (tariffs and fees)-. Year 2026: Based on the financial model developed in 2025, the Technical Working Group endorses a draft financial sustainability action plan for the water sector. It will be based on the historical evolution of the costs associated with water and will forecast costs and revenues for the long term; evaluate financing and funding				

	requirements for the water sector; benchmark reference values against international comparators; consider options for minimizing the financing costs and maximizing the private sector contributions; and, include equity and social considerations. Year 2028: The financial sustainability action plan for the water sector is adopted by the Interministerial Commission of Water.				
Communication campaigns for the reduction of water consumption implemented	This indicator will be implemented by MEE and the ABHs included in the Program (Loukkos, Sebou, Bouregreg-Chaouia, Oum Er Rbia, Tensift, and Souss Massa). This indicator monitors progress in implementing of the PNAEPI's communication strategy and its impacts on water consumption-related behaviors.	Annual	Annual communication plans and implementation reports	MEE to prepare annual communication campaigns implementation report. The report includes a description of the communication campaigns carried out by the MEE and pertinent ABHs.	MEE and ABHs

	This indicator is achieved as follows: Year 2024: A baseline for evaluating the impact of the communication campaigns implemented prior 2024 is developed by the MEE. The report will (at a minimum): (a) Evaluate the planned communication campaign actions, suitability of messages and approaches, target audience (disaggregated by gender), and water users. (b) Analyze the results of focus group discussions or telephone surveys with the targeted audience (awareness of the issues, perception of the campaign, motivation for action, barriers to action, etc.). It will include also specific focus group discussion with women. (c) Provide recommendations to improve the annual communication campaigns				

	of the involved entities, including targeting of messages to women. Year 2025 to 2027: Each year, two (02) communication campaigns are implemented by the MEE or ABHs included in the Program. The communication campaigns refer to those aiming at incentivizing behavior change for water conservation among different user segments, including women. The communication campaign plans are prepared every year and consider best practices and social science approaches for developing effective messages and messaging tools. Year 2028: An impact evaluation of the communication campaigns undertaken between 2025 and 2027 years is prepared by MEE aiming at informing future communication plans, including for				

	targeting women. The evaluation shall encompass the same scope as the baseline evaluation conducted in 2024.				
Number of District Metered Areas established in potable water distribution networks	This indicator will be coordinated by the MI-DRPL and implemented by the Regies included in the Program (RADEEF, RADEEJ, RADEEL, RADEEMA, RADEES, RADEET, RAK, RAMSA, RADEETA, RADEM and RADEEC) This indicator measures the number of established District Metered Areas (DMAs) in distribution networks operated by the Régies included in the Program. A "District Metered Area (DMA)" is defined as a hydraulically isolated area within the larger water distribution network where all inflows and outflows are monitored, and therefore a reliable water balance is known. The targets indicated in the results framework are the	Annual	Régies operational reports	Régies prepare operational reports on activities to establish new DMAs. MoI prepares annual report consolidating data from the Régies included in the Program.	MoI

	indicative results to be achieved each year (no cumulative). For a DMA to be established, the following elements need to be in place: (a) The DMA's delimitation and size have been defined through an optimization study (b) The DMA is hydraulically isolated (c) Gate valves, flow meters and debit meters are installed at key points of the DMA (d) A GIS and a supervision system is in place for remote monitoring				
Enabling environment for integration of desalinated water improved	This indicator will be implemented by the MEE. This indicator monitors progress in improving the enabling environment for seawater desalination. This indicator is achieved as follows: Year 2024: 100 people	Annual	MEE	The PCU prepares a report on the preparation/adoption of the Decree and the number of people trained, as relevant	MEE

	trained on PPP contracts and their management, of which at least 50 women. Year 2025: The draft Decree on seawater desalination is consulted with relevant stakeholders according to the regulations in force Year 2026: The Decree on seawater desalination is adopted according to the regulations in force.				
Enabling environment for integration of wastewater reuse improved	This indicator will be implemented by the MEE. This indicator monitors progress in improving the enabling environment for wastewater reuse. This indicator is achieved once: Year 2024: 100 people have been trained in wastewater reuse management, of which at least 50 are women. Year 2025: The existing Decree No. [TBD] of 1998 on the modalities for	Annual	MEE	The PCU prepares a report on the preparation/adoption of the Decree and the number of people trained (disaggregated by gender), as relevant	MEE

	wastewater reuse is revised to ensure conformity with the provisions of the Water Law 36-15 or any other relevant law, and a revised draft Decree on the modalities for wastewater reuse is consulted with relevant stakeholders according to the regulations in force. AND The draft bylaw defining the norms for wastewater reuse for irrigation purposes is consulted with relevant stakeholders according to the regulations in force. Year 2026: The draft decree on the modalities for wastewater reuse is adopted according to the regulations in force. AND The bylaw defining the norms for wastewater				

	reuse for irrigation purposes is adopted by the MEE according to the regulations in force.				
Number of agreements for wastewater reuse projects signed	This indicator will be coordinated by the MoI-DRPL. This indicator monitors progress in the signature of agreements for reusing treated wastewater within the Program Area. The agreements shall include, at a minimum, the following: (a) The year of signature (b) The roles and responsibility of each signatory entity, including the financial obligation towards the investments considered in the reuse agreement, and operation and maintenance arrangements (including water quality monitoring) (c) The financing plan, including total investments needed; the expected cost (CAPEX and OPEX), and the reuse fee (per m3)	Annually	Signed wastewater reuse agreement	MoI to collect the signed reuse agreements and prepares annual progress reports	MoI

	(d) The implementation schedule (e) The quantity of treated wastewater to be made available for reuse, which shall be in conformity with the regulations in place (f) The monitoring and evaluation arrangement, including the establishment of a monitoring committee in charge of monitoring construction progress. The signatories of the agreement include (among others): (a) the MoI; (b) the MEE; (c) the concerned Province and/or region; (d) the concerned ABH; (e) the concerned communes; (f) the relevant final treated wastewater user; (g) the operator of the reuse project (which can include Régies, ONEE, delegated private operators or the commune itself); (h) the entity in charge of the implementation of the reuse project (if different from the wastewater treatment plan operator).				

ANNEX 2. DISBURSEMENT LINKED INDICATORS, DISBURSEMENT ARRANGEMENTS AND VERIFICATION PROTOCOLS

Disbursement Linked Indicators Matrix

DLI 1	National Water Plan Adopted (PNE)			
Type of DLI	**Scalability**	**Unit of Measure**	**Total Allocated Amount (USD)**	**As % of Total Financing Amount**
Output	No	Text	53,000,000.00	15.14
Period	**Value**		**Allocated Amount (USD)**	**Formula**
Baseline	A draft National Water Plan (PNE) dated December 2019 prepared			
2024	DLR#1.1: A national water plan incorporating, inter alia, climate scenarios and considerations and the principles to strengthen the governance, institutional, and financial aspects of the sector as further defined in the Verification Protocol ("National Water Plan") has been prepared by the MEE.		20,000,000.00	20,000,000
2025	DLR#1.2: The draft National Water Plan has been validated by the Interministerial Commission for Water		23,000,000.00	23,000,000
2026	DLR#1.3: The draft National Water Plan has been validated by the Superior Council of Water and Climate		5,000,000.00	5,000,000
2027	DLR#1.4: The National Water Plan has been		5,000,000.00	5,000,000

	approved by Decree and published.		
2028	N/A	0.00	N/A

DLI 2	Groundwater Management Improved			
Type of DLI	**Scalability**	**Unit of Measure**	**Total Allocated Amount (USD)**	**As % of Total Financing Amount**
Intermediate Outcome	No	Text	36,000,000.00	10.29
Period	**Value**		**Allocated Amount (USD)**	**Formula**
Baseline	N/A			
2024	DLR#2.1: The agreement between MEE and MAPMDREF for managing of Selected Aquifers has been signed.		2,000,000.00	2,000,000
2025	DLR#2.2: The Decree on participatory groundwater management contract has been adopted and published.		5,000,000.00	5,000,000
2026	DLR#2.3: Three (3) technical studies supporting participatory groundwater management contracts for three (3) Selected Aquifers have been completed by the respective ABHs.		12,000,000.00	4,000,000 per technical study completed supporting groundwater management contracts for the aquifers included in the Program
2027	DLR#2.4: Three (3) participatory groundwater management contracts for three (3) Selected Aquifers have been signed by the relevant stakeholders.		12,000,000.00	4,000,000 per participatory groundwater management contract signed for the aquifers included in the Program
2028	DLR#2.5: 50 smart meters for monitoring groundwater withdrawals of large consumers have been installed in the Program Area		5,000,000.00	100,000 per every smart meter for monitoring of groundwater withdrawals of large consumers installed in the Program Area

DLI 3	ABH performance framework adopted and ABH performance improved			
Type of DLI	**Scalability**	**Unit of Measure**	**Total Allocated Amount (USD)**	**As % of Total Financing Amount**
Intermediate Outcome	No	Text	34,000,000.00	9.71
Period	**Value**		**Allocated Amount (USD)**	**Formula**
Baseline	There is no ABH performance framework in place			
2024	DLR#3.1: The ABH performance framework has been adopted by the MEE in CY24.		2,000,000.00	2,000,000.00
2025	DLR#3.2: An annual action plan for performance improvement has been adopted by each of the six (6) ABHs in the Program Area, in CY2025.		3,000,000.00	500,000 per each action plan adopted by each of the six (06) ABHs' included in the Program in CY2025
2026	DLR#3.3: An annual action plan for performance improvement has been adopted by each of the six (6) ABHs' in the Program Area, in CY2026. AND DLR#3.4: Three (3) ABHs in the Program Area have improved their performance score compared to CY2025.		9,000,000.00	500,000 per action plan adopted by each ABH included in the Program in CY2026 + 2,000,000 per ABHs with improved score versus CY2025
2027	DLR#3.5: An annual action plan for performance improvement has been adopted by each of the six (6) ABHs' in the Program Area, in CY2027. AND DLR#3.6: Three (3) ABHs in the Program Area have improved their performance score compared to CY2026.		9,000,000.00	500,000 per action plan adopted by each ABH included in the Program in CY2027+ 2,000,000 per ABHs with improved score versus CY2026
2028	DLR#3.7: An annual action plan for performance improvement has been adopted by each of the six (6) ABHs' in the Program Area, in CY2028. AND DLR#3.8: Three (3) ABHs in the Program Area		11,000,000.00	500,000 per AP adopted by ABH in CY2028+ 2,000,000 per ABHs with improved score versus CY2027 +

	have improved their performance score compared to CY 2027. AND DLR#3.9: The MEE has published in the SNIEAU a report on the ABHs' performance improvement, including comparative assessment.		2,000,000 for DLR3.9

DLI 4	Water Information Systems operationalized and used for decision-making			
Type of DLI	**Scalability**	**Unit of Measure**	**Total Allocated Amount (USD)**	**As % of Total Financing Amount**
Outcome	No	Text	43,600,000.00	12.46
Period	**Value**		**Allocated Amount (USD)**	**Formula**
Baseline	BADRE21 is the water resources information system in place, comprising key data on water resources at ABH and MEE A prototype SNIEAU platform developed in 2017at MEE ABHs water information systems at different stages of development reporting data to the BADRE21 Water databases managed by other entities not interoperable with ABHs water information systems			
2024	N/A		0.00	N/A
2025	N/A		0.00	N/A
2026	DLR#4.1: The Decree establishing the SNIEAU and ABHs' water resources information systems has been published. AND DLR#4.2: Two (02) ABHs have operationalized a water resources information system.		16,000,000.00	DLR#4.1: 7,000,000 DLR#4.2: [4,500,000] per each ABHs water resources information system operationalized
2027	N/A		0.00	N/A

2028	DLR#4.3: The SNIEAU is developed and partially accessible to the public pursuant to the decree referred to in DLR#4.1, and used as a decision tool for water resources evaluation, management and planning. DLR#4.4. Two (2) ABHs have published the annual hydrological status, including water uses and the evolution of the water quality within the jurisdiction of the ABH in the SNIEAU.	27,600,000.00	DLR#4.3: 15,000,000 DLR#4.4: [6,3000,000] per each annual hydrological status, including water uses and the evolution of the water q

DLI 5	Multiservice operators' performance information system operationalized			
Type of DLI	**Scalability**	**Unit of Measure**	**Total Allocated Amount (USD)**	**As % of Total Financing Amount**
Intermediate Outcome	No	Text	45,400,000.00	12.97
Period	**Value**		**Allocated Amount (USD)**	**Formula**
Baseline	Absence of minimum service standards for electricity and water supply distribution and the wastewater collection and treatment by sub-national publicly owned operators Annual reporting of operational and financial performance by regies included under the Program to the MoI though certified management reports			
2024	DLR#5.1: The MoI has adopted by Circular the minimum service standards for electricity and water supply distribution and the wastewater collection and treatment to be complied with by multiservice operators in charge of electricity and water supply distribution and the wastewater collection and treatment in the Program Area.		12,000,000.00	12,000,000

2025	DLR#5.2: The MoI has developed a digitalized performance information system, including: (a) KPIs operational and financial performance reporting requirements by multiservice operators; and (b) tools for performance benchmarking.	12,000,000.00	12,000,000
2026	DLR#5.3: At least 50% of the multiservice operators in the Program Area have provided an annual performance report through the digitalized performance information system.	8,000,000.00	8,000,000
2027	DLR#5.4: At least 75% of the multiservice operators in the Program Area have provided an annual performance report through the digitalized performance information system.	9,000,000.00	9,000,000
2028	DLR#5.5: An annual report produced by the MoI on multiservice operators, including comparative KPIs benchmarking, is available in the SNIEAU	4,400,000.00	4,400,000

DLI 6	Financial sustainability framework of the water sector improved			
Type of DLI	**Scalability**	**Unit of Measure**	**Total Allocated Amount (USD)**	**As % of Total Financing Amount**
Intermediate Outcome	No	Text	41,000,000.00	11.71
Period	**Value**		**Allocated Amount (USD)**	**Formula**
Baseline	There is no financial model for the water sector and no financial sustainability action plan.			
2024	DLR#6.1: The Technical Working Group has been established		2,000,000.00	2,000,000

2025	DLR#6.2: The financial model for the water sector has been endorsed by the Technical Working Group	13,000,000.00	13,000,000.00
2026	DLR#6.3: The financial sustainability action plan for the water sector has been endorsed by the Technical Working Group	14,000,000.00	14,000,000.00
2027	N/A	0.00	N/A
2028	DLR#6.4: The financial sustainability action plan for the water sector has been adopted by the Interministerial Commission of Water or other consultative body	12,000,000.00	12,000,000.00

DLI 7	Volume of potable water savings in distribution water supply networks			
Type of DLI	**Scalability**	**Unit of Measure**	**Total Allocated Amount (USD)**	**As % of Total Financing Amount**
Outcome	Yes	Cubic Meter(m3)	40,000,000.00	11.43
Period	**Value**		**Allocated Amount (USD)**	**Formula**
Baseline	6,500,000.00			
2024	5,250,000.00		10,500,000.00	500,000 per every additional 250,000 m3 potable water saved through the implementation of NRW plans by Regies in Program area.
2025	4,000,000.00		8,000,000.00	500,000 per every additional 250,000 m3 potable water saved through the implementation of NRW plans by Regies in Program

			area.
2026	4,000,000.00	8,000,000.00	500,000 per every additional 250,000 m3 potable water saved through the implementation of NRW plans by Regies in Program area.
2027	3,250,000.00	6,500,000.00	500,000 per every additional 250,000 m3 potable water saved through the implementation of NRW plans by Regies in Program area.
2028	3,500,000.00	7,000,000.00	500,000 per every additional 250,000 m3 potable water saved through the implementation of NRW plans by Regies in Program area.

DLI 8	Wastewater reuse scaled-up			
Type of DLI	**Scalability**	**Unit of Measure**	**Total Allocated Amount (USD)**	**As % of Total Financing Amount**
Outcome	Yes	Text	56,125,000.00	16.04
Period	**Value**		**Allocated Amount (USD)**	**Formula**
Baseline	0.00			
2024	7,000,000		7,000,000.00	500,000 per every additional 500,000 m3 of treated wastewater made available for reuse under the Program Area.
2025	4,700,000		4,700,000.00	500,000 per every additional

			500,000 m3 of treated wastewater made available for reuse under the Program Area.
2026	3,400,000	3,400,000.00	500,000 per every additional 500,000 m3 of treated wastewater made available for reuse under the Program Area.
2027	11,900,000	11,900,000.00	500,000 per every additional 500,000 m3 of treated wastewater made available for reuse under the Program Area.
2028	25,000,000 m3 of water savings AND The revised bylaw defining the norms for wastewater reuse for agriculture purposes has been adopted by the MEE	29,125,000.00	As above payments + 4,125,000 for the revised bylaw adopted

Verification Protocol Table: Disbursement Linked Indicators	
DLI 1	National Water Plan Adopted (PNE)
Description	See definition under Annex 1 -- Monitoring & Evaluation Plan
Data source/ Agency	MEE consolidated progress reports and accompanying documentation
Verification Entity	MEE General Inspection
Procedure	1. MEE-DPRE prepares semi-annual consolidated progress reports with accompanying documentation on the preparation and adoption of the PNE and submits these to the PCU. 2. The IVA analyses the semi-annual consolidated reports to verify that: (a) In 2024, the draft PNE is prepared and encompasses the following: -A comprehensive diagnosis of the water sector - An assessment of the major sector challenges and threats -including the impacts of climate change- and potential scenarios of evolution of demand and supply under several climate scenarios - The long-term vision, objectives, and strategic orientations of the water sector - The principles for water resources mobilization and their use, and the protection of water resources (surface and groundwater) - The principles to strengthen the sector's governance, institutional, and financial aspects for water security (principles of water valuation and cost recovery) - Its monitoring and implementation mechanisms, including obligations from the executing entities for regular reporting and the preparation of annual progress reports (b) In 2025, upon consultation with relevant stakeholders and incorporating their comments, the revised PNE draft has been endorsed by the Interministerial Commission for Water; and, the revised PNE draft encompasses the elements indicated under (a) above. (c) In 2026, the revised draft PNE has been endorsed by the Superior Council of Water and Climate; and, the revised PNE draft encompasses the elements indicated under (a) above. (d) In 2027, the draft PNE has been adopted by Decree from MEE and published; and, the adopted PNE encompasses the elements indicated under (a) above.

DLI 2	Groundwater Management Improved
Description	This DLI encompasses the following results: DLR#2.1: The Agreement between the MEE and MAPMDREF for managing of selected aquifers has been signed DLR#2.2: The Decree on participatory groundwater management contracts has been adopted by the MEE DLR#2.3: Three (03) technical studies supporting participatory groundwater management contracts for three (03) selected aquifers included in the Program have been completed by the respective ABHs DLR#2.4: Three (03) participatory groundwater management contracts for three (03) selected aquifers included in the Program have been signed by the relevant stakeholders DLR#2.5: 50 smart meters for monitoring groundwater withdrawals by large users have been installed in the Program area
Data source/ Agency	MEE and ABHs
Verification Entity	MEE General Inspection
Procedure	For DLR#2.1 to DLR#2.4, the verification procedure is as follows 1. Based on information provided by the ABHs under the Program area, the MEE prepares consolidated annual report on the actions undertaken each year toward the realization of DLR#2.1 to DLR#2.4 and submits it to the PCU with the supporting evidence. 2. The IVA analyses the annual consolidated report to verify that: (a) In 2024, the Agreement between the MEE and MAPMDREF for managing of the three (03) aquifers included in the Program has been signed (b) In 2025, the Decree on participatory groundwater management contracts has been adopted by the MEE according to the regulations in force (c) In 2026, three (03) technical studies supporting participatory groundwater management contracts for three (03) selected aquifers included in the Program have been completed by the respective ABHs (d) In 2028, three (03) participatory groundwater management contracts for three (03) selected aquifers included in the Program have been signed by the relevant stakeholders according to the regulations in force For DLR#2.5 -concerning the installation of smart meters for monitoring groundwater withdrawals by large users have been installed in the Program area - the verification procedure is as follows 1. The MEE prepares consolidated semi-annual report based on the information provided by the ABHs under the Program area indicating the number of new smart meters for monitoring groundwater withdrawals by large users that have been installed in the Program area over the previous six-month period and submits it to the PCU with the supporting evidence. 2. The IVA analyses the semi-annual consolidated report and conducts random representative field verification to verify that

	smart-meters for monitoring groundwater withdrawals by large users have been installed within the six-month period according to the technical specification set forth in the POM and that data from the smart-meters is being transmitted to the corresponding ABH.
DLI 3	ABH performance framework adopted and ABH performance improved
Description	See definition under Annex 1 -- Monitoring & Evaluation Plan
Data source/ Agency	MEE
Verification Entity	MEE General Inspection
Procedure	1. Each ABH included in the Program undertakes self-assessments based on the ABH performance framework adopted by MEE, prepares and implements annual action plans, prepares reports on implementation progress of these plans and of performance, and submits this documentation for adoption, by Resolution, by the respective ABH Board of Directors. 2. The MEE receives evidence described in (1) and prepares annual consolidated reports reflecting the progress made in the development and adoption of the ABH performance framework, the adoption and implementation of annual action plans, and in performance by the ABHs included in the Program. The report shall be submitted by the PCU to the IVA, and accompanied by the relevant documentation. 3. The IVA analyses the annual consolidated report to verify that: (a) In 2024 the ABH performance framework has been developed and adopted by MEE (b) In 2025, an annual action plan for performance improvement has been adopted by each of the six (06) ABHs' included in the Program (c) In 2026, an annual action plan for performance improvement has been adopted by each of the six (06) ABHs' included in the Program, and three (03) ABHs have maintain or improved their performance score compared to Year 2025. The MOP will define the mechanisms to establish performance improvement upon the definition of the ABH performance framework. (d) In 2027, an annual action plan for performance improvement has been adopted by each of the six (06) ABHs' included in the Program; and three (03) ABHs have improved their performance score compared to Year 2026. (e) In 2028, an annual action plan for performance improvement has been adopted by each of the six (06) ABHs' included in the Program; three (03) ABHs have improved their performance score compared to Year 2027; and the MEE has pubished in the SNIEAU a report on ABH performance improvement, including comparative assessment (disaggregated by gender as relevant).

DLI 4	Water Information Systems operationalized and used for decision-making
Description	This DLI encompasses the following results: DLR#4.1: The Decree establishing the SNIEAU and ABHs' Water Resources Information Systems has been adopted, which is included under the indicator "Decree on water information systems adopted" DLR#4.2: Two (02) ABHs' included in the Program area have operationalized a water resources information system, which is included under the indicator "Water Information Systems operationalized" DLR#4.3: The SNIEAU is partially accessible to the public pursuant to the decree referred to in DLR#4.1, and used as a decision tool for water resources evaluation, management and planning DLR#4.4. Two (02) ABHs included in the Program area have published the annual hydrological status, including water uses and the evolution of the water quality within the jurisdiction of the ABH in the SNIEAU
Data source/ Agency	MEE consolidated progress reports and accompanying documentation
Verification Entity	MEE General Inspection
Procedure	For the DLR#4.1 - concerning the adoption of the Decree establishing the SNIEAU and ABHs' Water Resources Information Systems - the MEE sends to the PCU evidence of the adoption of the Decree establishing the SNIEAU and ABHs' Water Resources Information Systems and submits it to the IVA. For the DLR#4.2 - the verification procedure is as follows: The MEE sent to the PCU evidence of Water Information Systems operationalized with accompanying documentation and submits it to the IVA. The IVA review that water information systems complied with the minimum criteria established in the definition of the indicator and in the POM (as relevant) For the DLR#4.3 - the verification procedure is as follows: The MEE sent to the PCU evidence that the SNIEAU is partially accessible to the public and used as a decision making tool for water resources evaluation, management and planning and submits it to the IVA. The IVA review that SNIEAU complies with the minimum criteria established in the definition of the indicator and in the POM (as relevant) For DLR#4.4 the MEE sends to the PCU evidence that two (2) ABHs have published the annual hydrological status, including water uses and the evolution of the water quality within the jurisdiction of the ABH in the SNIEAU and submits it to the IVA to review that the minimum criteria established in the definition of the indicator and in the POM (as relevant).
DLI 5	Multiservice operators' performance information system operationalized
Description	See definition under Annex 1 -- Monitoring & Evaluation Plan

Data source/ Agency	MoI consolidated progress reports and accompanying documentation
Verification Entity	MOI General Inspection
Procedure	**1.** MoI-DRPL prepares semi-annual consolidated progress reports with accompanying documentation on the semi-annual progress made under the indicator. **2.** The IVA analyses the semi-annual consolidated reports to verify that: **(a)** In 2024, the MoI has adopted by Circular the minimum service standards for electricity and water supply distribution and the wastewater collection and treatment to be complied with by multiservice operators in charge of electricity and water supply distribution and the wastewater collection and treatment. **(b)** In 2025, the MoI has developed a digitalized performance information system, including (a) KPIs operational and financial performance reporting requirements by sub-national publicly owned operators; and (b) tools for performance benchmarking. **(c)** In 2026, at least 50% of the multiservice operators in the Program area provide annual performance reports through the digitalized performance information system. **(d)** In 2027, at least 75% of the multiservice operators in the Program area provide annual performance reports through the digitalized performance information system. **(e)** An annual report produced by the MoI on multiservice operators' performance, including comparative KPI benchmarking, is available in the SNIEAU.
DLI 6	Financial sustainability framework of the water sector improved
Description	See definition under Annex 1 -- Monitoring & Evaluation Plan
Data source/ Agency	Semi-annual reports prepared by the Technical Working Group and the MoI
Verification Entity	IGF
Procedure	The verification protocol is as follows : 1. The MEF prepares semi-annual reports reflecting the progress made in the implementation of the indicator, including the development of the financial model and the preparation of the financial sustainability action plan and the financial strategies for the water sector. The semi-annual progress report shall be accompanied by the supporting annexes that demonstrate the participatory approaches, and the applied methodology. The semi-annual progress reports are submitted by the MEF to the PCU who are responsible for submitting to the IVA.

	2. The IVA analyses the semi-annual progress reports to verify that: (a) In 2024 - the Technical Working Group is established with representatives from stakeholders in the water sector, including -at a minimum- the MEF, MEE, MA, MoI, and ONEE. (b) In 2025 – the financial model for the water sector is endorsed the Technical Working Group. (c) In 2026 – the financial sustainability action plan for the water sector is endorsed by the Technical Working Group. (d) In 2028 – the financial sustainability action plan for the water sector is adopted by the Interministerial Commission for Water or any other consultative body.
DLI 7	Volume of potable water savings in distribution water supply networks
Description	See definition under Annex 1 -- Monitoring & Evaluation Plan. For disbursement purposed, only the end target is considered.
Data source/ Agency	MoI consolidated progress reports and accompanying documentation
Verification Entity	MOI General Inspection
Procedure	1. The MoI prepares annual consolidated progress reports on the water savings (disaggregated by Regies) with accompanying documentation on the water savings achieved by each of the regies included in the Program and submits it to the PCU and the IVA accompanied by the audited annual management reports (*rapports de gestion*) of the Regies included in the Program. The audited annual management reports shall contain information of the volume of water produced and bought and the volume of water sold, and a detailed description of the initial state of the distribution networks and actions undertaken to reduce water losses in potable distribution network. 2. Each year, the IVA analyses the MoI consolidated reports and the audited annual management reports to verify the calculations of the water savings indicated by the MoI in the consolidated report. 3. The IVA conducts field verification on a representative sample of sites to determine consistency between progress and actions reported in the annual management reports and physical progress in the field.
DLI 8	Wastewater reuse scaled-up
Description	This DLI encompasses the following results: DLR#8.1: The revised bylaw defining the norms for wastewater reuse for irrigation purposes has been adopted by the MEE according to the regulations in force (to be achieved in 2026), which is included under the indicator “Enabling environment for integration of wastewater reuse improved” DLR#8.2: 52,000,000 m3 of treated wastewater have been made available for reuse under the Program, for which indicative results by year are included under the indicator “volume of treated wastewater made available for reuse under the Program”. For

	disbursement purposed, only the end target is considered.
Data source/ Agency	For the revised bylaw defining the norms for wastewater reuse for irrigation purposes adopted by the MEE, the progress reports are prepared by the MEE. For the volume of treated wastewater made available for reuse under the Program (m3), implementation progress reports are prepared by (a) the Monitoring Committee established in the wastewater reuse agreement and (b) the construction companies selected for the reuse agreement associated works.
Verification Entity	MOI General Inspection for DLI 8.1 MEE General Inspection for DLI 8.2
Procedure	For DLR#8.1 - concerning the volume of treated wastewater made available for reuse under the Program (in m3)- the verification procedure is as follows: 1. The MoI ensures that the Convention Monitoring Committee for each reuse project is established in accordance with the provisions of the treated wastewater reuse agreement. 2. The construction companies selected for the implementation of works included in the treated wastewater reuse agreement prepare semi-annual progress reports that are submitted to the Convention Monitoring Committee and include – at a minimum- (a) physical and financial progress of the construction of the reuse project, (b) records of environmental and social management, (c) grievance management, and (d) incident/accident reports. 3. The Convention Monitoring Committee prepares consolidated project semi-annual progress reports, consolidating semi-annual progress reports, which include – at a minimum- (a) physical and financial progress of the construction of the reuse project, (b) records of environmental and social management, (c) grievance management, and (d) incident/accident reports. The consolidated project semi-annual progress reports shall be transmitted to the UCP and the MoI-DRPL. 4. Once the Reuse Project has been completed, the convention Monitoring Committee prepares a Consolidated Final Project Report, which includes – at a minimum- (a) evidence of the physical completion of works included in the treated wastewater reuse agreement; (b) final financial balance; (c) evidence of compliance with the quality standards for wastewater to be reused for the specific use established in the treated wastewater reuse agreement; (d) summary of environmental and social management, (e) summary of grievance management, and (e) summary of incident/accident reports. The Consolidated Final Project Report shall be transmitted to the UCP and the MoI-DRPL. 5. The MoI-DRPL submit semi-annual reports to the IVA and the PCU indicating for completed projects - the volume of treated wastewater effluent made available for reuse during the six months, accompanied by the Consolidated Final Project Report prepared by the Convention Monitoring Committee, and for projects under implementation – summary of the progress made during the six months under the treated wastewater reuse agreement signed and not yet completed. 6. The IVA verifies the volume made available for reuse within the six months covered by the semi-annual reports

	submitted by the MoI-DRPL as follows: (a) Analysis of the semi-annual reports submitted by the MoI-DRPL. (b) Random verification of results achievement by visits to verify physical progress on implementing the reuse projects. It will also conduct random treated wastewater quality sampling to verify they comply with the relevant Moroccan regulations on water quality for reuse. The POM will define the sampling methodology. For DLR#8.2: The revised bylaw (*arrêté*) defining the norms for wastewater reuse for irrigation purposes has been adopted by the MEE - the MEE sends to the IVA evidence of the adoption of the bylaw according to the regulations in force.

ANNEX 3. TECHNICAL ASSESSMENT

I.Sector Context

1. **Morocco is among the most water-stressed countries in the world, with water scarcity imposing major constraints on the economy**. The country has experienced a sharp decrease in water availability from 2,560 m^3 to about 620 m^3 per person per year between 1960 and 2020. This was due primarily to non-climatic factors, such as population growth in the north, the expansion of irrigation, and urban, industrial, and tourism development, with water demand already exceeding available supply. Based on the currently available sources of supply in the water accounts (i.e., freshwater, treated wastewater reuse, and desalinization), the annual average inflow is estimated at around 18 billion cubic meters (BCM) per year, with around 14.5 BCM per year available and sustainably exploitable with existing infrastructure, including 4 BCM per year of renewable groundwater resources.

2. **Greater uncertainty and rising demand are increasing the vulnerability of Morocco's development model.** The current water deficit is estimated at 1.8 BCM annually, with demand expected to increase by 15 percent between 2020 and 2050.[49] Shortages are aggravated by the loss of existing storage due to high sedimentation rates in the country's portfolio of large dams, estimated at nearly 75 million cubic meters (MCM) per year, and water pollution in many areas. Water pollution challenges are particularly acute in the Sebou Basin, which accounts for 30 percent of Morocco's surface water resources, and in coastal regions, where groundwater resources suffer from saline intrusion and high nitrogen levels. These challenges are compounded by the unequal distribution of water over space and time, with 70 percent of the surface water resources concentrated in the country's northwest, representing a mere 15 percent of the territory.[50] Surface water shortages have led to the over-exploitation of groundwater, with current groundwater withdrawals exceeding the exploitable level by 28 percent (or 1.1 BCM per year), increasing energy-related greenhouse gas (GHG) emissions due to the need for deeper groundwater pumping.

3. **The Government of Morocco's (GoM) response to increasing water demand has predominantly been to invest in supply-side solutions**. Between 1960 and 2020, the Kingdom built more than 120 large dams, a tenfold increase in total water storage capacity, bringing the total to 135 large dams with a total capacity of 17.5 BCM. A further 100 small dams have been constructed to provide another 100 MCM to meet local water, irrigation, and livestock needs. There are also 13 water transfer systems between river basins to increase resilience and assurance of supply. Since 1995, the GoM has made significant investments to address the gap through the development of desalination plants, with the installed capacity reaching 220 MCM per year by the end of 2022. While desalinization represents less than 2 percent of all mobilized water resources, it provides a high level of assurance, with 44 percent for potable water, 41 percent for irrigation, and 14 percent for phosphate production.

4. **Increasing water management efficiency is critical to close the water demand-supply gap[51]**. Regarding potable water , reducing existing water losses in the transport and distribution networks could lead to potential water savings of 400

[49] Total water demand by 2050 is expected to be between 18.7 and 20 BCM per year taking climate change into account. Agriculture-related withdrawals are expected to rise by 10 percent in the next 30 years (from 14.5 BCM in 2020 to 16 BCM year in 2050). Water demand from urban households is expected to increase by 50 percent (from 1.1 to 1.7 BCM per year) during the same period, with corresponding increases in effluent quantities. Expected industrial demand growth is similar (from 241 to 370 MCM per year), and water from tourism is expected to more than triple by 2050 (from 33 to 106 MCM per year). Based on an estimated population growth of 1.5 percent per year and economic growth of 4 percent per year. Source: Ministry of Equipment and Water, 2019. Draft National Water Plan 2020–2050. Submitted for review to the Interministerial Water Commission in December 2019.

[50] Ministry of Equipment and Water, 2019. Draft National Water Plan 2020–2050. Submitted for review to the Interministerial Water Commission in December 2019.

[51] The gap is estimated between to be at least 7 BMC per year by 2050 considering the impacts of climate change.

MCM per year, with the draft National Water Plan 2020-2050 (*Plan National de l'Eau*, PNE)[52] aiming to reduce non-revenue water in distribution networks to 20 percent by 2030 and 15 percent by 2040, acknowledging the need for water-loss targets in transport and distribution networks to reflect the incremental cost of new water supplies. [53] On the irrigation side, the government has made significant efforts to reduce water losses and increase water productivity through the Green Morocco Plan (*Plan Maroc Vert*) and the Irrigation Water Conservation Program 2008–2020's (*Programme National d'Economie d'Eau en Irrigation*) associated investments by the upgrading of irrigation distribution networks and plot modernization[54]. As per the draft PNE and the Generation Green Strategy 2020-2030, the aim is to increase the value derived from 1.8 BCM annually through modernizing existing irrigation schemes[55]. These water management investments will reduce demand by about 2.2 BCM per year.

5. **Climate change will have compounding and cascading effects on Morocco's water security**. The mean annual temperature has increased by 0.9°C since the 1960s, with an observed average increase of 0.2°C per decade. Declining precipitation trends over recent decades have reduced river flows and increased evaporation and siltation in dams. The expected decline in average annual precipitation,[56] the rising interannual variability, and a warmer climate are projected to result in severe reductions in surface-water availability, coupled with increasing water demand - which could result in a deficit of between 4 to 7 BCM per year by 2050. [57] A permanent reduction in water supplies could significantly affect the Moroccan economy,[58] with water scarcity exacerbating competition among water users and leading to a 6.5 percent decline in real GDP under extreme conditions.[59] For example, hotter and drier conditions are expected to increase the water requirement of crops by up to 12 percent, increasing demand for irrigation and further stressing limited water resources. While infrastructure will be required to help adapt to the changing conditions, the potential magnitude and uncertainty associated with future climate conditions will also require ambitious policy reforms that reflect the value of water resources, increase the transparency of costs along the water value chain, incentivize more efficient and rational uses, and balance competing demands.

6. **The GoM is implementing comprehensive large-scale water sector investment programs to address the country's water challenges**. This includes the National Program for Potable Water Supply and Irrigation *(Programme National pour l'Approvisionnement en Eau Potable et l'Irrigation*: PNAEPI 2020-2027), adopted in January 2020, which encompasses the first tranche of the draft National Water Plan (PNE). The PNAEPI promotes supply-side solutions, with a significant portion of investments aimed at increasing the mobilization of water resources by about 3 BCM per year by 2027, with a strong emphasis on non-conventional water resources. The PNAEPI establishes targets for reducing water-losses, acknowledging the incremental cost of new water supplies, and includes provisions for the reduction of dam sedimentation, incentives for

[52] Ministry of Equipment and Water, 2019. Draft National Water Plan 2020–2050. Submitted for review to the Interministerial Water Commission in December 2019.
[53] Ministry of Equipment and Water, 2019. Draft National Water Plan 2020–2050. Submitted for review to the Interministerial Water Commission in December 2019. Water-loss targets in transport and distribution networks should also reflect the interdependency of upstream and downstream users, and the valuation of water and its externalities.
[54] The implementation of the Irrigation Water Conservation Program 2008–2020 resulted in the conversion of 462,000 hectares to localized irrigation (395,000 hectares for individual reconversion and 67,000 hectares for reconversion of collective land (including ongoing works), intensifying agricultural production through more reliable irrigation and by doubling water productivity on average (measure as US$/m^3). For instance, in the Doukkala ORMVA, the program contributed to increasing water productivity, from 5.7 to 10.6 MAD/m^3 in 2018; and, to increase the share of high-value-added crops (vegetables, fruit orchards, and oilseeds) relative to low-value-added crops (cereals, beets, and fodder).
[55] The new Generation Green Strategy 2020-2030 was launched by the His Majesty Mohamed VI on February 2020.
[56] An annual decline in precipitation of between 10 to 20 percent is expected nationally, including a 10 to 30 percent decrease during the wet season (October to April) and a 10 to 40 percent decrease during the dry season (from May to September). Source: Climate Risk Profile: Morocco (2021): The World Bank Group.
[57] Ministry of Equipment and Water, 2019. Draft National Water Plan 2020–2050. Submitted for review to the Interministerial Water Commission in December 2019.
[58] Taheripour, Farzad; Tyner, Wallace E.; Haqiqi, Iman; Sajedinia, Ehsanreza. 2020. Water Scarcity in Morocco: Analysis of Key Water Challenges. World Bank, Washington, D.C.
[59] World Bank Group (2023). Morocco Economic Update, Responding to Supply Shocks. Winter 2022/23.

water savings in agriculture, drinking water, tourism and industry, preservation of groundwater resources, reforestation of watersheds, and communication campaigns.

Table A3.1. Summary of PNAPI axes, objectives, and investments

PNAEPI Axis	Objectif	Investments	Cost (MAD million)	% of total
Water supply	• Expanding water supply by increasing surface water storage capacity • Mobilize new groundwater sources • Development sea water desalinization • Reinforce urban potable water supply systems	Dams	38 664	27.1%
		Desalination	9 237	6.5%
		Extension potable water systems	24 322,6	17.1%
		Other	11 660	8.2%
	Subtotal		83 883,6	59%
Water demand management	• Improving water efficiency by reducing water losses in transport and distribution networks (potable water and irrigation canals) • Improving water productivity in the irrigated agriculture sector	Potable losses reduction programs	13 483	9%
		Irrigation modernization	14 000	10%
	Subtotal		27 483	19%
Wastewater reuse	Develop wastewater reuse, in particular for golfs and green spaces	Wastewater reuse	3 019	2%
Rural water supply	• Improve rural water supply potable water reliance on water sources less impacted by climate change	Water supply extension systems (distribution networks and connections) in rural areas	28 259	20%
Communication and behavioral change	• Increasing awareness of the value of water	Implementation of communication campaigns at the national and local level by PNAEPI's implementing entities	50	0,035%
Total			**142 694,6**	**100%**

Source: MEE, DRPE. June 2023.

7. **The legal framework for the water sector in Morocco has evolved in response to the changing socio-economic, political, and resource realities**. The legal and institutional system integrates religious tradition and customs alongside modern provisions introduced since independence in 1956.[60] Law 10-95 (1995) stipulated the rules for integrated, decentralized, and participatory water resources management to guarantee the right of citizens to water. The foundations introduced by the Water Law 10-95, aiming to improve water use efficiency, provide universal access, reduce disparities between rural and urban areas, and ensure water security across the country, were kept and reinforced by the Water Law 36-15 (published in 2016). Also, the Water Law 36-15 further emphasized decentralized, integrated, and participatory management and planning of water resources; strengthened consultation and coordination bodies and organizations by establishing water basin councils; established the legal foundations to diversify sources of supply through the use of unconventional water resources; introduced water-related information systems; and, strengthened the institutional framework and mechanisms for the protection and conservation of water resources- including participatory groundwater management contracts.[61]

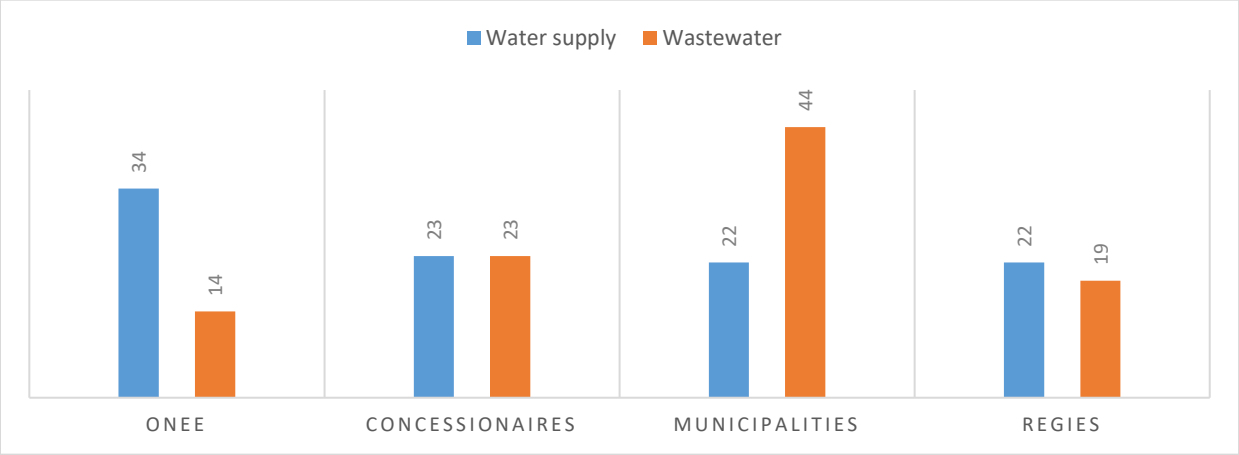
[60] Doukkali, M.R. (2005). Water institutional reforms in Morocco. Water Policy, 7, 71-88.
[61] Afilal, C. (2017) Water security in Morocco. World Bank Blogs: Arab Voices.

8. **The institutional framework for water resources management includes various national, regional, and municipal actors**. The Superior Council for Water and Climate (*Conseil Supérieur de l'Eau et du Climat*)[62] is mandated to reinforce horizontal and vertical coordination among the actors, water users, and non-governmental stakeholders and provide advice on the PNE and anu other topic related to water. Under Royal instructions, a commission (*Commission Interministerial sur l'Eau*)[63] was created in 2017 to formulate an emergency plan to confront the drought that started in 2015 and accelerate the mobilization of additional water resources for potable water and irrigation purposes. Water resources planning and mobilization at the national level is the responsibility of the Ministry of Equipment and Water (MEE)[64], in coordination with all relevant sector stakeholders. River Basin Agencies (*Agence du Bassin Hydraulique,* ABHs), created by the Water Law 10-95 as technical and financially independent entities, are responsibility for planning and managing water resources at the basin level based on the principles of integrated water resources management and monitoring water use and quality.[65] The River Basin Councils, introduced by the Water Law 36-15 and established in 2022, are in charge of revising the PDAIREs, represent the interests of the regional and municipal authorities and water users (services providers, farmers, and public and private associations in the water and climate domain). Regional Agricultural Development Offices (ORMVAs) provide irrigation services withing a defined irrigated perimeter (usually encompassing large-irrigation schemes), with irrigation covering roughly 1.7 million hectares (accounting for 19.4 percent of the cultivated area), representing about 45 percent of the agriculture value, and contributing 75 percent of the total agriculture exports of the country.[66]

9. **The institutional framework for delivering potable water services encompasses actors at three levels of government**. The National Office for Electricity and Potable Water (*Office National de l'Electricité et de l'Eau Potable*: ONEE) is a public enterprise responsible for potable water planning and has traditionally been the major national potable water producer, with their tariff being regulated by the Interministerial Commission of Prices (headed by the MEF). In connection with the GoM's strategic scaling-up of non-conventional water resources, the OCP Group has been tasked by the GoM with developing desalination plants for phosphate production and providing potable water in neighboring municipalities. The MoI, through its Direction of Public Local Networks (MoI-DRPL), plays a supporting role in planning, implementing, and monitoring the distribution of potable water and wastewater collection, which are the responsibility of the municipalities, exercise control over private concessions, and set retail tariffs for water and wastewater services. According to the Constitution, municipalities are responsible for delivering electricity, drinking water, and sanitation services. Hence, they may provide the service directly or by delegation to autonomous municipal public utilities (*Régies*)[67], the ONEE, or private concessionaires. The ongoing reform of the water supply sector will entail the introduction of regional multiservice companies (*Sociétés Régionales Multiservices, SRM*) for the provision at the regional level of energy and water distribution services and wastewater collection and treatment (see more below under RA1).

[62] In operation since 1980, but formally established by the Water Law 10-95 in 1995.
[63] Created by the Council of Ministers in 2017.
[64] MEE is responsible for initiating, promoting, and coordinating the protection of water resources, pollution abatement and legislation enforcement. In addition, it is responsible for environmental control, auditing, and reporting, including public awareness and participation regarding water resources and the environment.
[65] Their duties include preparing PDAIREs, authorizing water abstractions and discharges, and maintaining a public register; collecting fees for abstraction and effluent discharges; providing financing and technical assistance for water pollution prevention; ensuring efficient water use; monitoring water quality; enforcing laws related to water resource protection; setting up an emergency response system; and promoting public awareness about water resource management.
[66] Evaluating the contribution of irrigation to economic and agricultural growth: the case of Morocco. Fatima Ezzahra Mengoub, Caroline Lejars, and Mohammed Rachid Doukkali. European Scientific Journal, ESJ ISSN: 1857-7881 (Print) e - ISSN 1857-7431. August 2021 edition Vol.17, No.27.
[67] The Régies are legal municipal public entities, with financial autonomy, under the supervision of the MoI. There are currently 12 autonomous distribution boards: seven for water, electricity, and wastewater distribution; and five for water and sanitation services distribution – of which 11 are included under the Program.

Figure A3.1. Population Served by Type of Provider (%)



Source: MoI, 2021.

10. **Low water tariffs compromise the sector's financial viability and could impact future water security**. Through tariffs and fees, user contributions are generally insufficient to cover operational and maintenance costs. Bulk and retail tariffs are not based on production and distribution costs. The under-collection of withdrawal and water pollution fees further undermines the sector's financial sustainability.[68] Between 2012 and 2017, the water basin organization collected less than US$7 million per year on withdrawal and discharged fees, of which discharge fees represented less than 4%. Over the period, only US$1 million was collected on discharge fees of a potential US$19 million. Low water tariffs could present barriers to realizing the GoM's efforts to boost water security, including further development of water supply sources (dams and water transfers) and the scale-up of non-conventional water resources (desalination and wastewater reuse). Even if technological advances bring down the cost of desalination,[69] capital and operating costs would remain significant and energy-dependent, potentially exacerbating the sector's financial fragility.

11. **The changing nature of the water balance and climate change challenges require institutional realignment to boost sector resilience to future uncertainty**. The water sector in Morocco is evolving to meet the changing needs for sustainable social and economic development. The sector has changed its focus to respond to water challenges from emphasizing public works and improving infrastructure to sustainable resource management and increasing water security. This evolution illustrates the difficulty of positioning water institutionally and adapting to its complex interrelation between different sectors. As the sector transitions in response to increasing water scarcity and future climate uncertainty, the institutional realignment of roles and responsibilities is needed to ensure affordable and sustainable water security solutions.

II.Results areas (RAs) and activities

12. **The Program is structured around three Results Areas (RA) that provide a mutually reinforcing set of incentives for the activities needed to deliver the expected outcomes**. These include support for the GoM's efforts to strengthen the governance of the water sector to ensure that it is fit for purpose and can deliver on Morocco's expectations related to the

[68] Source: Cour des Comptes. 2018.

[69] Desalination costs have dropped from a range of US$2.5 to US$44 per cubic meter in the 1980s to now less than US$1.5 per cubic meter, and in many locations have fallen as low as around US$0.5 to US$0.6 per cubic meter. In addition to technological advances and economies of scale achieved by larger plants, falling costs are driven by project development choices, such as colocation of desalination plants with power plants, and enhanced competitiveness from more efficient methods of project financing and delivery. World Bank (2019). The Role of Desalination in an Increasingly Water-Scarce World. Washington, DC.

longer-term goals of water security, recognizing the value of water, and ensuring the integration of non-conventional sources of water. This approach is built on: (a) strengthening the water sector governance; (b) improving financial sustainability and water use efficiency, and (c) enabling the integration of non-conventional water resources. A detailed description of the RAs and their justification is provided in the next sections, and the table below presents and overview of activities and executing agencies.

Table A3.2. Synthesis of RAs, activities, and executing agencies

Activities	Lead Executing agency [1]
RA 1: Strengthening Water Sector Governance: Support GoM's efforts to adapt the water sector governance to existing and future water challenges	
Preparation and adoption of the National Water Plan (PNE)	MEE
Development, adoption, and implementation of regulatory instruments and consultative processes to improve the implementation of participative aquifer management contracts	MEE
Preparation and signature of participative aquifer management contracts in three selected aquifers [**2**]	Concerned ABHS within the Program Area
Installation of smart meters for measuring groundwater withdrawals [**2**]	ABHs included in the Program
Development, implementation, and adoption of a performance benchmarking framework to strengthen the performance of selected ABHs to deliver on their core functions of planning, managing, developing, and protecting water resources and operating and maintaining infrastructure	MEE ABHs included in the Program
Operationalization of water information systems (SNIEAUSNIEAU and river basin agency)	MEE ABHs included in the Program
Improvements in water data management and information management systems, including regulations, formal specifications, and benchmarking for data generation, sharing, and access, quality assurance and control standards, upgrade, equipment, and maintenance of monitoring and information systems	MEE ABHs included in the Program
Installation and rehabilitation of stations and piezometers [**2**]	ABHs included in the Program
Operationalization of multiservice operators (energy and water supply distribution, and wastewater collection and treatment) information system	MoI and Régies included in the Program
RA 2: Improving Financial Sustainability and Water Use Efficiency **Objective:** Support GoM's efforts to improve the valuation of water, reduce water losses from existing distribution systems, and encourage water conservation through communication campaigns	
Development of a Financial Sustainability Framework for the sector, including the development of a financial model for the sector and the adoption of a financial sustainability action plan	Technical Work Group
Implementation of communication campaigns and activities to raise awareness of the importance of water conservation, including baseline and end-Program impact evaluations	MEE ABHs included in the Program
Implementation of water loss reduction plans, including the deployment of geographical information management systems and hydraulic models; meters deployment (bulk- and micro-meters), network sectorization and pressure control program; leakage detection and rehabilitation campaigns; and network sectorization	Régies included in the Program
RA 3: Enabling the Integration of Non-Conventional Water Resources **Objective:** Support GoM's efforts to improve the enabling environment and scale-up the availability of non-conventional water resources	
Development of regulations to strengthen the enabling environment and facilitate the scaling-up of non-conventional water resources, focused on desalination and wastewater reuse	MEE
Signature of conventions for the use of treated wastewater [**3**]	MoI

Activities	Lead Executing agency [1]
Implementation of conventions for the use of treated wastewater [**3**], including the (a) upgrade of wastewater treatment plants (WWTPs) to increase the capacity for tertiary treatment and reuse of treated effluent for green spaces, industrial, and agricultural uses; and (b) distribution systems for the conveyance of treated wastewater reuse, including pipelines, pump stations, and storage tanks.	Convention parties, including MoI and wastewater operator

Notes: [**1**] The six ABHs included in the Program are: Loukkos, Sebou, Bouregreg-Chaouia, Oum Er Rbia, Tensift, and Souss Massa; the 11 Régies included in the Program are: RADEEF, RADEEJ, RADEEL, RADEEMA, RADEES, RADEET, RAK, RAMSA, RADEETA, RADEM and RADEEC.

[**2**] The activities related to groundwater management and participative aquifer management contracts will be only implemented within the geographical perimeter of action of the six ABHs included in the Program.

[**3**] The activities related to the signature and implementation of conventions for the use of treated wastewater will be only implemented within the geographical perimeter of action of the six ABHs included in the Program.

RA 1. Strengthening Water Sector Governance

13. **Critical elements of the sector's governance will be supported under the Program.** The technical assessment highlights the need to re-align institutions to ensure good water governance in response to changes in the water matrix, mobilization costs, and the increasing role of the local and regional governments. To attain more efficient sector outcomes, national and territorial levels institutions require stronger coordination, including preparing and adopting the PNE. Also, given the ongoing reform on the distribution of water services, the Program provides an opportunity to support the improvement in performance benchmarking of public-owned service providers for electricity and water supply distribution and wastewater collection and treatment. At the decentralized level, the technical assessment found that adopting performance targets and fit-for-purpose built-in capacity can improve ABHs' performance and greater effectiveness in managing, protecting, and planning water resources within their respective domain, including financial autonomy.

Water Planning

14. **Morocco's vulnerability to the climatic and hydrological context requires strong, evidence-based water planning**. The impact of drought and floods and the pressure of growing demand are all factors that require planning for water resources development and management strategies. Thus, since the 1970s, the GoM has undertaken efforts for water resources planning aimed at meeting Morocco's water needs, with the objectives of (a) integrated planning and conjunctive management of surface and groundwater; (b) optimizing the allocation of water resources to meet present and future demand in the medium and long term in support of Morocco's economic and social development growth at national and local levels and also between sectors; (c) providing access to water for the various regions of the country to ensure balanced development and the promotion of water-poor regions through water transfers from surplus to deficit regions; and, (d) protecting water resources.

15. **Water Planning Process**. The prior Water Law 10-95 introduced the need for a long-term National Water Plan and Integrated Water Resources Management Master Plans (*Plans Directeurs d'Aménagement Intégrée des Ressources en Eau*, PDAIRE) for individual river basins. According to the Water Law 10-95, the PNE sets the priorities for the mobilization and use of water resources based on the PDAIREs and defines the conditions for water transfers between river basins. The Water Law 36-15 maintained two levels of planning: at the sector-wide level and the level of the river basins. Based on Water Law 36-15 requirements, six PDAIREs have been approved by the Board of Directors of the ABHs, and four more are expected to be approved by December 2024. The PDAIREs include (a) a quantitative and qualitative assessment of water resources; (b) water demand by sector and use category and water balances and water resources development schemes; (c) the definition of the investments at the river basin; (d) the economic and environmental evaluation of the proposed schemes/investments; and, (e) the implementation modalities of these water resources development schemes/investments.

16. Based on the Water Law 36-15, the MEE prepared a draft PNE and submitted this for review by the Interministerial Water Commission in December 2019. Given the increasing risk of water insecurity and the renewed vision for the country outlined in the New Development Model Report, the existing draft PNE is under review.

17. **The Program will incentivize revising the existing draft, its endorsement by the key consulting bodies (Interministerial Water Commission and Superior Council of Water and Climate), and its adoption by Decree (under DLI #1**). The revised PNE, which will set the 30-year vision for the water sector, the draft shall encompass the following:

- A comprehensive diagnosis of the water sector
- An assessment of the major sector challenges and threats -including the impacts of climate change- and potential scenarios of evolution of demand and supply under several climate scenarios
- The long-term vision, objectives, and strategic orientations of the water sector
- The priorities for water resources mobilization and their use and the protection of water resources (surface and groundwater)
- The principles to strengthen the sector's governance, institutional, and financial aspects for water security – including principles for water valuation and cost recovery
- Its monitoring and implementation mechanisms

18. The PNE revision and adoption entails significant coordination efforts among relevant stakeholders, including the MEF, MEE, MoI, MAPMDREF, OCP Group, and service providers (irrigation, water supply, and sanitation services). It reflects the water needs of sector-specific plans (notably the Green Generation and OCP Group Water Plan). The Superior Council of Water and Climate, chaired by the Prime Minister, reviews, and provides its advice on the PNE, which is adopted by Decree of the MEE.

Service providers performance

19. **Local government authorities are responsible for the service provision of basic infrastructure services**. The Organic Law 113-14 (2015) specifies that the municipality "creates and manages the public services and facilities necessary for the offer of local services in the following areas: "– the distribution of water and electricity; public lighting; – liquid and solid sanitation and wastewater treatment plants" (Article 83). The Municipal Council of the Commune decides the management method of public services delivery under its jurisdiction and by the laws and regulations in force. As such, municipalities are responsible for defining service objectives, monitoring, and controlling the execution of the service, and directing investments. The municipalities shall define master plans for sanitation and wastewater management. Municipalities exercise their functions under the *tutelle technique* of the MoI, which provides technical assistance to the multiservice operators. They coordinate at the national level the plans for developing municipal public services, including their pricing.

20. **The constitutional reform of 2011 provided for a greater role for the regions**. By the provisions of article 143 of the Constitution, the region has an essential role concerning other local authorities in the preparation, implementation, and monitoring of regional development programs and regional spatial planning schemes while respecting the competencies of other local authorities. The region has a legal personality and administrative and financial autonomy to carry out these tasks. The regions can set up Local Development Companies (*Societies de development local*), which are local public companies whose capital is controlled by the local authorities, which can serve the objective of the regions to implement their responsibilities for equipment and infrastructure with a regional dimension. Regionalization offers an opportunity to revisit the formulation of the national sectoral strategies to anchor them better in a local development process that considers the specific regional advantages and needs.

21. **Greater regionalization necessitates significant reforms in the water sector, given the more prominent role of the regions.** Essential reforms include adapting the institutional setup (including for planning and service delivery), funding

arrangements (including budgetary processes, regional contribution, and engagement with the private sector), financial instruments (including regional financial strategies, under DLI#6), and local government accountability in policy formulation and execution. Regions have a significant role in the rollout of significant reform to distribution services. The reform would entail the separation of bulk from distribution services, with bulk energy and water production handled by a national-level operator; and water supply and energy distribution and wastewater services (collection and treatment) entrusted to SRMs.

22. **The GoM is reforming the distribution segment of the water supply and wastewater-collection service delivery chain**. The reform is part of the advanced regionalization enshrined in Article I of the Constitution, following the reform of public institutions and enterprises carried out by Framework Law No. 50-21, which includes the objective of resizing the public sector and rationalizing spending. In July 2021, a memorandum of understanding (MoU) was signed between the MoI, the MEF, and Ministry of Energy, Mines, and Environment, and the ONEE to launch the process of creation of regional multiservice companies for the distribution of electricity, drinking water, and wastewater collection and treatment at the level of each region. In December 2022, the draft Law for the creation of SRM was presented to Parliament, and it is expected to be approved during 2023.

23. **The Program will support efforts to increase information and transparency for policy design, regulation, and control and require strengthening**. Currently, Régies – as autonomous subnational entities- are obliged to submit an annual audit to the MoI, which includes reporting the key information regarding operational and financial plans. The Program will support the establishment of reporting requirements, with greater regularity, to be submitted through a digitalized performance information system to be managed by the MoI. Some of the critical information that can be reported regularly by the Régies is included in the table below. Also, the Program will support the definition of minimum service standards for electricity and water supply distribution and wastewater collection and treatment. It is envisaged that once the SRMs are in place, the reporting requirements and minimum service standards apply to them.

Table A3.3. KPIs to be considered as part of digitalized operators' performance information system

Indicators	Unit	Definition
Water Coverage	%	The number of people served with drinking water expressed as a percentage of the total population within the service area of a utility
Sewerage Coverage	%	Number of people served by a sewerage network expressed as a percentage of the total population within the service area of a utility
Drinking Water Quality	Composite indicator	Measures the potability of the water supplied by a utility, including compliance with residual chlorine standards and bacteriological standards (according to Moroccan standards)
Treated effluent Compliance with Quality Standards	Composite indicator	Measures the quality of the treated wastewater, including compliance with the parameters for final disposal (according to Moroccan standards)
Hours of Water Supply	Hours/day	Measures the average number of hours a utility provides water to its customers daily. It measures the continuity of services of a utility and, thus, the availability of water to the customer
Non-Revenue Water	% and volume (m3)	Non-Revenue Water is the difference between the amount of water put into the distribution system and the amount billed/unbilled as authorized consumption. It comprises commercial (apparent) and physical (real) losses
Metering Ratio (for water supply)	%	Measures the number of connections with functional meters as a proportion of the total number of active water connections
Staff Productivity	Staff per 1,000 connections	This refers to the number of personnel employed per 1,000 connections (total active water and, where applicable, sewer connections)
Personnel Expenditure as a Percentage of O&M Costs	%	Personnel costs as a percentage of overall O&M costs determine if personnel costs are proportionate to overall O&M costs as defined by sector benchmarks

Indicators	Unit	Definition
Revenue Collection Efficiency	%	Revenue Collection Efficiency measures coherence between collected revenues relative to the billed amount
Operation and Maintenance Cost Coverage	%	Operation and Maintenance O&M Cost Coverage measures the utility's ability to break-even in its operational costs while relying on internally generated revenue.

Groundwater governance

24. **Groundwater management remains a challenge due to over-abstraction and the lack of data (its quality and quantity)**. At present renewable groundwater sources are overexploited by 28 percent (or 1.1 BCM per year) for total groundwater withdrawals of about 5 BCM per year (mainly for agriculture). As groundwater is a local resource stored in many aquifers with a limited geographical extent, this percentage of over-use hides the intensity of over-use in some critical aquifers. The groundwater overuse varies from 100 percent in the Moulouya to 248 percent in the Chtouka-Massa aquifers.[70] The water table has lowered more than two meters for some years.[71] Seawater intrusion has compromised coastal aquifers, limiting their use for irrigation or potable water. There is no assessment of the available groundwater reserves, a projection of declining production, or an estimate of the cost increase of pumping and quality deterioration for overused groundwater.

25. **Challenges related to the management of groundwater resources in Morocco are significant**. Groundwater has come under unprecedented pressure over the past thirty years due to repeated droughts in the country, which have greatly reduced surface water supplies, pushing irrigators to draw more from aquifers, and partly because of the increase in water needs induced by the country's socio-economic development. The overexploitation of groundwater leads to additional costs for pumping and deepening wells/boreholes, which is problematic for small farmers who practice subsistence agriculture. On the economic level, there is the risk of losing the competitiveness of exports of certain agricultural products (e.g., in Souss: citrus fruits and early market gardening represent 50 and 67 percent of exports). The overexploitation of aquifers harms the environmental balance by drying up springs, drying up lakes (especially in the Middle Atlas), reducing the base flows of wadis (e.g., in the Haouz), marine intrusion (e.g., Chtouka aquifer) and the disappearance of the heritage of khettaras (in Tafilalet and Figuig). Groundwater is the only resource for irrigation in some areas, such as the plain of Fez-Meknes, and contributes to the supply of drinking water to the population, particularly in rural areas (in 2019, groundwater represented 35 percent of the resources mobilized for the supply of drinking water, particularly in rural areas)

26. **The Program provides incentives in three key areas to improve groundwater management.** Since 2007, the GoM, through the MEE and the ABHs, has established participatory aquifer management contracts to manage groundwater resources better. These contracts are designed to define the organizational, technical, and financial measures that shall be in place to sustain a given aquifer and avoid over-exploitation by the various aquifer users. Through DLI#2, the Program provides incentives to strengthen the regulations for aquifer management contracts, sign aquifer management contracts for critical aquifers, and monitor groundwater abstraction by deploying smart meters. The Program will support the preparation of the regulatory provisions for participatory aquifer management contracts according to Water Law 36-15. Studies and groundwater knowledge generated under the Programs and supported by strong scientific reviews will also be the basis for preparing and adopting participatory aquifer management contracts for the Berrechid, Maamoura, and Bahira aquifers, which are currently overexploited and for which there is a need to deploy an aquifer management contract.

27. **Also, the Program will make links with the economic cadastre (including groundwater well inventory) being undertaken by the National Land and Cadastre Agency (*Agence Nationale de la Conservation Foncière, du Cadastre et de la Cartographie*, ANCFCC)**. Since early 2023, the ANCFCC has been implementing an economic cadastre, which will gather

[70] Geosciences 2020, 10, 81, Moroccan Groundwater Resources and Evolution with Global Climate Changes, Mohammed Hssaisoune, Lhoussaine Bouchaou, Abdelfattah Sifeddine, Ilham Bouimetarhan, and Abdelghani Chehbouni.
[71] Groundwater accounts for about 35 percent of all water used in agriculture, but in drought years its share can significantly increase.

information at the plot level and include information on the depth and flow of each well (including authorized and unauthorized wells). Thus, the ANCFF economic cadastre will support a greater knowledge of groundwater and would serve as a basis for launching wells-legalization campaigns to register unauthorized wells and control better groundwater abstractions. Under DLI#4, the SNIEAU will be interoperable with the ANCFCC economic cadastre platform. Hence, data will be available to water entities (at national and local levels) to better information decisions on groundwater management.

28. **Finally, the GoM is deploying smart meters for large water users to better manage groundwater withdrawals**. The Program will support these efforts through DLI#3 by disbursement against the number of smart meters for large water users installed in aquifers within the Program area – that is, for the three aquifers for which aquifer management contracts will be signed as part of the Program and others.

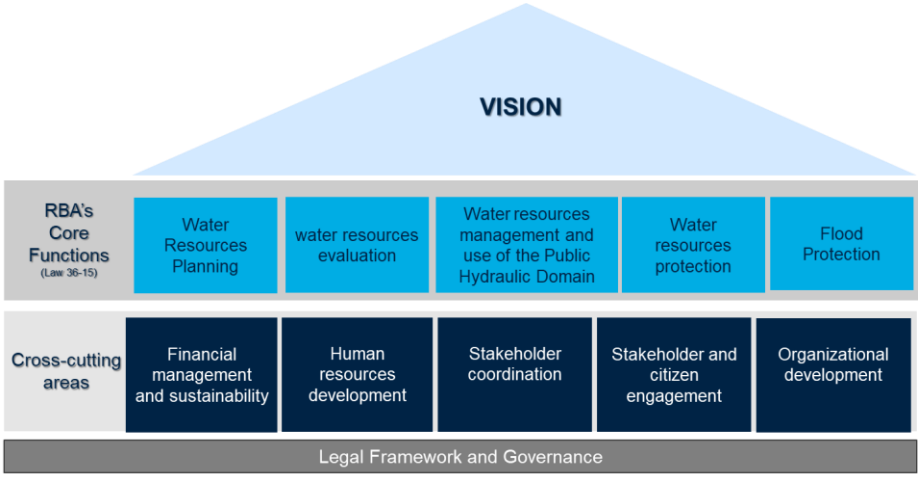
ABHs performance framework

29. **The ABHs were created by Water Law 10-95 to ensure integrated water resources management at the basin level**. They are independent entities with financial autonomy under the *tutelle technique* of MEE. The Water Law 36-15 adoption in 2016 solidified this decentralized approach by creating water basin councils and strengthening the main obligations and roles of ABHs. As per Water Law 36-15, the mandates of the ABHs include monitoring, protecting, managing, and planning water resources, developing, and supplying water, monitoring and controlling water use and quality, and flood protection within their respective basins.

30. **ABHs operate at different levels of development concerning their main functions**. The main challenges across ABHs pertain to insufficient information management systems informing the preparation and implementation of the PDAIREs, operation of water infrastructure, water allocations, and flood forecasting. Insufficient revenues and human resources also prevent ABHs from monitoring and controlling water abstraction and pollution efficiently, undertaking watershed and flood protection, ensuring dam O&M and safety, and sustaining reliable water sources. This is also due to the need to implement more cohesive actions for the control of the Hydraulic Public Domain and of specific regulations in place on the delimitation of the Hydraulic Public Domain, water police, and permissible effluent discharge values. Limited institutional coordination, including citizen engagement, further restrains ABH's capacity to deliver on its functions.

31. **The technical assessment concluded that a comprehensive and standardized approach to evaluating key performance systems is useful for identifying performance constraints and areas for improvement**. Previous assessments of ABHs' performance have led to the definition of evaluation indicators upon which ABHs report annually. Existing frameworks mainly focus on financial performance and remain limited to support prioritization efforts for overall ABH strengthening. The Program will incentivize adopting a streamlined framework encompassing a system of scoring and target setting across ABH core functions. The definition of standardized criteria for each of these areas will be used to inform and track progress on performance improvements. As a result, the framework will enable a more strategic approach to ABH performance evaluation and reporting that will identify areas where improvements are required within individual ABHs, areas where individual ABHs are performing well, and areas that present challenges across all ABHs. Doing so will help to identify and prioritize specific remedial actions within individual ABHs, opportunities for peer-to-peer learning among different ABHS, and issues that require capacity-building interventions. The Program will further incentivize improvements in ABH performance scores as the result of adopted annual action plans with prioritized actions based on each of the ABH's performance levels and identified strengthening needs.

Figure A3.2. ABH key functions and other cross-cutting areas



Water Information Systems for decision-making

32. **A solid base of water sector information is required to support efficient and resilient sector development.** The technical assessment identified actions to improve water sector data and information, which need a holistic approach that encompasses all systems that make up for water information management systems to facilitate access and bring more utility of information services to decision-makers and users. These systems include monitoring and observation networks, data management systems, and information services delivery and feedback systems. Improving water information services in Morocco requires increasing the spatial coverage and density of observation networks. These systems require quality management systems to ensure water data reliability for different applications. Developing information systems to boost the exchange, public access, and utility of water information to users through specific products and services will support efficient water resource management and planning.

33. **Water observation and monitoring networks.** The hydrological measurement network in Morocco is characterized by relative longevity (most stations exceeding 30 years). By 2016, 60 percent of gauging stations could automatically measure and transmit data. The ABHs manage hydrological and hydrogeological networks, while the strategic development of these systems at the national level lies under the MEE-DRPE. These systems remain, however, sparse and with temporal gaps in data recording. The manual and automated data measurement and transmission from existing networks further face shortcomings due to deficiencies in data quality assurance practices and supporting Information and Communications Technology systems. Thoughtful operation and maintenance and sufficient financial and human resources are necessary to ensure these systems' sustainability over time.

34. **The Program will support the development of hydrological and hydrogeological networks in the ABHs included in the Program**. Establishing new hydrological stations and piezometers will extend existing measurement networks to areas not sufficiently covered within these basins. The maintenance of existing stations, including the modernization of select stations and piezometers with telemetry equipment, will further support the rehabilitation and upgrade of these systems. The development of these networks will be implemented following a diagnostic and action plan that will enable the adoption of a more strategic approach based on assessed water data needs, benchmark best practices, and cost-effective solutions. Implementing these plans will also include the training and capacity development of ABHs and MEE technical staff to operate and maintain improved systems, including optimizing their management and O&M.

35. **Data management systems and water data quality assurance**. The existing water resources database (BADRE21), which encompasses different data processing and storage modules, does not meet the functional needs of ABHs and MEE. This database lacks automatic synchronization between ABHs and central-level data management systems. The backbone software making up this database further requires upgrading to reflect functionalities with current practices for data visualization, consolidation, and protection. In addition, standard procedures for undertaking surface and groundwater measurements, including specific tools and technical capacity for data quality assurance and control across the data measurement chain,[72] remain underdeveloped. These are necessary to maintain a satisfactory level of quality in a data set or data consolidation to build institutional data trust and make water data and information sufficiently reliable to potential users.

36. **The Program will support the development of an improved data management framework to operate for the processing, storing, and consolidating of water data at the ABH and central level (DPRE-MEE)**. This system will include improved data storage modules (databases) specific for surface water, groundwater, and flood data, each with Geographic Information Systems (GIS) capability. These systems will also be developed to ensure seamless synchronization of data repertoires between the ABHs and the central level. The Program will also support the preparation and adoption of guidelines and manuals detailing the procedures for surface and groundwater measurements and the operationalization of tools and practices for data quality assurance and control by ABHs included in the Program. Adopting quality management principles will enable ABHs to enter a formal certification process. Quality assurance and control processes will cover the life cycle of the water data, from the equipment installation and observation through its storage and use. These systems will be developed in alignment with international best practices, which outline key principles for data quality assurance, including a "user/customer focus."

37. **Water information systems**. In Morocco, water information systems at the ABHs level constitute the basis for data consolidation at the basin level. The Water Law 36-15 mandated the creation of a National Water Information System (SNIEAU) as the chapeau framework to consolidate basin-level water data at the national level. While at different levels of development, all ABHs have established information systems. These systems are not standardized across all the ABHs and require different levels of upgrades to enable data sharing with key stakeholders and seamless interoperability. A prototype framework of the SNIEAU was developed in 2017 but is not fully operational. Limited water data and information are publicly available. This is partly due to specifications of the Water Law 36-15 related to the SNIEAU and the functions and procedures for water data (Articles 129 and 130) requiring prior definition and formalization. Water information systems also require further development of decision-support functions for water resources planning and management, including specific data products or services to decision-makers and users.

38. **Improved water information management systems will enable the reliable access and use of water data and information for decision-making at the basin and national levels**. To this end, the Program will support the adoption of the decree defining all specific requirements for establishing the SNIEAU – following the Water Law 36-15 specifications. The Program will also support the adoption of conventions or protocols for data sharing among key sector stakeholders. The Program will also incentivize the operationalization of water resources information systems at the basin and national levels, involving their necessary upgrades to meet compliance with the established norms, the interoperability among systems for the consolidation of water data from basin to national level systems and with other sector systems, and to enable and ensure publicly and reliable access of water data and information to stakeholders and users. The access and use of water data and information will be further enhanced by developing and upgrading specific decision-support tools for water quality, groundwater monitoring, and the generation of river basin water accounts.

RA2. Improving Financial Sustainability and Water Use Efficiency

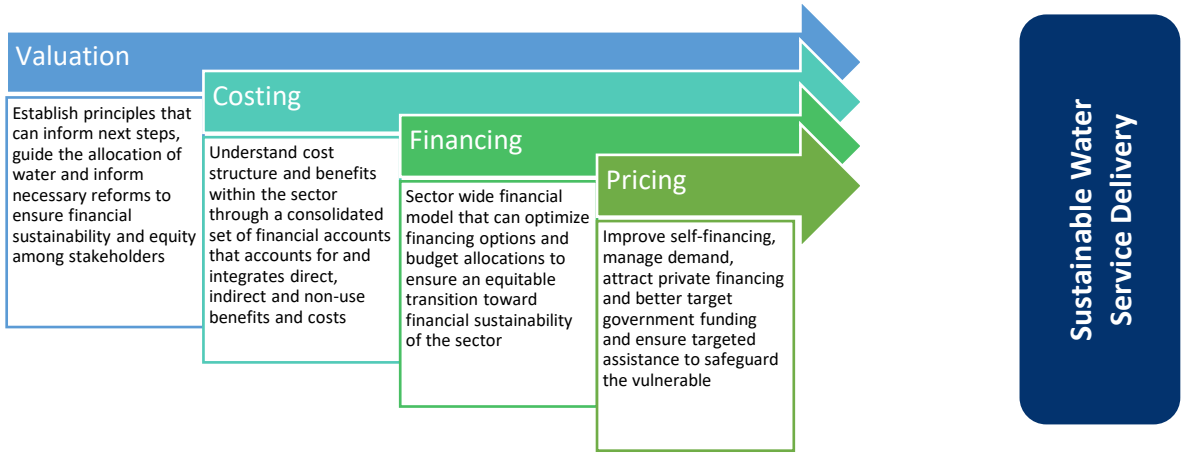
39. **The transformation of the water sector has important implications for long-term financial sustainability and equity considerations across different sectors and parts of society**. Tariffs for water supply and irrigation services are not

[72] Include the ensemble of processes and means for data measurement and collection, treatment, transmission, processing, and storage.

generally based on production and distribution costs, and user contributions are generally insufficient to cover operational and maintenance costs. These challenges and changes in the sector's cost structure call for a comprehensive approach to the valuation of water that can inform future-focused policies and regulations to improve financial sustainability. These policies and regulations will be important to reveal the range of values among different stakeholders and develop a shared vision within communities, to optimize the sustainable and efficient allocation of water, ensure the equitable pricing of water services, and guide investments aimed at safeguarding water security, its contribution to economic growth and development, and maintaining social equilibrium.

40. **The Program will support the Government's efforts to anticipate and address the challenges of financial sustainability in the sector.** The process of valuing water is a continuous and iterative one. The NDM report recommends measures "reflecting the true value of the water resource and incentivizing a more efficient and rational use and management of the resource." The goal is "future-orientated" policy processes that anticipate, rather than react to, new challenges and account for the change in socio-economic and environmental conditions, shifts in societal values, and pervasive uncertainty associated with climate change. As part of updating the PNE, the Program will support a qualitative process that can build consensus around national priorities and reveal local values, culminating in adopting principles that will inform the development of quantitative tools to improve financial sustainability. The Program will build on these principles to identify and update the underlying costs and benefits associated with investments in the water sector to inform the development of a consolidated financial model. This is data intensive, and the architecture is typically developed and then populated through an iterative process that starts with existing data, identifies gaps and additional needs, follows collection and updates, and continuous recalibration. This information is critical to informing and guiding the process of developing pricing strategies for the various sub-sectors that can be used to create incentives for better water use and consumption while safeguarding water for the environment and other intangible value allocation options.

Figure A3.3. The key building blocks of financial sustainability



Potable water savings in distribution networks

41. **A key pillar of the PNAEPI is the reduction of water losses and service providers' performance improvement to enhance Morocco's water security**. In 2022, water losses (physical and commercial) varied from 19.9 to 31.28 percent among the Régies included in the Program. Given Morocco's water scarcity challenges and the increasing cost of water mobilization, a further increase in potable water distribution efficiency is critical to enhance water security and support the financial sustainability of service providers. The water loss reduction programs implemented by the Régies include the sectorization of distribution networks into hydraulicly isolated sections (or creation of District Metered Areas - DMAs), the

installation, replacement, and calibration of macro an micro-meters, the installation of pressure valves and modulators for better network pressure control, the installation of remote leakage detection tools (like acoustic sensors), as well as the localization, repair, and replacement of underperforming distribution infrastructure where leaks were detected.

42. **The Program will support the implementation of the water loss reduction plans prepared by the selected *Régies* in the Program area**. These serve about 7 million people and are located within the Program area. Under this Results Area, the Program will support the establishment of new DMAs in areas of the network that have not yet been sectorized and the restructuring of already existing ones into more optimal delimitations or smaller sections. The importance of DMAs for water loss reduction programs is explained in Box 1. In addition, existing DMAs will be upgraded, where necessary, with electromagnetic flow meters and remote management capabilities, superimposition of commercial and hydraulic sectors, installation of leak detection equipment (e.g., acoustic sensors), replacement of old and defective meters, pressure modulation, geo-localization of water connections and migration into GIS platforms. These actions will help improve the monitoring and calculation of water balances in each DMA, increasing the efficiency of leak detection and decreasing water losses. In addition to these actions, the Program will support repairing, rehabilitating, and replacing old pipes, depending on their damage status.

Table A3.4. NRW levels as of 2022 and annual forecasts (2023-2027)

NRW	Unit	Level	Forecasts				
		2022	2023	2024	2025	2026	2027
RADEEF	%	21.91%	21.27%	20.74%	20.21%	20.14%	20.00%
RADEEJ	%	23.44%	22.50%	21.41%	20.84%	20.46%	20.06%
RADEEL	%	23.00%	22.25%	21.78%	21.31%	20.85%	19.95%
RADEEMA	%	21.70%	21.00%	20.50%	20.00%	20.00%	20.00%
RADEES	%	19.98%	19.59%	19.21%	18.75%	18.38%	17.83%
RADEET	%	31.28%	29.07%	28.05%	25.97%	24.07%	21.59%
RAK	%	23.59%	22.00%	21.00%	20.00%	19.00%	18.00%
RAMSA	%	20.99%	20.80%	20.60%	20.40%	20.20%	20.00%
RADEETA	%	26.99%	25.00%	23.50%	22.00%	21.00%	20.00%
RADEM	%	24.80%	23.50%	22.50%	21.50%	20.50%	20.00%
RADEEC	%	23.52%	22.55%	21.99%	21.44%	20.92%	20.22%

Source: Regies' data provided as part of Program preparation and management reports available on Régies websites

43. **The water loss reduction activities supported under the Program could lead to water savings of 20 MCM over the Program's lifetime and important operational and financial efficiencies.** If a physical loss is detected and repaired, the savings will be in reducing variable operational costs for the *Régies* as less water needs to be produced and pumped. This would create additional water supply and allow new customers to connect to the supply system. These savings would also reduce energy consumption and GHG emissions, relieve pressure on groundwater, and delay the need to develop alternative water supply sources. When a commercial loss is detected and resolved, the saving will be an immediate revenue increase and thus is based on the water sales tariff, generating additional revenues, and improving the financial performance of the beneficiary service providers. Establishing DMAs also makes optimizing energy consumption, pressure management, and water quality issues possible.

Box 1. District Metered Areas for more efficient water loss reduction

Water losses are defined as the volume of water distributed minus the volume of water billed in each network. Therefore, water losses encompass physical losses due to leakages in the water distribution system and commercial losses due to faulty meters or illegal connections. In most utilities, physical losses account for most water losses. When a water network is operated as an open system, determining water losses can only be calculated for the entire network, which is an average for the entire system. This means that determining the exact locations of water loss occurrences and where water loss reduction efforts should be centered is challenging, particularly in large networks. In these cases, leakage control is undertaken passively and tackled only when the loss is visible or reported.

Moving from passive to active leakage control allows for more efficient operations, and it requires the sectioning of the larger network into smaller zones or district meter areas (DMAs). A DMA is defined as a discrete part of a water distribution network. It is usually created by closing boundary valves or disconnecting pipes to neighboring areas. Water flowing in and out of the DMA is strictly controlled and metered to calculate the accurate water balance for each DMA. The concept of monitoring flows into DMAs, where bursts and leaks are unreported, is now an internationally accepted and well-established technique to determine where leak location activities should be undertaken. The quicker the operator can analyze DMA flow data; the quicker bursts or leaks can be located. This speedy repair limits the total volume of water lost.

PNAEPI Communication Strategy

44. **The implementation of the PNAEPI is accompanied by a sound, comprehensive National Communication and Sensibilization Plan (NCSP) prepared in February 2021.** The NCSP establishes three main objectives: (a) ensure that all relevant stakeholders, implementing agencies, and partners are fully informed about the pillars of the PNAEPI; (b) promote the participation and engagement of all relevant stakeholders in the implementation of the PNAEPI; and (c) raise the awareness of the general population on the country's water scarcity situation and the need to change behavior towards water conservation. The Program will support the implementation of the actions related to the NCSP's third objective due to its strategic role in boosting a water savings culture in Morocco. Despite the country's water scarcity, many water users are often disengaged and uninformed of the objectives of the PNAEPI, are not aware of the actions they can take to conserve potable water and water for irrigation and may view non-conventional water resources with mistrust.[73] These issues may hinder the successful implementation of the Program and the PNAEPI.

45. **The Program will support the roll-out of communication campaigns to galvanize support for implementing the PNAEPI and incentivize awareness of water consumption reduction among the general population.** The Program will support the implementation of several communication campaigns at the national level through mass media (television, radio, social networks) led by the MEE and at the local level through information sessions, sensibilization workshops, or school programs led by several ABHs. As needed, these will be coordinated with other relevant stakeholders (Régies, MAPMDREF, WUAs, etc.). These campaigns seek to engage with the general population on the main pillars of the PNAEPI, raise awareness about the water scarcity challenges the country faces, encourage support to augment non-conventional water resources in the country's water mix, and incentivize behavior change towards water conservation. Ultimately, the campaigns also seek to build trust between water users and water management institutions. To ensure that the communication campaigns are effective and use persuasive delivery tools and messages,[74] the Program will support the evaluation of the effect of current communication campaigns and provide recommendations for improvement during the first year of implementation. A similar evaluation will be carried out at the end of the Program to assess the effectiveness of the campaigns.

[73] PNAEPI National Communications and Sensibilization Plan 2020 – 2027.
[74] Mahmudur Rahman Aveek, David Ezechiel Rosenberg (2022). Sustaining Water Conservation: A Synthesis of Research on Motivators, Message Tailoring, and Tactics. Authorea. October 13, 2022.

RA3. Enabling the Integration of Non-Conventional Water Resources

46. A sound regulatory framework and an enabling environment must accompany the successful expansion of non-conventional water resources. Diversifying the water resource matrix is critical for Morocco to boost water security and resilience by decoupling water production from hydro-climatic variability.

Desalination

47. **The Program will support capacity-building efforts for contracting and managing Public-Private Partnerships (PPPs) for desalination**. As indicated by the NDM report and the PNAEPI, given the high-CAPEX costs associated with seawater desalination, mobilizing private-sector financing is key to Meet Morocco's water security objectives. Adopting PPP schemes for large-scale seawater desalination—rather than a traditional construction contract approach—can bring significant benefits to Morocco. PPP contract models allow for the assessment of asset performance (desalinated water production capacity, quality, and water pressure at the point of delivery) against agreed-upon technical specifications, timing, and budget with the private party. Further, risks and responsibilities can be ring-fenced from those related to water distribution activities. The remuneration to the private developer can be easily linked to the demand for desalinated water using capacity-plus-volume tariff structures. In 2016, 47 percent of desalination capital investments in the world (US$2.9 billion) were financed using PPP schemes, with the MENA region leading with more than 30 desalination BOTs signed in the past 20 years.[75]

Wastewater reuse scale-up

48. **Reusing treated wastewater provides an opportunity to promote circular economy approaches and contribute to water security.** Morocco has made significant progress in increasing wastewater treatment in the country, which represents an opportunity for increasing the availability of treated wastewater for reuse to reduce pressure on Morocco's scarce water resources and vulnerability to climate change. In 2006, the government of Morocco embarked on a large National Sanitation Program (*Programme National d'Assainissement Liquid et d'Épuration des Eaux Usées*, PNA), which resulted in about 84 percent of the Moroccan urban population connected to a sewerage network in 2019 and increased the level of wastewater treatment from 8 percent in 2005 to 53 percent in 2019. By the end of June 2020, Morocco had completed 153 wastewater treatment plants (WWTPs), with an overall treatment capacity of about 3.4 MCM per day. Most of this installed capacity in volume concerns pre-treatment and discharge at sea via an outlet (2.3 MCM per day or 68 percent of the installed capacity) because the large coastal cities (Rabat, Tangier, Casablanca, Tetouan) have retained this type of treatment system. In addition, 16 percent (or 0.5 MCM per day) of the installed capacity concerns tertiary treatment, followed by 13 percent at the secondary stage and 3 percent of the capacity for primary treatments exclusively. These volumes represent an important resource to alleviate the water scarcity challenges the country is facing.

49. **The National Sanitation Mutualized Program (***Programme National d'Assainissement Mutualisé*, PNAM) **was launched in 2019, establishing the target of 100 MCM per year of wastewater reuse by 2027.** The PNAM, part of the PNAEPI, establishes that further developing and expanding treated wastewater reuse is a strategic solution to Morocco's water scarcity challenges. The PNAEPI sets reuse objectives of 100 MCM per year by 2027. The PNAEPI foresees a total investment of MAD 3019 million (US$301 million) to expand treatment capacity and upgrade WWTPs from primary or secondary treatment to tertiary treatment for reuse. The proposed investments build on Morocco's successful experience implementing reuse projects, for example, for use in industry, green spaces, and golf courses across the country. In Rabat and Marrakesh, most public parks are irrigated with treated wastewater. In 2020, 21 golf courses were already being irrigated with treated wastewater. The PNAEPI foresees additional 87 reuse projects to be implemented under 2027.

50. **The implementation arrangements of the reuse projects are established in dedicated reuse agreements.** These agreements establish the purpose and scope of the project, as well as the roles and responsibilities of the involved

[75] Global Water Intelligence (GWI), 2017. Desalination Markets 2018. Oxford, U.K.: Media Analytics, Ltd.

stakeholders regarding financial contributions, operation and maintenance arrangements, quality and quantity of water, monitoring, reporting, and coordination mechanisms needed for the project implementation, among others. The average tariff charged for the treated wastewater is between 2 to 3 MAD per m3.

Box 2. Non-conventional water resources use in industry – the case of the OCP group

Morocco has the largest reserves of phosphates in the world (75 percent of the global stock). The state-owned OCP group is responsible for the exploration, extraction, processing, and marketing of phosphate rock and its derivatives. OCP plays a vital role in the Moroccan economy and is a major contributor to the global fertilizer industry. The company operates numerous mines, chemical plants, and infrastructure facilities across Morocco. This process requires large amounts of water, estimated at 120 MCM per year. As part of its sustainability strategy, OCP has committed to adhering to circular economy principles and is currently meeting around 30 percent of its water demand through the use of treated wastewater and desalinated water.

In line with the PNAEPI and the OCP Group's sustainability strategy, the OCP Group has committed to cover all its water needs with non-conventional water resources by 2030 (72 with water from desalination plants and 28 percent with treated wastewater, for a total water need of 161 MCM per year by 2030). For this, several projects are underway including the expansion of existing desalination plants and the construction of the Tadla WWTP, and the Fqih Ben Salah WWTP. The existing WWTP at Khouribga will be expanded to treat twice the current volume. The OCP also has in place a large program for increasing the efficiency of its water processes, including recycling 80 percent of the water used in phosphate enrichment process; and saving three MCM of water a year through the installation of a slurry pipeline that has replaced conventional railway transportation that used to transport phosphate from Khouribga to Jorf Lasfar.

OCP is also committed to be Carbon Neutral by 2030. By 2021, 87 percent of OCPs energy needs were met by co-generation and wind energy. As part of its Sustainability Strategy, the OCP will expand its solar power grid as well as engage in energy efficiency practices to reduce consumption by 10 percent.

Sources: OCP Group (2021) OCP Sustainability Integrated Report 2021. https://ocpsiteprodsa.blob.core.windows.net/media/2022-08/OCP%20GROUP%20INTEGRATED%20REPORT%202021.pdf Corporate Website and presentation provided by the OCP Group on June 10, 2021, during the Webinar "*La place des eaux non conventionelles dans la stratégie de Développement Durable d'OCP*" in collaboration with the Moroccan Coalition for Water (COALMA): https://www.youtube.com/watch?v=V_obHEQ7rOk&ab_channel=CoalitionMarocainepourl%E2%80%99Eau-COALMA

51. **The Program will support the expansion of treated wastewater available for reuse to more than 52 MCM per year by 2027.** The Program will support implementing reuse conventions within the Program's geographical intervention area. The scope of each reuse project will be specified in its corresponding reuse agreement, and it will include: the upgrading of existing wastewater treatment plants from primary or secondary treatment to tertiary treatment, the extension of tertiary treatment capacity, and the construction of treated wastewater distribution network and associated infrastructure (pumping stations, reservoirs, etc.).

Table A3.5. Summary of reuse projects characteristics included as part of the Program

No.	Location - Town	Treated wastewater use	Existing WWTP treatment level	Type of WWTP technology	WWTP completion date	WWTP capacity (m3/day)	Area to be irrigated (ha)	Volume of treated wastewater effluent needed (m3/year)
1	Kelâat Sraghna	Green spaces	Tertiary	Trickling filter	2014	8 400	28	615 000
2	Rabat, Salé et Témara	Green spaces	The treated water for reuse comes from the water used to wash the filters of the Oum Azza and Bouregreg water treatment plants				105	3 650 000
3	Al Hoceima	Green spaces	Tertiary	Activated sludge	2004 - 2011	9 600	18	91 000
4	Azemmour	Mazagan Beach and Golf Resort, Golf Pullman Mazagan Royal, and green spaces	Under construction	Activated sludge	Under construction	7 000	200	2 700 000
5	Settat	Settat University Golf and green spaces	Tertiary	Natural Lagoon	2006	13 500	104	1 700 900
6	Bouznika	Golf Bouznika Bay Capri and green spaces	Tertiary	Natural Lagoon	2010	5 070	119	1 737 400
7	Ech-challalate	Mohammadia Royal Golf and green spaces	Secondary	Trickling filter	2015	2 800	TBD	1 022 000
8	Fés	Fès Royal Golf à Ain Chgag, Golf Oud Fès and green spaces	Secondary	Activated sludge	2014	155 400	120	12 045 000
9	Assilah, Gueznaia et Tanger	Golf Assilah Marina and green spaces	Tertiary	Activated sludge	2015	10 400	166	3 400 000
10	El Jadida	Green spaces, Parc d'exposition M6 and PUMA OCP	Primary	Pre-treatment and submarine outfall	2012	95 000	414	5 767 000
11	Benslimane	Green spaces	Tertiary	Natural Lagoon	1997	5 600	9	321 748
12	Biougra	Green spaces	Tertiary	Natural Lagoon and infiltration percolation	2007	1 156	TBD	TBD

No.	Location - Town	Treated wastewater use	Existing WWTP treatment level	Type of WWTP technology	WWTP completion date	WWTP capacity (m3/day)	Area to be irrigated (ha)	Volume of treated wastewater effluent needed (m3/year)
13	Ifrane	Michelifen Golf and green spaces	Tertiary	Activated sludge	2015	8 900	100	110 500
14	M'Rirt	Green spaces and irrigation for agriculture	Tertiary	Aerated lagoon	2003 - 2021	4 265	18	397 354
15	Marrakech	Green spaces	Tertiary	Activated sludge	2010	90 720	228	7 000 000
16	Meknès	Meknès Royal Golf and green spaces	Primary	Anaerobic lagoon	2009	100 000	TBD	10 895 250
17	Kénitra	Golf 3ème Bafra and green spaces	Secondary	Activated sludge	2018	70 000	17	620 500

Source: MoI, April 2023.

52. **The Program will strengthen the legal framework for reusing treated wastewater in agriculture by updating the by-laws regulating its use.** The Water Law 36-15 provides bylaws for the safe and sustainable reuse of treated wastewater in various sectors, including agriculture, industry, and public spaces. Thus, the Decree No. 2-97-875 of 1998 defining the water quality standards and the process for establishing the inventory of sources of water pollution need updating based on the provisions of the Water Law 36-15, as well as the Order No. 1276-01 of October 2022, which sets the quality standards for treated effluent to be used for agriculture purposes. The Program will support a consultative and participative process for revising Decree No. 2-97-875 of 1998 and the Order No. 1276-01 of October 2022.

53. **Summary of DLIs**. The Program consists of eight DLIs. The justification for each of the DLIs is provided below.

54. *DLI #1: National Water Plan (PNE) Adopted*. This DLI aims to incentivize the adoption of the PNE, which will set the 30-year vision for the water sector. It shall encompass dynamic planning that reflects the increasing uncertainty derived from climate change; and the principles to strengthen the sector's governance, institutional, and financial aspects (including defining water valuation and cost-recovery principles). The preparation of the Plan entails significant coordination efforts among the relevant stakeholders, including the MEF, MEE, MoI, MAPMDREF, OCP, and service providers (irrigation and water supply, and sanitation services). It reflects the water needs of sector-specific Plans (notably the Generation Green and OCP Water Plan). Its approval must be done by the Superior Council of Water and Climate, chaired by the Prime Minister.

55. *DLI#2: Groundwater management improved*. This DLI seeks to support the GoM efforts to improve groundwater resources and ensure long-term sustainability. This DLI will incentivize the development, adoption, and implementation of legal provisions and consultative processes for participatory aquifer management contracts. Also, the DLI provides incentives for signing participatory management contracts in three significantly overexploited aquifers (Berrechid, Maamoura, and Bahira). Finally, the DLI supports GoM's effort for improved groundwater management by deploying smart meters to monitor groundwater abstraction by large users in aquifers within the Program area.

56. *DLI3#: ABH performance framework adopted, and ABH performance improved*. This DLI provides incentives to strengthen the performance of the river basin agencies (ABHs), key institutions for water resource management at the basin level. To this end, the DLIs will support the adoption of a performance benchmarking framework, which will allow ABHs to

assess their performance in delivering key functions (managing, planning, protecting water resources, and operating and maintaining public water infrastructure) based on a maturity matrix. Based on the ABHs' performance assessment, the DLIs will incentivize the adoption of annual action plans to improve their scores and reward the improvement of performance scores. Finally, the ABH performance framework will facilitate the benchmarking of ABHs performance and trends, including publishing a report on the performance evolution of ABHs under the Program.

57. *DLI#4: Water Information Systems operationalized and used for decision-making*. This DLI seeks to incentivize improved content, quality, accessibility, and use of water data. To this end, the DLI will incentivize the adoption of the Decree establishing the SNIEAU and ABHs' Water Resources Information Systems and the operationalization of the systems, which entail: (a) interoperability between the SNIEAU and ABHs' Water Resources Information Systems; (b) interoperability with relevant databases (stored water volumes in dams, inventory of wells by the National Conservation Agency, water quantity and quality, among others); and (c) their accessibility to the public (partial). Finally, the DLI provides incentives for publishing in the SNIEAU of the annual hydrological status by selected ABHs included in the Program, including uses and quality aspects.

58. *DLI #5: Multiservice operators' performance information system operationalized.* This DLI aims at establishing the foundations of the regulatory systems for the SRMs- including two major elements: (a) KPI reporting requirements feeding into an MoI digitalized performance information system; and (b) the definition of minimum service standards for electricity and water supply distribution and the wastewater collection and treatment.

59. *DLI#6: Financial sustainability framework of the water sector improved*. This DLI seeks to improve the sector's financial sustainability across the entire water value chain by developing a Financing sustainability framework comprising a financial model et financial sustainability action plan. These tools will facilitate GoM decision-making to bridge the gap between cost and revenues along the water value chain (including water mobilization through wastewater reuse and disposal), particularly considering the significant transformation of the water matrix envisaged under the PNAEPI. In particular, the DLI will support developing a financial model, and adopting a financial sustainability action plan. All these tools will consider relevant costs (CAPEX and OPEX) and revues (tariffs, transfers, and taxes).

60. *DLI#7: Volume of potable water savings in distribution water supply networks*. This DLI seeks to incentivize demand management efforts in the distribution systems by implementing non-revenue water reduction plans by Régies in the Program area. Through the Program, 20 million m3 of potable water will be saved by Régies in the Program areas through network sectorization and pressure management, improved leakage control and repair, deployment of GIS tools, and rehabilitation of distribution mains.

61. *DLI#8: Wastewater reuse scaled-up*. This DLI supports the GoM's ambition to scale up treated wastewater for productive uses (green spaces, golf, industry, tourism, agriculture, and others) as a strategic resource to mitigate increasing water scarcity risks. Through this DLI, the Program will support the revision of the bylaw defining the norms for wastewater reuse for irrigation purposes, noting that the general use of wastewater is already adopted. In addition, the DLIs will incentivize the implementation of treated wastewater reuse projects, including expanding the installed capacity to the treatment level required for reuse and the distribution network from the wastewater treatment plant to the off taker of the treated effluent. The Program will make 52 million m3 of treated wastewater available for reuse (equivalent to 52 percent of the PNAEPI target).

62. **All DLIs of the Program will be independently verified by the (independent verification agency -IVA)**. The General Inspection of each of the minister involved in the achievement of the DLRs will be in charge of the verification (annex 2).

III. Corporate Requirements

Gender

63. **In keeping with the 2011 Constitution's recognition of the need to increase women's political and economic participation, Morocco has undertaken concrete steps to promote gender equality and women empowerment in the water sector.** Among others, the Water Law 36-15 recognizes the need to integrate a gender approach in the sector by promoting equitable access to water for both women and men and ensuring equal participation in decision-making. The PNAEPI recognizes the empowerment of women and girls, the promotion of gender equity in the workplace, and the participation of women and youth as critical aspects of Morocco's prosperity. Following reforms to the Organic Law No. 130-13 in 2015 related to performance budgeting, the MEE adopted a gender-responsive budgeting approach as part of the results-based budget reform. This led to the development and implementation of the Strategy for Gender Mainstreaming in the Water Sector (2017)[76] with the following orientations: an (a) integration of a gender approach into water resources development policies and programs; (b) systemic integration of gender equality in human resources management through preventive and corrective measures; and (c) strengthen the institutional capacity of water entities (MEE-DGH and ABHs) to integrate gender equality into their activities, practices, and structures.

64. **Despite this progress, persistent gender gaps in the workforce remain in the water sector.** The share of women in water institutions in technical and leadership positions at central and regional levels is still limited compared to men. In 2022, at the level of the MEE-DGH, out of 909 functionaries, 292 (or 32 percent) were female, and they occupied 37 percent of the available technical positions.[77] Women in leadership positions[78] in 2019 within MEE-DGH reached 30 percent, while the share at the ABHs level stood lower at 19 percent. [79] Men predominate in technical jobs, such as supervising construction sites, dam management, and supervision positions of the meteorological and hydrological measurement network. Traditional expectations of women's role in society, safety issues, and mobility challenges to reach remote locations may prevent them from acquiring relevant experience to advance in their career path.

65. **There is also a need to increase women's representation in water governance and to integrate a gender approach effectively targeting women in programs and projects carried out by the MEE-DGH and ABHs**. Regarding water use and management, traditionally, women are more active in managing water at the household level, especially in rural areas - with main responsibilities for water collection, use for food, drinking and hygiene, livestock and gardening, and water reuse. As a result, women allocate more time to household tasks, including water management, than men. Despite different needs and perceptions of women and men over water management, the participation of women in expressing their views and their role in decision-making at the community level remains limited. Following the strategic areas of the Gender Strategy, a gender approach has been mainstreamed in water development projects for drinking supply. However, other programs and projects implemented by water institutions still require incorporating a gender approach to target and reach women (e.g., communication and awareness campaigns, groundwater management, combating water pollution, water storage, flood protection works, etc.) more effectively.

66. **Program gender-targeted actions**. The Program will support further implementing the priorities identified in the 2017 Strategy for Gender Mainstreaming in the Water sector and the gender-sensitive budget program of MEE. These include the institutional capacity to promote gender equality in the sector both at the policy and program level, through the integration of a gender approach in human resources development, increasing women's representation in leadership (decision-making) and technical positions in the workplace (MEE and ABHs), and through the integration of gender-sensitive

[76] Stratégie d'Institutionnalisation de l'intégration du genre dans le secteur de l'eau, GoM and UN Women (2017). Available at http://81.192.10.228/wp-content/uploads/2016/08/Rapport-mission-3-IEG-final-F-POUR-ATELIER-12-6-2017-fin.pdf
[77] Data provided by the DGH as part of the Program preparation.
[78] SG, Director, or Chef de divisions/de services.
[79] Rapport Sur Le Budget Axe Sur Les Resultats Tenanat Compte de L'aspect Genre (2018). Available at: http://81.192.10.228/wp-content/uploads/2018/11/RG_LF_2019.pdf

approaches in ABHs water management, protection and development projects, and programs. Specifically, the Program will support:

67. *Gender composite index within the ABH performance framework.* As part of the definition of the ABH performance framework (supported under DLI#3), a gender composite index will be included to enable the identification of measures in the ABH annual action plans aiming at (a) strengthening ABH capacity to support women staff to advance in their career path, for example, through the establishment of capacity development programs that facilitate the participation of women on the different activities and projects carried out by the ABHs, including specific training in managerial, organizational, and financial skills to enable technical women staff take on leadership roles, etc.; (b) ensure the participation of female staff in technical and other targeted trainings; measures to enhance safety in the workplace and provide flexible work arrangements; and, (c) enabling effective support to address underlying constraints preventing women from benefiting from water-related awareness campaigns implemented by ABHs, including targeted messages and locations, formats of delivery, and timing to specifically reach out to women promoting water conservation or other water-related practices, as well to attract and promote women to engage and apply to technical careers and jobs in the sector. Progress will be monitored under the Program through improvements in ABHs annual performance scores for the gender composite index.

68. *Gender-targeted communication campaigns*. As indicated above, the Program will support the implementation of the communication campaigns included in the PNAEPIs communication strategy adopted in 2021. The communication campaigns will include specific objectives and messages targeted to women. These can include messages addressing social norms that may deter young women from enrolling in technical/engineering university programs or outreach programs to schools and colleges, addressing potential barriers to women's attraction to the water sector. Also, the baseline and end-Program communication campaigns impact evaluations (supported under the Program) will include specific group discussions with women to identify awareness of water scarcity issues, perception of the campaigns and ways to improve them to reach women more effectively, motivations for actions to identify specific gender-related barriers to engage in water conservation behaviors, and recommendations to address these will be incorporated in the design of subsequent communication campaigns.

69. *Preparation of participatory aquifer management contracts.* The Program contains provisions to ensure that women participate in preparing participatory aquifer management contracts. It will support the inclusion of explicit provisions in the Decree for participatory aquifer management contracts to ensure women's voices and participation are guaranteed through adopting such contracts.

70. *Disclosure of data information by gender*. To the relevant extent, the Program contains provisions for the disaggregation of data available through the SNIEAU and ABHs water information systems to be disaggregated by gender. Also, data on sub-national water service providers' operational performance will be disaggregated by gender (as relevant).

Citizen engagement

71. The NDM recognizes that the Moroccan people are at the center of addressing the water challenges in the country, either as beneficiaries or as actors of change. Thus, the new vision for the country shall be accompanied by inclusive participation channels, including consultation mechanisms and digital platforms.

72. **Program citizen engagement actions.** The Program results are intended to support citizen engagement efforts by fostering accountability, transparency, and trust in the water sector as follows:

73. *Developing the SNIEAU and the ABH water information systems to provide citizens access to regularly updated data* [under DLI #4]. The Program will incentivize the development of water information systems and capacities to improve the quality of water data, with a particular focus on user accessibility. Guidelines, manuals, tools, and capacity to be developed under the Program will incorporate a "user focus," emphasizing documenting and understanding data users' and customers' current and future needs. This will be achieved with an established user feedback mechanism made available through these

systems and the regular undertaking of customer satisfaction surveys that will inform the incorporation of feedback back into quality assurance and control processes to ensure data generation meets customer requirements. Users' feedback will be monitored through dedicated intermediate indicators in the results framework.

74. *Promotion of citizen engagement through communication campaigns*. The PNAEPI communication strategy supported by the Program aims to build public support for the strategic priorities of the PNAEPI and promote sustainable water management practices. During the initial evaluation of the communication campaigns, focus group discussions and telephone surveys will be held with civil society representatives to identify their perception of main water issues and challenges and the quality of the information received in previous communication campaigns. The initial assessment results will inform the design of future communication campaigns. These will be once again evaluated at the end of the Program to assess improvement in the suitability of messages, actions towards water conservation, and support to the Program activities.

75. *Non-revenue management programs*. Establishing DMAs for non-revenue water management will allow the Régies to respond more quickly to customer complaints about low water pressure or other issues related to the distribution network, as leakages can be more readily identified and fixed. Régies will also organize public meetings and community outreach campaigns during the implementation of non-revenue water reduction actions. These engagement efforts can build trust between Régies and the community, which is essential for implementing effective nonrevenue water reduction strategies.

Climate

76. **Climate change threatens shared prosperity in Morocco and may exacerbate pre-existing vulnerabilities.** Morocco is classified as one of the world's climate hotspots. Average temperatures have increased by almost 1.36°C between the 1970s and the 2010s (0.34°C per decade), and nine of the ten warmest years recorded in the country's history have occurred in the 21st century. Moreover, precipitation patterns have been erratic, with frequent and intense droughts, severe rain events, and flooding. Rising temperatures and erratic rainfall have reduced river flows and increased evaporation and siltation of storage dams, leading to a 20 percent reduction in overall water resources in the last 30 years, exacerbating the problem of water scarcity generated by non-climate stressors such as population growth in the north, irrigation expansion, as well as urban, industrial and tourism development. This places Morocco in a situation of structural water stress. Since the 1980s, cold spells and heavy snowfall have affected the High and Middle Atlas areas, isolating the localities and making them inaccessible for periods ranging from a few days to over a month. Low-income, marginalized populations – particularly women, youth, and rural populations – lack the resources to adapt to climate-induced shocks such as floods, landslides, droughts, and heat waves. Morocco has been and will continue to be highly exposed. Poor households suffer the highest economic losses from extreme weather events, direct or indirect, through adverse health impacts.

GHG Emissions Reductions

77. Reducing energy consumption resulting from reduced water losses will generate GHG emissions savings by reducing the overall energy usage by the water sector. Over the project's life, over 28,419 tons of CO2 emissions will be avoided, equating to approximately 1,561 tCO2 per year. The NPV of these emissions is US$3 million.

IV. Expenditure Framework Assessment

78. **Synthesis of the relevant expenditures associated with the Program**. Activities encompassed by the expenditure framework are fully aligned with the PNAEPI. The link between the objectives in the national PNAEPI and their corresponding budget lines was established as part of the Technical Assessment.

Table A3.6. Synthesis of the relevant expenditures associated with the Program (2023-2028)

Implementing Agency	Million MAD	Million US$
ABH	1,822	180
MEE	487	48
Regies	2,012	199
Reuse projects	1,480	146
Total	**5,801**	**573**

Source: Annual budgets and concerned entities' budgets and forecasts

Budget structure and lines

79. **The PNAEPI budget structure has been assessed in terms of funding sources, budgetary vehicles, and categories of expenditures**. The PNAEPI is funded through the budget of the MEE, the ABHs included in the Program (Loukkos, Sebou, Bouregreg Chaouia, Oum Er Rbia, Tensift and Souss Massa), and the budgets of the 11 Régies included in the Program (RADEEF, RADEEJ, RADEEL, RADEEMA, RADEES, RADEET, RAK, RAMSA, RADEETA, RADEM and RADEEC).

80. **MEE Budget lines.** At the central level of the MEE, the investment budget is under Program 601, entitled "Water," which includes several projects organized by budget lines. These lines encompass studies, procurement, and works on evaluating surface and groundwater water resources and management and IT tools, platforms, and solutions development.

Table A3.7. MEE Budget lines considered for the Expenditure Framework

Program	Project	Line	Operation	Title
601	11	17	Participative aquifer management contracts	Smart meter for real-time data transmission
601	20	31	Technical studies related to water resources evaluation	
601	20	34	Purchase of hydrogeological equipment	
601	20	71	Hydrological studies related to surface water resources evaluation	Design study of hydrological weirs at the national scale
				Modernization of the hydrological network
				Hydrological studies related to surface water resources evaluation
601	20	72	Construction and development of hydrological stations	
601	20	74	Purchase of equipment and materials for hydro climatological measurements and flood warnings	
601	80	12	Studies related to the development of IT solutions and platforms	

81. **ABHs Budget lines**. The expenditure framework encompasses the budget lines that support the development of water resources through the water public domain, water resources evaluation, planning and management, and water resources preservation and control.

Table A3.8. RBA Budget lines considered for the Expenditure Framework

Budget line	Title
10	Modernization of the administration
20	Studies and research
30	Management of the Hydraulic Public Domain
40	Water resources evaluation
50	Water resources management and planning
60	Water resources conservation, preservation, and protection
80	Maintenance of Hydraulic Public Domain Assets
40 (Fct)	Communication and awareness

82. **MoI and *Régies* budget lines.** As for the MoI, the expenditure framework related to the RA on non-conventional water resources, an analysis was conducted on the budgetary lines to be financed by the special fund created by the 2007 Finance Law entitled "*National Fund for Wastewater Collection and Treatment*" (FALEEUR). These lines cover the tertiary treatment of 36 communes, representing 11 percent of the projects considered under the National Mutualized Sanitation Program (PNAM). A total of 17 projects were identified for a total amount of MAD 1480 billion (US$146 million equivalent) with a target of wastewater mobilized during Program implementation of 52,000,000 m^3.

83. Regarding the 11 Régies included under the Program, the expenditure framework covered all the budget lines that support the implementation of the RA2 related to water savings in distribution water supply networks. The analysis identified the following activities under the budget lines of the 11 Régies: (a) renewal and reinforcement of the distribution network; (b) leaks detection campaigns; (c) pressure management and network sectorization; (d) acquisition of leak detection equipment; ed) renewal of water meters and installation of electromagnetic flowmeters for large consumers; and, (f) GIS deployment.

Alignment of the budget with government priorities, classification, sustainability, and predictability

84. **Financial sustainability**. The implications of the budgetary context on the Program will be significant. However, despite a low budget margin in the short term, **Morocco's medium-term budgetary prospects are adequate to ensure the Program's sustainability**. In 2020, the COVID-19 pandemic increased the budget deficit and public debt, reaching 7 percent and 67 percent of GDP, respectively. In 2020, the country's economic growth was strongly impacted by the health crisis and a poor harvest due to drought. In Morocco, the overall public debt ratio rose from 80.4 percent of GDP in 2019 to 94 percent in 2020, although it should not exceed 60 percent. Also, Morocco's external debt should experience a significant increase at the end of 2022, estimated at nearly 10 percent, to reach MAD 229 billion (US$ 21.71 billion equivalent). The budget deficit should stand at MAD 73.1 billion against an initial forecast of MAD 72.6 billion[80]. The MEF had revised its budget deficit and growth forecasts for the current year to 5.3 percent of GDP and 1.5 percent, respectively. Under these conditions, the total indebtedness of the Moroccan Treasury, compared to GDP, should exceed the threshold of 80 percent of GDP in 2022. The internal component is estimated at 61.2 percent, and the external one at 19.1 percent.

85. Morocco has, however, shown strong resilience in the face of the pandemic, as authorities have rightly increased spending to support businesses and households affected by the Pandemic. The economic, social, and financial measures taken rapidly by the government to offset the negative economic impact of the crisis have contributed to reducing the budgetary and financial margin of the government. In the medium to long term, however, economic performance is expected to improve thanks to sound fiscal and monetary policies, better governance and more coherent sector strategies, and an improved investment environment, all of which aim to support gradual gains in competitiveness. The Program is

[80] Source: MEF. Report on budget execution and three-year macroeconomic framework published in connection with the 2023 Finance Law.

expected to have a long-term positive impact on the fiscal outlook by helping to broaden the fiscal base and spaces, increase tax revenue, and improve spending efficiency.

86. **Program Financial viability**. The 2023 Finance Law reveals the continuity of the efforts started with the 2021 and 2022 finance laws to stimulate revenue mobilization while consolidating expenditure and redirecting it toward social and strategic sectors. The 2023 Finance Law provides for the continued construction of the “Social State” and the strengthening of its pillars via concrete and unprecedented measures that will improve the living conditions of large segments of the population, in particular, the generalization of social protection to vulnerable and needy categories, the improvement of the purchasing power of the middle class and the healthcare offer, the promotion of public schools and the development of mechanisms for access to housing. In its tax section, the 2023 Finance Law made a series of amendments and proposals concerning income and corporate taxes and self-entrepreneur status, which have undergone a radical change in substance and form. Also, among the four general orientations of the 2023 Finance Law, one of the four axes retained in this project concerns “the restoration of the budgetary margins to ensure the sustainability of the reforms. The Government will attach particular importance to financing large-scale structural reforms initiated in recent years, to mobilize more resources and ensure their sustainability. Thus, the government will ensure the mobilization of all possible budgetary margins and direct them towards sectors with a strong economic and social impact. Among the sectoral strategies announced, the 2023 Finance Law provides within the framework of the PNAEPI "the implementation of urgent measures to ensure the supply of drinking water, through the launch of a multitude of projects related to the transfer of water between certain basins, the implementation of seawater desalination stations as well as the reuse of treated wastewater in the watering of green spaces, industrial uses and the needs of tourist complexes."

87. **Funding predictability**. The overall predictability of government expenditure programs is ensured by the existence of several tools: (a) the three-year program budget for 2023-2025, drawn up within the framework of the budget law; (b) the annual performance plan approved by Parliament, which describes the key programs, the associated budget, and KPIs; and, (c) the annual performance report which summarizes the results obtained and the budget executed for a given year.

88. **Strategic resource allocation**. If the tools for defining an overall budget policy strategy are of acceptable quality at the level of the entire budget, they are still under construction at the level of the ministerial sectors. The framework of the budget in Morocco by analytical macroeconomic and macro-budgetary perspectives, detailed and supported by expenditure forecasts by function, is a fundamental element of the good strategic allocation of resources. The quality of the monitoring of budget execution during the year, despite the delays noted, also promotes the proper allocation of resources through the possible rapid readjustments that it allows. However, these strengths of the overall strategic resource allocation system are sometimes lacking at the sector level. In addition, audits, investigations, controls, and evaluations of actions carried out by the State and public policies implemented are not always sufficient to assess the relevance of strategic public choices.

89. **Conformity of expenditure and budget execution of the program with GoM’s priorities**. The activities included in the expenditure framework respond to the government’s guidelines. In addition, the budget structure of the program is clear in terms of funding sources, budget vehicles, and expenditure categories. The Program expenditure framework is anchored in the state Budget, comprising the General Sector Budget and special accounts, and Regies and ABHs own budgets. All expenditures are programmed following the budget nomenclature and functional classification and will be incurred between 2023 and 2026.

V.Economic and financial analysis

90. **Cost-benefit analysis.** The Program's economic feasibility analysis compares its estimated economic benefits and costs. As the Program costs are given, the primary analytical challenge is to most accurately estimate the expected benefits likely to occur due to Program implementation. The cost-benefit analysis estimates the economic feasibility of the Program by calculating the net present value (NPV) of cost and benefit streams and by determining the Program's economic rate of return (ERR).

91. The cost-benefit analysis included economic costs and benefits under RA2 and RA3. It was undertaken from an economic perspective converting financial cash flows into economic cash flows to eliminate distortions caused by taxes, subsidies, and other externalities. Costs include the investment and O&M costs of schemes under RA 2 and RA3 during the Program life.

92. The net benefit is the difference between the incremental benefits and the incremental costs of two scenarios: "without" and "with" the Program. The "without" Program scenario considers the utility consumers will face continuously. If the Program is not implemented (the "without" Program scenario), it is assumed that the quality-of-service provision will not change for the analysis.

93. Key Assumptions:

- **Time horizon.** Results under RA 2 and RA 3 were evaluated, measuring the expected costs and benefits for the Program's lifetime, estimated at 20 years for the investments included under RA2 and RA3.
- Costs and benefits are expressed in constant prices as of 2023.
- **Discount rate.** The analysis was completed using a 6 percent discount rate, corresponding to the Bank directives regarding discount rates for economic analysis[81].

94. **RA2 investments in potable water loss reductions in distribution networks by Regies in the Program**. The expected economic benefits of these investments include (a) increased water revenues resulting from physical and commercial loss reductions; (b) decreased operational costs as a result of leak detection and reduced energy requirements; (c) avoided capital expenditures; (d) GHG emission reductions owing to reduced energy requirements. In addition to the above-detailed expected economic benefits, the Program generates many positive externalities that have not been accounted for in the calculations.

95. *Additional water sales arising from greater water availability derived from reduced water losses.* Reducing water losses is a key priority of the PNAEPI to help address water scarcity in Morocco and generate financial returns for the operators. The rehabilitation of the distribution network under the Program aims to reduce commercial and physical losses across 11 Régies, which will reduce bulk water purchased from ONEE. As of 2023, the 11 Régies in the Program purchase bulk water from ONEE to bridge supply gaps. Investments in non-revenue water (NRW) reductions will increase the water sold directly by the 11 Régies and reduce the bulk water purchases from ONEE. As a result of the project, 20,000,000 m3 of water savings are expected to be achieved over the project's life with an average sale price of 4 MAD/m^3 (US$ 0.61/m^3)[82], generating additional revenues of up to US$8 million per year. Investing in NRW reductions has been shown to reduce future capital expenditures owing to the extension of the useful life of current assets and a reduction in the rate of asset replacement.

96. *Incremental O&M Savings***.** The economic analysis considers incremental O&M savings from reducing production costs due to reduced pumping costs resulting in reduced energy consumption. Reducing water losses will translate into a reduction of 51,577 MWh over the Program's life, leading to O&M savings of US$7.4 million.

97. *Avoided Capital Expenditures*. Water loss reduction programs have been shown to reduce the need to replace capital equipment in the network by extending their useful life. Water loss reductions are expected to reach 54,000 m3/day, leading to savings of US$55 million in capital expenditure.

81 World Bank. Discounting Costs and Benefits in Economic Analysis of World Bank Projects. May 9, 2016.
82 Calculated using a weighted average of water sold and sale price in 2022 for 10 of the 11 Régies as data was unavailable for RADEETA.

98. *GHG Emission Reductions*. Reducing energy consumption due to reduced water losses will generate GHG emissions savings by reducing the overall energy usage by the water sector. Over the Program's life, over 28,419 tons of CO2 emissions will be avoided, equating to approximately 1,561 tCO2 per year. The NPV of these emissions is US$3 million.

99. RA2 costs. Investment costs of US$ 192 million include capital expenditures under RA2 related to the implementation of water loss reduction plans, including the deployment of geographical information management systems and hydraulic models; meters deployment (bulk- and micro-meters), network sectorization and pressure control Program; leakage detection and rehabilitation campaigns. O&M costs (estimated at US1.4 million annually) are expected to increase for NRW reduction. They can be easily offset by reductions in pumping costs and capital expenditure savings due to water loss reductions.

Table A3.9. NRW investments benefits and costs

Benefit/Cost	Unit	2023	2024	2025	2026	2027	2028-2042
Additional water sales under the Program	m3	5,149,601	8,978,544	13,129,957	16,405,498	19,795,032	19,795,032
Additional water sales under the Program	US$	1,973,027	3,440,055	5,030,635	6,285,632	7,584,304	7,584,304
Reductions in O&M	US$	105,891	184,626	269,971	337,356	407,040	407,040
GHG Emissions Reductions	US$	34,729	61,928	92,573	118,351	145,992	145,992
CAPEX NRW	US$	66,076,628	63,019,132	57,958,812	53,365,900	52,158,046	46,138,889
O&M NRW	US$	991,149	945,287	869,382	800,489	782,371	692,083

Source: Team calculations, June 2023.

100. **RA3 investments for increased wastewater reuse volumes.** The expected economic benefits include (a) GHG emission reductions owing to a reduction in local pollutants from WWTP effluents; and (b) revenue from the sale of treated wastewater. In addition to the above-detailed expected economic benefits, the Program generates many positive externalities that have not been accounted for in the calculations.

101. *WWTP pollutant reductions.* Program benefits stemming from the reduction in local WWTP pollutant loadings are estimated using a shadow price of pollutants for Biological Oxygen Demand (BOD), Chemical Oxygen Demand (COD), Total Suspended Solids (TSS), and Nitrogen (N). [83] The reduction in these pollutants arises from upgrades to WWTPs to increase the capacity for tertiary treatment. As a result of the Program WWTPs will be upgraded from primary or secondary treatment capabilities to tertiary treatment resulting in large local pollutant reductions of BOD, COD, TSS, and N. The avoided costs resulting from removing pollutants during wastewater treatment, known as the shadow price of all pollutants, were used to estimate the economic value of these pollutants. These values depend on the receiving body of water, as reducing these pollutants affects the local biodiversity.

102. *Sale of Treated Wastewater*. Treated wastewater represents an untapped revenue source. Upgrading WWTPs to include tertiary treatment will allow TWW to meet the acceptable standard for reuse and will dramatically increase the amount of TWW sold. Most treated wastewater will be used or green spaces throughout Morocco and sold at an average price of 2.5 MAD/m^3 (US$ 0.24/m^3). Expanding the use of treated wastewater will also help address water scarcity by increasing water availability.

103. *Program costs Treated Wastewater Reuse*. Investment costs of US$ 146 million under RA 3 include upgrading of wastewater treatment plants to increase the capacity for tertiary treatment and reuse of treated effluent for green spaces,

[83] Hernández-Sancho, Francesc, et al. Economic valuation of wastewater: the cost of action and the cost of no action. United Nations Environment Program, 2015.

industrial, and agricultural uses; and distribution systems for the conveyance of treated wastewater reuse, including pipelines, pump stations, and storage tanks.

Table A3.10. Wastewater reuse investments benefits and Costs

Benefit/Cost	Unit	2023	2024	2025	2026	2027	2028
Reuse sales under the Program	m3	0	7,000,000	11,677,748	15,077,748	26,983,048	52,073,652
Reuse sales under the Program	US$	0	1,676,245	2,796,395	3,610,572	6,461,458	12,469,744
Pollution Reduction	US$	0	4,771,387	7,959,865	10,277,395	18,392,366	35,494,792
CAPEX Treated wastewater	US$	24,333,333	24,333,333	24,333,333	24,333,333	24,333,333	24,333,333

Source: Team Calculations, June 2023.

104. **Other benefits**. Besides direct economic benefits, many other potential benefits are not factored into the cost-benefit analysis. This is either because estimating such benefits is difficult due to the lack of data or it is challenging to quantify the value of those benefits because they might not be financial or economic. Some benefits not included in the economic analysis are referred to below, and therefore the estimated Program benefits considered in the economic analysis are conservative, and it can be reasonably assumed that the actual benefits will be larger than the ones estimated.

a. *Enabling Integration of Non-Conventional Water*. The Morocco CCDR estimated that a reduction in water availability could reduce GDP by up to 6.5 percent. Treated wastewater and desalination represent consistent water sources for urban demand and irrigated agriculture, especially in droughts, as diversifying the water supply will increase resilience and water security. Supporting the enabling environment and regulatory framework that facilitates the scaling up of non-conventional water resources provides Morocco with a viable path to securing its water future.

b. *Development of a water valuation strategy*. The valuation of water is key to informing water pricing and allocation decisions and enables the most efficient allocation of an increasingly scarce resource. Demand management and conservation strategies will be increasingly important as water scarcity increases to strengthen climate resilience.

105. **Summary of Results.** The economic analysis yielded an economic NPV of US$ 230 million and ERR of 15.5 percent exclusive of the shadow price of carbon and an economic NPV of US$ 231.8 million and ERR of 15.5 percent inclusive of the shadow price of carbon.

Table A3.11. Economic Rate of Return (ERR) and Net Present Value (NPV)

Scenario	ERR (%)	NPV @ 6% (US$ million)
Without shadow price of carbon	**15.5**	**230**
With the shadow price of carbon	**15.5**	**231.8**

Source: Team Calculations, June 2023.

ANNEX 4. INTEGRATED FIDUCIARY SYSTEMS ASSESSMENT (IFSA)

I. Objective, methodology, and scope of the IFSA

1. **The IFSA of the Program was carried out, consistent with Bank Policy and Bank Directive: "Program-for-Results Financing" and following the World Bank Guidance Notes for "Program-for-Results Financing**. The objective of the assessment was to examine whether Program systems provide reasonable assurance that the financing proceeds will be used for their intended purposes, with due attention to the principles of value for money, economy, efficiency, effectiveness, transparency, and accountability.

2. **Data collection and methodology**. The IFSA was conducted based on (a) the knowledge of the country's PFM and procurement systems in Morocco; (b) budget laws for the years 2020 to 2023, (c) the fiduciary data shared by the MEE and the selected ABHs and *Regies* through fiduciary questionnaires; and, (d) reports issued by the oversight bodies, including the National Public Procurement Commission (CNCP) review decisions published on the CNCP website, the Court of Accounts (latest report dated March 2023), and IGF audit reports of annual financial statements of operations implemented in these sectors.

3. Based on the Program boundaries and expenditure framework, the IFSA covered the following implementing agencies:

- MEE (DGH and DRPE)
- Six ABHs: ABHL (Loukkos), ABHBC (Bouregreg-Chaouia), ABHOER (Oum Er Rbia), ABHS (Sebou), ABHSM (Souss Massa), and ABHT (Tensift)
- 11 *Regies* under the supervision of the DRPL of the MoI (RADEEMA, RADEEC, RADEEF, RADEEJ, RADEEL, RADEES, RADEET, RADEETA, RADEM, RAK, and RAMSA)

4. **The Program will be financed over five years (2023–2028) for a total program expenditure framework (PEF) of US$ 573 million, including an IBRD loan of US$ 350 million**. The Program expenditures are grouped by Result Areas (RA) in Table A4.1.

Table A4.1. Summary of the PEF by RAs (US$ million)

Results Area	Million MAD	Million US$	% Total Finance
RA1. Strengthened Water Sector Governance	2,309	228	40%
RA2. Improved Financial Sustainability and Water Use Efficiency	2,012	199	35%
RA3. Enabled Integration of Non-Conventional Water Resources	1,480	146	26%
Total PforR	5,801	573	100%

5. **The overall implementation and supervision of this Program will be under the responsibility of the MEE through a Program Coordination Unit (PCU).** Except for the MoI, which is involved in several Bank-financed operations, the remaining participating implementing agencies have no experience implementing Bank-funded operations (PforR). Overall fiduciary performance of PforR operations managed by the MoI is deemed acceptable. Additionally, the latest PRAMS assessment of the Municipal Performance Program (P168147)- in which MoI is involved- dated January 2023, shows a moderate project procurement risk and a satisfactory procurement performance rating. Also, with the implementation of recommended mitigation measures, before or during the program implementation, the capacity and performance of the remaining implementing agencies will be adequate to provide reasonable assurance that the Program funds will be used for the intended purposes. If any significant issues come to the knowledge of the World Bank during the Program implementation, additional mitigation measures will be put in place in consultation with the GoM

6. **The PCU, within the Direction of the Research and Planning Directorate (DRPE) of MEE** *(Direction de la Recherche et de la Planification del'Eau, DRPE),* **will be the Bank fiduciary Focal point for the Program**. The DRPE is not familiar with World Bank requirements. The PCU will have the overall fiduciary responsibility of the Bank-funded PforR in procurement and financial reporting and annual external audit and reporting on fraud and corruption. The PCU will prepare a summary table on the level of execution of the Program expenditure framework, which shall be included in the semi-annual Program activity report. This action will help anticipate and address the challenges in preparing the consolidated annual financial statements. The IGF will prepare the Program audit reports of the consolidated annual financial statements. The audit reports will be submitted to the World Bank within nine (09) months following the end of each calendar year. The participating entities involved in the Program shall prepare individual budget execution reports related to expenditures executed from the PEF. The regies shall send those to the MoI (DRPL) and the ABHs to the MEE (DRPE) for consolidation, and once done, DRPL and DRPE shall submit the consolidated reports to the PCU. Similarly, the PCU will collect and consolidate semi-annual procurement performance reports and key procurement performance indicators and share them with the Bank.

II.Summary of Risks and Fiduciary Actions

7. **Summary of fiduciary risk mitigation measures.** The overall residual fiduciary and procurement risk of the Program is assessed as **Substantial**. The IFSA concludes that only upon implementing the agreed fiduciary mitigation measures will the Program's fiduciary systems provide reasonable assurance that the financing proceeds will be used for intended purposes. The following key fiduciary risks were identified: (i) weaknesses in capacity for procurement planning and execution, (ii) challenges in operationalizing the new procurement decree, (iii) an inadequate procurement complaint handling system, (iv) a lack of procurement performance reporting mechanisms and (v) a lack of suspension and debarment check mechanism which might result in awarding a contract to firms and/or individuals debarred or suspended by the Bank, (vi) low budget commitment and payment by some ABHs and Regies, (vii) delayed preparation of consolidated financial statements and submission of program audit reports due to the large number of implementing entities located around the country which requires an effective and adequate fiduciary coordination mechanism, (viii) the lack of familiarity with PforR financing instruments of most of the entities (e.g., ABHs, Regies and DGH) involved in the implementation of the program combined with the use of spreadsheet "Excel" to prepare consolidated financial reports may impact the fiduciary performance of the Program, including the quality and timeliness, and (ix) there are also some challenges in the follow up of audit recommendations and the internal audit unit at the MEE as per the new decree that needs to be implemented.

8. **Specific systems and capacity-strengthening and mitigation measures, and time-bound actions are included in the Program design and the PAP to address the above risks and aim to ensure adequate budget and procurement execution of the public expenditure framework, effective accountability and transparency mechanisms, and achievement of expected results.** This includes the following key actions: (a) ensure that procurement plans are prepared in a timely manner and are based on realistic assumptions, and that procurement is implemented promptly; (b) develop and implement a capacity building program on the new procurement decree, including: (i) deliver a training to Procurement Officials and other stakeholders on the PPD, (ii) develop guidance notes[84] on the new features such as rated criteria and competitive dialogue with more targeted training on these new features, and (iii) update the Bidding Documents in line with the new decree; (c) maintain a register of all procurement-related complaints and ensure that they are treated promptly; (d) establish a semi-annual reporting mechanism to track the program's procurement performance,, including key performance indicators; and, (e) include in the bidding documents an eligibility check clause requiring implementing agencies to ensure that any person or entity debarred or suspended by the Bank is not awarded a contract, or otherwise allowed to participate in or benefit from, the Program during the period of such debarment or suspension by the Bank. To strengthen the fiduciary coordination, expenditure reconciliation, and quality and timeliness of financial reporting, the Program and the PAP will support: (a) the development of standard tools and documents for fiduciary reporting to relevant implementing entities; (b) the deployment of performance management with the support of the Bank fiduciary team through monitoring of key

[84] Similar to the Note No.62 of Minister of Equipment and Water, dated 03 April 2023 that was issued to all departments and entities under to the authority of MEE explaining the new features of the new procurement decree.

fiduciary performance indicators (KPI) included in the POM; and, (c) enhanced coordination between the implementing entities through the assignment of a fiduciary focal point in each RBA and Regie and periodic meetings between the entities fiduciary team. Finally, the Program will support the implementation of the Decree No.05-2019-ND/CP on the internal audit function at the MEE and strengthen the follow-up mechanisms of audit recommendations.

9. **The Program ex-ante and ex-post arrangements were found adequate to address the risk of fraud and corruption**. These arrangements comprise several effective institutions playing complementary roles (the Ombudsman office, the Court of Accounts, and IGF). The PCU will be responsible for reporting any case of fraud and corruption. The PCU will collect – with support from the abovementioned institutions – and report to the Bank allegations occurring under the Program via the semi-annual progress reports during Program implementation. The reporting format (to be developed in the POM) shall include -at a minimum-: (a) the location, and date of the complaint and fraud cases, (b) a description of the allegations, (c) a description of progress in the investigation, and (d) investigation outcome.

III. Legal and Institutional Public Finance Management (PFM) Framework in Morocco applicable to the Program

10. **The legal and institutional Public Finance Management (PFM) framework is deemed acceptable for the Program.** A legal and regulatory framework in line with international standards governs the Moroccan procurement and public finance system. Morocco's compliance with rules and regulations and existing accountability arrangements provides an adequate framework for the use of public funds, and PFM is considered broadly transparent.

11. Specifically, the Organic Law No. 130-13 relating to the Finance Laws (OLFL) (*Loi Organique relative aux lois de finances*) promulgated on June 2, 2015, introduced the three-year budget Program (*Programme Budgétaire Triennal*) in its article 5[85] and the program budgeting, which uses statements of missions, goals, and objectives to explain how the money is spent. Overall, the planning and budgeting of all central entities involved in the Program follow a structured, timely, and disciplined process consistent with the country's PFM cycle and ensures that allocations fit within the available budget envelope. The ABHs and the *Regies* implementing the Program RAs are subject to Law No. 69-00 relating to State financial control over public enterprises and other bodies. The 2017 PEFA assesses the country's planning and budgeting procedures as satisfactory (rated A). The 2023 Public Expenditure and Financial Accountability (PEFA) assessment will provide some updates on the performance of the country's PFM systems applied by the DGH-MEE.

12. **The Program procurement will follow the procurement procedures and regulatory framework.** Procurement and award of contracts under RA 1 and RA2 will be governed by the new Public Procurement Decree (PPD) No. 2-22-431[86] published in Official Bulletin No. 7176, dated March 9, 2023. The new Decree will replace Decree No. 2-12-349, dated March 20, 2013, as of September 1, 2023. Through the recent procurement reforms, the GoM has taken significant steps to improve governance, transparency, efficiency, and sustainability of its procurement system, including the generalization of digital procurement and the establishment of an Observatory for Public Procurement of a comprehensive electronic portal to publish tenders, and the establishment of a committee to hear complaints and coordinate procurement policy (CNCP). The PPD aligns with the best practices of international economics, efficiency, fairness, and integrity.[87]As to RA3, the selection

[85] Article 5 describes that the "the annual budget law is drawn up by reference to a three-year program updated each year in order to adapt it to the country's changing financial, economic and social situation. This programming aims to define, according to realistic and justified economic and financial assumptions, the evolution over three years of all the resources and expenses of the State."

[86] On December 29, a new procurement decree, decree# 2.22.431, was adopted by the Moroccan government in response to the recommendations of the special commission for the New Development Model.

[87] The new decree aims to consolidate the public procurement system to provide more clarity to economic actors and improve the business climate. It also seeks to open opportunities for innovation, for new procurement features and approaches such as competitive dialogue and for small businesses and self-employed individuals (self-entrepreneurs) and establish a national preference for domestic products. Furthermore, the new procurement decree includes provisions to strengthen transparency, fight corruption, promote data analytics

process of the delegatee by the delegated authority will be governed by the provisions of Law no. 54-05 of February 14, 2006 (Official Bulletin no. 5404 of March 16, 2006) and Decree no. 2-06-362 of August 9, 2006 (Official Bulletin no. 5454 of September 7, 2006) on delegated management of public services contracts.

Program Planning and budgeting and Transparency

13. **Sustainability, Structure, Adequacy, Effectiveness, and Credibility of Budgets**. Alignment of the budget with government priorities, classification, sustainability, and predictability are assessed as adequate.

14. *Fiscal sustainability***.** Morocco's PFM system is considered adequate, and risks are Moderate. Despite a tightening fiscal space, Morocco's overall medium-term fiscal outlook is adequate to ensure the program's sustainability. Given the GoM's high priority to conduct public sector reform and digitalization, it is expected to have a positive long-term impact on the fiscal outlook by broadening the fiscal basis, increasing fiscal revenues, and enhancing spending efficiency.

15. The overall costs of the supported Program, including the portion financed by the World Bank, are expected to be integrated into the budget laws 2024-2028. Planning and budgeting related to this Program will follow national procedures. Based on budget instructions/circulars, the teams of the various implementing entities under the responsibility of the Directorate of Financial Affairs (DAF) of each participating entity will prepare the Program budget considering the limits of allocations set by the GoM and the Program. The Program's consolidated budget will be integrated into the budget of line ministries and implementing entities.

16. *Program financial sustainability*. The Program's activities in the expenditure framework meet the directions the GoM and the entity authorities set. The Program *budget structure* is clear regarding sources of funding, budgetary vehicles, and categories of expenditures. Program financial sustainability is developed in the technical assessment sections of the PAD

17. **Several budget tools ensure the sustainability of participating entities" expenditure framework**. First, the three-year budget programming developed in the context of the Public Budget Law, with the current three-year budget programming covering 2023 to 2025 and annually updated through the Budget Law. Second, a new multi-year Program approach, deployed in 2019 with the support of the MEF, complements the three-year budget programming. Third, the annual performance plan endorsed by Parliament describes the key programs, the associated budget, and performance indicators. The Program budget lines are thus strongly anchored in the State Budget and prioritized by the GoM.

18. *Funding predictability*. As per the 2017 PEFA, the predictability of the GoM's expenditures is robust, with the indicator on predictability rated as A with the timely release of the budget's appropriations to the budget holders. The ongoing 2023 PEFA assessment will provide some updates in this PFM area. The Program expenditures are already planned as part of the PNAEPI and are therefore included in the three-year programming of the Budget Law. The expenditures planned for 2023 are programmed in detail in the Budget Law. The Bank fiduciary and task teams will closely monitor this strategy's budget programming year by year with the MEF and ministries covered by the Program to avoid incoherence between the Program expenses and the disbursement rate. No specific issue related to funding predictability was identified in Morocco's ongoing PforR operations. The department's budget allocations under MEE have more than tripled between 2020 and 2025.

Table A4.2. Evolution of the Budget Allocation of the MEE (MMAD)

through the establishment of a procurement observatory and to promote sustainable development. Notably, the new decree includes a scoring system (rated criteria) that considers factors beyond price, such as an enterprise's ability to deliver a project on time and environmental criteria.

Type of budget	2020	2021	2022	2023	2024	2025
Operating budget	622.92	193.04	202.31	211.00	257.00	260.82
Capital budget	5,875.98	5,726.92	6,451.00	8,363.00	11,078.00	22,500.00
Others	143.76	2.74	3.50	-		
TOTAL	6,642.66	5,922.70	6,656.81	8,574.00	11,335.00	22,760.82

Source: MEE, April 2023.

19. **Budget structure**. The Program budget structure is clear regarding sources of funding, budgetary vehicles, and categories of expenditures. The PNAEPI is registered under the budget code 1222017000 with the Expenditure nomenclature heading "Investment Chapter (MEE). The Program will utilize Program P601 through projects 11, 20, and 80 (MEE) and CAS FALEEUR (selected *Regies*), and P601 (selected ABHs). The General Budget of the State is the funding source of the PNAEPI, and the ABHs and *Regies* own budgets. Its budget structure is aligned with the General Budget of the State, which is conformed with the international budget classification (Classification of the Functions of Government – COFOG) as confirmed by the last PEFA report (rated A) and will be incurred between 2021 and 2024. Expenditure will be subject to procurement following the country's new PPD. No specific activity or expenditure has been identified as a high-risk activity.

20. **General description of the annual planning and budgeting process of the Entities involved in the Program: (I) Line ministry:** The budget of the Department is elaborated regarding the three-year budgetary programming and following the provisions of the circular of the Head of Government setting the Government's priorities in economic and social matters. Following the said circular, the entity in charge of the Program and the budget proceeds to establish the draft budget morass of the Department in consultation with the concerned actors. **(ii): *Regies* and ABHs**: They receive subsidies to contribute to financing certain projects included in the programs resulting from the policies for developing the water management and liquid sanitation sectors. This is done within the framework of multiparty agreements established following the requests for subsidies addressed to the two Ministries supported by the details of the investment programs planned by the entities and the related financial arrangements. The draft budgets are prepared by the Authority and presented to the DRPL of the Ministry of the Interior (*Regies*) and DGH-MEE (ABHs) for approval of the investment projects in terms of consistency with sector-wide policies, strategies, and programs for the management of water, electricity, and liquid sanitation services. Then this same draft budget is presented to the Directorate of Public Enterprises and Establishments (DEPP) under the Ministry of Economy and Finance during the budget discussion meeting to approve the projects, the commitment and payment appropriations entered, as well as the planned financing methods to ensure the financial balance of the proposed draft budget. The draft budget is then revised, considering all the comments made during the budget discussion meetings organized by the DRPL and the DEPP, to present it to the *Regies* and ABHs" Board of Directors for final approval. The budget thus approved is sent to the two ministries for approval before implementation.

21. **Program Procurement profile.** The Program expenditure related to procurement is presented in the table below.

Table A4.3. Procurement Profile by implementing agency and type of procurement

Type of procurement	Implementing Agencies (US$ Million)				Total	
	MEE-DRPE	ABHs	*Regies*	Wastewater reuse projects executing agencies	US$ Million	% of Program Financing
Works	8	22	120	146	296	51%
Goods and non-consulting services	12	54	76	0	142	25%
Consultants	28	104	3	0	135	24%
Total	**48**	**180**	**199**	**146**	**573**	**100%**

Source: MEE, MoI, RBAs included in the Program, and Regies included in the Program. April 2023.

22. Based on the activities identified in the Program scope, the main procurable items include:

(a) Works: water leakage detection and rehabilitation; works to manage, protect, and preserve the hydraulic public domain and aquatic environments; upgrading wastewater treatment plants (WWTPs); and distribution systems for the conveyance of treated wastewater reuse, including pipelines, pump stations, and storage tanks.

(b) Goods and non-consulting services: network sectorization; water data management and information management systems, including upgrade, equipment, and maintenance; equipment, measurement materials, and supplies for water resources monitoring and evaluation and for water losses detection; smart meters; communication campaigns to raise awareness of the importance of water conservation; machinery and equipment maintenance; equipment and materials for hydro-climatological and groundwater measurements; and computer-assisted maintenance management.

(c) Consultant services: evaluation of the institutional roles and responsibilities in key processes in the water sector; the development, adoption, and implementation of regulatory instruments and consultative processes to improve implementation of participative aquifer management contracts; development, implementation and adoption of a performance benchmarking framework to strengthen the performance of selected ABHs to deliver on their core functions of planning, managing, developing and protecting water resources; and the definition and implementation of water losses reduction plans.

Given that the new procurement decree will extend to all implementing agencies, including Regies, as of September 1, 2023, and that the new decree also included new features like the use of rated criteria, procurement under the Program for the above categories (works, goods and consulting services) will systematically use rated criteria. Therefore, guidance notes on the new procurement decree's features should be developed.

23. **The Program is not expected to procure any large contracts valued at or above the Operational Procurement Review Committee (OPRC) thresholds (US$75 million for works, US$50 million for goods and non-consulting services, and US$20 million for consultant services)**, which are based on a "**Substantial**" risk rating. This conclusion is drawn based on an analysis of procurement data of the agencies for procurement. The implementing units shall report to the World Bank if large contracts appear throughout project implementation. In addition, the World Bank team will analyze and monitor the Program performance of fiduciary systems and contract management reports to identify any large-value contracts that may appear throughout the Program implementation.

24. **Procurement planning**. The implementing entities must publish an Annual Procurement Plan in a nationally distributed newspaper and on the Moroccan Public Procurement Portal (MPPP: www.marchespublics.gov.ma) before the end of the first quarter of the fiscal year. APP can be searched *here*[88] through the search engine of the MPPP portal.

[88] https://www.marchespublics.gov.ma/index.php?page=entreprise.ListePPs

However, a recent assessment of the MPPP by the World Bank has revealed that the APP module is not interoperable with the e-bidding process. The APP is created separately. Different public entities create the plan in different formats. Invitation to bid doesn't link or refer to the procurement item in the APP, so the plan and procurement process are not interoperable. The APP must also be displayed on the implementing entities" premises for at least 30 days. Procurement plans of the different implementation agencies are also advertised on their websites[89]. The MEE APP for 2023 was publicly announced on March 15, 2023. The overall value of the building and public works (BTP) market forecast Program for the Ministry and its affiliated establishments for 2023 exceeds 45 billion dirhams. The amount is distributed among water (14 billion dirhams), roads and highways (approximately 13.6 billion dirhams), ports (5.05 billion dirhams), and public facilities (13 billion dirhams).

Budget execution

25. **Budget Execution Modalities**. Overall, the Ministry and Entities involved in the Program had acceptable performance regarding budget commitments and execution in 2020-2022. The country scored A for PI-1 of PEFA 2016, mainly due to the high execution rate of the national budget, as mentioned in the report.

26. The level of execution of the MEE's overall budget is considered satisfactory and is above 95 percent over the three years, with a payment rate of around 70 percent. The same trend is observed for the execution and payment of capital expenditures. The below Table describes the performance of budget commitments and execution of the Ministry and entities involved in the Program.

Table A4.4. MEE commitments and payments

Type of budget	2019		2020		2021	
	% commits	% payments	% commits	% payments	% commits	% payments
Operating budget	89.0	87.0	97.0	94.0	94.0	93.0
Capital budget	93.0	68.0	97.0	71.0	98.0	67.0
Others	58.8	37.1	77.7	21.8	71.0	63.9
TOTAL	95.5	65.0	97.8	73.5	98.5	67.6

Source: MEE, MoI, RBAs included in the Program, and Regies included in the Program. April 2023.

27. All ABHs (except for the ABH of Oum-Er-Rbia) have satisfactory budget execution rates greater than or equal to 90 percent. However, the overall payment rate is around 50 percent, except for ABH Loukkos and Oum-Er-Rbia, which are 61 percent. Concerning the investment budget, the overall execution rate of the ABHs is well above 90%, apart from ABH Oum-Er-Rbia, which has an average rate of 70%. However, the average payment rate for capital expenditures for all ABHs remains

[89] **MEE**: (Procurement plans for the different departments and directorates of the MEE including DRPE and DGH are available here: http://81.192.10.228/services/appels-doffre/programme-previsionnel/); Selected Regies and ABHs' procurement plans are available here: (**RADEEMA**: https://www.radeema.ma/programme-previsionnel, **RAK**: https://agence.rak.ma/rak/programme-previsionnel/, **RADEEJ**; https://www.radeej.ma/programme-previsionnel-2/ , **RADEES**: https://www.radees.ma/page/programmes-previsionnel-des-travaux, **RADEEL**: http://www.radeel.ma/images/radeel-docs/4-Fournisseurs/programme-previsionnel-2022.pdf, **RAMSA**: http://www.ramsa.ma/Accueil/EspaceFournissseur/ProgrammePr%C3%A9visionnel.aspx, **RADEET**: https://www.radeet.ma/esapce-fournisseur/appels-doffres/, **RADEEF**: https://www.radeef.ma/programme-provisionnel; **RADEEC**: https://www.radeec.ma/programme-previsionnel/; **RADEETA**: https://www.radee-ta.ma/storage/programs/pdf/programme-previsionnel-2021-radeeta-1-1.pdf ABH (**Sebou**: https://www.abhsebou.ma/les-programmes-previsionnels-des-ao/, **Bouregreg**: http://adsl-15-102-192-81.adsl2.iam.net.ma/images/actualites/Programme pr%C3%A9visionnel de l'ABHBC au titre de l'ann%C3%A9e budg%C3%A9taire 2022.pdf **Chaouia**: Bouregreg: http://adsl-15-102-192-81.adsl2.iam.net.ma/images/actualites/Programme pr%C3%A9visionnel de l'ABHBC au titre de l'ann%C3%A9e budg%C3%A9taire 2022.pdf Chaouia, and **Souss Massa**: http://www.abhsm.ma/document/Programme%20previsionnel/pp2020.pdf)b

below 50 percent (between 38 and 49 percent). Hence, attention should be paid to the capacities of ABH Souss Massa and Our-Er-Rbia to execute investment budgets and ABH Sebou and Bouregreg et Chaouia for capital expenditure payments.

Table A4.5. ABHs commitments and payments

ABHs	Type of budget	2020		2021		2022	
		% commits	% payments	% commits	% payments	% commits	% payments
	Operating budget	96.0	75.0	96.0	75.0	96.0	73.0
	Capital budget	93.0	55.0	93.0	55.0	84.0	35.0
ABHL	TOTAL	94.0	64.0	94.0	65.0	90.0	54.0
	Operating budget	97.0	92.0	96.0	87.0	89.0	80.0
	Capital budget	98.0	43.0	89.0	33.0	81.0	38.0
ABHS	TOTAL	98.0	56.0	91.0	47.0	83.0	52.0
	Operating budget	81.9	71.1	91.8	89.8	86.1	89.5
	Capital budget	98.6	30.1	91.8	48.1	94.0	43.9
ABHBC	TOTAL	94.4	42.4	91.8	58.8	91.8	55.8
	Operating budget			89.0	82.0	74.0	65.0
	Capital budget			83.0	47.0	90.0	37.0
ABHSM	TOTAL	97.0	66.0	84.0	54.0	87.0	42.0
	Operating budget	93.0	85.4	80.3	83.6	86.6	89.4
	Capital budget	81.2	51.0	59.6	50.7	70.4	45.8
ABHOER	TOTAL	86.2	59.9	68.7	60.7	78.5	64.7
	Operating budget	86.0	74.0	85.0	82.0	87.0	81.0
	Capital budget	98.0	50.0	89.0	45.0	88.0	34.0
ABHT	TOTAL	95.0	55.0	88.0	52.0	88.0	43.0

Source: RBAs included in the Program. April 2023.

28. Regies level of execution of operating budgets and payment rates of the budget executed is overall satisfactory. Most entities' liquidity or solvency ratios are above 1, meaning they can meet their short-term obligations immediately without any problems. Special attention will be required for RADEEMA, RADEEJ, RADEEF, RADEETA, and RADEEC, whose average levels of investment budget execution vary between 30% and 50% during the budget years the analysis covers.

Table A4.6. Regies commitments and payments

Regies	Type of budget	2019		2020		2021	
		% commits	% payments	% commits	% payments	% commits	% payments
RADEEMA	**Operating budget**	36.0	99.0	24.0	91.0	33.0	95.0
	Capital budget	53.0	56.0	31.0	53.0	60.0	41.0
	TOTAL						
RAK	**Operating budget**	90.0	88.0	89.0	89.0	95.0	96.0
	Capital budget	85.5	71.6	54.6	73.7	27.5	55.7
	Capital budget - Water	77.0	44.7	85.5	37.9	59.2	56.2
	TOTAL						
RADEEJ	**Operating budget**	93.0	93.0	94.0	94.0	98.0	98.0
	Capital budget	35.0	53.0	35.0	55.0	51.0	60.0
	TOTAL	67.0	80.0	72.0	83.0	75.0	85.0
RAMSA	**Operating budget**	94.0	94.0	94.0	94.0	92.0	92.0
	Capital budget	64.0	65.0	88.0	83.0	75.0	72.0
	TOTAL	86.0	87.0	92.0	92.0	87.0	87.0
RADEET	**Operating budget**	86.0	74.0	85.0	82.0	87.0	81.0
	Capital budget	98.0	50.0	89.0	45.0	88.0	34.0
	TOTAL	95.0	55.0	88.0	52.0	88.0	43.0
RADEEF	**Operating budget**	97.0	97.0	93.0	93.0	95.0	95.0
	Capital budget	48.0	69.0	39.0	51.0	66.0	58.0
	TOTAL	(*)	(*)	(*)	(*)	(*)	(*)
RADEEC	**Operating budget**	(*)	(*)	92.5	(*)	86.3	(*)
	Capital budget	(*)	(*)	35.9	(*)	33.9	(*)
	TOTAL	(*)	(*)	(*)	(*)	(*)	(*)
RADEEL	**Operating budget**	(*)	(*)	(*)	(*)	(*)	(*)
	Capital budget	(*)	(*)	(*)	(*)	(*)	(*)
	TOTAL	(*)	(*)	(*)	(*)	(*)	(*)

(*) Data not received.

Source: Regies included in the Program. April 2023.

Funds Flow Arrangements for Program Implementation

29. **Treasury management and funds flow, including DLIs" disbursement to the Treasury Bank Account.** The funds flow arrangements for the Program implementation are adequate. The Program's funds will be reflected in the Government budget under the MEE (DRPE and ABHs) and MoI (selected *Regies*). The expenditures of the Program are identified in the State budget through the Budget Law and detailed in the annual budgets of the participating entities. All the implementing agencies except the ABHs and Regies will use the government's treasury single account (TSA) to make payments under the Program. Specifically, the funds will flow directly from the TSA to service providers, consultants, and constructors to pay invoices for the activities implemented by the participating ministries and entities. The GoM's controls institutions will reserve the right to verify the expenditures ex-post, and actions might be requested for any non-compliance with the rules. The IFSA team did not identify any wrongdoing during the assessment

30. The IFSA evaluation estimates that most of the ABHs and *Regies* selected for the Program have payment terms that are generally below the statutory 60-day payment term. The Ministry of Economy and Finance (MEF) has set up an Observatory of Payment Delays (ODP) through its DEPP information system called "MASSAR." The following measures have been taken and implemented progressively since 2018: (i) quarterly publication of payment delays declared by public establishments and enterprises (Etablissements et entreprises publiques EEP) at the ODP level on the MEF portal; (ii) support for EEP via the acceleration of budget transfers from the general state budget (budget general del'Etat) and the activation of procedures for clearing the VAT credit of the EEP concerned; (iii) monitoring supplier claims filed on the MEF's "AJAL" platform (ref. Circular No. 59/20/DEPP dated on June 1, 2021); and (iv) making the governance bodies of the EEP, particularly the audit committees, accountable for monitoring payment times and, including an audit and evaluation of supplier payment management processes in terms of reference for external auditors. All these measures have significantly improved over the last five years in the average payment time of EEP. The average payment term, which was 55.9 days (about 2 months) as of December 31, 2018, has been reduced to 36.1 days (about 1 month 5 and a half days) as of December 31, 2021, and 33.9 days (about 1 month 3 and a half days) as of December 31, 2022. More specifically, as an illustration, ABH Souss Massa achieved average payment terms of 28 days (about 4 weeks), 31 days (about 1 month) and 27 days (about 4 weeks) compared to an average of 49 days (about 1 and a half months), 40 days (about 1 and a half months) and 36 days (about 1 month 5 and a half days) respectively as of December 31, 2019, 2020 and 2021. As of March 31, 2023, none of the ABHs and *Regies* were on the list of EEP with the longest payment times. However, the analysis found that as of March 31, 2023, some of the implementing entities, such as RADEEC and RADEEF, reported average payment times of 64 days (about 2 months) and 54 days, respectively, compared to an average for EEP of 36.9 days; RADEEMA reported 78 days at the end of December 2022.

31. **The funds will be disbursed to the government's Treasury Single Account (STA) for advances, prior and achieved results**. Specifically, the GoM would claim disbursements from the World Bank as the DLIs are achieved. The IGF will independently verify all DLIs, with the Independent Verification Agency (IVA). The IVAs will prepare the Results Verification Report, which will be shared with the MEF and the World Bank. A key use of the Results Verification Report will be to confirm and certify the technical achievement of the results/indicators. If the World Bank finds that the disbursement request meets the Financing Agreement terms, the World Bank will disburse the corresponding funds to the Treasury Bank Account opened at the Central Bank (Bank Al-Maghrib). The external audit reports will present the total amount of DLIs/DLRs paid by the Bank with the total amount of expenditures incurred under the program's expenditure framework to achieve these DLIs/DLRs. **Government's contribution to the Program.** The Government, through its budget execution procedures, will transfer its contribution to the Program into the Treasury bank account managed by the public accountants assigned to the implementing entities participating in the Program.

32. **Accounting.** In Morocco, all financial and accounting operations of the government are carried out, controlled, and accounted for according to the public-sector accounting standards presented in the Public Accounting Decree No. 330-66 (21/04/1967) (*Décret sur la Comptabilité Publique*), which is on a cash basis. Participating entities from the MEE will apply similar accounting standards for the Program using the Integrated Expenditure Management (IEM) system (GID), an integrated set of computerized applications developed in-house. This system allows the authorizing departments to extract

the data and run reports to present the accounting situations (expenditures, commitments, payments, etc.) and the budgetary situations linked to the various movements of appropriations (delegations of appropriations, transfers, etc.). Authorizing and accounting officers keep separate administrative and cash accounts, respectively. The administrative accounts kept by the authorizing and sub-authorizing officers are commitment accounts, which show the implementation of the budgetary authorizations recorded in the State budget and the budget of each of the entities participating in the Program—the accounts of the Treasury record the appropriations and the payment of expenditures. The two accounts are reconciled monthly and then annually to reconcile payment orders paid by the accounting officer. The ABHs and *Regies* will apply the accounting principle to government institutions and public agencies ("*Code Général de Normalisation Comptable* – CGNC » General Accounting Standards Code) and accounting tax and regulations. The reviews of the audit reports and annual activity reports of a sample of ABHs and *Regies* did not reveal any issue in terms of non-compliance with this accounting principle. All the ABHs and *Regies* have dedicated accounting divisions and will account for the Program transactions using dedicated accounting software developed in-house. (e.g., RADEEJ uses an ERP Fair-Compt.).

33. **Financial reporting**. Through a PCU established, the MEE will oversee the preparation of the Program's consolidated annual financial statements and periodic budget execution reports and monitor the execution of the Program expenditure framework against the DLI achieved. The consolidated financial statements of the Program include the financial statements prepared by participating entities, mainly the selected ABHs, and *Regies* to the Program. The format of the table summarizing the semi-annual financial information (execution of the PEF, amounts committed and paid) and annual financial statements will be defined in the MOP and presented to the FM teams of the implementing entities during the Program launch and dissemination workshop of the MOP. The DRPE will centralize financial information and oversee the work of the PCU, including financial reporting. ThePNAEPI's Technical Committee will oversee Program activities and management, including fiduciary work. The Program's budget execution reports and consolidated interim financial statements will be prepared on a semester basis by this PCU. The annual financial statements will include the financial execution of each Result Area, and the data will be collected from participating entities. The head of the financial management team of each ABHs and *Regies* will be responsible for preparing and submitting to the PCU the financial reports on the budget execution of their activities implemented.

34. Specifically, similar to most of the Bank-financed operations in Morocco, a spreadsheet "Excel" and data extracted from the national budget execution software "Integrated Expenditure Management System (*Gestion Intégrée de la Dépense*- GID) and Integrated Revenue Management System (*Gestion Intégrée de la Recette*- GIR), will be used to prepare Program's periodic consolidated budget execution reports and consolidated annual financial statements which in turn, may impact the quality and timeliness in the preparation of those reports and submission of audited financial statements. A Program Progress Monitoring Report will also be submitted annually to the Bank during implementation. The outline of such a report will include financial statements, physical realizations, progress on RIs, achievement of DLIs, reporting on grievances, and allegations of fraud and corruption.

35. **Procurement processes and procedures**. The procurement processes and procedures at the level of different Implementing Agencies were assessed based on meetings and data available on web pages. The different agencies' procurement systems are overall acceptable, and they provide reasonable assurance on the achievement of the core following principles: (a) free access to public procurement; (b) equal and equitable treatment of bidders; (c) fairness and protection of bidders" rights, and (d) transparency. Additionally, the implementing agencies' procurement systems adhere to the rules of good governance and provide for sustainable procurement. Implementing agencies' bidding documents is based on the guidance note and the standard bidding documents issued by TGR in 2015. Procedures for bid submission, receipt, and opening are clearly described in the "Consultation Regulations- Règlement de consultation" document, which is part of the bidding documents. The qualification, evaluation, and award criteria are clearly defined in the bidding documents and are complied with during evaluation. Open tendering is the default procurement method based on the published Annual Procurement Plans of the implementing agencies. A summary of the procurement systems of the main implementing entities is provided below:

36. **MEE, ABHs, and *Regies***: While MEE and ABHs" procurement is governed by the existing public procurement decree No.2-12-349 dated March 20, 2013, Regies *(RADEEC, RADEEF, RADEEJ, RADEES, RADEET, RADEETA, RADEEMA, RADEM, RAK, RAMSA, REDEEL)* are inter-municipal institutions of an industrial and commercial nature "EPIC that is governed by the Law No. 69-00 relating to the financial control of the State over the public enterprises and other organizations, and have their procurement regulations. *Regies"* procurement regulations are closely aligned with the Public Procurement Decree (e.g., see *RADEEMA procurement regulation*[90] vs. the *public procurement decree*[91]). However, with the amendment of Law No. 69-00 by Law No. 22.54, dated February 10, 2023, and the enactment of the new public procurement decree (PPD No.2-22-431, effective September 1, 2023, the existing public procurement decree No.2-12-349 dated March 20, 2013, will be replaced, and its scope will be extended to public entities and establishments in addition to the State and Territorial Collectivities. Consequently, Regies" procurement, to be carried out under the Program, will be fully governed by this new decree. Additionally, per the Minister of Economy and Finance circular No. 1982-21, dated December 21, 2021, on digitalizing public procurement procedures and financial guarantees, the implementing agencies must comply with the full digitalization of electronic submissions and bid securities. This circular has progressively introduced the obligation to electronic submission of bids, electronic bid opening, and electronic bid securities effective November 1, 2022. On the institutional level, the Moroccan public procurement system has been strengthened with the adoption of Decree No. 2-14-867 dated September 21, 2015, which established the National Public Procurement Commission (CNCP). The CNCP's main mission involves professionalizing public procurement, ensuring compliance with transparency, efficiency, economy, and fairness principles, handling procurement-related complaints from bidders, and treating requests for opinions from public buyers.

Procurement under Wastewater reuse projects

37. 17 wastewater treatment projects for $146 million are identified as part of the Program scope and included in the PNAEPI. Municipalities are responsible for ensuring that wastewater is collected and treated through direct service provision of delegated management. Management of water and sanitation services has been delegated to Regies (i.e., *RADEEC, RADEEF, RADEEJ, RADEES, RADEET, RADEETA, RADEEMA, RADEM, RAK, RAMSA, REDEEL*) to ONEE, and private operators through delegated management of public services contracts that are regulated by the Direction des Réseaux Publics Locaux DRPL (MoI). Thus, ONEE acts as a delegated project management entity for some infrastructure projects and manages some services for municipalities or the State.

38. In terms of the legal framework, delegated management of public services contracts is governed by the provisions of Law no. 54-05 of February 14, 2006 (Official Bulletin no. 5404 of March 16, 2006) and Decree no. 2-06-362 of August 9, 2006 (Official Bulletin no. 5454 of September 7, 2006). Articles 3 and 5 of the Law ensure that principles of equal access and treatment, objectiveness, competitiveness, transparency, and respecting best practices shall be upheld in the selection process of the delegatee by the delegating authority.

39. **Record Keeping and Document Management Systems**. Based on information collected from implementing agencies, the contracting authorities have well-established archiving systems that allow for keeping records of all procurement transactions for at least five years. These records must include all documents related to the procurement process, such as the procurement plan, specifications, invitations to bid, bid evaluation reports, contracts, invoices, payment records, and any other relevant documents. The contracting authorities must ensure that these records are organized and kept ensuring their accessibility, reliability, and integrity. Additionally, with the generalization of electronic submission, contracting authorities must establish an electronic procurement record management system that complies with the technical and legal requirements established by the Ministry in charge of finance. While some implementing agencies did not provide details about how record keeping is implemented, this requirement is generally complied with, given Morocco's robust audit institutions and legal framework.

[90] Available here: https://www.radeema.ma/reglement-relatif-aux-marches-publics
[91] Available here: https://www.marchespublics.gov.ma/pmmp/IMG/pdf/2-12-349-fr.pdf

Table A4.7. KPIs MEE and ABHs

Procurement performance. KPI/IA	MEE	ABHs					
	DRPE	ABHL	ABHT	ABHSM	ABHS	ABHOER	ABHBC
Procurement Size: No. of tenders issued within the last 3 years	2021: 150 2020: 144 2019: 122	2021: 41 2020: 27 2019: 31	2021: 46 2020: 27 2019: 48	2020: 39 2019: 57 2018: 112	2021: 34 2020: 44 2019: 59	2021: 48 2020: 25 2019: 67	2022: 35 2021: 39 2020: 35
The average length of procurement processes (days)	2021: 67 2020: 58 2019: 56	2021: 129 2020: 119 2019: 125	2021: 51 2020: 40 2019: 41	2020: 58 2019: 61 2018: 64	2021: 69 2020: 60 2019: 82	2021: 83 2020: 70 2019: 79	2022: 75 2021: 80 2020: 80
Time for preparation of bids (days)	2021: 44 2020: 41 2019: 44	21	21	2020: 32 2019: 27 2018: 24	21	2021: 25 2020: 25 2019: 27	21
Time for bid Evaluation (days)	2021: 23 2020: 17 2019: 18	2021: 18 2020: 15 2019: 32	2021: 20 2020: 10 2019: 10	2020: 18 2019: 21 2018: 25	2021: 36 2020: 32 2019: 25	2021: 36 2020: 32 2019: 25	2022: 50 2021: 55 2020: 50
Processes canceled	2021:9 (6%) 2020:1(0.7%) 2019: 8 (7%)	2021: 3 (7%) 2020: 4 (15%) 2019: 5 (16%)	2020: 4 (9%) 2019: 4 (15%) 2018: 4 (8%)	2020: 6 (15%) 2019: 17 (30%) 2018: 18 (16%)	2021: 12 (35%) 2020: 1 (2%) 2019: 12 (20%)	2021: 4 (8%) 2020: 1 (4%) 2019: 4 (6%)	2022: 11 (31%) 2021: 6 (15%) 2020: 4 (11%)
Number of contracts awarded through an open competitive process	2021: 150 2020: 144 2019: 122	100%	100%	2020: 33 2019: 39 2018: 94	100%	2021: 43(50.26 MMAD) 2020: 24(31.20 MMAD) 2019: 63(56.28 MMAD)	100%
Direct contracting	2021: 1 2020: 1 2019: 1	0	0	2019: 1	0	0	0
Bidders participation	(*)	2021: 4 2020: 5 2019: 4	2021: 3 2020: 5 2019: 6	2020: 4 2019: 4 2018: 4	2021: 4 2020: 5 2019: 3	2021: 6 2020: 5 2019: 4	2022: 3 2021: 5 2020: 5
Number of contracts with cost increases over award amount	0	0	2020: 1	2019: 1	2021: 6 2020: 1 2019: 2	2021: 0 2020: 0 2019: 1	2022: 0 2021: 1 2020: 0
Quantity of process to buy the same item		2021: 10 2020: 9 2019: 7	(*)	(*)	(*)	(*)	2022: 12 2021: 12 2020: 10

Note: Historical procurement data for several implementing agencies (DRPE, ABHL, ABHT, ABHSM, ABHS, ABHBC, ABHOER, RADEEF, RADEEMA, RAK, RADEEJ, RAMSA) was collected through a fiduciary questionnaire to review their procurement performance. Key performance indicators (KPIs) are tabulated below. (*): Information not available.

Source: MEE and RBAs included in the Program. April 2023.

Table A4.8. KPIs Regies

KPI/IA	REGIES				
	RADEEF	RADEEMA	RAK	RADEEJ	RAMSA
Procurement Size: No. of tenders issued within the last 3 years	2020: 85 2019: 85 2018: 91	2021: 143 2020: 125 2019: 146	2021: 148 2020: 130 2019: 124	2021: 155 2020: 114 2019: 105	2021: 109 2020: 64 2019: 64
Average length of procurement processes (days)	2020: 50 2019: 57 2018: 60	2021: 72 2020: 86 2019: 63	2021: 107 2020: 108 2019: 103	2021: 126 2020: 116 2019: 104	2021: 80 2020: 79 2019: 79
Time for preparation of bids (days)	2020: 27 2019: 27 2018: 27	2021: 21 2020: 21 2019: 21	2021: 26 2020: 26 2019: (*)	2021: 26 2020: 25 2019: 27	2021: 21 2020: 21 2019: 21
Time for bid Evaluation (days)	2020: 19 2019: 22 2018: 25	(*)	2021: 31 2020: 46 2019: 23	2021: 48 2020: 51 2019: 37	2021: 57 2020: 58 2019: 58
Processes canceled	2020: 0 2019: 2 (2%) 2018: 0	2021: 17 (12%) 2020: 27 (22%) 2019: 30 (21%)	2021: 44 (30%) 2020: 13 (10%) 2019: 32 (26%)	2021: 38 (25%) 2020: 16 (14%) 2019: 28 (27%)	2021: 9 (8%) 2020: 4 (6%) 2019: 6 (9%)
Number of contracts awarded through open competitive process	2020: 85 2019: 85 2018: 91	2021: 118 2020: 97 2019: 125	2021: 147 2020: 128 2019: 123	2021: 92 2020: 79 2019: 86	2021: 79 2020: 63 2019: 63
Direct contracting	2020: 3 2019: 2 2018: 3	2021: 4 2020: 7 2019: 3	2021: 1 2020: 2 2019: 1	2021: 3 2020: 0 2019: 0	0
Bidders participation	2020: 5 2019: 5 2018: 5	(*)	2021: 4 2020: 4 2019: 3	2021: 5 2020: 5 2019: 4	2021:6 2020: 5 2019: 4
Number of contracts with cost increases over award amount	0	(*)	2021: 1 2020: 1 2019: 1	(*)	2021:1 2020: 2 2019: 0
Quantity of process to buy the same item	(*)	(*)	(*)	2021: 9 2020: 12 2019: 16	(*)

Note: (*): Information not available

Source: MoI and Regies included in the Program. April 2023.

40. It is noted that most of the sample procurements were conducted through open tenders, with only very few cases of direct contracting and an average number of 4 to 5 bidders submitting a bid in each bidding process. However, the data shows a relatively high bid cancellation rate that can sometimes reach 30 to 35 percent in ABHs and Regies procurement processes. ABHs and Regies' total procurement under the Program constitutes over 66 percent of the Procurement Expenditure under the program (i.e., US$ 379 million of a total of US$ 573 million). Such a high rate of bid cancellation can adversely affect the results of the Program. Therefore, close quarterly monitoring of procurement implementation at ABHs and Regies level is necessary to prevent/anticipate any bid cancellation risk.

41. The assessment looked at data available on the MEF platform AJAL to assess the performance of contracts payment.[92] As part of the Government's efforts to reduce payment delays and improve the business climate, the AJAL platform aims to improve contractual relationships between Public Establishments and Enterprises (EEP) and their suppliers, particularly to ensure compliance with contractual payment deadlines. Based on the information published by the Moroccan Observatory for Payment Delays[93]: (1) RADEEMA[94], one of the selected *Regies,* is amongst the top 10 bad payers in 2022 with a payment delay of 78 days; (2) while they didn't share with the observatory their 2022 payment delays by December 31, 2022, ABHs Loukkos, Sebou, and Tensift; and RADEEL showed reasonable payment delays in 2022 that did not exceed 60 days (15, 53, 10, and 40 respectively)[95]; and (3) RADEEF, RADEEL and RADEEMA were listed among the EEPs who didn't address one (1) complaint each from a supplier regarding payment delays in 2022[96].

42. **Controls, oversight of procurement, and audits.** In Morocco, public procurement oversight during the procurement and contract award process is mainly performed by the TGR for the State and Territorial Collectivities; and by DEPP for EEPs. While each agency conducts its procurements, the TGR and DEPP oversee a network of "public comptrollers," who sit on tender committees. Furthermore, the TGR has implemented the Moroccan Public Procurement Portal (e-Government Procurement) and integrated systems to track and implement budget spending and process payments (GID). In addition to TGR, the Court of Accounts (CoA) conducts post-audits on procurements and issues reports identifying weaknesses or irregularities shared with the public. The CoA's jurisdiction covers all government acquisitions, including those implemented by local governments and state-owned entities. CoA audits are conducted on a systematic basis and are not done randomly. While CoA does not have a specialized task force for procurement, it has many technical experts who have specialized knowledge of each of the sectors covered by CoA.

43. Additionally, per article 159 of the new procurement decree (# 2-22-431), all contracts whose value is MAD 3 million and higher for contracts awarded through an open competitive Bidding process and MAD 1 million and higher for direct contracts are subject to a systematic procurement audit. While these reports are searchable on the Moroccan Procurement Portal (here: *https://www.marchespublics.gov.ma/index.php?page=entreprise.ListeSRA*), the documents published are not necessarily related to procurement audit. These documents sometimes include procurement plans and others. Therefore, to strengthen The Program's procurement oversight and audit, the implementing agencies must timely and accurately publish all procurement audit reports under the Program on the public procurement portal.

44. **E-Government Procurement (e-GP)**. The General Treasury of the Kingdom (TGR) hosts a well-established e-Government Procurement (e-GP) system (Moroccan Portal of Public Procurement-MPPP: *www.marchespublics.gov.ma*). Following the Minister of Economy and Finance Order (*Arrêté*) No. 1982-21 dated December 21, 2021, on the digitalization of public procurement procedures and financial guarantees[97], the State, the Territorial Collectivities, as well as some public entities are required to comply with full digitalization of electronic submissions and bid securities. This Order has progressively introduced the obligation to electronic submission of bids, electronic bid opening, and electronic bid securities effective November 1, 2022. By August 2023, electronic submission and e-bid security are expected to be generalized to all contracts, regardless of size. A recent assessment by the World Bank of the Moroccan e-GP system concluded that the

[92] This platform is intended for suppliers of EEP members to electronically submit invoices and/or claims for late payments. The purpose of this platform is to: (i) Provide a space for suppliers to submit and process invoices and/or claims regarding payment delays by EEP members; (ii) Facilitate communication between suppliers and EEP members; (iii) Identify the causes of payment delays and provide appropriate solutions; (iv) Improve payment deadlines for suppliers of EEP members; (v) Digitize invoice and claim operations related to payment delays; (vi) Strengthen transparency and traceability in the processing of invoices and claims; and (vii)Hold stakeholders accountable and control the processing time for invoices and claims by EEP members. More details about the platform AJAL are available here: https://ajal.finances.gov.ma/ajal/presentation. The list of Public Enterprises and Establishments (EEP) using AJAL Platform, including selected ABHs and selected Regies is available here: https://ajal.finances.gov.ma/ajal/assets/pdf/Listes_des_EEP_AJAL.pdf

[93] https://www.finances.gov.ma/fr/Pages/odp-publications.aspx

[94] https://www.finances.gov.ma/Publication/depp/DP_02_02_2023/Liste1.pdf

[95] List available here: https://www.finances.gov.ma/Publication/depp/DP_02_02_2023/Liste3.pdf

[96] List available here: https://www.finances.gov.ma/Publication/depp/DP_02_02_2023/Liste4.pdf

[97] Available here: https://www.marchespublics.gov.ma/pmmp/IMG/pdf/arrete_demat_bo_7106_07_07_2022_fr.pdf

system is generally compliant with Multilateral Development Banks" e-GP Guidelines and the Bank will gradually start accepting the e-GP system in the Bank financed contracts under-investment (IPF) Operations.

Table A4.9. Data on the use of MPPP by some of the implementing agencies

KPI/IA	ABHBC	ABHs	RADEEMA
Number of calls for tenders through MPPP (e-GP)	2022: 35 2021: 39 2020: 35	2022: 62	2022: 159
Number of Electronic submissions through MPPP (e-GP)	2022: 75 2021: 92 2020: 66	2022:253	2022:44
Volume of Electronic submissions through MPPP (e-GP) (in MAD Million)	2022: 4.86 2021: 9.25 2020: 8.10	2022: 35.9	2022:100.04
%	2022:28.3%(out of MAD17.18M) 2021:32.24%(out of MAD28.72M) 2020: 15.2%(out of MAD53.34M)	2022: 85.5%(out of MAD41.8M)	2022: 7.7%(out of MAD1,299.68M)

Source: MEE, MoI, RBAs included in the Program, and Regies included in the Program. April 2023.

45. **Public procurement decree has a complaint-handling mechanism.** After the provisional contract award, there are 15 days of a standstill period. During this time, complaints can be filed and decisions received. If unsatisfied with the decision, the bidder may file a complaint again. The 1st and 2nd appeals should be resolved within 15 days. After 15 days, if the dispute is not resolved, the bidder can appeal to the minister. The minister must respond within 30 days. A bidder can go for an administrative appeal to the National Commission of Public Procurement (CNCP) and court at any time. Normally, the procurement process does not stop because of judicial review. The complainant may get compensation if the decision is made in favor of the complainant. However, based on the information collected from implementing agencies, while 5 out of 6 *Regies* shared information about procurement-related complaints received in 2020-2022, none of the ABHs provided data about complaints handling. This might be due to some implementing agencies' lack of standalone procurement complaints data collection and reporting tools .

46. Additionally, based on the information published in the CNCP's decisions[98], in 2022, 32 complaints were received. On average, CNCP decides in about 103 working days, much higher than the 30 working days period outlined in the decree established by the CNCP[99]. Therefore, there is a need to strengthen The Program's procurement-related complaints handling mechanism by maintaining a dedicated register to report on procurement-related complaints.

[98] Available here: http://www.cncp.gov.ma/D%C3%A9cisions-et-avis

[99] As per Article 32 of Decree No. 2-14-867 of September 21, 2015 establishing the National Public Procurement Commission, the handling of complaints shall be carried out by the competent bodies of the commission in accordance with a maximum period of fifteen (15) working days from the date of receipt of the complaint letter. This period may be extended for a period of fifteen (15) working days by a reasoned decision of the president of the commission, which shall be notified to the interested parties.

Table A4.10. Statistics reported by implementing agencies about procurement-related complaints

	DRPE	ABHL	ABHBC	ABHOER	ABHS	ABHSM	ABHT	RADEEMA	RADEEF	RADEEJ	RAK	RAMSA
Reported on Complaints (Yes/No)	Yes	No	No	No	No	No	No	Yes	Yes	Yes	Yes	No
If YES: Statistics over the last 3 years (20-22)	0	*	*	*	*	*	*	3	0	8	13	*

Source: MEE, MoI, RBAs included in the Program, and Regies included in the Program. April 2023.

47. Regarding the possibility of filing a complaint electronically, the institutional portal of TGR has a space with a dedicated page and complaint form where bidders can submit complaints[100]. Public procurement complaints could be selected from a drop-down menu of Category of common complaints.

48. **A list of debarred firms is also on the e-GP portal (PMMP).** If the scope of abuse is limited to a single department, the minister will sign the decision placing the company on the blacklist. The second case is a broader exclusion where the bidder is excluded from all public procurement processes, which needs approval from the head of the government. The blacklist is publicly available and can be searched through the portal's search engine.[101] Some blacklists are temporary, while some are definitive. The list shows the reason for blacklisting, the beginning and end date of blacklisting, type of blacklisting: whether partial (only within a department) or total blacklisting. The decision document is uploaded and accessible to the public.

[100] Available here: https://www.tgr.gov.ma/wps/portal/!ut/p/b1/04_Sj7SwMDEzMDM3t9SP0I_KSyzLTE8syczPS8wB8aPM4i28fc0snAwdDSx8LAwMHAP9nAOC3QKN3QOMgQoigQoMcABHA3z6DUwNofoRClz8QApCAiwcvU0NDIKMibMfjwUE9IfrR6EpwXQBWAE-LxLypJ9Hfm6qfm5UjpubpWeWiaOiIgDg-M1L/dl4/d5/L2dJQSEvUUt3QS80SmtFL1o2XzhLTTY4QjFBMDhMODAwQVFOQ1BTRlIEzMkYw/

[101] Available here: https://www.marchespublics.gov.ma/index.php?page=entreprise.EntrepriseRechercherSocietesExclues&search=1`

Internal Controls

49. **Internal control system**. The internal control systems applied for MEE and MoI are well-defined and adequate. Entities are endowed with adequate internal control platforms (manual of procedures, information management system, segregation of duties between the budget holder and the accountant, culture of results, risk map). The assessment by the World Bank team of the effectiveness of the current practices did not reveal any significant issues. No internal control systems issues were reported in the line ministries as per the latest internal audit reports. The *Regies* and ABHs are subject to the Dahir No. 1-03-195 of 16 Ramadan 1424 promulgating the Law No. 69-00 relating to the financial control of the State over public enterprises and other bodies (B.O. of December 18, 2003). The *Regies* and ABHs are subject to prior control, which the Minister exercises in charge of finance, a state controller, and a treasurer "Tresorier payeur." The review of a sample of data collected (internal audit annual report, feedback (questionnaire) from the *Regies* and ABHs revealed that these entities are equipped, in most cases, with manuals of administrative, financial, and accounting management procedures.

Internal Audit

50. The MEE does not have an operational internal audit unit performing regular inspection and internal audit missions. However, the Ministry uses its Inspectorate General (*Inspection Générale ministérielle – IGM*) to perform mostly inspection duties rather than internal auditing functions. The Decree, dated February 12, 2005, provides that all ministries must have a Ministerial General Inspectorate (IGM) and an audit and management control unit. According to the recent PEFA assessment, "*in practice, only a limited number of ministries have an effectively operational IGM (Ministry of Economy and Finance, Ministry of Equipment, Transport and Logistics and Ministry of Agriculture)*." The IGM is currently reinforcing its capacity by recruiting additional staff for inspection purposes. Improvements would be needed to operationalize the internal audit function within the MEE.

51. The Inspectorate General of MoI (Inspection Générale del'Administration Territoriales IGAT) intervenes to carry out internal audits" missions in the MoI and local governments as required by the regulations in force whenever the case arises, at the level of public contracts. The General Inspectorate of Territorial Administrations (Inspection Générale de l'Administration Territoriales) has a proven role in performing internal audit functions and supporting local governments in implementing audit recommendations—a recent decree required implementing the internal audit function in each department. The Program will support the operationalization of this function in the MEE.

52. All the ABHs and the *Regies* have effective internal audit and management control division / unit: Overall, the internal audit function is operational in most Regies and *ABHs* reviewed. All the Regies and ABHs have an internal audit department in compliance with the applicable regulations and texts. Tools necessary for the management of the function such as the audit charter and internal audit manual and risk maps have been developed by most of the entities reviewed. Work programs are prepared annually and executed. About scheduled audit assignments, the *Regies* and ABHs draw up an annual internal audit plan based on the risks identified and assessed in the risk map. This approach aims at identifying audit assignments emanating from critical risks. These entities work according to a five-year audit plan to optimize resource allocation and address the organization's major issues. The audits cover several aspects of the *Regies'* and ABHs' operations,, including the follow-up of audit recommendations (internal and external). Some entities have audit committees.

Table A4.11. Statistics on the follow-up of audit recommendations at the level of certain entities

Entity	Recommendation	2020	2021	2022
RADEEMA	Number of recommendations implemented		41	48
	Number of recommendations being implemented			
	Number of recommendations not implemented		24	149
	Total recommendations from external auditors		65	197
	Satisfaction rate of external auditors' recommendations		63%	34%
RAK	Number of recommendations implemented			17

Entity	Recommendation	2020	2021	2022
	Number of recommendations being implemented			12
	Number of recommendations not implemented			25
	Total recommendations from external auditors			54
	Satisfaction rate of external auditors' recommendations			54%
RADEET	Number of recommendations implemented		9	
	Number of recommendations being implemented		4	
	Number of recommendations not implemented		3	
	Total recommendations from external auditors		16	
	Satisfaction rate of external auditors' recommendations		81%	
ABH Loukkos	Number of recommendations implemented	14	15	
	Number of recommendations being implemented	6	6	
	Number of recommendations not implemented	13	13	
	Total recommendations from external auditors	33	34	
	Satisfaction rate of external auditors' recommendations	60%	62%	
ABH Sebou	Number of recommendations implemented	31	52	1
	Number of recommendations being implemented	29	27	36
	Number of recommendations not implemented	20	18	26
	Total recommendations from external auditors	80	97	63
	Satisfaction rate of external auditors' recommendations	75%	81%	59%
ABH B&C	Number of recommendations implemented	12	29	
	Number of recommendations being implemented	34	42	
	Number of recommendations not implemented	29	27	
	Total recommendations from external auditors	75	98	
	Satisfaction rate of external auditors' recommendations	61%	72%	
ABH Souss Massa	Number of recommendations implemented	43		
	Number of recommendations being implemented			
	Number of recommendations not implemented	20		
	Total recommendations from external auditors	63		
	Satisfaction rate of external auditors' recommendations	68%		
ABH Tensift	Number of recommendations implemented	9		
	Number of recommendations being implemented	4		
	Number of recommendations not implemented	3		
	Total recommendations from external auditors	16		
	Satisfaction rate of external auditors' recommendations	81%		

Source: MEE, MoI, RBAs included in the Program, and Regies included in the Program. April 2023.

53. A table review concludes that additional efforts are needed to implement the recommendations and their follow-up by the Regies' and RBAs' internal audit units.

54. **Measures will be adopted to ensure the effectiveness of the operationalization of new internal audit unit at the MEE:** In line with the new decree requiring the implementation of the internal audit function in the departments, the PforR operation will support the operationalization of the function on the MEE. During Program implementation, the Bank team will monitor the effectiveness of the follow-up of audit recommendations by the internal audit units of the Regies and ABHs.

Programme Governance and Anticorruption arrangements:

55. ***Risk of fraud and corruption***. The Program's ex-ante and ex-post financial controls were found adequate to address the risk of fraud and corruption related. These arrangements comprise several effective institutions playing complementary roles: Ombudsman Office, Court of Auditors, the IGAT, the CNCP, and IGF. In absence of data because of the failure to report

formally the status of actions related to fraud and corruption in most of the on-going Bank-funded operations, the IFSA team was unable to assess the effectiveness of these institutions in the portfolio. Therefore, for this operation, additional efforts are required and compliance with actions to fraud and corruption (detailed below) will be monitored over the implementation period. More efforts are also still needed to ensure that audit reports are broadly made available to the public and there is effective follow-up of administrative and judicial actions and that these are dutifully applied.

56. ***Actions related to fraud and corruption***. The Borrower commits to implement the Program followingBank's Anti-Corruption Guidelines "GUIDELINES ON PREVENTING AND COMBATING FRAUD AND CORRUPTION IN PROGRAM-FOR-RESULTS FINANCING DATED FEBRUARY 1, 2012 AND REVISED JULY 10, 2015". The Borrower will: (a) take all appropriate measures to ensure that the Program is carried out in accordance with the Bank's Anti-Corruption Guidelines; (b) take all appropriate measures to prevent fraud and corruption in connection with the Program,, including (but not limited to) adopting and implementing appropriate fiduciary and administrative practices and institutional arrangements to ensure that the proceeds of the Loan are used only for the purposes for which the Loan was granted; (c) promptly inform the Bank of all credible and material allegations or other indications of fraud and corruption in connection with the Program that come to its attention, together with the investigative and other actions that the Borrower proposes to take with respect thereto; (d) unless otherwise agreed with the Bank with respect to a particular case, take timely and appropriate action to investigate such allegations and indications; report to the Bank on the actions taken in any such investigation, at such intervals as may be agreed between the Borrower and the Bank; and, promptly upon the completion of any such investigation, report to the Bank the findings thereof; (e) if the Borrower or the Bank determines that any person or entity has engaged in fraud and corruption in connection with the Program, take timely and appropriate action, satisfactory to the Bank, to remedy or otherwise address the situation and prevent its recurrence; and (f) ensure that any person or entity debarred or temporarily suspended by the Bank is not awarded contract under or otherwise allowed to participate in the Program during the period of such debarment or suspension. The Bank's debarment list, which is easily accessible, will be checked by all procuring entities before awarding contracts. Regarding the list of suspended firms, each implementing agency will access the same through Client Connection. One representative from each implementing agency shall be nominated for granting access to the Client Connection by the World Bank. The borrower will develop and operationalize the mechanism of enforcing these requirements through the issue of instructions/circular to all the procuring entities requiring the procuring officers to check the eligibility of firms and individuals from the Bank's list of debarred and suspended firms and record the same in procurement award decision files. The borrower will report compliance to these requirements in annual Program Audit Report.

57. ***Reporting***. The World Bank's prerogative of administrative inquiry for allegations of fraud and corruption has been clarified to the borrower during the Program preparation. The borrower's collaboration with the Bank on the administrative inquiries into allegations which the Bank intends to pursue has been confirmed during preparation. IGF will collect — with support from the abovementioned institutions — and report to the World Bank allegations occurring under the Program through the annual progress reports during Program implementation. The reporting format will include the following: (a) location and date of the complaint, (b) description of the allegation, (c) description of progress in investigation, and (d) investigation outcome. Also, the IGF, which has extensive experience in auditing programs financed by the World Bank, will pay particular attention to allegations of fraud and compliance with the bank's guidelines in this area. The terms of reference setting out the modalities of intervention of these institutions will include specific provisions relating to verifying compliance with the Bank's guidelines on preventing fraud and corruption.

Auditing

58. ***Program audit*.** The arrangements for external audit of the Program consolidated annual financial statements will follow the same arrangements for most Bank-financed operations in Morocco. These arrangements which rely on IGF are deemed adequate with audit reports of good quality. The IGF is auditing all the World Bank portfolios for the last two decades, except those managed by SOEs with private audit firms. The IGF will audit the consolidated financial statements prepared by the Program Coordination Unit (PCU) established within the MEE. This institution of control reporting to the MEF is involved in the audits of some of the GOM programs, including the standard and statutory mandate. The IGF will

conduct the audits of the Program annual consolidated financial statements based on agreed terms of reference. The audit reports and detailed management letters will be submitted to the Bank no later than nine (9) months after the closure of accounts. The Program would comply with the World Bank disclosure policy of audit reports within two months of the report being accepted as final by the team and the World Bank. The *Regies* and ABHs have acceptable audit arrangements in place. The audits are conducted by private audit firms selected on a competitive basis. The review of a sample of audit reports included in some of the *Regies* and ABH annual reports did not raise any issue of quality or acceptability of the audit reports. Finally, it is worth to point out that, with the significant increase in the number of operations in the Bank portfolio in Morocco, it is necessary to anticipate this additional workload for the IGF and explore alternative options such as audit firms and Court of accounts to ensure the timely delivery of audit reports.

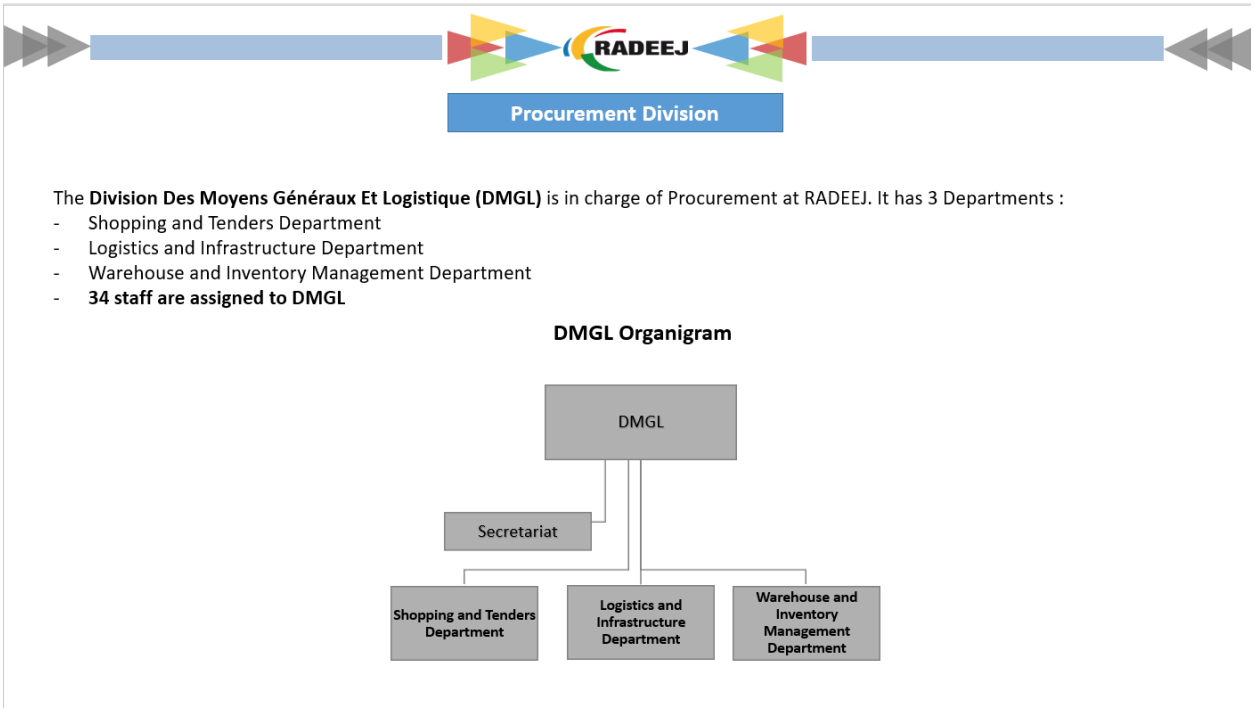
59. **Fiduciary Management Capacity Assessment of Implementing Agencies.**

60. Overall, except the MoI (*Regies* excluded), the assessment of the capacity of the fiduciary staff of the entities involved in the Program concluded to the need to implement a capacity program. The assessment of staff capacity, both at the ABHs and MEE as well as *Regies*, identified the capacity challenges of the staff as the main impediment that could affect implementation of the Program. A PCU within the DGH will need to be formed and trained to ensure smooth implementation of the Program. This PCU will include a fiduciary officer ensuring cooperation and consolidation of The Program's financial and procurement information prepared by each PCU. The Program will include at each level: (a) appointment/assignment of fiduciary staff based on terms of reference acceptable, and (b) a capacity-building activities aimed at building the skills of all fiduciary staff in the PCU and PMUs.

61. **Financial Management:** The Public Accountant of the entities involved in the Program will execute the budget following the public expenditure chain through the budget execution software GID and GIR**.** The strengths, weaknesses, and challenges facing the different public accountants of the ministries and related to the participating agencies are similar to the overall ministries of Morocco as described in the IFSA of closed or active PforR. Specifically, as shown in the budget execution section of the IFSA and the review of additional existing documents gathered and meetings held with the staff of these entities, the overall FM capacity of the entities requires additional strengthening.

62. **Procurement:** The capacity assessment noted that the existing public procurement decree and associated regulations govern DRPE and ABHs procurement. The procurement regulations across all the Regies are similar and closely aligned with the procurement decree. However, the practice of the applicable rules and regulations may slightly vary across the different agencies resulting in difference in procurement performance as evidenced by the KPIs provided earlier in the document. All implementing agencies use the MPPP (Moroccan e-GP platform). Regarding staffing and procurement division organizational chart, DPRE and Regies provided detailed data showing that they are well-staffed and have well established procurement services. Also, some ABHs shared information about their procurement divisions organizational chart and staffing. Below are examples of procurement Divisions organizational charts that were provided.

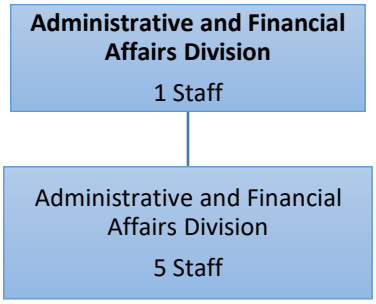
Figure A4. 1. RADEEJ Procurement Division Organizational chart



Source: RADEEJ. April 2023.

63. At ABHs, procurement is part of the responsibilities of the Procurement and Accounting Department, which falls under the Administrative and Financial Affairs Division. A closer look at the overall organizational chart of ABHS highlights the following organigram:

Figure A4.2. Example of ABHS Procurement Division Organizational chart



Source: RBAs included in the Program. April 2023.

64. The procurement staff strength in implementing agencies is considered adequate, and their procurement systems are found to have processes and procedures for effective program implementation.

Program Systems and Capacity Improvements

65. The list of PAP's fiduciary actions is reported in the table below and the Annex .6 – Program Action Plan (PAP).

Table A4.12. PAP Fiduciary Actions

Action Area	Description	Due Date/Schedule	Responsible Entity	DLI or Loan Covenant	Completion Measurement
Planning and Budgeting	Ensure that procurement plans are prepared and implemented following the regulations in force	Continuous	MEE/ABHs/MoI/Regies	N/A	Annual Procurement plans are published no later than the end of Q1 of the fiscal year and are implemented following the regulations in force
Budget Execution	Develop and implement a capacity-building program on the new PPD	January 2024	MEE/MoI/TGR	N/A	A capacity strengthening program on the new PPD is prepared and implemented, including: (a) capacity building plan on new decree to Procurement Officials and other stakeholders on new decree (b) development of guidance notes on new features such as rated criteria and competitive dialogue with more targeted training on these new features (c) update of Standard Bidding Documents in line with the new decree.
Budget Execution	Implement a bi-annual reporting mechanism to be included in the semi-annual Program progress report on: (1) Public Procurement: (i)tenders; (ii) procurement-related complaints and (iii) eligibility check of the firms. (2) Financial Management: (a) the status of implementation of the Program expenditure framework; (b)the number of commitments and payments made; and (c) the KPIs as detailed in the MOP [1].	Semi-annual	PCU in coordination with IAs (MEE/ABHs/MoI/Regies)	Loan covenant	(1)A reporting is done and shared with the Bank semi-annually using a template to be developed with Bank's support. (2) (a) The status of the Program expenditure framework is included in the semi-annual activity report (b) The number of commitments and payments made is included in the semi-annual activity report (c) Financial management KPIs are included in the semi-annual Program activity report.
Budget Execution	Implement a monitoring mechanism of procurement implementation at ABHs and Regies level	Quarterly	ABHs & Regies	Loan covenant	A close quarterly monitoring mechanism of procurement implementation at ABHs and Regies level is implemented to prevent/anticipate any bid cancellation risk; using a template to be developed withBank's support.

Action Area	Description	Due Date/Schedule	Responsible Entity	DLI or Loan Covenant	Completion Measurement
Budget Execution	Include in the bidding documents an eligibility check clause	Continuous	MEE/ABHs/MoI/Regies	N/A	An eligibility check clause in the bidding documents and implementing agencies are required to ensure that any person or entity debarred or suspended by the Bank is not awarded a contract under the program.
Internal Control and Internal Audit	Set up the internal audit unit in the MEE following the regulations in force	January 2024	MEE	N/A	Application of the decree and operationalization of the internal audit unit within the MEE (internal audit unit with its staff; management tools of the function put in place; number of internal audit mission reports; allocated budget etc.)
Internal Control and Internal Audit	Follow up on audits recommendations of the Program	Recurrent	General Inspectorates of MEE /MoI Internal Audit Units of Regies and ABHs	N/A	Number of audit recommendations implemented and timely reported in the Program activity reports
Fraud & Corruption	Develop the tools and procedures for collection, consolidation, reporting, on fraud and corruption in the POM and identify the responsible entity. Delegatees in charge of wastewater projects under RA#3 shall abide by this requirement.	Six months after effectiveness Semi-annual	MEE/DRPE/MoI/ABHs/Regies	Loan covenant	Number of cases of fraud and corruption systematically reported in Program activity reports
Fiduciary Capacities	Strengthen coordination between implementing entities and develop tools for collecting budget execution; procurement and accounting data at the level of each implementing entity and capacity building actions	Six months after effectiveness	WB/MEE	N/A	Financial, procurement and budgetary information is included in the half-yearly activity report and is acceptable and audited financial statements prepared and submitted on time

Note [1]: Potential KPIs: Number of internal audit reports and findings per year; number of corrected cases/weaknesses from the previous year in addition to the quality of the reports - Same for external audit; Timeliness and variances (estimates) compared to actuals regarding release of funds to implementing units or budget vs. actuals, etc.; Time taken to finalize a procurement process; Percentage of contracts awarded through competition.

66. **Implementation Support**. Fiduciary implementation support would include:

- Monitoring fiduciary implementation progress
- Support the borrower to resolve implementation issues and build institutional capacity
- Compliance with audit reports, including the implementation of the PAP
- Monitoring, as relevant, of compliance with the fiduciary provisions of legal covenants

ANNEX 5. SUMMARY OF THE ENVIRONMENTAL AND SOCIAL SYSTEMS ASSESSMENT (ESSA)

ESSA purpose and approach

1. This Environmental and Social Systems Assessment (ESSA) examines the Borrower's Environmental and Social (E&S) management systems applicable to the Program to assess their compliance with the provisions of the Bank's policies and guidelines applicable to the Program for Results (PforR) Financing. The aim is to ensure that the Program does not involve significant E&S risks and that the systems put in place make it possible to identify and manage any risks. In particular, the ESSA identifies and analyzes the gaps between the national systems and the principles applying to the Program and recommends actions for improvement aimed at the consistency of the E&S management systems with the requirements of the policies and Bank guidelines applicable to the Program. The ESSA recommends specific actions to improve the implementing agencies' capacity to perform their mandate adequately.

ESSA methodology

2. The preparation of the ESSA and the development of measures to strengthen the E&S management system benefited from various sources of information and an extensive consultation process, including:

- Review of available documents and data and the regulatory framework
- Consultative meetings with technical staff from Program stakeholders and Implementing agencies
- Before the Program appraisal, the ESSA report was posted on the Ministry of Equipment and Water (Ministère de l'Equipement et de l'Eau, MEE) and World Bank websites, and a stakeholder consultation workshop, including civil society, was held on April 18, 2023, in hybrid mode (physical/virtual)[102].

3. Two categories of activities will be eligible for funding under the Program: (a) those related to planning, improving knowledge, or strengthening systems and skills (non-structural activities); and (b) those associated with the reduction of water losses in distribution networks, upgrading of existing WWTPs and associated infrastructure for reuse (small or medium-scale structural activities). In general, structural activities are those most likely to generate environmental or social effects.

Table A5.1. Synthesis of RAs, activities, and type of activity

Activities	Type of activity: Structural(S) / Non-structural (NS)
RA 1: Strengthening Water Sector Governance: Support GoM's efforts to adapt the water sector governance to existing and future water challenges	
Preparation and adoption of the National Water Plan (PNE)	NS
Development, adoption, and implementation of regulatory instruments and consultative processes to improve the implementation of participative aquifer management contracts	NS
Preparation and signature of participative aquifer management contracts in three selected aquifers [**1**]	NS
Installation of smart meters for measuring groundwater withdrawals	NS

[102] The meeting was attended by representatives of civil society organizations working at the national and regional level in water, environment, women, youth, disability, health, etc., and technical staff of the government and partners. A list of participants is attached to the minutes of the consultation.

Activities	Type of activity: Structural(S) / Non-structural (NS)
Development, implementation, and adoption of a performance benchmarking framework to strengthen the performance of selected ABHs to deliver on their core functions of planning, managing, developing, and protecting water resources and operating and maintaining infrastructure [**2**]	NS
Operationalization of water information systems (SNIEAU and river basin)	NS
Improvements in water data management and information management systems, including regulations, formal specifications, and benchmarking for data generation, sharing, and access, quality assurance and control standards, upgrade, equipment, and maintenance of monitoring and information systems	NS
Installation and rehabilitation of stations and piezometers [1]	NS
Operationalization of multiservice operators (energy and water supply distribution, and wastewater collection and treatment) information system	NS
RA 2: Improving Financial Sustainability and Water Use Efficiency **Objective:** Support GoM's efforts to improve the valuation of water, reduce water losses from existing distribution systems, and encourage water conservation through communication campaigns	
Development of a Financial Sustainability framework for the sector, including the definition of principles of water valuation and cost recovery, the development of a financial model for the sector, and the development and adoption of a financial sustainability action plan	NS
Implementation of communication campaigns and activities to raise awareness of the importance of water conservation, including baseline and end-Program impact evaluations	NS
Implementation of water loss reduction plans, including the deployment of geographical information management systems and hydraulic models; meters deployment (bulk- and micro-meters), network sectorization and pressure control Program; leakage detection and rehabilitation campaigns; and network sectorization	S
RA 3: Enabling the Integration of Non-Conventional Water Resources **Objective:** Support GoM's efforts to improve the enabling environment and scale up the availability of non-conventional water resources	
Development of regulations to strengthen the enabling environment and facilitate the scaling-up of non-conventional water resources, focused on desalination and wastewater reuse	NS
Signature of conventions for the use of treated wastewater [**3**]	NS
Implementation of conventions for the use of treated wastewater [**3**], including (a) Upgrade of wastewater treatment plants (WWTPs) to increase the capacity for tertiary treatment and reuse of treated effluent for green spaces, industrial, and agricultural uses; and (b) distribution systems for the conveyance of treated wastewater reuse, including pipelines, pump stations, and storage tanks.	S

Notes: [**1**] The activities related to groundwater management and participative aquifer management contracts will be only implemented within the geographical perimeter of action of the six ABHs included in the Program.

[**2**] The six ABHs included in the Program are: Loukkos, Sebou, Bouregreg-Chaouia, Oum Er Rbia, Tensift, and Souss Massa; the 11 Regies included in the Program are: RADEEF, RADEEJ, RADEEL, RADEEMA, RADEES, RADEET, RAK, RAMSA, RADEETA, RADEM and RADEEC.

[**3**] The activities related to the signature and implementation of conventions for the use of treated wastewater will be only implemented within the geographical perimeter of action of the six ABHs included in the Program.

Program implementation arrangements

4. The MEE will manage the Program through a Program Coordination Unit (PCU), which will be the focal point for the World Bank. The PCU will ensure that the Program is implemented following the Program Operations Manual (POM), which is to be developed within 90 days of its effectiveness. The POM will define the staffing requirements for the PCU core team. This will include, at a minimum, a Program director, specialists in finance, procurement, environment, and social issues, and

focal points from other relevant agencies participating in the PNAEPI technical committee. The PCU oversees all Program reporting, including Program stakeholder coordination, results verification process, results achievement reporting, and Program audits, and will be the focal point for the World Bank.

5. Most institutions involved in this Program[103] have experience working with the World Bank in the context of previous development projects and programs in Morocco since the 2010s, except for the River Basin Agencies (*Agence du Bassin Hydraulique,* ABHs) and the Regies. These include the Blue Economy PforR, the Municipal Performance PforR, the Improving Early Childhood Development Outcomes PforR, the Natural Disaster Management Program, etc. The MEF is involved in all the PforRs financed by the Bank.

Anticipated E&S effects of the Program

6. A two-step filter was applied concerning E&S risks, following the Bank's PforR policy approved by the Board of Directors: "Activities deemed likely to have significant, diverse or unprecedented adverse impacts on the environment and affected people are not eligible for PforR financing and are excluded from the PforR Program." First, the list of 49 activities proposed for Program funding was analyzed against the exclusion criteria of paragraph 14 of the Bank Guidance Program-for-Results Financing E&S Systems Assessment. Based on this review, 27 investments were assessed as highly risky due to their potentially significant negative E&S impact despite potential mitigation measures, and therefore they were excluded from the Program. Second, the remaining 22 investments' potential negative impacts were deemed reversible and reviewed (see Table below) to identify specific mitigation measures. The mitigation measures are known (generally adopted for worksites), and their implementation will prevent negative impacts.

Table A5.2. Assessment of E&S issues

E&S Aspects	ESSA Core Questions	Assessment
Associated or probable E&S effects *This section describes the potential benefits, impacts, and risks that may be associated with the Program*	Environmental effects: • Potential loss or conversion of natural habitats? • Potential pollution or other project externalities? • Changes in land or resource use? Social effects: • Nature/extent of involuntary resettlement or land acquisition required? • Potential impacts on vulnerable communities? • Changes in access to resources?	The Program is structured around three RAs that provide a mutually reinforcing set of incentives for the activities needed to produce the expected results. The environmental impacts of the Program are not expected to be large-scale or irreversible. The results identified in the project do not require works likely to have significant negative impacts on the environment. The Program will not likely impact natural terrestrial or marine habitats or create environmental pollution, except for temporary localized construction phase impacts for all proposed infrastructure activities. The Program is also not likely to cause negative changes in land use and resource use. New sustainable management schemes included in this Program would foster positive changes in resource use. Benefits The Program has many social benefits and opportunities. This is the increase in households with access to drinking water services. This will lead to a reduction in water-borne diseases and improved community health. The tertiary treatment system will recharge wastewater for irrigation and watering green spaces. Degraded soils will be recovered and

[103]The Sustainable Development Department - Département de Développement Durable, DDD- responsible for managing the national Environmental Impact Assessment (EIA) system; the Ministry of the Interior - Ministère de l'Intérieur, MoI-; the MEE, the MAPMDREF, and the Ministry of Economy and Finance – Ministère de l'Economie et des Finances, MEF).

E&S Aspects	ESSA Core Questions	Assessment
		contribute to increasing their operators' income. This Program will also allow the creation of many direct and indirect jobs during construction. It will induce demand for goods and services that benefit local, regional, or national companies. Risk Rating: Moderate
E&S context *This section describes the geographic coverage and scope of the Program and the E&S conditions in the Program area that may be important to Program design and implementation*	Environmental • Does the environmental framework of the Program pose particular challenges that need to be taken into account? • Program activities in or near sensitive habitat areas? • Potential cumulative or induced effects? Social: area of social sensitivity; vulnerable groups? • Potential cumulative or induced effects?	Environment Based on the screening of the activities proposed for this Program and the Moroccan legislative framework, the Program's activities are not likely to affect sensitive natural habitats, such as national parks and terrestrial and marine protected areas. The direct impacts that could be generated by wastewater reuse projects, the rehabilitation of drinking water networks, and the design and development of non-conventional water resources correspond to impacts related to construction work sites and impacts relating to discharges. liquids and solids during the operation phase. These impacts are easily mitigated through the measures generally adopted. These measures (i.e., E&S management and site safety, tertiary treatment stations for liquid effluents, etc.) will be detailed in the E&S Impact Assessment (ESIA) and the E&S Management Plans (ESMPs) for these activities, which will be prepared by the project leaders before the start of the works and which will become binding for construction companies. Social No significant changes in land use or large-scale land acquisition are expected. Information/consultation activities risk being limited in scope, not covering the entire life cycle of the Program, and not sufficiently including vulnerable populations, including illiterate people, women, and people with disabilities that limit their access to certain communication channels. Risk Rating: Moderate
Program strategy and sustainability *This section situates the Program, and its E&S management systems, within the broader country development strategy, with particular emphasis on identifying factors that may impede the successful management of the Program over time*	1. Strategic context: What is the long-term vision of this Program regarding the country's development strategy? 2. Does it include explicit E&S management objectives? 3. Do the activities of the Program engage, constrain, or modify the decisions of future generations? 4. Are there any potential obstacles to ensuring the E&S sustainability of the Program after its implementation?	The Program is aligned with Morocco's vision for developing the water sector. The NMD report and the PNAEPI stress the need to safeguard water through better use of resources and more rigorous management and are aligned with the vision established for the sector in the 2009 Water Strategy and the draft CWP to (a) increase water storage capacity; (b) increase desalination capacity; (c) reduce water losses in transport and distribution networks (drinking water and irrigation canals) and improve water productivity in the irrigated agriculture sector; (d) ensure continuity of drinking water supply in urban and rural areas by improving and expanding the capacity of existing systems; and (e) protecting water resources by improving the management and allocation of ground and surface water and monitoring water quality. The NMD recognizes that building a sustainable Morocco will require preserving natural resources, strengthening the territories' resilience to climate change, and safeguarding its water resources through more efficient use and management of its scarcity. The Program is aligned with the World Bank Group's Country Partnership Framework for Morocco for fiscal years 2019-24. The CPP aims to contribute to social cohesion by improving growth and

E&S Aspects	ESSA Core Questions	Assessment
		job creation conditions and reducing social and territorial disparities. More specifically, the Program supports intervention area 3, "Promoting inclusive and resilient territorial development," directly contributing to the following three objectives: (a) improving the performance of key infrastructure provision services to cities, (b) improving access to sustainable water resources, and (c) strengthen adaptation to climate change and resilience to natural disasters. The PROGRAM is committed to meeting the needs of future generations. With a strong impact on the governance of water resources, the PROGRAM will contribute to promoting a sustainable management model for this resource. Risk Rating: Moderate
Institutional complexity and capacity *This section describes organizational, administrative, and regulatory structures and practices concerning E&S assessment, planning, and management*	1. Does the Program involve multiple jurisdictions or implementing partners? 2. Capacity or commitment of counterpart to implement regulations and procedures? 3. Is there a track record of commitment and implementation experience in E&S? 4. Are there any known, institutional barriers that would prevent the implementation of this Program? 5. Is there sufficient institutional capacity to address the E&S impacts of this Program?	Consultations with the technical teams of the various entities (MEE-DRPE, ABHs, Autonomous Régies, etc.) involved in the Program have shown the absence/weakness of E&S management systems. Their experience is limited to carrying out EIAs (generally outsourced), the monitoring of which is delegated to the works companies. The E&S management capacities of Program stakeholders must be developed. The Program is an opportunity to build E&S management capacities and support them in developing their E&S management system. The aProgramoach adopted is the one that was used for all the PROGRAMs in the Moroccan portfolio and made it possible to effectively establish the E&S management systems of several institutions (Ministry of the Interior, Directorate General of Territorial Communities, Ministry of Agriculture, Ministry of Employment, Ministry of Equipment, etc.). The MEF has a long and successful track record of working with the World Bank and mobilizing government stakeholders to achieve common goals. The MEF is familiar with the Bank's instruments, including the PforR instrument, and has experience managing technical assistance projects. The DDD is responsible for managing the EIA system and has good experience and the necessary skills, particularly around EIA review, project implementation monitoring, and environmental monitoring (air, water, soil), through the National Environment Laboratory. Risk Rating: Substantial
Reputational and Political Risk Context *This section describes E&S issues, trends, or other factors that may expose the Program, country, or Bank to significant reputational or political risk*	1. Potential governance or corruption issues 2. Are there any political risks associated with this sector or the proposed Program? 3. Is the sector or Program known to be controversial?	The Program does not present any political or reputational risks. 1. The Program's ex-ante and ex-post financial controls have been deemed adequate to address the risk of fraud and corruption. This system includes several effective institutions playing complementary roles: the Office of the Mediator, the Court of Auditors, the General Inspectorate of Territorial Administrations (*Inspection Générale de l'Administration Territoriales,* IGAT), the National Public Procurement Commission (*Conseil National des Commandes Publiques,* CNCP) and the Inspectorate General of Finance (*Inspection Générale des Finances,* IGF). 2. no political risks are associated with the sector and the proposed Program. 3.No

E&S Aspects	ESSA Core Questions	Assessment
		Risk Rating: Low
Global evaluation: *This section describes the overall risk profile of the Program based on the team's subjective weighting and aggregation of all factors identified above. E&S risk factors should be summarized separately)*	Is the Program suitable for PROGRAM, or would it be better suited for a specific investment loan?	Most E&S risks potentially associated with Program activities are expected to be moderate. The risk of involving stakeholders whose E&S management capacities need to be strengthened is substantial. Overall Risk Rating: Substantial

7. The social risks likely to result from the Program are linked during the preparatory phase to potential shortcomings in assessing social impacts and planning for their management and restrictions on access to natural resources. During the construction phase, the risks are related to the health and safety of workers and communities, child labor, and finally, to a lesser extent, those related to gender-based violence, sexual abuse, and harassment. During the operational phase, the risks are mainly related to the potential exclusion of local populations and potential beneficiary populations from the benefits of the Program or the limits of their benefits from the Program.

8. During the three phases of the Program (preparation, construction, and operation), information and consultation activities risk being limited in scope, not covering the entire life cycle of the Program, and not sufficiently including vulnerable populations, in particular illiterate people, women and people with disabilities that limit their access to certain communication channels (the visually impaired and the hearing impaired, for example). These risks are assessed as low to moderate, and the measures for their mitigation are developed at the level of the PAP of this ESSA.

9. In conclusion, **the negative E&S effects of the Program are considered low or moderate**. They will be low-harm, controllable, and manageable based on well-recognized E&S mitigation measures. Mitigation measures will be implemented to reduce any potential negative effects. Therefore, a rigorous E&S control and monitoring system should help minimize these effects. Nevertheless, given the limited capacities of the stakeholders involved in the Program, the risk is globally considered substantial.

ESSA action plan

10. Although the E&S risks of the Program activities are classified as low to moderate, the Program offers an opportunity to address the shortcomings mentioned above and to strengthen the E&S management system. To this end, the Program will support specific measures to strengthen the quality and performance of the E&S management systems in two areas: (a) strengthening the E&S management system and (b) building the capacities of stakeholders in E&S management. All these measures are recorded in the ESSA Action Plan and some in the PAP.

11. Actions aiming at strengthening the E&S management system

- The development of diagnostic tools and E&S monitoring of sub-projects (screening against the negative list, E&S monitoring sheets, ESMP, RAP) and the tools for site monitoring (E&S monitoring sheets, anomalies sheets), which will be included in the POM

- The designation of an E&S focal point in the PCU (trained in E&S management) to ensure the implementation of E&S actions; the collection of information concerning E&S risks; the M&E of the implementation of mitigation measures; and the integration of data in the information system and reporting.

- The inclusion in the POM of the **E&S Technical Manual,** which will include the complete procedures to accompany works construction to mitigate or avoid their E&S impacts, the responsibilities for site monitoring, and the methods and frequencies of reporting (including any incidents/accidents that have occurred during the implementation of the Program activities).

12. Actions aiming at building stakeholders' capacities in E&S management

- Based on the E&S technical manual, the PCU's E&S focal point will develop a training plan for all Program stakeholders to provide stakeholders with principles and methods for developing and implementing an E&S management system

- The E&S staff in implementing agencies will ensure -in close collaboration with the PCU's E&S focal point- the screening against the negative list of the sub-projects, identification of E&S risks and their mitigation measures, and the M&E of their implementation and reporting, including any incidents/accidents that occurred during the implementation of Program activities.

- Organization of capacity-building sessions on E&S management tools

13. Additional social elements to be included in the ESSA Action Plan

- *Stakeholder Engagement*. Plan information and consultation activities throughout the Program life cycle, including formal organizations of beneficiaries or people affected by the Program activities and the populations that are not part of formal organizations (associations, cooperatives), and provide inclusive means of communication for all categories of populations concerned -including women, illiterate people, people with disabilities that limit their ability to communicate or receive information through specific channels-.

- *Grievance Redress Mechanisms*. 90 days after the declaration of effectiveness, the PCU will carry out -with the support of the Bank's E&S team- an evaluation of the existing GRMs in the ABHs and the Régies included in the Program to verify the existence of complaint reception, processing, and handling systems following the Decree 2-17-265, and if in absence support the creation of complain management system with an adequate complaints management procedure

- *Works contracts*. Integrate the procedures for verifying and controlling compliance with the regulations concerning health and safety at work and of neighboring communities and child labor into works contracts.

14. The Table below presents all the elements of the ESSA Action Plan. The cost of all the actions identified concerning E&S aspects of the ESSA will be integrated into the Program's overall budget.

Table A5.3. ESSA action plan

Action description	Responsibility	Timing	Completion Measure	PAP or Legal Agreement
Appointment of E&S focal point	PCU Implementing agencies	30 days after effectiveness	Appointment of the E&S focal point by the PCU and implementing agencies	Included as part of the Legal Agreement Implementation Arrangements
ESIA with ESMP, Resettlement Action Plan (RAP), public consultation and public dissemination for each wastewater reuse convention implemented under the Program	MoI	Before the start of works	ESIA, ESMP and RAP submitted to the Bank	PAP
Adoption of an E&S technical manual included in the POM **[1]**	PCU	90 days after effectiveness and implemented throughout the duration of the Program	E&S technical manual, including good E&S practices included in the POM	Included as part of the Legal Agreement Implementation Arrangements
Notification of incidents and accidents to the Work Bank no later than 48 hours after their occurrence	Implementing agencies	Continuous	Periodic E&S monitoring sheets (monthly) and reports (half-yearly)	PAP
Preparation and implementation of stakeholder engagement plans [**2**]	ABHs and Regies	90 days after effectiveness and implemented throughout the duration of the Program	Plans prepared by the implementing agency and submitted to the Bank	PAP
Deployment of grievance management mechanisms [**3**]	1-Focal Points 2-Central PCU for consolidation and reporting.	90 days after effectiveness and implemented throughout the duration of the Program	Description of the system, communication strategies and system operating statistics	PAP
Development of training module on E&S management including monitoring tools; and relevant training sessions, including subcontractors	PCU	90 days after effectiveness and implemented throughout the duration of the Program	Module and training plan developed and carried out	PAP

Notes:

[**1**] The E&S technical manual shall include – at a minimum-: (a) site monitoring tools (E&S monitoring sheets, anomaly sheets, the procedure for communicating accidents/incidents and drawing up status reports and associated action plans, responsibility for site-monitoring; and screening against the negative list of the sub-projects); (b) mechanisms for the management of consultations, awareness, and training of stakeholders on the risks associated with gender-based violence, sexual abuse, and harassment; and, (c) methods and frequency of reporting

[**2**] The Local Level Stakeholder Engagement Plan shall be developed and implemented throughout the life cycle of the projects.

[**3**] The grievance management mechanisms shall encompass – at a minimum - (a) mechanisms for complaint reception, processing, and follow-up following the 2018 decree by each implementing agency; (b) half-yearly reporting; (c) communication strategy to inform affected communities about the complaints management system and the procedure for using it.

ANNEX 6. PROGRAM ACTION PLAN

Action Description	Source	DLI#	Responsibility	Timing		Completion Measurement
Prepare annual activity plans, procurement plans, and budgets (including studies, goods and services, and works)	Fiduciary Systems		PCU and Implementing Agencies	Other	90 days after the Effective Date and 90 days in advance of the start of a new calendar year.	Consolidated Program annual activity plans and procurement plans submitted to the World Bank.
ESIA with ESMP, Resettlement Action Plan (RAP), public consultation, and public dissemination for each wastewater reuse convention implemented under the Program	Environmental and Social Systems		MoI	Other	Before the start of the works	ESIA, ESMP, and RAP submitted to the Bank
Notification of incidents and accidents to the Work Bank no later than 48 hours after their occurrence	Environmental and Social Systems		Implementing agencies	Other	Continuous	Periodic E&S monitoring sheets (monthly) and reports (half-yearly)
Deployment of grievance management mechanisms	Environmental and Social Systems		PCU and implementing agencies	Other	90 days after the Effective Date and implemented throughout the Program	Description of the system, communication strategies, and system operating statistics
Development of training module on E&S management, including monitoring tools; and relevant training sessions, including subcontractors.	Environmental and Social Systems		PCU	Other	90 days after the Effective Date and implemented throughout the Program	Module and training plan developed and carried out

Develop and implement a capacity-building program on the PPD	Fiduciary Systems		MEE/MoI/TGR	Due Date	31-Jan-2024	The capacity capacity-building program on the PPD submitted to the Bank.
Include in the bidding documents an eligibility check clause to ensure that any person or entity debarred or suspended by the Bank is not awarded a contract under the Program.	Fiduciary Systems		Implementing Agencies	Other	Continuous	Sample bidding documents submitted to the Bank.
Set up the internal audit unit in the MEE as per the regulations in force	Fiduciary Systems		MEE	Due Date	31-Jan-2024	Application of the decree and operationalization of the internal audit unit within the MEE (internal audit unit with its staff; management tools of the function put in place; the number of internal audit mission reports; allocated budget etc.)
Follow up on audits' recommendations of the Program	Fiduciary Systems		MEE-MoI, Int. Audit of Regies&ABHs	Other	Continuous	Number of audit recommendations implemented and timely reported in the Program activity reports
Strengthen coordination between implementing entities and develop tools for collecting budget execution, procurement, and accounting data at the level of each implementing entity and capacity-building actions	Fiduciary Systems		WB/MEE	Other	180 days after the Effective Date	Financial, procurement, and budgetary information is included in the half-yearly activity report and is acceptable and audited financial statements prepared and submitted on time.
Report compliance to the Bank's list of debarred and temporarily suspended firms as part of the Program Audit Report	Fiduciary Systems		IGF	Other	Implemented throughout the Program	IGF assesses the compliance of winning firms within the program implementation against the Bank's list of debarred and temporarily suspended firms

ANNEX 7. IMPLEMENTATION SUPPORT PLAN

1. The Implementation Support Plan is based on the World Bank Guidelines for PforR Operations. The Borrower is responsible for the Program's overall implementation and technical aspects. The Program will require considerable focused support from the World Bank team, particularly during the early stages of implementation. The implementation agencies will need to rapidly shift the focus of their planning to ensure that available funding can be absorbed and results delivered in time and within budget envelopes. The focus of the World Bank implementation support under the Program will be 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 Program and compliance with legal agreements and, as needed, the PAP
- Mobilize technical assistance funds to support the achievement of the Program results, as presented below.

Table A7.1. Focus of Implementation Support

Time	Focus	Skills Needed	Resources Estimate	Partner Role
First twelve months	Supporting of implementation of governance RA (PNE and benchmark framework for ABHs), groundwater management contracts, data management systems, and regulations for non-conventional water resources	Team leader, water, and sanitation specialist; IWRM institutional design; Groundwater specialist; legal; gender; procurement; financial management; social and environment; M&E		
12-48 months	Reviewing implementation progress, field verification of verification reports from the IVA	Team leader, procurement; financial management; social and environment; water and sanitation specialist; IWRM specialist; legal; gender; M&E		

2. A World Bank team will be mobilized to deliver Bank support as mentioned above (see Table A7.2).

Table A7.2. Task Team Skills Mix Requirements for Implementation Support

Skills Needed	Number of Staff Weeks	Number of Trips	Comments
Task Team Leader	24	0	Based in Morocco
WRM Specialist	12	3	Based in Jordan
Groundwater	5	1	Based in Washington DC
Water data management	5	2	Based in Washington DC
Water supply and sanitation (non-revenue water and wastewater reuse)	10	3	Based in Washington DC
M&E/Verification	6	2	Based in Morocco
Procurement	4	0	Based in Morocco
Financial management	4	0	Based in Morocco
Governance (fraud and corruption)	2		To be defined
Environment safeguards	4	0	Based in Morocco
Social safeguards	4	0	Based in Morocco
Gender	4	0	Based in Morocco
Legal	2	1	Based in Washington DC
Team assistance	6	0	Based in Morocco

3. After effectiveness, the first implementation support mission will occur as soon as possible to provide direct feedback and implementation support with critical inputs and involvement of environmental, social, and fiduciary teams. The World Bank will support implementation through regular missions and guide implementation.

4. Finally, the World Bank will mobilize trust funds (Bank or client executed) to support the Borrower in the implementation of the Program. During preparation, some indicative areas of Bank support through trust funds were identified – as indicated in the Table below.

Table A7.3. World Bank support technical assistance

Results Area	DLI No.	DLI Name	Scope of World Bank Technical assistance
RA1. Strengthened Water Sector Governance	1	National Water Plan (PNE) Adopted	International experience in climatic scenarios and principles to strengthen the sector's governance, institutional, and financial aspects (including defining water valuation and cost-recovery principles
	2	Groundwater management improved	Review of the Decree for participatory aquifer management contracts
	3	ABH performance framework was adopted, and ABH performance improved	International experience on KPI and maturity matrix to assess ABHs performance and definition of action plans
	4	Water Information Systems operationalized and used for water accounting and decision-making	Review of the Decree establishing the SNIEAU and ABHs' Water Resources Information Systems International experience in the development and monitoring of the process of establishing and putting in place the plan for data quality and control for hydrological and hydrogeological data, and capacity building.

Results Area	DLI No.	DLI Name	Scope of World Bank Technical assistance
			International experience in the development and monitoring of the process of data certification for hydrological and hydrogeological data, and capacity building.
	5	Operators' performance information systems operationalized	International experience in the deployment of benchmark systems for utility performance (information requirements, KPIs, and minimum service standards)
RA2. Improved Financial Sustainability and Water Use Efficiency	6	The financial sustainability framework of the water sector improved	International experience in financial modeling and structuring of sub-sector financing strategies Revision of TOR for the study on water costs (from mobilization to service delivery)
	7	Volume of potable water savings in distribution water supply networks	
RA3. Enabled Integration of Non-Conventional Water Resources	8	Wastewater reuse scaled-up	Review of the bylaw defining the norms for wastewater reuse for agricultural purposes