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Report No: PAD5104

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED GRANT

IN THE AMOUNT OF SDR 59.5 MILLION
(US$80 MILLION EQUIVALENT)

TO THE

REPUBLIC OF HAITI

FOR A

DECENTRALIZED SUSTAINABLE AND RESILIENT RURAL WATER AND SANITATION PROJECT

April 26, 2023

Water Global Practice
Social Sustainability and Inclusion Global Practice
Latin America and the Caribbean Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective April 3, 2023)

Currency Unit =	Haitian Gourde (HTG)
HTG 155.588 =	US$1
SDR 0.74355 =	US$1

FISCAL YEAR
October 1 – September 30

Regional Vice President:	Carlos Felipe Jaramillo
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Regional Director:	Anna Wellenstein
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ABBREVIATIONS AND ACRONYMS

BRH	Central Bank of Haiti *(Banque de la République d'Haïti)*
CAEPA	Drinking Water Supply and Sanitation Committee (*Comité d'Approvisionnement en Eau Potable et Assainissement)*
CDC	Commune Development Committee
CDD	Community-Driven Development
CER	Contingent Emergency Response
CERC	Contingent Emergency Response Component
CPF	Country Partnership Framework
DA	Designated Account
DFIL	Disbursement and Financial Information Letter
DINEPA	National Water and Sanitation Directorate (*Direction Nationale de l'Eau Potable et de l'Assainissement*)
DLI	Disbursement-Linked Indicator
E&S	Environmental and Social
EEP	Eligible Expenditure Program
EPARD	Sustainable Rural and Small Towns Water and Sanitation Project (*Programme Eau Potable et Assainissement Durable en Milieu Rural*)
ESCP	Environmental and Social Commitment Plan
ESMF	Environmental and Social Management Framework
ESS	Environmental and Social Standards
FCV	Fragility, Conflict, and Violence
FM	Financial Management
FSM	Fecal Sludge Management
GBV	Gender-Based Violence
GCRF	Global Crisis Response Framework
GDP	Gross Domestic Product
GEMS	Geo-Enabling Initiative for Monitoring and Supervision
GHG	Greenhouse Gas
GoH	Government of Haiti
GRID	Green, Resilient, and Inclusive Development
GRM	Grievance Redress Mechanism
HEIS	Hands-on Enhanced Implementation Support
ICR	Implementation Completion and Results Report
ICT	Information and Communication Technology
IFR	Interim Financial Report
IPF	Investment Project Financing
IRR	Internal Rate of Return
IVA	Independent Verification Agent

M&E	Monitoring and Evaluation
MIS	Management Information System
MICT	Ministry of Interior and Local Authorities (*Ministère de l'Intérieur et des Collectivités Territoriales*)
MSPP	Ministry of Heath and Population *(Ministère de la Santé Publique et de la Population*)
NGO	Nongovernmental Organization
O&M	Operations and Maintenance
ONEPA	National Observatory for Drinking Water and Sanitation *Observatoire National de l'Eau Potable et de l'Assainissement*)
OP	Professional Operator *(Opérateur Professionne*l)
OREPA	Regional Office for Water and Sanitation (*Office Régional d'Eau Potable et Assainissement)*
PBC	Performance-Based Condition
PDO	Project Development Objective
PIU	Project Implementation Unit
PIRAD	Small and Rapid WASH Interventions *(Petites Interventions à Impacts Rapides*)
PPIAF	Public-Private Infrastructure Advisory Facility
PLR	Performance and Learning Review
POM	Project Operations Manual
PP	Procurement Plan
PPP	Public-Private Partnership
PPSD	Project Procurement Strategy for Development
RPF	Resettlement Policy Framework
SCD	Systematic Country Diagnostic
SDA	Service Delivery Approach
SEP	Stakeholder Engagement Plan
SDGs	Sustainable Development Goals
SIEPA	Integrated Water and Sanitation Information System (*Système Intégré pour l'Eau Potable et l'Assainissement*)
SOL	Online Procurement Solution *(Solucao Online de Licitacao*)
SPF	State and Peace-Building Fund
STEP	Systematic Tracking of Exchanges in Procurement
TA	Technical Assistance
TEPAC	Communal Water and Sanitation Technician (*Technicien en Eau Potable et Assainissement Communaux*)
UN	United Nations
UNICEF	United Nations Children's Fund
UNOPS	United Nations Office for Project Services
URD	Rural Departmental Units *(Unité Rurale Départementale*)
USAID	United States Agency for International Development
WASH	Water, Sanitation, and Hygiene

WASH-SIP	Water, Sanitation, and Hygiene Service Improvement Plan
WBG	World Bank Group
WHO	World Health Organization
WSS	Water Supply and Sanitation

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DATASHEET

BASIC INFORMATION

Country(ies)	Project Name	
Haiti	Decentralized Sustainable and Resilient Rural Water and Sanitation Project	
Project ID	**Financing Instrument**	**Environmental and Social Risk Classification**
P178188	Investment Project Financing	Substantial

Financing & Implementation Modalities

[ ] Multiphase Programmatic Approach (MPA)	[✓] Contingent Emergency Response Component (CERC)
[ ] Series of Projects (SOP)	[✓] Fragile State(s)
[✓] Performance-Based Conditions (PBCs)	[ ] Small State(s)
[ ] Financial Intermediaries (FI)	[ ] Fragile within a non-fragile Country
[ ] Project-Based Guarantee	[ ] Conflict
[ ] Deferred Drawdown	[ ] Responding to Natural or Man-made Disaster
[ ] Alternate Procurement Arrangements (APA)	[✓] Hands-on Enhanced Implementation Support (HEIS)

Expected Approval Date	Expected Closing Date
17-May-2023	29-Jun-2029

Bank/IFC Collaboration

No

Proposed Development Objective(s)

The Project Development Objective (PDO) is to increase access to inclusive, resilient, and sustainable rural basic water and sanitation services.

Components

Component Name	Cost (US$, millions)

Component 1: WASH Response to Cholera and Emergency Preparedness	8.00
Component 2: WASH Service Development	60.00
Component 3: Sector wide results-based strengthening	12.00
Component 4: Contingent Emergency Response	0.00

Organizations

Borrower:	Republic of Haiti
Implementing Agency:	DINEPA

PROJECT FINANCING DATA (US$, Millions)

SUMMARY

Total Project Cost	80.00
Total Financing	80.00
of which IBRD/IDA	80.00
Financing Gap	0.00

DETAILS

World Bank Group Financing

International Development Association (IDA)	80.00
IDA Grant	80.00

IDA Resources (in US$, Millions)

	Credit Amount	Grant Amount	SML Amount	Guarantee Amount	Total Amount
Haiti	0.00	80.00	0.00	0.00	80.00
National Performance-Based Allocations (PBA)	0.00	80.00	0.00	0.00	80.00
Total	**0.00**	**80.00**	**0.00**	**0.00**	**80.00**

Expected Disbursements (in US$, Millions)

WB Fiscal Year	2023	2024	2025	2026	2027	2028	2029	2030
Annual	0.00	5.00	10.00	12.00	15.00	18.00	17.00	3.00
Cumulative	0.00	5.00	15.00	27.00	42.00	60.00	77.00	80.00

INSTITUTIONAL DATA

Practice Area (Lead)

Water

Contributing Practice Areas

Social Sustainability and Inclusion

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	High
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	High
10. Overall	Substantial

COMPLIANCE

Policy

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

[ ] Yes [✓] No

Does the project require any waivers of Bank policies?

[ ] Yes [✓] No

Environmental and Social Standards Relevance Given its Context at the Time of Appraisal

E & S Standards	Relevance
Assessment and Management of Environmental and Social Risks and Impacts	Relevant
Stakeholder Engagement and Information Disclosure	Relevant
Labor and Working Conditions	Relevant
Resource Efficiency and Pollution Prevention and Management	Relevant
Community Health and Safety	Relevant
Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Relevant
Biodiversity Conservation and Sustainable Management of Living Natural Resources	Relevant
Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	Not Currently Relevant
Cultural Heritage	Relevant
Financial Intermediaries	Not Currently Relevant

NOTE: For further information regarding the World Bank's due diligence assessment of the Project's potential environmental and social risks and impacts, please refer to the Project's Appraisal Environmental and Social Review Summary (ESRS).

Legal Covenants

Sections and Description

The Recipient shall carry out the Project in accordance with the Implementation Arrangements set out in Section I, A of Schedule 2 to the Financing Agreement.

Sections and Description

Section I.A.2 of Schedule 2 of the Financing Agreement, the Recipient shall, and shall cause DINEPA to, ensure that the Project Implementation Unit is adequately funded and comprised of qualified and experienced personnel in adequate numbers throughout Project implementation, all in accordance with the Project Operations Manual. To this end, the Recipient shall, and shall cause DINEPA to, recruit no later than six (6) months after the Effective Date, or any later date agreed by the Association, inter alia: a Project coordinator, three (3) regional coordinators based in the OREPAs, a community development specialist, a WSS engineer, a water and sanitation operation specialist, a social risk management specialist, an environmental risk management specialist, a contract manager, a gender and inclusion specialist, a financial management specialist, a procurement specialist, a security specialist, a communications specialist, and a monitoring and evaluation specialist; all with qualifications, experience and terms of reference acceptable to the Association.

Sections and Description

Section I.B.1 of Schedule 2 to the Financing Agreement, to facilitate the carrying out of the Project, no later than sixty (60) days after the Effective Date, or such later date as agreed by the Association, the Recipient shall make the proceeds of the Financing available to DINEPA under a Subsidiary Agreement between the Recipient, acting through the MTPTC and the MEF, and DINEPA, under terms and conditions approved by the Association.

Sections and Description

Section I.B.2 of Schedule 2 to the Financing Agreement, no later than sixty (60) days after the Effective Date, or such later date as agreed by the Association, the Recipient shall, and shall cause DINEPA to, ensure that the Subsidiary Agreement has been duly authorized or ratified by the Recipient and DINEPA and is legally binding upon the Recipient and DINEPA in accordance with its terms.

Conditions

Type	Financing source	Description
Disbursement	IBRD/IDA	Section III.B.1(a) of Schedule 2 to the Financing Agreement, no withdrawal shall be made for payments made prior to the Signature Date, except that withdrawals up to an aggregate amount not to exceed SDR 6,000,000 may be made for payments made prior to this date but on or after April 1, 2023, for Eligible Expenditures under Category (1).
Type	Financing source	Description
Disbursement	IBRD/IDA	Section III.B.1(b) of Schedule 2 to the Financing Agreement, no withdrawal shall be made for payments under Category (2), unless and until DINEPA has entered into a Sub-grant Agreement with the

		Project Partner, in form and substance satisfactory to the Association.
Type Disbursement	Financing source IBRD/IDA	Description Section III.B.1(c) of Schedule 2 to the Financing Agreement, no withdrawal shall be made for payments under Category (3) with respect to each PBC as set forth in Schedule 3 to the Agreement, for which a withdrawal request has been submitted, unless the Recipient has caused DINEPA to submit: (i) evidence, in form and substance satisfactory to the Association, of the Eligible PBC Expenditures incurred and paid, as reported in accordance with the terms of the IFRs; and (ii) supporting documentation confirming DINEPA's achievement of the respective PBC or PBCs in form and substance satisfactory to the Association as reported in accordance with the terms of the Verification Protocol.
Type Disbursement	Financing source IBRD/IDA	Description Section III.B.1(d) of Schedule 2 to the Financing Agreement, no withdrawal shall be made for payments under Category (5), until and unless the Association is satisfied that all of the following conditions have been met in respect of said activities: (i) (A) the Recipient has determined that an Eligible Crisis or Emergency has occurred, has furnished to the Association a request to withdraw Financing amounts under Category (5); and (B) the Association has agreed with such determination, accepted said request and notified the Recipient thereof; and (ii) the Recipient or DINEPA, as applicable, has adopted the CER Manual and Emergency Action Plan, in form and substance acceptable to the Association.
Type Disbursement	Financing source IBRD/IDA	Description Section III.B.2 of Schedule 2 to the Financing Agreement, (a) The Recipient may request withdrawals of the Financing when the relevant Eligible PBC Expenditures have been incurred

		and paid, but prior to the PBCs having been met, provided that the Recipient shall: (i) achieve such PBCs no later than the Closing Date; and (ii) submit to the Association evidence satisfactory to the Association of such PBCs having been met no later than the Disbursement Deadline Date; provided however, that if by the Disbursement Deadline Date, the Recipient has failed to provide the Association evidence satisfactory to the Association that one or more PBCs have been fully achieved, the Recipient shall, upon notice from the Association, promptly refund to the Association the Withdrawn Financing Balance related to those expenditures under the Eligible PBC Expenditures under Category (3). Except as the Association may otherwise determine, the Association shall cancel all amounts refunded pursuant to this Section. (b) If any of the PBCs referred to in Schedule 3 to this Agreement has not been achieved, the Association may, by notice to the Recipient: (a) reallocate all or a portion of the proceeds of the Financing then allocated to said PBC to any other PBC or any other Category; and/or (b) cancel all or a portion of the proceeds of the Financing then allocated to said PBC.

I. STRATEGIC CONTEXT

A. Country Context

1. **Haiti is one of the world's poorest, unequal, and fragile countries.** The country remains one of the poorest in the Western Hemisphere. In 2022, its gross domestic product (GDP) per capita was US$1,744. About 60.7 percent of its 11.7 million people live below the poverty line, with 31.6 percent living in extreme poverty. Haiti ranked 163 out of 191 countries in the Human Development Index in 2021. Haiti's infant mortality rate of 51 deaths per 1,000 births[1] is well above the Latin American regional average. With a Gini coefficient of 0.61, income inequality is the highest in the region, ranking Haiti among the most unequal countries in the world. Nearly 75 percent of the rural population in Haiti are asset poor[2] and face unequal access to basic services, including access to basic water and sanitation service.

2. **Historically, fragility in Haiti has been driven by political violence and instability**. Over the past decades, Haiti has demonstrated a very high degree of vulnerability to a significant number of economic and social crises, as well as to numerous exogenous shocks, such as adverse natural events and commodity prices, both of which have contributed to increasing inequalities and territorial disparities. Limited institutional capacity and lack of trust in public institutions at different levels have over time contributed to hindering citizens' access to basic services and fueled social unrest. The persistent legacy of political and economic elite capture, compounded by deficient institutional mechanisms and policy fundamentals essential to inclusive development, has resulted in extreme welfare inequality and socioeconomic exclusion of most Haitian people, which is fueling grievances and cyclical unrest and violence.

3. **Poverty reduction and economic growth have been severely hampered by a major sociopolitical crisis.** The most recent crisis started in July 2018 with massive and violent demonstrations against the shortage and increased cost of fuel, high cost of living, corruption allegations, and political instability. The assassination of President Moise, on July 7, 2021, plunged the country into greater uncertainty. The crisis further escalated in September 2022 with mass protests and road blockages over several weeks following the hikes in gas prices due to reductions in public subsidies. In January 2023, the last 10 remaining senators in Haiti's parliament officially left office, leaving the country without a single democratically elected government official. Security incidents have also escalated, including kidnappings, looting, and property destruction. These have contributed to the acute humanitarian, food insecurity, and forced displacement crisis. The growing influence of armed gangs is the main security concern for the country. As a result of the sociopolitical crisis, aggravated by the effects of the COVID-19 pandemic, Haiti's economy contracted by 3 percent in 2020, 1.8 percent in 2021 and by another 1.7 percent in 2022.

[1] 2020 estimates developed by the United Nations (UN) Inter-agency Group for Child Mortality Estimation (United Nations Children's Fund [UNICEF], World Health Organization [WHO], World Bank, UN Department of Economic and Social Affairs Population Division).

[2] In 2018, about half the households in urban areas belonged to the richest asset quintile against only one-tenth of households in rural areas (*Enquête Nationale d'Urgence de la Sécurité Alimentaire et Nutritionnelle* 2019). Nonmonetary poverty is also much higher in rural areas. In 2016, the global Multidimensional Poverty Index rates were 58 percent in rural areas against 16 percent in urban areas.

4. **Climate change impacts are catastrophic in Haiti due to the combined effects of high natural hazard risks, institutional fragility, and inadequate resources invested in resilience**. Almost 96 percent of the Haitian population live in areas considered at risk, and even within this category, disasters tend to affect disproportionately the poor and marginal populations settling in flood zones and coastal areas and living in vulnerable self-built dwellings. The vulnerabilities are amplified by environmental degradation; uncontrolled and unregulated urbanization; weak regulatory enforcement capacity; and high physical vulnerability of infrastructure, housing, and livelihood activities. According to the German Watch Global Climate Risk Index 2021, Haiti was globally the third most affected country by climate events between 2000 and 2019.[3]

5. **The most extreme natural hazards are climate induced (droughts, floods and tropical cyclones) and seismic.**[4] Tropical cyclones bring along storm waters and flooding challenges in addition to physical/infrastructural damage. Much of these climate-induced events pose significant climate change risks of increased flooding and droughts and water security challenges as well as increased risk of outbreaks of vector-borne and waterborne diseases, such as dengue fever, malaria, Zika, and cholera potentially spread by contaminated water in supply and sanitation systems. In 2016, Hurricane Matthew affected over 2 million people and resulted in over 500 deaths and displaced 175,000 people, with damages and losses equivalent to 32 percent of GDP[5]. On August 14, 2021, a magnitude 7.2 earthquake caused damages estimated at US$1.11 billion (equivalent to 7.8 percent of Haiti's 2019 GDP[6]). It caused 2,248 deaths and injured more than 12,200. Climate projections show increases in frequencies and intensities of these climate risks.

6. **In October 2022, cases of cholera reemerged after 3 years of the country being officially cholera free.** In the aftermath of the 2010 earthquake, a cholera outbreak was the worst in recent history with 820,000 cases and nearly 10,000 deaths and took 9 years to eliminate. Following a cholera-free period, new cases emerged again in October 2022, in large part due to the knock-on effects of the lack of fuel availability in the country due to insecurity. Access to clean water has become an acute challenge, exacerbated by contaminated water carried during climate change aggravated floods and hurricanes and the already limited sanitation services have been further reduced. As of February 22, 2023, there were 31,484 suspected cases and 594 deaths, according to the Ministry of Public Health. The confirmed cases are primarily located in the Port-au-Prince metropolitan area (Ouest department), but cases have been reported in all 10 departments in the country.

B. Sectoral and Institutional Context

7. **Access to basic drinking water service in rural areas and small towns is low and declining.** In 2020, only 43 percent of the rural population in Haiti had access to at least basic drinking water service, compared to 48 percent in 2015 and 50 percent in 1990.[7] Only 28 percent of people in the poorest quintile

[3] German Watch Global Climate Risk Index 2021. NatCatSERVICE de Munich Re.
[4] Haiti had suffered heavy damage from Hurricanes Allen (1980), Gilbert (1988), Gordon (1994), Georges (1998), Jeanne (2004), Hanna and Ike (2008), and Matthew (2016) and more recently Tropical Storm Grace (2021).
[5] Haiti Strategic Development Plan (2016).
[6] World Bank Group. 2021. *Global Rapid Damage Estimation (GRADE) Report*. Washington, DC: World Bank Group.
[7] WHO/UNICEF Joint Monitoring Program.

have access to basic water service compared to 95 percent in the richest quintile. Haiti's low rural access, compared to a regional average of 90 percent in Latin America and the Caribbean region in 2022, is worrying. Out of the 13,626 improved water sources counted in the country, including hand dug wells, springs catchments, boreholes with hand pumps, standposts from gravity-fed systems, only 7,057 (51 percent) were functioning in 2022. Out of 1,041 piped water supply systems serving the population in dense rural areas and small towns, only 433 of them (41%) are functional[8]. This situation is the result of historic underfinancing of the sector, low community ownership, collapse of the infrastructure due to poor operation and maintenance and deficient post construction support and a lack of resilience of the infrastructure to natural hazards and the effects of climate change.

8. **Communities face challenges to sustain drinking water services over time.** The management of these water supply systems is the responsibility of community-based organizations called CAEPAs (*Comité d'Approvisionnement en Eau Potable et Assainissement* - Drinking Water Supply and Sanitation Committee) composed of unpaid volunteers elected by the community. Their performance varies widely, ranging from some that regularly collect funds, deposit them in a bank account, and carry out routine maintenance to those that are practically defunct. Most CAEPAs seem to not perform their functions adequately[9] and collect insufficient funds for operation and routine maintenance. A small number of piped water network systems are managed by small scale domestic private operators called OP *(Opérateur Professionnel* - Professional Operator) who are generally individuals from the respective community and who tend to perform a little better. This calls for meaningful participation and training of communities prior to, and after construction to operate and maintain the infrastructure in a resilient and sustainable way.

9. **Access to sanitation and hygiene is severely lagging.** Only 10 percent of the poorest have access to basic sanitation against 68 percent for the richest quintile.[10] In 2020, only 25 percent of the rural population used improved sanitation facilities that were not shared with other households, compared to 73 percent for the Latin America and the Caribbean region. The remaining population used shared sanitation facilities or on-site unimproved sanitation systems such as pit latrines without a slab or platform or practiced open defecation. About 31 percent of the rural population practice open defecation. Public toilet facilities and water points are mostly not accessible to persons with disabilities.[11] This situation is the result of both supply-side and demand-side constraints and puts the population, in particular children, at risk of diseases and malnutrition.

10. **In rural areas, women disproportionately bear the costs of inadequate WASH provision**[12], including time, health, and earning losses while bearing most of the responsibility for sourcing clean water. In 2018, the DINEPA conducted a baseline study confirming that water collection was primarily

[8] According to DINEPA's Integrated Water and Sanitation Information System (*Système Intégré pour l'Eau Potable et l' Assainissement*, SIEPA)
[9] Morlat and Naulet. 2021. "La Gouvernance du Tuyau. " *Editions du GRET*. https://gret.org/publication/la-gouvernance-du-tuyau/.
[10] WHO/UNICEF Joint Monitoring Program for Water, Sanitation and Hygiene-2020.
[11] World Bank, 2017, WASH Poverty Diagnostic Haiti - https://openknowledge.worldbank.org/handle/10986/28997.
[12] World Bank. 2018. Looking Beyond Government-Led Delivery of Water Supply and Sanitation Services: The Market Choices and Practices of Haiti's Most Vulnerable People. WASH Poverty Diagnostic. World Bank, Washington, DC.

being done by women (56%) and children under the age of 18 (16%). Collecting water is not only time consuming and laborious but also can be dangerous, given GBV (gender-based violence) risks while searching for water. A major gap exists in voice and representation – with few women in decision making and in service provision roles who could understand women's WASH needs and practices and tailor services accordingly. Currently only 4% of water and sanitation community based organizations are headed by women[13]. Women's lower socio-economic status and heavy reproductive responsibilities or unequal unpaid domestic work and sociocultural norms dictating that women belong at home, limit their active participation in community organizations. At the same time, women-led water committees also meet more often, improve water systems, and are more effective in collecting fees[14]. Therefore women's leadership in CAEPAs is crucial for improving sustainable and resilient rural WASH services.

11. **In 2009, the Government of Haiti (GoH) initiated a sector institutional reform to improve water and sanitation service delivery.** The main pillars of the sector reform were (a) the implementation of a decentralization process by which sector institutions gradually transfer responsibility for service delivery and infrastructure development to the municipalities while maintaining a normative and regulatory role; (b) the establishment of user associations and water supply and sanitation (WSS) community based organizations (CAEPA) with legal status; (c) the professionalization of WSS service provision ; (d) the development and encouragement of private sector participation in the construction and operation of WSS infrastructure, both in urban and rural areas; (e) the development of tools and mechanisms needed to regulate and support WSS service operators and (f) the definition and implementation of pricing mechanisms to ensure the sustainability and affordability of services, including introduction of the concept of volume billing.

12. **The reform has created several institutions that are in place today.** It created DINEPA whose main responsibilities after the gradual decentralization process would have been policy formulation, sector coordination, and regulation. The law also allowed for the creation of regional DINEPA agencies called Regional Offices for Water and Sanitation (*Offices Regional de l'Eau Potable et de l'Assainissement*, OREPAs) whose primary responsibility in rural areas would be to support WSS community-based organizations (CAEPAs) and professional operators (OPs) through the Rural Departmental Units (*Unités Rurales Départementales*, URDs) and Community Water and Sanitation Technicians (*Techniciens en Eau Potable et Assainissement Communaux*, TEPACs). To date, four OREPAs (1 per region), 10 URDs (1 per province), and 175 TEPACs (1–2 per municipality) are in place.

13. **About 13 years after the launch of the reform, the results are mixed in terms of devolution of responsibilities, service delivery, and regulatory development**. Though policies were formally enacted,[15] the transfer of responsibilities from DINEPA to the municipalities has been very limited. Sector planning, infrastructure development, and provision of services in urban and rural areas remain centralized. Limited progress has been made in terms of regulation. The impact of the reform on service delivery is uneven.

[13] ibid
[14] UNICEF, 2017, *https://reliefweb.int/report/world/gender-responsive-water-sanitation-and-hygiene-key-elements-effective-wash-programming*
[15] The National Sanitation Strategy in 2014, the Sector Strategic Plan in 2015, the result-based Budget Program from 2018, and the SIEPA database from 2019.

While water access has slightly improved in urban areas, it has declined in rural areas and sanitation access has not improved much over the past decade.

14. **The sector reform has given local authorities an important mandate on the management and oversight of the water and sanitation sector; yet, limited financial and capacity support has been provided to date for them to carry out these mandates.** In line with the 2009 WASH sector reform, the 2013 decree on the functioning of territorial collectivities (*Decree defining the general framework of decentralization and the principles of operation and organization of Haiti's local authorities*) defined the local mandates for the WASH sector service delivery and infrastructure at the municipal (*commune*) and communal section (*sections communales*) levels. These include the construction and management of sanitation infrastructure; tree planting; water source protection; construction and maintenance of water reservoirs, dams, and wells; water quality control; construction and management of public water kiosks; construction, maintenance, and management of water distribution systems; production and distribution of drinking water; and the development of municipal water sector plans. In practice, local authorities have received little support to carry out their responsibilities. Operating and investment budget allocations at the local level are severely insufficient as the sector investments remain centrally managed through DINEPA; taxes collected by communes are grossly inadequate; and the decentralization fund established in the 1990s remains weak with limited operational capacity and has experienced delays in disbursing its funds. Nonetheless, pilot experiences such as the *Renforcement de la Gouvernance Locale de l'Eau et de l'Assainissement* (REGLEAU)[16] project supported by the Swiss Government and the Rotary supported Haiti National Water, Sanitation and Hygiene Initiative (HANWASH)[17] show promising results and interest of communes for greater involvement in the sector.

15. **The sector remains heavily dependent on external financing for both operating and capital expenditures** with 61 percent of DINEPA's operating expenditure and 95 percent of investment costs financed by donors. The domestic budget covers only 13 percent of DINEPA's central-level operating costs. Even in urban areas, only 54 percent of the operating expenditures (excluding depreciation) of urban water operating units (*centre technique d'exploitation*) are covered by water revenues. Tariffs are low but the most critical issues are related to the poor quality of service, a high rate of nonrevenue water, poor billing and collection, low customer base, and lack of willingness to charge as well as lack of trust and willingness to pay from the customers. Unless Government transfers increase and/or substantial improvements take place in water revenues, DINEPA's dependence on external financing is likely to endure over the medium term.

16. **The World Bank has historically been the most important development partner in the rural and small towns water and sanitation sector in Haiti.** A Low-Income Countries Under Stress Grant of US$0.8 million was used in 2004 to prepare an initial national strategy for rural WSS. The subsequent Haiti Rural Water and Sanitation Project (*Programme Eau Potable et Assainissement en Milieu Rural*)[18] piloted a new

[16] The Reinforcing Governance of Local Water and Sanitation Services program (REGELAU) has been operating in four communes around Jacmel in 2018–2022 with the support of the Swiss Agency for Development and Cooperation. A follow-on phase expanding the number of communes is under preparation.
[17] HANWASH is supported by Rotary International and is supporting the WASH sector at the local level in seven communes. https://www.hanwash.org/.
[18] Approved on December 21, 2006, signed on February 15, 2007, and closed on December 31, 2011 (P089839).

management model working with OPs.[19] The project was implemented from 2007 and subsequently scaled up till 2011.[20] The Haiti Sustainable Rural and Small Towns Water and Sanitation Project (*Programme Eau Potable et Assainissement Durable en Milieu Rural*, EPARD)[21] continued to fill service access gaps while being primarily a response to a 2010 cholera outbreak and shortly after a response to damages caused by Hurricane Matthew. EPARD has successfully provided water and sanitation access and raised awareness; however, despite the progress, external shocks have provided setbacks. The GoH has requested that the World Bank continues supporting the development of the rural and small-town water and sanitation sector through a new operation (P178188).

C. Relevance to Higher Level Objectives

17. **The project will contribute to the twin goals of the World Bank Group (WBG) of ending extreme poverty and promoting shared prosperity, by increasing access to basic drinking water and sanitation services for the populations living in rural areas and small towns, including women, girls, and persons with disabilities**.

18. **It is aligned with the WBG's Haiti Country Partnership Framework** (CPF Report No. 98132-HT), for the FY16–21 period, discussed by the Board of Executive Directors on September 29, 2015, and updated during the Performance and Learning Review (PLR, Report No. 124812) dated June 27, 2018, including Area of Focus 2 Human Capital objective (3) control cholera in priority communes and Area of Focus 3 Resilience objectives (1) strengthen natural disaster preparedness and (2) improve disaster prevention and strengthen climate resilience. The Haiti Country Partnership Framework (CPF) for FY 23-28 is currently under preparation with a Board presentation expected in September 2023.

19. **The project is aligned with the 2022 Strategic Country Diagnostic (SCD)** which highlights the need for flexible approaches in a volatile and fragile environment to protect development gains and strengthen resilience while also preparing the ground for transformational institutional change and reform in an eventual stabilizing scenario. It will support SCD priority area 1 "Restoring macroeconomic stability and strengthening core governance systems" and priority area 2 "Restore and maintain basic services to preserve human capital" by improving access to drinking water and sanitation, improving inclusion of persons with disabilities, strengthening governance systems, and supporting post-earthquake reconstruction in the southern region.

[19] The project aimed to improve access and use of safe drinking water, sanitation, and hygiene practices in participating communities and strengthened the capacity of the public service operator, local water committees, and POs.
[20] In November 2008, a US$5 million Social and Peace-Building Fund (SPF) Trust Fund Grant No. TF 093527 SPF Grant (P114936 SPF) was awarded to complement the IDA Grant H270-0-HA (P089839) to scale up activities. The SPF Grant closed on November 30, 2013.
[21] EPARD (P148970) was approved on May 7, 2015, for an amount of US$50 million with the objective to (a) increase access to improved water supply and sanitation in targeted rural areas and small towns in zones affected by cholera, (b) strengthen the recipient's water and sanitation service delivery mechanism at the deconcentrated level, and (c) improve the recipient's capacity to respond promptly and effectively to an eligible emergency. An Additional Financing in the amount of US$20 million was approved in 2017 to respond to the damages caused by Hurricane Matthew. The project was closed on March 31, 2023..

20. **The project supports the WBG's Green, Resilient, and Inclusive Development (GRID) approach that emphasizes the cross-sectoral nature of development policies, focusing on the interrelationships of poverty, inequality, and environmental externalities.**[22] The GRID approach identifies three important dimensions to achieving a more sustainable and equitable recovery and long-term development paradigm to restore momentum on poverty reduction and shared prosperity: (a) green: environmental, socioeconomic, and financial sustainability will be considered; (b) resilient: to safeguard development, countries and firms face the need to prepare for, mitigate, and adapt to a wide range of risks and uncertainties, including recessions, financial shocks, conflict and violence, natural hazards, climate change, and pandemics; and (c) inclusive: rising inequality and the exclusion of different social groups from services, markets, and opportunities impedes development and foments discord. The Climate Change Action Plan builds on the GRID framework. It aims to advance the climate change aspects of the World Bank's GRID approach by aiming for measurable improvements in adaptation and resilience and measurable reductions in greenhouse gas (GHG) emissions.

21. **The proposed Project is also aligned with the World Bank Group's Global Crisis Response Framework (GCRF).** The Project is aligned with Pillar 3 Strengthening Resilience and Pillar 4 Strengthening policies, institutions, and investment for rebuilding better of the GCRF, as it will build the resilience of services and sector institutions and contribute to a green recovery.

22. **The project is aligned with the World Bank Fragility, Conflict, and Violence (FCV) Strategy (2020–2025) and the priorities of the WBG Approach Paper 'Saving Lives, Scaling-up Impact and Getting Back on Track' in the context of 'Building Back Better'[23].** It will support Haiti in tackling the unprecedented threats posed by the COVID-19 crisis, address the crisis and transition to recovery through a combination of saving lives threatened by the pandemic; protecting the poor and vulnerable; securing foundations of the economy; and strengthening policies and institutions for resilience based on transparent, sustainable debt and investments.

23. **The Project will support the GoH in achieving its climate change adaptation and mitigation plans.** The project is aligned with Haiti's National Adaptation Strategy (2006) and Nationally Determined Contribution[24] which intends to cut emissions and adapt to climate impacts, by (a) improving country resilience to disasters related to climate change, (b) responding to loss and damage caused by extreme climatic phenomena, and (c) contributing to the global effort to limit the increase in the temperature of the planet below 2°C. The project will seek to address key climate change vulnerabilities in particular climate-exacerbated droughts, floods, and tropical cyclones by improving the resilience of the WSS sector.

[22] World Bank. 2021. *Green, Resilient and Inclusive Development*. Washington, DC: World Bank.
[23] World Bank Group. 2020. "World Bank Group COVID-19 Crisis Response Approach Paper: Saving Lives, Scaling-up Impact and Getting Back on Track." Washington, DC : World Bank Group.
[24] *Contribution Prévue Déterminée au niveau National, ministère de l'Environnement, République d'Haïti*, 2015.

II. PROJECT DESCRIPTION

A. Project Development Objective

PDO Statement

22. The Project Development Objective (PDO) is to increase access to inclusive, resilient, and sustainable rural basic water and sanitation services.

Inclusive, resilient, and sustainable in the context of the Project's PDO are defined as follows:

- **Inclusive** refers to a process in which disadvantaged and vulnerable groups are formally included in the diagnostic, planning and implementation processes and their needs are reflected in the project design.

- **Resilient** refers to the capacity of a WASH system to deliver uninterrupted service during a climate/disaster event (droughts, floods and tropical cyclones). This requires the capacity of the local authorities, service providers and beneficiaries to prevent, act and respond appropriately in case of an emergency. This will be achieved by supporting local authorities and service providers to prepare and implement an emergency plan.

- **Sustainable** is defined as the continued delivery of WASH services without depleting water resources. It requires (i) transparent and inclusive planning, involving consumers at different stages in the life cycle of the service; (ii) professional service provision; (ii) financing for full life-cycle costs covered upon combination of tariffs, taxes, and transfers; (iii) regulation of the service delivered and service provider performance through mechanisms appropriate for small rural operators; (iv) structured system of direct post-construction support provided to back up and regulate service providers and (v) transparency and accountability mechanisms in place between local authorities, service providers, beneficiaries, and regulator.

PDO Level Indicators

23. Achievement of the PDO will be measured with the following four PDO indicators:

(a) Number of community-driven, inclusive, and climate-informed WASH Service Improvement Plans developed under the project (number)[25]

[25] The detailed measurement protocol to assess whether the WASH Service Improvement Plans are community-driven, inclusive and climate-informed are included in the Project Operations Manual (POM).

(b) People provided with access to basic drinking water services[26] in drought-prone[27] areas under the project, disaggregated by sex, age and disability (number)

(c) People provided with access to basic sanitation services[28] in areas under the project, disaggregated by sex, age and disability (number)

(d) Increase in the number of resilient and sustainably managed[29] rural piped water supply systems with improved resilience to droughts, floods, and cyclones country wide (number).

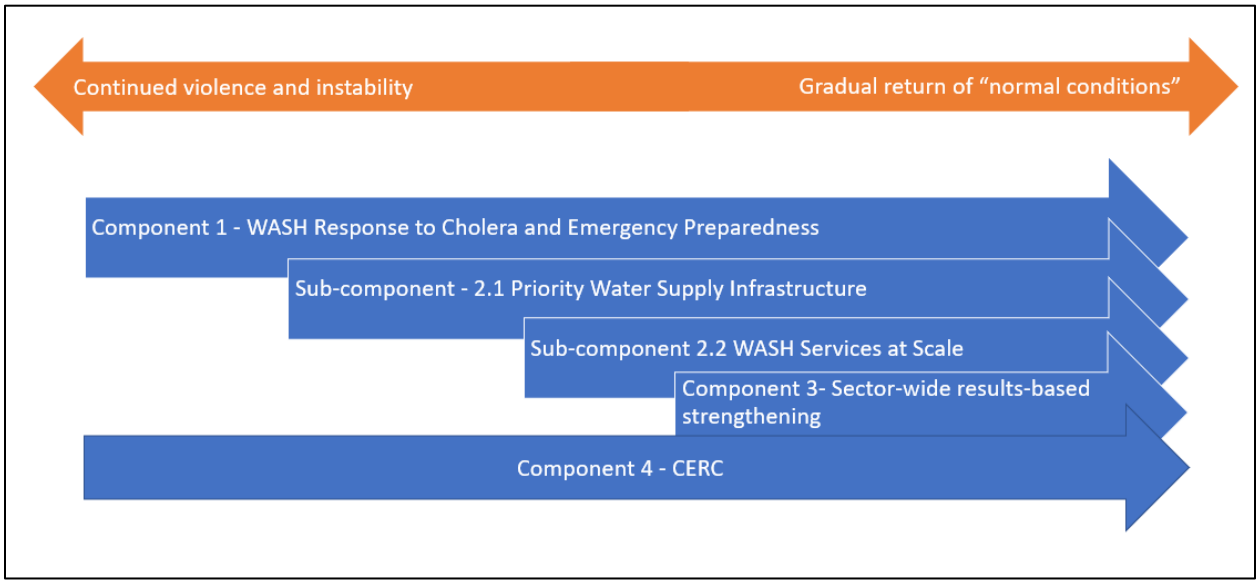
B. Project Design

24. **The project will support the GoH to achieve universal and equitable access to safe drinking water for all (SDG 6.1) and adequate and equitable sanitation and hygiene for all** and ending open defecation, paying special attention to the needs of women and girls and those in vulnerable situations (SDG 6.2). The project will also support the Government's Strategy for Cholera Eradication (2022).

25. **The project design addresses the volatile and fragile situation of Haiti by encompassing a spectrum of activities from emergency preparedness and response to sector development,** with gradually more ambitious targets, and accepting that over the course of the project, the balance between various components will shift depending on the evolution of the situation on the ground. As illustrated in Figure 1, the project activities range from emergency response to cholera and priority water supply infrastructure development to supporting the foundations for decentralized sustainable service delivery at scale as well as results-based sector-wide strengthening.

[26] Basic drinking water service refers to drinking water from an improved source, provided collection time is not more than 30 minutes for a round trip including queuing.
[27] A drought-prone area is defined as one in which the probability of a drought year is greater than 20 percent.
[28] Basic sanitation service refers to improved sanitation facilities that are not shared with other households.
[29] The definition of resilient and sustainably managed rural piped water supply systems with improved resilience to droughts, floods, and cyclones country wide is included in the Results Framework (section VII) .

Figure 1. WASH Sector Spectrum Supported by the Project, with Consideration of the Security Conditions



26. **A central tenet of the project design is to work on enhancing the reliability, resilience, and sustainability of service delivery at scale.** While physical systems are an obvious requirement, it is just one part of a much more complex set of actions to provide a truly sustainable service. The design is informed by the Service Delivery Approach (SDA) which is rooted in the need to shift focus from the means of service delivery (the infrastructure) toward the actual service accessed by consumers.[30] Accordingly, the project will (a) support communes and communities to enable them to fulfill their role in developing and sustaining WASH services, (b) strengthen the professionalization of the service providers and (c) incentivize DINEPA to regulate the service delivered and service provider performance through mechanisms appropriate for small rural operators to ensure resilient and sustainable management of these WASH facilities.

27. **The design addresses systemic inequities faced by women and persons with disabilities through interventions** that (a) close the gender gap in voice and representation by providing a 50 percent quota for women to be members and presidents in water and sanitation community based organizations and respondents to the beneficiary satisfaction survey[31]; (b) address their needs on infrastructure design (safety, accessibility, and quality) and (c) raise awareness on GBV and share prevention and reporting strategies and recourse actions by leveraging community spaces and mobilization activities. The project will introduce disability-informed WASH infrastructure design to Haiti, based on the Water Global Practice

[30] Lockwood, H., S. Smits, T. Schouten, and P. Moriarty, 2010. "Providing Sustainable Water Services at Scale." International Symposium on Rural Water Services Working Paper.
[31] The quality and effectiveness of women's participation will be measured through a gender disaggregated baseline, midline, and endline beneficiary survey (see intermediate indicators).

Guidance on disability infrastructure design.[32] Actions to close the gender gap in voice and representation include (i) the preparation and implementation of WASH Gender and Social Inclusion Strategy and Action Plan , (ii) dedicated capacity building activities to promote women's representation and leadership within DINEPA as well as at the community level and (iii) gender sensitization campaigns to challenge harmful gender stereotypes.

28. **The design seeks to address key climate change vulnerabilities such as climate-exacerbated droughts, floods, and cyclones by improving the resilience of the WSS sector**. To address the identified climate vulnerabilities, project activities include climate-resilient infrastructure design, water loss reduction, increasing energy efficiency, emissions reduction, water source conservation, optimizing operational services, asset management and demand-side management strategy (water-saving and water-pricing policies). Expected improvements in technical and commercial operations of the WSS systems will contribute to reducing nonrevenue water and energy consumption. Overall, the project will contribute to reducing both the risks and impacts of climate-exacerbated events on service provision. The activities will also help reduce the rising public health risks such as cholera spread linked to lacking WSS systems, which are further exacerbated by climate change-induced disasters such as floods. Prioritization of participating communes will include climate risk vulnerability criteria to support adaptation in the localities most vulnerable to the impacts of climate change. Finally, the project will support the development of WASH sector emergency plans in all participating communes.

C. Project Components

29. **The project aims to support key policy and institutional reforms that are already spelled out in the 2009 sector reform but have yet to become operational in practice.** These include (a) strengthening emergency preparedness and response, (b) transferring the WSS project cycle at the local level, (c) shifting the focus from infrastructure development to resilient and sustainable service delivery at scale, (d) professionalizing service provision, and (e) redeploying DINEPA from planning and execution of WASH infrastructure to facilitating sector development and regulating WASH services. This will be achieved through four components with different focuses and implementation modalities described in the following paragraphs.

Component 1: WASH Response to Cholera and Emergency Preparedness (US$8 million, GCRF Pillar 3: Strengthening Resilience)

30. This component will support (a) immediate cholera response measures, (b) strengthening of sanitation and hygiene in 10 priority cholera-affected communes of the country, and (c) building of WASH sector capacity for emergency response to floods, droughts, cyclones, and outbreaks of vector-borne and waterborne diseases. The interventions to be carried out under this component related to the cholera response will build on the activities implemented under the World Bank-financed Strengthening Primary Health Care and Surveillance in Haiti (PROSYS) (P175949) project.

[32] World Bank. 2017. "Including Persons with Disabilities in Water Sector Operations: A Guidance Note." World Bank, Washington, DC. https://openknowledge.worldbank.org/handle/10986/27542.

31. This component will finance: (a) the purchase of goods and supplies for cholera emergency including chlorination tablets, fuel, and water tanks delivery, (b) the implementation of the national chlorination strategy, including water quality testing and chlorination at the local level, (c) a targeted behavior change and communication (BCC) campaign in 10 priority cholera-affected communes to promote hygienic behavior, handwashing and ending open defecation through a gender-sensitive community-based total sanitation approach (called *Approche Communautaire pour l'Assainissement Total* in Haiti), (d) strengthening DINEPA emergency department's capacity to respond to emergencies such as climate change exacerbated floods and storms and non-climate extreme events and disasters through the elaboration of tools and guidelines for national, communal and system levels to (i) carry out vulnerability assessments (ii) prepare emergency response plans; (iii) develop communication protocols and materials and (iv) implement small and rapid impact interventions to ensure the continuity of the WASH service in the event of localized incidents. The project will also support the preparation and implementation in an urban center of a comprehensive fecal sludge management (FSM) plan including appropriate institutional, regulatory, commercial, and financing arrangements for collection, transport, and treatment to ensure a safe and sustainable FSM service chain.

Component 2: WASH Service Development (US$60 million)

Subcomponent 2.1: Priority Water Supply Infrastructure (US$50 million, GCRF Pillar 3: Strengthening Resilience)

32. This subcomponent will support the construction/rehabilitation/expansion of priority drinking water supply systems in an estimated 20-30 communes in the Centre, North, and South regions of the country. A first batch of subprojects will be undertaken in about 20 communes in which community mobilization activities have already taken place satisfactorily and detailed technical as well as environmental and social (E&S) studies have been completed, allowing a rapid implementation of these subprojects. Unfinished works and activities from the EPARD project (including Lascahobas) will be financed under this subcomponent through retroactive financing. A second batch of subprojects will be identified based on available resources in Year 2 of project implementation.

33. The list of subprojects to be financed will be confirmed by DINEPA subject to participating communes meeting the sustainability selection criteria[33]. Each commune will submit evidence of compliance with these criteria to DINEPA through a formal communication from the Commune Development Committee (CDC).

34. This subcomponent will finance (a) the preparation, review and updating of engineering designs and environmental and social assessments, (b) the preparation of bidding documents for the construction and supply of goods and equipment, (c) the purchase of goods and equipment; (d) the works for the construction, rehabilitation, and/or expansion of WASH infrastructure; (e) the construction of storage

[33] The selection criteria include (a) written confirmation of interest to participate in the project, (b) establishment of a commune WASH unit (designation of municipal engineer and TEPAC), (c) establishment of a water users association, (d) selection and contracting of the water supply system operator (CAEPA or OP), (e) adoption of a tariff that recovers operation and routine maintenance costs accepted by water users association, and (f) commitment to prepare a system emergency plan.

facilities for the OREPA, (f) the independent technical, social and environmental supervision of civil works, (g) community engagement activities in each participating commune to ensure active participation of stakeholders and beneficiaries to facilitate subproject implementation and support sustainability, including trainings on conflict mediation, (h) the preparation of a system emergency plan and (i) the training of the water operators in participating communes.

35. Training of water operators will include (a) the preparation of water operator business plan including a detailed water tariff study, (b) the development of a customer database and customer relations management system to aid demand and supply management, (c) the establishment of a billing and collection system which can increase available hours of supply due to operations and maintenance costs recovery, (d) the development of a management and operational monitoring system, and (e) training on water quality treatment and monitoring, leak detection and water network management, non-revenue water (NRW) management to reduce water losses and increase energy efficiency, and water sources protection to increase available water.

36. The existing engineering designs will be reviewed and updated to incorporate climate resilience aligned with climate change resilient design[34] and accessibility[35] considerations design that would be integrated into bidding documents. For the construction, rehabilitation and expansion activities, the schemes would be assessed for and where possible equipped with solar technologies and other low-emission equipment. This would lower emissions, increase energy efficiency, and incorporate climate resilience against floods, droughts, and cyclones in the resulting water supply system. Eligible infrastructure financing activities include (a) gravity and solar pumping to displace fossil fuels, (b) production and distribution of water meters and leak detection device for reducing water losses, (c) supply management activities such as spring catchment protection, watershed management, rain catchment tanks, diversification of water sources, artificial aquifer recharge and (d) demand management activities such as productive use of water, smart irrigation systems etc.

Subcomponent 2.2: WASH Services at Scale (US$10 million, GCRF Pillar 3: Strengthening Resilience)

37. This sub-component will support small scale investments in 15 communes to (a) restore and/or improve the level of service of existing water and sanitation systems/facilities thereby reducing water stress and bettering public health outcomes in flooded and contaminated communes, (b) protect and conserve water resources, and (c) enhance communities' water and food security by increasing water availability for food production and processing in water stressed communes.

38. This subcomponent will finance the technical assistance and the grants for the preparation and implementation of community-driven, inclusive, and climate-informed commune WASH service improvement plans (WASH-SIPs) in fifteen participating communes in the region covered by OREPA South.

[34] World Bank. 2020. "Resilient Water Infrastructure Design." World Bank, Washington, DC. https://openknowledge.worldbank.org/handle/10986/34448.
[35] World Bank. 2017. "Including Persons with Disabilities in Water Sector Operations: A Guidance Note." World Bank, Washington, DC. https://openknowledge.worldbank.org/handle/10986/27542.

39. Participating communes will be identified based on a demand-driven process through responding to an expression of interest and subject to meeting the selection criteria[36]. It should be noted that to promote basic sanitation for all, a commitment from the locality of the sub-projects will be requested to commit to eliminate open defecation with 100% of households using basic toilets. Participating communes will nominate the most appropriate subproject holders through the participatory planning process. Subproject holders may be the commune itself, a community-based organization, a water operator (CAEPA or OP) or an NGO.

40. The commune WASH-SIP cycle includes (a) carrying out of a rapid WASH diagnostic, (b) participatory identification and selection of subproject activities including: critical measures to improve sustainability, capacity building and priority investments and their associated subproject holders, (c) conflict mediation trainings and a gender sensitization campaign tailored to women and men to challenge harmful gender stereotypes that prevent women from being more active in community WASH organizations based on proven methodology such as Gender Action Learning Systems (GALS), (d) preparation of the technical and financial specifications of selected subprojects based on the available budget, (e) provision of grants to the nominated subproject holders to execute the subprojects, (f) preparation of a Commune WASH emergency plan, (g) supervision of the works, (h) provision of training to the subproject holders for subproject implementation and management of the subproject, and (i) capacity building to strengthen commune authorities to support further WASH service development and sustainability of the investments.

41. The WASH-SIPs will be climate-informed and identify interventions to support resilience against climate-exacerbated droughts, floods, and cyclones. Climate-resilient design elements in rehabilitation and/or retrofitting of WASH systems as well as community water and food security-oriented activities will make facilities more reliable (reduced risk of system failure), less likely to be affected by climate-related risks. Increasing the supply of water sources will help reduce water stress and enhance resilience to climate change-exacerbated droughts by strengthening the water supply reliability. In addition, water resource protection and local reforestation will reduce contamination, pollution, and over-abstraction and increase soil and vegetation carbon stock that promotes a flourishing ecology balance. Increasing water availability will allow the increase of food production and processing in water stressed communes. In addition, the use of solar-powered treatment equipment, solar pumps and gravity pumping all contribute to reducing emissions as well as offsetting future high-emissions infrastructure demand. Smart meters, leak detection devices, ICT tools and software would also be financed and incorporated into service delivery thereby reducing water losses, increasing efficiency, and building real-time monitoring capabilities into supply services[37].

[36] The selection criteria include (a) written confirmation of interest to participate in the project (b) establishment of a commune WASH unit (designation of municipal engineer and TEPAC), (c) establishment of a water users association, (d) a commitment to eliminate open defecation, (e) selection and contracting of the water supply system operator (CAEPA or OP) if applicable, (f) adoption of a tariff that recovers operation and routine maintenance costs accepted by water users association, and (g) commitment to prepare a commune-level WASH emergency plan.

[37] See Annex 1, paragraph 13 for more details

42. Each participating commune will be eligible to receive US$450,000, which will be available as three annual tranches of US$150,000. The WASH-SIPs will be developed during the first year of project implementation and will be implemented subsequently on a rolling basis. Access to the grants from the second year will be conditioned upon the successful completion of year 1 activities and management of subprojects. If more than 15 communes express interest, the final list will be based on prioritization criteria. These include the greatest needs as measured by the level of water and sanitation coverage of the service and the rate of prevalence of waterborne diseases in the locality and climate vulnerability of the commune.

Component 3: Sector-Wide Results-based Strengthening (US$12 million)

43. This component aims to support project management and strengthen sector institutions to consolidate the programmatic sector-wide results-based approach to improve sector planning, budgeting, reporting, M&E, accountability, regulation, and sustainability to accelerate sustainable service delivery at scale.

Subcomponent 3.1: Project Management (US$5 million, GCRF Pillar 4: Strengthening policies, institutions, and investment for rebuilding better)

44. This subcomponent will finance all costs associated with the overall project management and oversight including DINEPA management staff cost (selected cross-functional DINEPA staff supporting the Project Implementation Unit). It also includes costs of the independent verification agent (IVA) that will evaluate the compliance with the respective PBCs under Subcomponent 3.3 (including checking the eligibility of expenditures and calculating actual payments) and annual audits. This subcomponent will also finance resettlement-related expenditures up to US$100,000

Subcomponent 3.2: Development of Institutional Capacity (US$4 million, GCRF Pillar 4: Strengthening policies, institutions, and investment for rebuilding better)

45. This subcomponent will finance TA, training, capacity-building and goods to support (a) the operationalization of the DINEPA results-based budget program, (b) the upgrading of the SIEPA, (c) the preparation and implementation of a national WASH Gender and Social Inclusion Strategy and Action Plan to promote women's representation and leadership within DINEPA as well as at the community level, including through supporting leadership and communication skills, (d) the development of standard procedures for sector regulation, (e) the preparation of water resources and hydrology studies, (f) the professionalization of water operators (CAEPA and OPs) in collaboration with OREPA and URD staff and TEPACs, (g) strengthening municipal capacity in collaboration with the Ministry of the Interior and Local Authorities (*Ministère de l'Intérieur et des Collectivités Territoriales*), (h) asset inventories and other inputs to prepare DINEPA's financial statements, (i) knowledge exchange activities with special attention on gender equality awareness raising[38], and (j) DINEPA's oversight, regulatory and operational capacity.

38 For example, knowledge sharing between communities and districts will also entail thematic workshops on gender equality and women's leadership in the water sub committees.

Subcomponent 3.3: Support to DINEPA Structure for Sustainability (US$3 million, GCRF Pillar 4: Strengthening policies, institutions, and investment for rebuilding better)

46. This subcomponent will support the improvement of the institutional performance of DINEPA by providing incentive payments toward key building blocks of sustainable services.

47. The payments will be obtained upon meeting the targets of three performance-based conditions (PBC):

- PBC 1 seeks to have a reliable and comprehensive digital database that can be used to monitor and evaluate sector activities and performances, prioritize investments, and inform climate-informed policies and strategies for the WSS sector in Haiti.
- PBC 2 seeks to increase the number of resilient and sustainably managed rural piped water supply systems with improved resilience to climate change exacerbated droughts, floods, and cyclones country wide through enhanced post-construction support, training and regulation provided by OREPA, URD, and TEPAC to communes, communities, and water operators.
- PBC 3 seeks to improve DINEPA's financial management performance and accountability.

48. The PBC matrix and verification protocols are described in the Results Framework (section VII).

49. The expenditures associated with the PBCs will finance salaries of DINEPA, OREPAs, URDs, and TEPAC operational staff and DINEPA operating costs which are critical to the implementation of project activities and achieving the project's results and outcomes. These expenditures require temporary external financing given Haiti's fiscal constraints[39] and the importance of continuity in DINEPA's planning, monitoring, and regulation functions. The project-financed share will be degressive and be counterbalanced through increases in Ministry of Finance contributions to DINEPA's budget.

Component 4: Contingent Emergency Response (US$0 million)

50. Due to Haiti's high vulnerability to natural disasters and shocks, including those exacerbated by climate change, a CERC is included in the project. This provisional component is designed as a mechanism for rapid response in the event of an eligible emergency. This component would be activated upon request from the GoH, according to the provisions of the POM. It will also reflect lessons from the operational experience acquired in Haiti in responding to natural catastrophic events and shocks, including health emergencies. This component would not have any initial funding allocation, but in the event of an eligible emergency, uncommitted funds could be reallocated from other components in accordance with an Emergency Action Plan prepared by the GoH and the Contingent Emergency Response Manual. The

[39] A WASH sector Public Expenditure Review was launched in November 2022 to improve the knowledge and efficiency of sector financing.

amount of uncommitted funds to be allocated to this component will be decided at the time of the emergency in agreement with the World Bank.

Project Cost and Financing

51. The financing instrument is Investment Project Financing (IPF) with PBCs of US$80 million grant from Haiti's IDA allocation.

D. Project Beneficiaries

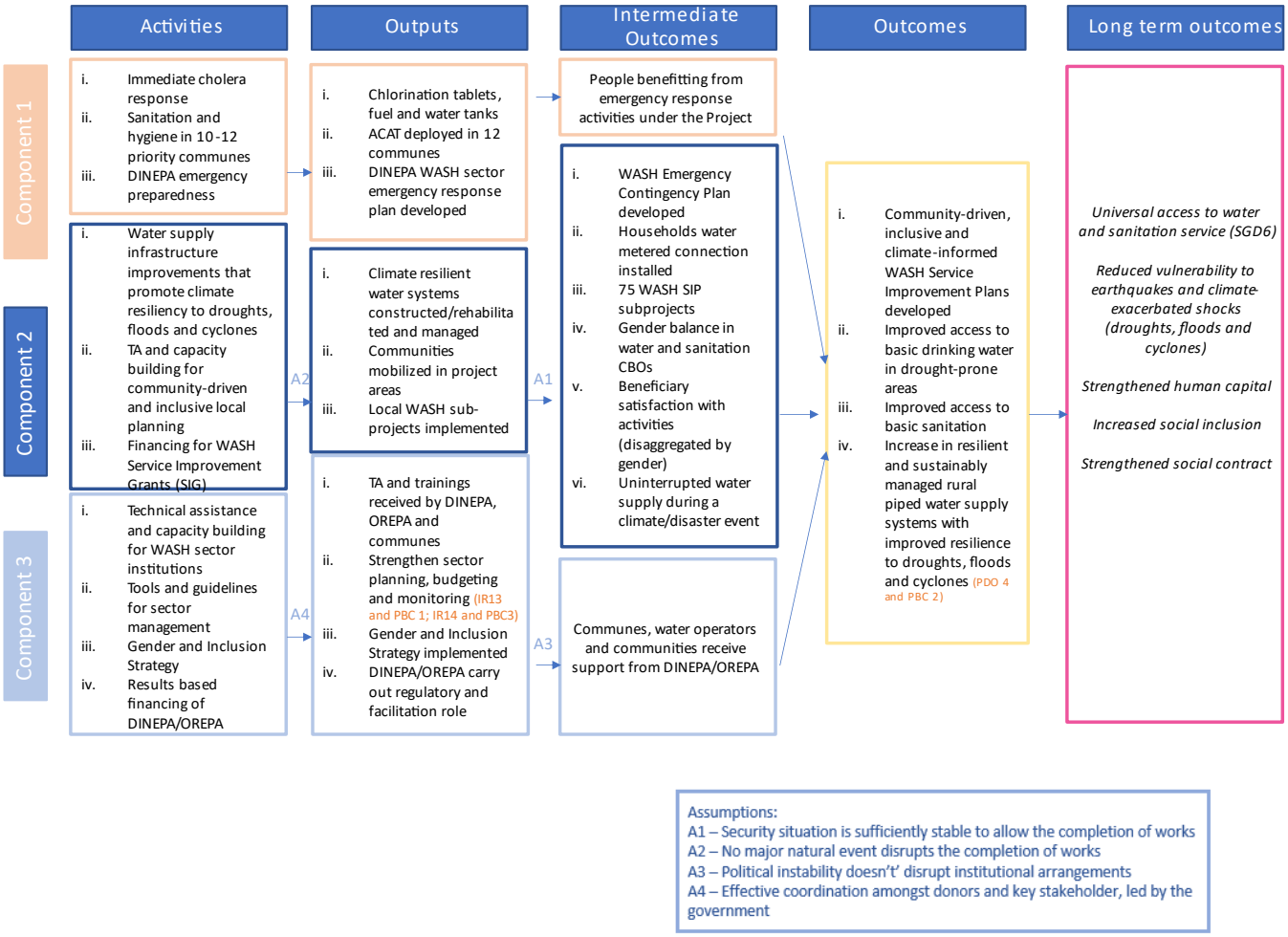
52. The primary beneficiaries of the project are the population living in rural areas and small towns in project areas. It is estimated that 250,000 people will benefit from increased access to basic water services and 125,000 from increased access to basic sanitation services, as well as improved resilience to climate change-exacerbated droughts, flooding, and tropical cyclones. Potential benefits include reduction of time spent on water collection, reduction in waterborne diseases, and overall health and environmental benefits for all direct beneficiaries, of which at least 50 percent will be women.

53. The number of communes supported under the project will vary according to components though some may overlap. Component 1 will benefit 10 communes, Subcomponent 2.1 will benefit an estimated 20-30 communes, and Subcomponent 2.2 will benefit 15 communes. Under Component 3, the project will benefit WASH sector institutions and so indirectly all communes and the entire rural population.

E. Results Chain

54. The project's long-term outcomes are to achieve universal access to improved drinking water and sanitation services, increase social inclusion and human capital, and strengthen social contract in Haiti. To achieve these outcomes, the project will address several challenges, including the recent reappearance of cholera, weak sector capacity to respond to climate-induced events, limited access to water and sanitation services, unsustainable schemes, and dependence on external financing. Immediate response and behavior change communication will be implemented to reduce vulnerability to cholera outbreaks and improve sanitation and hygiene practices in affected communities. The development of emergency preparedness and response plans at central and local levels will improve resilience to climate-induced risks. Communities will be empowered through inclusive demand-driven local planning and capacity building, and resilient drinking water supply and sanitation systems will be developed to increase access to sustainable services with improved resilience to droughts, floods, and cyclones. Additionally, sector institutions will be strengthened through the development of tools and guidelines, technical assistance, capacity building, and result-based financing mechanisms to improve sector management and performance and ensure the long-term sustainability of the sector and services. If the security situation allows meaningful community participation and completion of works, that there are no major natural events that disrupt the implementation of project activities, and that there are no changes in institutional arrangements because of political instability, the project will be able to contribute to the Haitian government's objective of achieving universal access to improved drinking water and sanitation services for all. The project results chain is illustrated in Figure 2.

Figure 2. Results Chain



F. Rationale for Bank Involvement and Role of Partners

55. Improving access to and quality of drinking water supply and sanitation services is a public sector responsibility. The project has a clear rationale for public sector provision and financing, as it targets the improvement of public infrastructure and services (for example, WASH sector investments) and will cover areas where private sector financing is currently absent and is unlikely to materialize in the near term**.** The use of public sector financing is justified given the public good nature of the investments.

56. The World Bank is well placed to provide global knowledge to strengthen institutional capacity for improving access to and quality of drinking water supply and sanitation services. The World Bank has been in the sector for a long time and is considered the lead donor for the rural and small towns' WSS sector in Haiti. It has provided considerable TA through Global Water Security and Sanitation Partnership and Public-Private Infrastructure Advisory Facility (PPIAF) that has allowed for the development of

multiple instruments to support sector policy and programmatic approach. As a knowledge institution, the World Bank will bring leading technical, financial, environmental, social, nutrition, and communication experts from within and outside the institution to inform the implementation of the project.

57. Donor involvement is significant in the water sector in Haiti. Nevertheless, most other donors focus on urban areas. First, the Inter-American Development Bank has been supporting the urban water supply sector through a series of operations.[40] Second, the Spanish Agency for International Development Cooperation supported the WASH sector from 2009 to 2021.[41] Third, USAID is implementing a program to improve access to clean water and sanitation for an estimated amount of US$41.8 million. Fourth, the Swiss Cooperation is implementing a project (2018–2022) to strengthen local governance of water and sanitation (REGLEAU) through a grant of US$12.2 million. Finally, as part of its health, nutrition, and education program, UNICEF is supporting the development of WASH services in the 15 most vulnerable communes.[42] The main development partners and active NGOs working in the sector have been closely involved in the scoping and design of this operation through regular consultations under the leadership of DINEPA. This engagement has been critical in considering the lessons learned and good practices as well as to ensure synergies and complementarity with existing interventions. The project will continue to coordinate with other stakeholders to optimize interventions and harmonize policies. Effective donor and stakeholders' coordination is even more important in the context of crisis than in noncrisis periods.

G. Lessons Learned and Reflected in Project Design

58. **Lessons learned from the recently closed Sustainable Rural and Small Towns Water and Sanitation Project-EPARD (P148970) have been considered in the design of the proposed project.** While the EPARD project achieved its project development objective, its overall implementation at closing was rated as Moderately Unsatisfactory and the sustainability targets were not achieved. The project experienced significant implementation challenges in terms of administrative management, procurement, contract administration, financial management and social and environmental management, monitoring and grievance redress mechanism. Therefore, the following mitigation measures have been incorporated into the design of the proposed project (a) a dedicated Project Management Unit composed mainly of consultants to satisfactorily manage and supervise project activities, (b) the packaging of contracts to reduce the transaction costs and foster economy of scale, (c) the use of United Nations agencies to facilitate the implementation of critical project activities, (d) the reinforcing of the results-based approach in contracts to ensure timely and efficient delivery of project activities (e) the introduction of incentives to improve DINEPA planning, budgeting, monitoring, reporting, financial management and regulation and finally (f) the improvement of the grievance redress mechanism (GRM) to adequately capture the possible

[40] The first project implemented from 2014 to 2020 aimed at improving access to drinking water in the Port-au-Prince metropolitan area with a grant amount of US$35.5 million. The second one aimed to improve the quality of life and health conditions of the population of Port-au-Prince and surrounding rural communities through the provision of sustainable drinking water and sanitation services from 2018 to 2022 with a grant amount of US$65 million. The third project started in 2020 and aimed at improving WASH in urban, peri-urban, and rural areas in the Grand Nord of Haiti with a grant amount of US$125 million.
[41] To promote access to drinking water and sanitation and strengthening of national institutions in charge of reforming the water and sanitation sector through an amount of US$100 million.
[42] These are communities affected by cholera and promoting behavior change for the adoption of good sanitation and hygiene practices, including the elimination of open defecation, the use of soap, and home water treatment systems and drinking water purification facilities.

complaints by having dedicated and well trained GR personnel, outlining and publicizing GR policy and procedures and regularly reviewing and acting upon grievances data and trends.

59. **A flexible project design with adapted implementation mechanisms, including provisions to respond to emergencies, is recommended in fragile and disaster-prone countries**. In a context of high fragility, where change is often the only constant, there needs to be a balance between ambition at the project design stage and flexibility during implementation to adapt an intervention to changing circumstances and needs. In addition to an emergency component (Component 4: Contingent Emergency Response) to respond rapidly in an eligible emergency, it is useful to include alternative delivery mechanisms and tailored implementation arrangements, as integrated in the project, such as (a) community-driven development (CDD) approach, (b) UN agencies with strong local credibility and experience, and (c) digital reporting and ICT tools.

60. **Lessons from global good practices in rural water delivery show that community participation is essential to ensure sustainability of service delivery**.[43] While a supply-driven, top-down construction is more likely to lead to a 'build-neglect-rebuild'[44] cycle, when communities are informed and make their own decisions on water sources, locations, design, tariffs, and management models, they are more willing to pay and to contribute to O&M, hence leading to longer-term sustainability. The project provides communes and communities with a critical role in planning, design, construction, and operation of WSS systems and intends to support DINEPA, OREPAs, URDs and TEPAC in their role of facilitator/regulator to ensure resilient and sustainable water and sanitation service delivery.

61. **In fragile contexts with polarized communities, such as Haiti, bottom-up service delivery can also help restore trust between the Government and citizens**. Engaging communes and communities in delivering infrastructure and services in remote and insecure regions, fostering inclusion of marginalized populations, and removing perceptions of injustice can support conflict prevention[45]**.** The provision of basic services, including water and sanitation, can indeed build social capital and increase trust in the Government in the longer term. This approach has been successfully implemented under past CDD projects in Haiti including Haiti Community Driven Development Project/PRODEP (P093640), Port au Prince Neighborhood Housing Reconstruction Project/PREKAD (P125805) and Haiti Urban Community Driven Development Project/PRODEPUR (P106699).

62. **Evidence shows that promoting gender equality can support the efficiency of service delivery as well as prevent conflict.** Global evidence shows that improving women's access to productive resources helps household incomes and well-being, which in turn increases stability. On the one hand, empowering women and promoting gender equality are crucial to accelerating development and

[43] The Indonesia Third Water Supply and Sanitation for Low Income Communities/Community Based Water Supply Project (PAMSIMAS III - P085375) demonstrated that financial incentives, coupled with intensive community socialization and training of local authorities, are an effective means to create a sustained interest from local stakeholders in planning and co-financing small-scale infrastructure projects and sustaining the service.
[44] Briscoe and Malik 2006; Lankford and others 2016.
[45] For a review of the evidence from the global body of CDD literature, see, for example: Wong, Susan, and Scott Guggenheim. 2018. "Community-Driven Development: Myths and Realities." Policy Research Working Paper No. WPS8435, World Bank, Washington, DC. https://openknowledge.worldbank.org/handle/10986/29841.

producing more equal societies, which are important elements in preventing violent conflict.[46] On the other hand, FCV affects men and women in different ways, and exposure to conflict and fragility can shift gender roles in ways that present opportunities for positive change. It has been shown that active women participation in the mobilization process and training activities have a positive impact on the sustainability of the water supply schemes. The project will provide gender trainings at all levels to ensure equal voice and participation of women and persons with disabilities and the promotion of women leadership of water and sanitation community-based organizations. The mobilization of community groups will also be used as a vehicle to raise awareness on gender norms as well as GBV prevention and mitigation measures.

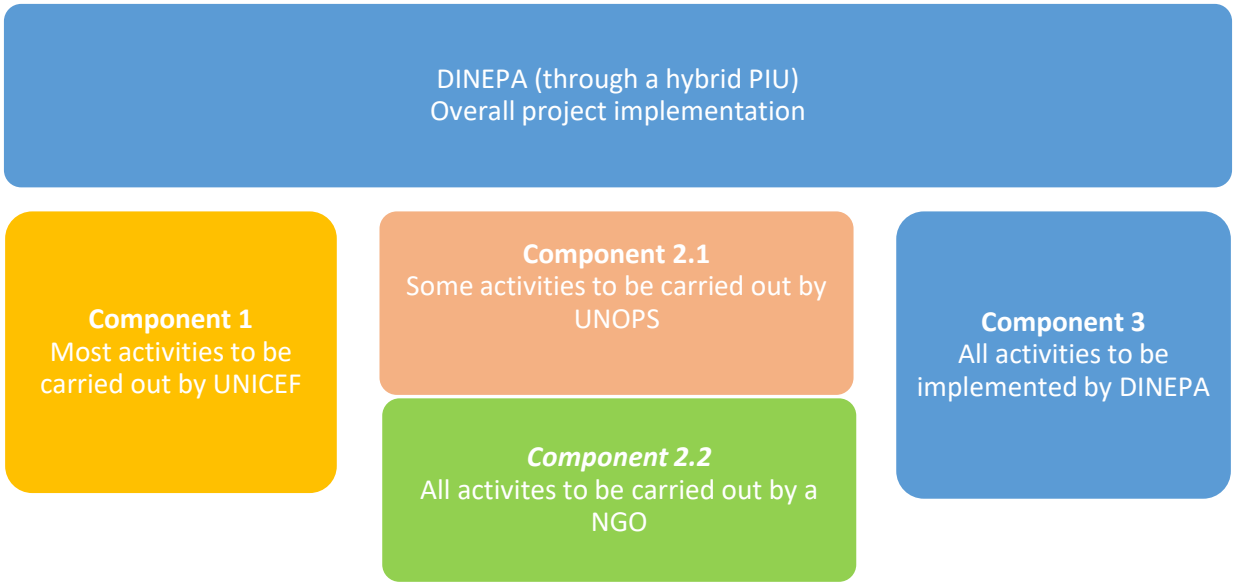
IMPLEMENTATION ARRANGEMENTS

A. Institutional and Implementation Arrangements

63. DINEPA will be the implementing agency responsible for the overall implementation of the project as it has for all past World Bank projects in the sector. For this new operation, a specific Project Implementation Unit (PIU) will be established under DINEPA, in charge of project implementation and staffed with DINEPA employees and external consultants. It will be responsible for planning, technical review, procurement, contract administration, financial management (FM), E&S risk management, quality control and assurance, and M&E. UN agencies and NGOs will be contracted by DINEPA to support the delivery of some activities of the Component 1 and Subcomponents 2.1 and 2.2 based on their ability to continue operating in a challenging security environment, as per the below figure 3. A detailed description of the implementation arrangements is presented in annex 1.

[46] Crespo-Sancho, C. 2017. "The Role of Gender in the Prevention of Violent Conflict." Background paper for the United Nations-World Bank Flagship Study, Pathways for Peace: Inclusive Approaches to Preventing Violent Conflict. World Bank, Washington, DC.

Figure 3: Institutional and Implementation Arrangements



64. A POM detailing the procedures for the project activities has been prepared and adopted by DINEPA on April 13, 2023. The POM describes the project implementation arrangements in detail, including the roles and responsibilities of key project stakeholders, as well as an ordered set of instructions on the organization, procedures, and resources dedicated to the efficient and effective achievement of the PDO. The POM also includes specific FM arrangements and internal control procedures, procurement, disbursement, PBC matrix and M&E modalities.

B. Results Monitoring and Evaluation Arrangements

65. M&E capacities will be ensured at the national and subnational levels for the collection, organization, and analysis of project-related data. Key performance indicators of the project will be tracked through DINEPA's monitoring and information system (SIEPA). The key results under this project are defined in the Results Framework (section VII). The indicators, data sources, and data collection methods consider citizen engagement principles and the limited institutional capacities in the project-targeted areas. Some indicators will be tracked annually, and some, especially those that require a perception survey, will only be measured at baseline (through a baseline study), during the midterm review, and at the end of the project.

66. For real-time data collection and analysis, the project will implement geo-enabled initiative for monitoring and supervision (GEMS). This method was developed by the FCV Group and enables project teams to use open-source ICT tools for in-field collection of structured digital data from the field that automatically feeds into a centralized M&E system. The integrated data can include any kind of indicators, based on tailor-made forms; photos, audios, and videos; time and date stamps; and GPS coordinates that allow for automated geo-mapping of the information. Using these tools systematically allows the project to enhance the transparency and accuracy of project planning as well as M&E and third-party monitoring

throughout the project cycle. Moreover, GEMS allows the establishment of a digital platform for remote supervision, real-time safeguards monitoring, and portfolio mapping for coordination across project components as well as with other operations in the country.

67. Monitoring of PBCs. DINEPA/PIU will hire an independent entity (IVA), with qualifications, experience, and detailed terms of reference satisfactory to carry out the verification according to the PBC matrix. The IVA will undertake the PBC verification annually.

C. Sustainability

68. The project's resilience and sustainability will be achieved through implementation of the following measures, based on the lessons learned from EPARD and international best practices**.** First, by ensuring that communes and communities participate actively in the decision-making process throughout the project cycle. Second, by ensuring that adequate arrangements for long-term sustainability are in place at the local level, including entrusting management to a well-trained water operator, establishing an affordable tariff for all covering O&M, and effective social accountability mechanisms to ensure transparent and accountable management. Third, by supporting local water resource conservation, through protection and reforestation of the catchment area of springs and water demand management. Fourth, by designing project infrastructure considering the World Bank's *Resilient Water Infrastructure Design Brief* that provides guiding principles for the enhanced resilience against floods, droughts, and high winds and integrating these principles into the design of the infrastructure. Fifth, by ensuring the quality of the execution for subprojects of works and supervision. Sixth, by strengthening the capacity of the sector institutions to regulate the service provision and provide long-term technical, institutional, and financial post-construction support. Finally, effective harmonization and coordination between agencies are important to ensure that communities in the same geographic area have services based on similar policies and implementation approaches.

PROJECT APPRAISAL SUMMARY

A. Technical, Economic and Financial Analysis

Technical Analysis

69. The project will rely on technologies appropriate for the Haitian context. All WSS project infrastructure will be designed in a resilient manner considering the current and long-term climate conditions and other natural disaster risks to ensure continued provision of services in times of crises. An ongoing study has been commissioned by the World Bank to strengthen the resilience of the WSS sector to natural disasters and climate change. This study will identify opportunities for adaptation and mitigation in the sector which will inform the project. Water supply under the project will comprise spring-fed gravity-piped networks and/or individual or collective boreholes (using hand pumps or solar or electric power) depending on the specific conditions in each community. DINEPA is familiar with these technical options which offer high-quality water with a minimum of complexity and treatment. Spring water and groundwater are generally of high quality in Haiti, requiring no treatment other than chlorination at the

distribution point. Whenever pumping is necessary and cost-effective, the project will finance renewable energy pumping systems, such as solar power, to replace or supplement diesel electric generator, as needed. Production facilities and distribution networks will be designed to enable all households to be connected and ensure proper monitoring of the water supplied and consumed. For sanitation, the project will rely on DINEPA's technical guidelines to construct or rehabilitate institutional sanitation facilities to be built in schools, health centers, and markets. For small-scale water and food security and resilience to climate change-related risk activities, all subprojects will be designed in a participatory manner to best meet the demand and ensure sustainability. A complementary parallel TA (RWSS Sector Technical Assistance and Analytics ASA P179368) will support implementation of the project including a Policy, Institutions, & Regulation Review, a Public Expenditure Review, and a situational assessment of rural sanitation.

70. **Readiness.** The project is expected to commit US$54.5 million of the US$80 million during the first 24 months of implementation. Draft Terms of reference (ToRs) are under preparation to implement the cholera emergency response activities under Component 1 for a total of US$4.5 million. Existing engineering designs and E&S studies financed under the EPARD and other projects will be used to launch the first batch of subprojects under Subcomponent 2.1 for an estimated US$40 million. For Subcomponent 2.2, ToRs for the NGO are under preparation for an estimated contract of US$10 million to provide TA and manage funds for the WASH-SIP subprojects.

Economic Analysis

71. The results of the economic evaluation of the whole project show net benefits of US$6 million and internal rate of return (IRR) of 7 percent based on an economic benefit of US$379 per person during the lifetime of the project, number of beneficiaries of 250,000, and total investment cost of US$80 million (US$320 per person). The economic benefit per person was estimated based on a sample of 42 water supply subprojects pre-identified by DINEPA as potential candidates. Results of the evaluation of the projects in the sample showed benefits 60 percent higher than expected costs, net economic benefits of US$30 million and expected return of 14 percent. Results of the evaluation are reassuring given that the project will bring along important additional benefits that were not measured in this evaluation such as the positive impact on sanitation and health (especially at current times when cholera is present in some areas of the country), impact on the environment, water security, and in general improvement of well-being -derived from the comfort of having water of good quality and better quantity. Even though all these additional benefits were not included, the rate of return expected from the project is higher than the 6 percent discount rate used for the evaluation, and the ratio benefit-cost higher than 1 allows margin for uncertainties during implementation, such as investment overrun (which can be higher by 20 percent) and project delays (2 years) (more details in annex 3).

72. **Results of the GHG analysis** show that the project will generate net GHG emissions of 73,569 tCO_2eq over the lifetime of the project (3,678 tCO_2eq annually), negatively affecting the results of the project. The economic value of these emissions was estimated using the shadow price of carbon and included in the economic evaluation. Results show that when the high shadow price of carbon is used, the project generates net benefit of US$2.4 million and return of 6.4 percent; when the low shadow price of carbon is used, the project yields an expected net benefit of US$4.1 million and 6.7 percent return.

B. Fiduciary

(i) Financial Management

73. A FM Assessment was conducted by the World Bank staff in accordance with the relevant Bank Directives included in the IPF procedures and the Financial Management Manual for World Bank Financed Investment Operations (effective March 1, 2010, and revised September 7, 2021). The assessment concluded that the risk for FM is substantial. The FM Assessment determined that the FM arrangements proposed for DINEPA included in the time-bound action plan (see annex 1 Table 1.5) to support the implementation of the project are acceptable to the World Bank. These FM arrangements comprise properly recording of all transactions and balances, implementing adequate internal controls, supporting the preparation of regular and reliable project financial statements, safeguarding the project's assets, and facilitating external reviews through acceptable auditing arrangements are acceptable to the World Bank. The specific risks and associated mitigation measures are described in the fiduciary risk section and FM arrangements are detailed in annex 1 of this Project Appraisal Document.

74. Disbursement arrangements include retroactive financing, for eligible payments made by the Recipient from April 1st, 2023 for an amount up to 10 percent of the grant amount. The retroactive financing, estimated at USD 8 million is justified to finance unfinished works and activities from the closed EPARD project and DINEPA staff cost as far as these items are procured in accordance with the applicable World Bank procurement procedures.

(ii) Procurement

75. A procurement assessment was conducted in December 2022 through Procurement Risk Assessment and Management System (PRAMS). The assessment concluded that the risk for procurement is substantial. The specific risks and associated mitigation measures are described in the fiduciary risk section.

76. Procurement will be carried out in accordance with the World Bank Procurement Regulations for IPF Borrowers (Procurement Regulations), dated November 2020, with due consideration to 'Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants', dated July 1, 2016, and other provisions stipulated in the Financing Agreement.

77. A Project Procurement Strategy for Development (PPSD) and initial Procurement Plan (PP) for the first 18 months has been prepared by the recipient. They define the applicable procurement arrangements, selection methods, and market approaches for each of the contracts to be financed out of the grant proceeds. The PPSD provides market analysis to support the choice of selection methods that will apply to each contract financed under the project, which, in turn, drives the development of the PP to be cleared by the World Bank. The PP will be updated in agreement with the World Bank annually or as required to reflect the actual project implementation needs and improvements in institutional capacity. Beside prior review of the contracts indicated in the PPSD and PP, the World Bank will also conduct post reviews of at least 10 percent of the project contracts that are not subject to the World Bank's prior

review. In addition, the World Bank will regularly follow up on the progress of procurement during the project implementation support missions that are expected to take place twice a year (see annex 1 for details).

C. Legal Operational Policies

	Triggered?
Projects on International Waterways OP 7.50	Yes
Projects in Disputed Areas OP 7.60	No

78. **Projects on International Waterways (OP/BP 7.50).** This policy is triggered. The project will only finance ongoing schemes (water supply systems), involving additions or alterations that require rehabilitation, construction, or other changes that will not adversely change the quality or quantity of water flows to the Dominican Republic; and will not be adversely affected by the Dominican Republic's possible water use. The project thus falls under the exception to notification requirement under OP 7.50 which applies because only minor additions or alterations to ongoing schemes will be made and no works and activities that would exceed the original scheme, change its nature, or alter or expand its scope and extent so as to make it appear new or different will be financed under or in connection with the project. Appropriate assessments of localized environmental impacts will be conducted for each investment under the project during implementation. The RVP approval of the determination that the proposed Project falls under the exception of the notification requirement under Paragraph 7 (a) of OP 7.50- projects on International Waterways was received on December 21st, 2022.

D. Environmental and Social

79. **Environmental risks.** The environmental risk is assessed as Substantial. The activities financed under the project are predominantly expected to be moderate in nature with small- to medium-scale civil works for construction and rehabilitation of WSS systems. Risks and impacts arising from these activities are likely to be readily identifiable, temporary, reversible, and easily mitigated with known management techniques through careful and close supervision during project implementation. However, although associated risks are mostly moderate, there is contextual risk (noted above under Borrower's Institutional Capacity) that could result in planned works not receiving the appropriate screening and supervision during preparation and/or implementation. Given this context, and the resulting limited capacity and ability of PIU staff to manage and monitor environmental risks and impacts in a manner consistent with the Environmental and Social Standards (ESS), environmental risk is currently assessed as Substantial. The classification may be revised during project implementation

80. **Social risks.** Social risk is classified as Substantial. While the overall social benefits are expected to be positive, identified social risks and potential impacts include (a) contextual social risks - political fragility, deteriorating security situation, and travel restrictions constitute a significant risk in terms of limiting the borrower's capacity to deliver and supervise project activities and exposing project workers

to security risks; (b) potential negative impacts due to land acquisition and physical and economic resettlement, as part of the construction, extension, and rehabilitation of water supply networks; (c) social exclusion risks especially for vulnerable stakeholders, including the risk that women, persons with disabilities, sanitation workers, or the elderly may not fully access the project benefits or that community/day/rotating workers, which is a common practice in Haiti, may not have full access to proper working conditions, occupational health, and safety measures in work areas, if targeted measures are not in place, or may not receive formal work contracts; and (d) project workers' exposure to cholera. Sexual exploitation and abuse and sexual harassment risks are assessed as Moderate.

81. **E&S risk management.** To manage these risks, in accordance with the ESS, an Environmental and Social Management Framework (ESMF), Labor Management Procedures (LMP), a Resettlement Policy Framework (RPF), and a Stakeholder Engagement Plan (SEP) have been developed. The PIU of the project will comprise a dedicated social risk management specialist and an environmental risk management specialist throughout project implementation. A draft ESMF (which includes the LMP), draft SEP, draft RPF, and draft Environmental and Social Commitment Plan (ESCP) have been prepared disclosed. The ESMF and RPF were disclosed on the World Bank website on February 13th, 2023[47]. The SEP and ESCP were disclosed on the World Bank website on February 22, 2023. The E&S instruments were disclosed by DINEPA on its website on April 13th 2023[48]. The ESMF (including LMP), SEP, and RPF will be consulted, finalized, and redisclosed at the latest 90 days after project effectiveness, as is set forth in the ESCP. For the unfinished works of EPARD to be completed under this operation the E&S instruments will be updated to align with the requirements of the Environmental and Social Framework and the project's E&S instruments.

82. **Citizen engagement is at the heart of the project's implementation modality.** The project's CDD approach ensures citizen engagement throughout the project cycle comprising community mobilization, participatory planning, local procurement, and participatory M&E. The goal will be to attain deliberation and discussion in a democratic manner, with attention paid to women's needs, disability needs, and the needs of marginalized sections. The Results Framework captures citizen engagement through the PDO indicator on the number of community-driven and inclusive WASH-SIPs developed and intermediate results related to beneficiary satisfaction and grievances being responded to and satisfactorily resolved in relation to project implementation. Furthermore, in accordance with the Environmental and Social Framework, the project SEP systemizes two-way communication with stakeholders and citizens and details procedures for grievance redress, including pinpointing grievance redress roles and responsibilities, creating a mechanism for the timely resolution of complaints, and monitoring the status of grievance resolutions. The grievance redress mechanism (GRM) also includes specific protocols to manage project-related cases of sexual exploitation and abuse and sexual harassment.

83. Project-related GHG emissions analysis. The net emissions over the 20-year life of the project are estimated at 73,569 tCO_2eq and the gross emissions at 86,811 tCO_2eq. On average, the project will generate estimated net annual emissions of 3,678 tCO_2eq. The rehabilitation, construction, and expansion of water supply systems under Component 2 account for 43,569 tCO_2eq of the total net emissions increase, while the investments in FSM under Component 1 and institutional sanitation facilities under

[47] *https://projects.worldbank.org/en/projects-operations/document-detail/P178188?type=projects*
[48] Disclosure was delayed due to a technical issue: *https://www.dinepa.gouv.ht/category/etude-et-rapport/documents-strategiques/*

subcomponent 2.2 account for an increase of 30,000 tCO_2eq. The estimated water supply–related net (and gross) emissions under Component 2 benefited from investments in solar power for pumping (which reduced gross emissions by 50 percent), and energy efficiency gains due to improvements in operational and commercial management (which reduced gross emissions by an additional 10 percent). The total net and gross emissions under Component 2 are identical because the baseline scenario for the sanitation-related activities is assumed to be the continued practice of open defecation, which yields negligible emissions.

GRIEVANCE REDRESS SERVICES

84. Communities and individuals who believe that they are adversely affected by a project supported by the World Bank may submit complaints to existing project-level grievance mechanisms or the Bank's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed to address project-related concerns. Project affected communities and individuals may submit their complaint to the Bank's independent Accountability Mechanism (AM). The AM houses the Inspection Panel, which determines whether harm occurred, or could occur, as a result of Bank 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 to the AM at any time after concerns have been brought directly to the attention of Bank Management and after 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.

KEY RISKS

85. Although the proposed operation builds upon a long-term engagement of the World Bank in the sector, the overall risk of the project is assessed as 'Substantial'. Key risks to achieving results and their respective mitigation measures are the following:

Table 1. Summary of Key Risks Rating

Risks	Rating
Political and Governance	High
Macroeconomic	Substantial
Sector Strategies and Policies	Substantial
Technical Design of Project	Substantial
Institutional Capacity for Implementation and Sustainability	Substantial
Fiduciary	Substantial
Environmental and Social	Substantial
Stakeholder	Substantial
Other Risks: Security	High
Overall	**Substantial**

- **Political and governance risk is rated High.** Haiti's chronic political instability and volatile security situation can create bottlenecks and delays in the implementation of the project. While it is difficult to mitigate this risk, the project accordingly adopts a 'risk mitigation by design' strategy based on a continuous assessment of security risks which will adapt the scope of the project activities and the World Bank's supervision.

- **Macroeconomic risk is rated Substantial.** The fiscal deficit has increased significantly, putting pressure on the exchange rate and inflation. There is a risk that the fiscal position will continue to deteriorate and may jeopardize the sustainability of publicly financed programs or subsidies. This is already the case for DINEPA, for which government transfers cover only a meager part of its operating budget. To mitigate this risk, the project will finance in collaboration with other donors some part of its operating budget. Macroeconomic risks could also affect the proposed project via exchange rate volatility and continued inflation that could alter the projected costs of planned activities. To mitigate these risks, price and exchange rate volatility will be accounted for in the planning and budgeting of project activities.

- **Sector strategies and policies risk is rated Substantial.** The project design is strongly aligned with the 2009 sector institutional reform and strategy aiming at providing the rural and small-town population with universal access to drinking water and sanitation services through decentralized service delivery, community participation and implementation of pricing mechanisms to ensure the sustainability and affordability of services. However, moving from centralized planning and execution to community driven planning and resilient and sustainable management of the investments is a complex and lengthy undertaking and politically sensitive, in which many elements must fall into place in the right way and at the right time to achieve success. To mitigate the risks, the project will provide comprehensive, high-level, and continued expertise to support DINEPA and other stakeholders in the design and implementation of the institutional reform.

- **Technical design of project risk is rated Substantial.** DINEPA's capacity to implement a community-driven development approach as well as the proposed innovative grant facility is a new approach which presents some challenges. To mitigate these risks, the geographic scope of the CDD program has been limited to the South peninsula and an NGO will be contracted to provide TA and oversee management of subproject funds. The selected NGO will have proven sector experience, demonstrated capacity to operate at scale in partnership with communes and communities and come equipped with a keen understanding of the social and institutional dynamics that will influence implementation. This approach will build on past successful CDD experiences in Haiti.

- **Institutional capacity for implementation and sustainability risk is rated Substantial.** The choice of an innovative instrument that blends standard IPF implementation with PBC could prove challenging for the implementing agency. To manage this risk a PBC workshop to acquaint DINEPA and OREPAs with the proposed mechanism will be organized at the early stage of implementation. In addition, the lack of up-front buy-in by communities to set up the adequate arrangements for sustainable and resilient management of the WASH infrastructure may put the sustainability of the project at risk. As part of the mitigation measures, clear selection criteria have been

established to ensure participating communes and communities are properly informed and fully committed before civil works can started.

- **Fiduciary risk is rated Substantial.** DINEPA has experienced significant challenges in terms of maintaining fiduciary compliance during the EPARD project. Therefore, improvements in FM will be needed, mainly in terms of budget preparation and financial reporting. The main procurement risks are the security and cholera epidemy context that makes it difficult to attract qualified contractors and consultants and the weak capacity of DINEPA. These risks will be mitigated by (a) establishing a project-specific implementation unit under DINEPA with fully dedicated staff and consultants; (b) contracting UN agencies for critical activities; (c) providing customized training to the PIU on the World Bank procurement guidelines and on STEP; (d) supporting regular procurement implementation support and using technology such as SOL[49]. HEIS will also be provided to support DINEPA drafting bidding documents, evaluation reports, and contracts for the critical or complex activities.

- **Environmental and social risks are overall considered Substantial.** Environmental risk is assessed as Substantial. The activities financed under the proposed project are predominantly expected to be moderate in nature with small- to- medium-scale civil works for construction and rehabilitation of WSS systems. Risks and impacts arising from these activities are likely to be easily identifiable, temporary, reversible, and easily mitigated with known management techniques through careful and close supervision during project implementation. However, although associated risks are mostly moderate, there is contextual risk that could result in planned works not receiving the appropriate screening and supervision during preparation and/or implementation. Social risk is classified as Substantial. Identified social risks and potential impacts include (a) contextual social risks—political fragility, deteriorating security situation, and travel restrictions constitute a significant risk in terms of limiting the borrower's capacity to deliver and supervise project activities; (b) potential negative impacts due to land acquisition and physical and economic resettlement, as part of the construction, extension, and rehabilitation of water supply networks; and (c) social exclusion risks especially for vulnerable stakeholders, including the risk that women, residents with disabilities, sanitation workers, or the elderly may not fully access the project benefits or that community/day/rotating workers. Sexual exploitation and abuse and sexual harassment risks are assessed as Moderate. These risks and corresponding mitigation measures are set out in the project's ESMF which includes Labor Management Procedures, an RPF and a SEP.

- **Stakeholder risk is rated Substantial.** Reforms to improve service delivery, including transferring responsibilities to the communes and promoting cost recovery for O&M and professional management models could face resistance. To mitigate this risk, the project has adopted an incremental approach to decentralizing planning and execution, will carry out extensive consultation under Component 2 to get feedback and to raise awareness from the policy makers, commune representatives, and beneficiary communities on the need to pay for the service and

[49] The Online Procurement Solution (*Solucao Online de Licitacao* SOL) application to support communes and communities to carry out subproject procurement to guarantee transparency and safety and simplify creation and execution of procurement processes by beneficiary communities. SOL applies open-source software and block chain to ensure integrity, transparency, and auditing

conserving water and will support deconcentrated structures of DINEPA to carry out their roles according to the 2009 sector reform.

- **Other Risks: Security risks is rated High.** Given the dynamic nature of Haiti's security situation and the multiplicity of subproject locations and activities, it is impossible to determine a priori a baseline for insecurity that applies universally across all project sites and for the duration of the project. The project is likely to be implemented in a context of continued high volatility, insecurity, and instability, with the occurrence of shocks, disruptions, and other destabilizing events almost a certainty. Security risks are factored into all elements of project design, supervision, and implementation. The main mitigation measures include the following: a) adopting a 'risk mitigation by design' strategy based on a continuous assessment of security risks which will adapt the scope of the project activities and the World Bank's supervision, b) deploying a dynamic risk monitoring tool linked to project monitoring and supervision that will inform decisions with respect to risk mitigation/response, including reorientation/reprioritization of activities and deployment of emergency measures based on security risk mapping at the commune level on the security situation in the country informed by levels of insecurity—estimated according to the number of publicly available reported security incidents and open-source analyses of violence intensity and the degree of access for technical Project Implementation Unit (PIU) staff, implementing partners, contractors, and NGOs, (c) contracting a security specialist to assess and mitigate security risks on a continual basis and advise the PIU and contractors and (d) contracting United Nations agencies and an established NGO to implement critical project activities benefitting from their in-country footprint, experience in FCV contexts, and track record over the past years in Haiti under World Bank-financed operations.

RESULTS FRAMEWORK AND MONITORING

Results Framework

COUNTRY: Haiti

Decentralized Sustainable and Resilient Rural Water and Sanitation Project

Project Development Objectives(s)

The Project Development Objective (PDO) is to increase access to inclusive, resilient, and sustainable rural basic water and sanitation services.

Project Development Objective Indicators

Indicator Name	PBC	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
Number of community-driven, inclusive and climate-informed WASH Service Improvement Plans developed								
Number of community-driven, inclusive and climate-informed WASH Service Improvement Plans developed under the project (Number)		0.00	0.00	5.00	10.00	15.00	15.00	15.00
Increase access to basic water services in drought-prone areas								
People provided with access to basic drinking water services in drought-prone areas under the project, disaggregated by sex, age and disability (Number)		0.00	10,000.00	50,000.00	100,000.00	150,000.00	200,000.00	250,000.00
Increase access to basic sanitation services								

Indicator Name	PBC	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
People provided with access to basic sanitation services in areas under the project, disaggregated by sex, age and disability (Number)		0.00	5,000.00	10,000.00	25,000.00	50,000.00	100,000.00	125,000.00
Increase in the number of resilient and sustainably managed rural piped water supply systems								
Increase in the number of resilient and sustainably managed rural piped water supply systems with improved resilience to droughts, floods and cyclones country wide (Number)	PBC 2	0.00	5.00	25.00	50.00	75.00	100.00	150.00

Intermediate Results Indicators by Components

Indicator Name	PBC	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
WASH Response to Cholera and Emergency Preparedness								
People benefitting from emergency response activities under the project disaggregated by sex, age and disability (Number)		0.00	5,000.00	10,000.00	25,000.00	50,000.00	75,000.00	100,000.00
WASH sector emergency response plan developed (Yes/No)		No	Yes	Yes	Yes	Yes	Yes	Yes

Indicator Name	PBC	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
WASH Service Development								
Number of priority water supply systems constructed, rehabilitated or expanded under the project (Number)		0.00	5.00	10.00	15.00	20.00	21.00	21.00
Number of WASH Emergency Plans developed at local level (Number)		0.00	5.00	15.00	25.00	35.00	45.00	50.00
Percentage of women members in water and sanitation community based organization (CAEPA) (Percentage)		10.00	30.00	50.00	50.00	50.00	50.00	50.00
Percentage of women presidents of water and sanitation community based organization (CAPEA) (Percentage)		4.00	30.00	50.00	50.00	50.00	50.00	50.00
Number of professional operators duly selected, contracted and trained to operate efficiently the water supply systems disaggregated by sex, age and disability (Number)		0.00	25.00	50.00	75.00	100.00	125.00	150.00
Number of communal WASH SIP sub-projects financed under the project (Number)		0.00	5.00	10.00	25.00	50.00	60.00	75.00
Percentage of beneficiary satisfied with the quality of the water supply service		0.00	25.00	50.00	60.00	65.00	70.00	75.00

Indicator Name	PBC	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
under the project, disaggregated by sex, age and disability (Percentage)								
Percentage of water supply systems with uninterrupted distribution of water in project area during a climate/disaster event (Percentage)		0.00	0.00	15.00	25.00	40.00	50.00	75.00
Percentage of WASH infrastructure subprojects implemented addressing disability-specific access barriers (Percentage)		0.00	25.00	50.00	60.00	70.00	80.00	85.00
Number of community-driven, inclusive and climate-informed WASH Service Improvement Plans developed under the project (Number)		0.00	5.00	10.00	15.00	15.00	15.00	15.00
Number of persons trained in conflict mediation (Number)		0.00	25.00	50.00	100.00	100.00	100.00	100.00
Sector Wide Results-based Strengthening								
Grievances responded to and satisfactorily resolved in relation to project implementation (Percentage)		0.00	90.00	90.00	90.00	90.00	90.00	90.00
Implementation of the Gender and Social Inclusion Strategy and Action Plan		No	Yes					Yes

Indicator Name	PBC	Baseline	Intermediate Targets					End Target
			1	2	3	4	5	
(Yes/No)								
Improvement in data collection and data quality assurance of the SIEPA (Yes/No)	PBC 1	No	Yes	Yes	Yes	Yes	Yes	Yes
Improvement in DINEPA financial management performance and accountability (Yes/No)	PBC 3	No	Yes	Yes	Yes	Yes	Yes	Yes

Monitoring & Evaluation Plan: PDO Indicators

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Number of community-driven, inclusive and climate-informed WASH Service Improvement Plans developed under the project	This indicator measures the number of community-driven, inclusive and climate-informed local WASH Service Improvement Plans developed under the project. All 15 WASH-SIPs are expected to be completed by end of Year 2 of the project.	Annual	Project progress reports	DINEPA/PIU	DINEPA/PIU
People provided with access to basic drinking water services in drought-prone	This indicator measures the number of people provided	Annually	DINEPA	Project progress report	PIU

areas under the project, disaggregated by sex, age and disability	with access to basic drinking water services in drought-prone areas under the project, disaggregated by sex, age and disability.				
People provided with access to basic sanitation services in areas under the project, disaggregated by sex, age and disability	This indicator measures the number of people provided with access to basic sanitation services in areas under the project, disaggregated by sex, age and disability	Annually	DINEPA	Project progress report	PIU
Increase in the number of resilient and sustainably managed rural piped water supply systems with improved resilience to droughts, floods and cyclones country wide	This indicator measures the number of resilient and sustainably managed rural piped water supply systems with improved resilience to droughts, floods and cyclones country wide. Resilient and sustainably managed rural piped water supply systems indicator refers to a combination of at least the following six standards (1) the signature of a contract between the OREPA, a water operator (CAEPA or OP) and the commune; (2) the year-round delivery of at least 12 hours of service per day, (3)	Annually	SIEPA	Project progress report	PIU

	the implementation of a tariff that recovers operation and maintenance costs, (4) water meeting DINEPA quality in terms of residual chlorine, (5) minutes of the annual water and sanitation public hearing and (6) a water system emergency plan.				

Monitoring & Evaluation Plan: Intermediate Results Indicators

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
People benefitting from emergency response activities under the project disaggregated by sex, age and disability	People benefitting from cholera prevention activities under component 1disaggregated by sex, age and disability	Annually	DINEPA	Project progress report	PIU
WASH sector emergency response plan developed	This indicator measure the effective preparation of a WASH Response to Cholera and Emergency Preparedness by DINEPA. This indicator is expected to be me be end of Year 2 of the project.	Annually	DINEPA	Project progress report	PIU
Number of priority water supply systems constructed, rehabilitated or expanded under the project	This indicator measures the number of priority piped water supply systems	Annually	DINEPA	Project progress report	PIU

	constructed, rehabilitated or expanded under the project				
Number of WASH Emergency Plans developed at local level	This indicator measures the number of WASH Emergency Plans developed at local level. All the plans are expected to be completed by end of Y2 of the project.	Annually	DINEPA	Project progress report	PIU
Percentage of women members in water and sanitation community based organization (CAEPA)	This indicator measures the percentage of women members in water and sanitation community based organization (CAEPA)	Annually	DINEPA	project progress report	PIU
Percentage of women presidents of water and sanitation community based organization (CAPEA)	This indicator will measure the results of promoting women in leadership and decision-making roles in the water and sanitation community based organization.	Annually	DINEPA	Project Progress Reports	PIU
Number of professional operators duly selected, contracted and trained to operate efficiently the water supply systems disaggregated by sex, age and disability	This indicator measures the number of professional operator duly selected, contracted and trained to operate efficiently the water supply systems disaggregated by sex, age and disability	Annually	DINEPA	Project progress report	PIU

Number of communal WASH SIP sub-projects financed under the project	This indicator measures the number of satisfactory completed small-scale communities activities comprising exiting drinking water system optimization, sanitation, water conservation and productive uses of water.	Annually	DINEPA / Window Manager	Project progress report	PIU
Percentage of beneficiary satisfied with the quality of the water supply service under the project, disaggregated by sex, age and disability	This indicator measure the beneficiary satisfaction with the quality of the water supply service under the project (percentage) disaggregated by sex, age and disability, with at least 50 percent women as respondents. Quality of service refers to the continuity of water supply, pressure, and quality of water provided.	Before project intervention and 2 years after project intervention	Beneficiaries	Beneficiary survey	PIU
Percentage of water supply systems with uninterrupted distribution of water in project area during a climate/disaster event	This indicator measures the percentage of water supply systems providing uninterrupted water supply during a climate/disaster event (drought, floods, extreme heats) in project area.	Annually	Project beneficiaries	Satisfaction survey	PIU

Percentage of WASH infrastructure subprojects implemented addressing disability-specific access barriers	This indicator measures the percentage of WASH disability inclusive infrastructure subprojects implemented under the project.	Annually	Project progress reports	DINEPA	PIU
Number of community-driven, inclusive and climate-informed WASH Service Improvement Plans developed under the project	This indicator measures the number of community-driven, inclusive and climate-informed local WASH Service Improvement Plans developed under the project. All 15 WASH-SIPs are expected to be completed by end of Year 3 of the project.	Annually	DINEPA	Project progress report	PIU
Number of persons trained in conflict mediation	This indicator will track the number of persons trained in conflict mediation as part or community mobilization activities.	Annual	Progress reports PIU	Review of progress reports of implementation partners and field verification	PIU
Grievances responded to and satisfactorily resolved in relation to project implementation	This indicator measures complaints addressed in compliance with the POM which define timing of responsiveness, and the level of required responses.	Annually	DINEPA	Beneficiary surveys and field reports.	PIU
Implementation of the Gender and Social Inclusion Strategy and Action Plan	The indicator measures progress in implementing DINEPA Gender and Social Inclusion Strategy and	Annually	DINEPA	Project progress report	PIU

	Action Plan in accordance with implementation timeframe of the plan. The Strategy and Action Plan will be developed by the end of Year 1 and be implemented Years 2-6.				
Improvement in data collection and data quality assurance of the SIEPA	This indicator measures the quality of the management in data collection and data quality assurance of the SIEPA based on data protocol of operation including consistency, completeness, accuracy and updating review.	Annually	SIEPA	Project progress report	DINEPA
Improvement in DINEPA financial management performance and accountability	This indicator will measure improvements in DINEPA's FM performance and accountability.	Annually	DINEPA	DINEPA annual budget and report and financial statement	DINEPA

Performance-Based Conditions Matrix

PBC 1	Improvement in data collection and data quality assurance of the SIEPA			
Type of PBC	**Scalability**	**Unit of Measure**	**Total Allocated Amount (USD)**	**As % of Total Financing Amount**
Intermediate Outcome	No	Yes/No	750,000.00	0.94
Period	**Value**		**Allocated Amount (USD)**	**Formula**

Baseline	No		
a	Yes	250,000.00	1.00
b	Yes	200,000.00	1.00
c	Yes	150,000.00	1.00
d	Yes	100,000.00	1.00
e	Yes	50,000.00	1.00

PBC 2	Increase in the number of resilient and sustainably managed rural piped water supply systems with improved resilience to droughts, floods and cyclones country wide			
Type of PBC	**Scalability**	**Unit of Measure**	**Total Allocated Amount (USD)**	**As % of Total Financing Amount**
Intermediate Outcome	No	Yes/No	1,500,000.00	1.88

Period	**Value**	**Allocated Amount (USD)**	**Formula**
Baseline	No		
a	Yes	500,000.00	1.00
b	Yes	400,000.00	1.00
c	Yes	300,000.00	1.00
d	Yes	200,000.00	1.00
e	Yes	100,000.00	1.00

PBC 3	Improvement in DINEPA financial management performance and accountability			
Type of PBC	**Scalability**	**Unit of Measure**	**Total Allocated Amount (USD)**	**As % of Total Financing Amount**
Intermediate Outcome	No	Yes/No	750,000.00	0.94
Period	**Value**		**Allocated Amount (USD)**	**Formula**
Baseline	No			
a	Yes		250,000.00	1.00
b	Yes		200,000.00	1.00
c	Yes		150,000.00	1.00
d	Yes		100,000.00	1.00
e	Yes		50,000.00	1.00

Verification Protocol Table: Performance-Based Conditions

PBC 1	Improvement in data collection and data quality assurance of the SIEPA
Description	PBC 1 seeks to improve data collection and data quality assurance of the SIEPA
Data source/ Agency	SIEPA and progress report
Verification Entity	IVA
Procedure	**Evidence:**

	a. DINEPA has adopted a SIEPA Operations Manual in form and substance acceptable to the Association. b. SIEPA is operated in conformity with the annual targets defined in the SIEPA Operations Manual by the end of the first year of achievement of PBC#1(a). c. SIEPA is operated in conformity with the annual targets defined in the SIEPA Operations Manual by the end of the second year of achievement of PBC#1(a). d. SIEPA is operated in conformity with the annual targets defined in the SIEPA Operations Manual by the end of the third year of achievement of PBC#1(a). e. SIEPA is operated in conformity with the annual targets defined in the SIEPA Operations Manual by the end of the fourth year of achievement of PBC#1(a).
PBC 2	Increase in the number of resilient and sustainably managed rural piped water supply systems with improved resilience to droughts, floods and cyclones country wide
Description	PBC 2 seeks to increase the number of resilient and sustainably managed rural piped water supply systems with improved resilience to droughts, floods and cyclones country wide meeting the Six Standards. “Six Standards” designates the following standards: (1) the signing of a tripartite agreement between OREPA, a water operator (CAEPA or OP), and a municipality; (2) the provision throughout the year of at least 12 hours of service per day, as specified in the SIEPA; (3) the implementation of a tariff that covers operation and maintenance costs; (4) water that meets DINEPA quality in terms of chlorine residual, based on samples recorded in the SIEPA; (5) the minutes of the annual public hearing on water and sanitation; and (6) a contingency plan for the water system.
Data source/ Agency	SIEPA
Verification Entity	Independent Verification Agency
Procedure	**Evidence:** a. A list of at least 25 additional functioning piped drinking water supply systems managed in accordance with the Six Standards are recorded in SIEPA. b. A list of at least 50 functioning piped drinking water supply systems managed in accordance with the Six Standards are recorded in SIEPA. c. A list of at least 75 functioning piped drinking water supply systems managed in accordance with the Six Standards are recorded in SIEPA.

	d. A list of at least 100 functioning piped drinking water supply systems managed in accordance with the Six Standards are recorded in SIEPA. e. A list of at least 125 functioning piped drinking water supply systems managed in accordance with the Six Standards are recorded in SIEPA.
PBC 3	Improvement in DINEPA financial management performance and accountability
Description	PBC 3 seeks to improve DINEPA's financial management performance and accountability
Data source/ Agency	Progress report / DINEPA website
Verification Entity	IVA
Procedure	**Evidence:** a. DINEPA has adopted and published on its website, or alternatively, disclosed to a limited audience, in a manner deemed acceptable by the Association: a simplified FY23/24 budget that summarizes and explains basic budget information presented in an accessible format using simple and clear language in October 2023. b. DINEPA has adopted and published on its website, or alternatively, disclosed to a limited audience, in a manner deemed acceptable by the Association: (i) a simplified FY24/25 budget that summarizes and explains basic budget information presented in an accessible format using simple and clear language in October 2024, and (ii) a simplified FY23/24 budget execution and physical achievement report in December 2024. c. DINEPA has adopted and published on its website, or alternatively, disclosed to a limited audience, in a manner deemed acceptable by the Association: (i) a simplified FY25/26 budget that summarizes and explains basic budget information presented in an accessible format using simple and clear language in October 2025, and (ii) a simplified FY24/25 budget execution and physical achievement report in December 2025. d. DINEPA has adopted and published on its website, or alternatively, disclosed to a limited audience, in a manner deemed acceptable by the Association: (i) a simplified FY26/27 budget that summarizes and explains basic budget information presented in an accessible format using simple and clear language in October 2026, and (ii) a simplified FY25/26 budget execution and physical achievement report in December 2026. e. DINEPA has adopted and published on its website, or alternatively, disclosed to a limited audience, in a manner

	deemed acceptable by the Association: (i) a simplified FY27/28 budget that summarizes and explains basic budget information presented in an accessible format using simple and clear language in October 2027, (ii) a simplified budget FY26/27 execution and physical achievement report in December 2027, and (iii) its FY25/26 financial statements in October 2027.

ANNEX 1: IMPLEMENTATION ARRANGEMENTS AND SUPPORT PLAN

A. Project Institutional and Implementation Arrangements

1. **Given the dynamic nature of Haiti's security situation and the multiplicity of subproject locations and activities, it is impossible to determine a priori a baseline for insecurity that applies universally across all project sites and for the duration of the project.** The project accordingly adopts a 'risk mitigation by design' strategy based on a continuous assessment of security risks which will adapt the scope of project activities and the World Bank's supervision. Security risks are factored into all elements of project design, supervision, and implementation. The project will use a dynamic risk monitoring tool linked to project monitoring and supervision that will inform decisions with respect to risk mitigation/response, including reorientation/reprioritization of activities and deployment of emergency measures based on security risk mapping at the commune level on the security situation in the country informed by levels of insecurity, estimated according to the number of publicly available reported security incidents and open-source analyses of violence intensity, and the degree of access for technical PIU staff, implementing partners, contractors, and NGOs (Table 1.1).

Table 1.1. Proposed Framework for Commune-Level Security Risk Monitoring and Field Deployment of Project Activities

	Yellow • No outward signs of significant social disruption or major instability • Low-intensity crime and banditry in area but NOT involving project activities	Orange • Heightened intensity of crime and banditry in or close to project area • Banditry and/or crime affecting community security • Pattern of increasing crime and banditry in project area and misinformation circulating regarding project activities • General lawlessness, incidents of rioting or looting reported • Threats/physical harm to prominent figures/politicians	Red • Critical intensity of crime and banditry in or close to project areas • Credible threats against project workers
Component 1 - WASH Response to Cholera and Emergency Preparedness	Full activities	- Reduced list of eligible activities that can be rapidly implemented	Narrow set of emergency goods
Component 2.1 – Priority Water Supply Infrastructure	Full activities	- Increase site security	Suspend
Component 2.2 – WASH Services at Scale	Full activities	- Remote community mobilization support and trainings in other locations	Suspend
WBG Supervision	In-person visits	Third Party Monitoring - GEMS/Kobo	GEMS/Kobo

2. **DINEPA will be the implementing agency responsible for overall implementation of the project as it has for all past World Bank projects in the sector.** The GoH shall make the proceeds of the financing available to DINEPA under a Subsidiary Agreement between the GoH, acting through the MTPTC and the MEF, and DINEPA, under terms and conditions approved by the Association**.** For this new operation, a hybrid PIU will be established under DINEPA including external consultants recruited competitively in charge of project implementation alongside selected DINEPA staff, acceptable to the Bank. The PIU will be adequately staffed and funded throughout the implementation of the project. PIU offices will be established in Port-au-Prince in the DINEPA's office premises. Key PIU staff will include a project

coordinator, 3 regional coordinators based in the OREPAs, a community development specialist, a WSS engineer, a water and sanitation operation specialist, a social risk management specialist, an accountant, an environmental risk management specialist, a contract manager, a gender and inclusion specialist, an FM specialist, a procurement specialist, a security specialist, a communication specialist, and an M&E specialist, all with experience, qualifications, and terms of reference satisfactory to the World Bank. The PIU will be responsible for planning, technical review, procurement, contract administration, FM, E&S risk management, quality control and assurance, and M&E.

3. **OREPAs, regional offices of DINEPA, through URD will participate in the coordination and monitoring of the project activities.** They will be responsible to liaise with communes to inform them of project information and processes, support communes to express interest in participating in the project and meet the associated sustainability criteria and monitoring and quality control of project activities. OREPA will also implement the small and rapid impact interventions to restore the continuity of the WASH service in the event of localized incidents, under component 1.

4. **UN agencies.** Based on their ability to continue operating in a challenging security environment and drawing on lessons learned from EPARD and other World Bank-financed projects in Haiti, the project will contract UN agencies. UN agencies will be contracted by DINEPA to support the delivery of some activities of the Component 1 and Subcomponent 2.1. For these engagements, DINEPA will sign UN agreements for the delivery of outputs following the 'Standard Form Agreement for Use by World Bank Borrowers: Delivery of Service Output Contract'.

5. **An NGO will be contracted to manage Subcomponent 2.2 to provide TA and manage sub-project grants.** This approach draws from lessons learned from previous CDD projects in Haiti, Port au Prince Neighborhood Housing Reconstruction Project/PREKAD (P125805) and Haiti Urban Community Driven Development Project/PRODEPUR (P106699), and other World Bank-financed projects. The NGO will be an international or national NGO with proven sector experience, demonstrated capacity to operate at scale and in partnership with communes and communities, and come equipped with a keen understanding of the social and institutional dynamics that will influence implementation.

6. **Local authorities, including communes and communal sections, will play a leading role in the planning, implementation, monitoring, and operation of project activities.** The local authorities' executive agents and municipal WASH units will receive capacity building and TA to strengthen commune-level capacity for planning, budgeting, and contracting activities and be responsible for preparing WASH-SIPs as part of the local development plans and support their implementation, in partnership with communities. CDCs comprise key state and non-state actors[50] at the commune level and will be responsible to confirm the commune's engagement related to the project's sustainability criteria, submit expression of interests, prioritize subprojects, and monitor implementation of the project in their localities.

[50] The CDC is composed of (a) the Mayor, (b) the Secretary General of the municipality, (c) 1 member of an CASEC per communal section, (d) a coordinator of CASEC per communal section, (e) 1 representative of each different organized sector in the municipality, (f) 1 representative from each deconcentrated sector of government operating in the commune, (g) 1 representative from each NGO and decentralized cooperation entity operating in the municipality, and (h) 3 'notables' chosen for their moral authority and attachment to the community, selected by the rest of the CDC members (*Décret portant organisation et fonctionnement de la collectivité municipale*, Chapter V, section 1).

7. **Project holders.** Under Subcomponent 2.2, subproject holders are the entities in charge of subproject planning, design, and execution. In participating communes, the subproject holders are entities that can be the commune, a community-based organization, a water operator or another NGO.

8. **Communities will play a central role in the project cycle, from the diagnostic stage to the monitoring and operational stage, building on existing local initiatives and capacities at the local level.** Communities in the context of this project include the broad range of informal and formal groupings ranging from *gwoupman* informal networks to faith-based groups and more organized civil society groups. They also include local management structures in the WASH sector such as water point committees and WASH Committees (CAEPAs) which act as community representatives and at times operators.

Table 1.2. Key Implementation Arrangements for Components 1 and 2

Component	Implementation Arrangements
Component 1: WASH Response to Cholera and Emergency Preparedness	• DINEPA/PIU will contract UNICEF to implement the cholera emergency response activities under this component. UNICEF has extensive global experience in WASH in disaster and emergency situations and is a key government partner in addressing the recent cholera outbreak. These activities will be coordinated with the Ministry of Health (MSPP). • Activities aiming at building the WASH sector capacity for emergency response to floods, droughts, cyclones and outbreaks of vector-borne and waterborne diseases will be contracted out by DINEPA to specialized consultants or firms. • Small and rapid impact interventions (PIRAD) to ensure to restore the continuity of the WASH service in the event of localized incidents will be implemented by OREPAs.
Subcomponent 2.1: Priority Water Supply Infrastructure	• Review, updating and preparation of engineering designs and environmental and social impact assessment studies; preparation of bidding documents for the construction; purchase of goods and equipment; independent supervision of civil works; community engagement activities and training of the water operators will be contracted by DINEPA to UNOPS. • Civil works for the construction, rehabilitation, and/or expansion of WASH infrastructure and construction of storage facilities for the OREPA will be contracted by DINEPA to national or international contractors.
Component 2.2: WASH Services at Scale	• DINEPA will contract an NGO to act as Window Manager whose primary responsibility is to support communes and subproject holders to plan, execute and manage subprojects and manage and transfer funds directly to project holder bank account for subproject execution and supervise subprojects execution. Quality control will be carried out by OREPAs.

Table 1.3: Estimates of Financing to be Contracted to UN Agencies (US$M)

Component	Financing	Amount to be Contracted to UN Agencies	UN Agency
1	8.00	4.50	UNICEF
2.1	50.00	25.00	UNOPS
2.2	10.00	0.00	
3	12.00	0.00	
4	0.00	0.00	
Total	80.00	29.50	

9. WASH Service Improvement Grant Subproject Cycle

A step-by-step explanation of the subproject cycle under Subcomponent 2.2 follows:

(a) A communication and information campaign is carried out by the NGO, through locally tailored mediums targeted to participating communes—with the goal of increasing public awareness about the project, its objective, 'rules of the game', and expected outcomes.

(b) The NGO supports the municipal water and sanitation units of the participating communes to carry out a participatory WASH rapid diagnostic, including a climate vulnerability assessment.

(c) The communes identify their WASH local investment needs and priorities, prepare subproject proposals with the support of the Window Manager (following procedures detailed in the POM), and submit proposals to the CDC.

(d) The CDC prioritizes subprojects in a commune WASH-SIP and sends it to the Window Manager for technical appraisal.

(e) The NGO evaluates approved subproject proposals in terms of technical, social, environmental, and financial guidelines established in the POM.

(f) Upon approval by the NGO, the nominated project holder (that can be the commune, community-based organization, water operator or another NGO), carries out technical design or hires an external consultant to carry out the technical design of the subproject (depending on subproject complexity, as defined in the POM).

(g) The NGO evaluates the technical designs.

(h) If the technical design is approved, a grant contract is signed between the NGO and subproject holder. The contract lays out the terms and conditions for the funding, execution, ownership, and O&M of the approved subprojects. If technical design is not approved, the subproject proposal goes back to the CDC for reprioritization.

(i) Once the contract is signed, the project holder opens a joint bank account with the Window Manager.

(j) The NGO transfers the first tranche (50 percent of the proposal) for subproject implementation to the joint project holder/NGO bank account.

(k) Subproject holder implements the subproject and is responsible for its O&M.

(l) The NGO transfers the second tranche (remaining 50 percent) for subproject implementation based on progress made.

(m) The NGO and CDC supervise adequate technical, E&S, and financial implementation of the subprojects by the project holders.

(n) The NGO trains subproject holders to manage the subproject in a sustainable and resilient manner.

10. **Eligible expenditures for the WASH Service Improvement Grants include water supply, sanitation, productive use of water, and water source protection subprojects.** Specifically, activities that will be supported include:

(a) Construction/rehabilitation of boreholes with hand pumps;

(b) Construction/rehabilitation of hand-dug wells;

(c) Post-construction, minor repair, and/or minor rehabilitation of piped water systems to restore operation of nonfunctioning systems;

(d) Accessibility enhancements for water pumps, kiosks, or public sanitation for persons with disabilities;

(e) Optimization of operation of functioning piped water systems, including water treatment system, installation of renewal energy system for pumping and treatment, production and distribution of water meters, management tools including computers and software, and leak detection device;

(f) Expansion of functioning water supply systems, including mains and distribution pipes;

(g) Enhancement of small-scale water and food security and resilience to climate change-exacerbated floods, droughts, and cyclones via spring catchment protection, watershed management, local reforestation, use of biogas and improved cookstoves, rain catchment tanks, diversification of water sources, water recycling, artificial aquifer recharge, productive use of water, smart irrigation systems, and development of homestead gardens;

(h) Gender-sensitive and accessible public sanitation facilities rehabilitation/construction in schools, markets, and health facilities; and

(i) Innovations in sanitation.

B. Financial Management

Table 1.4 Risk Type, Risk Mitigation Measures Incorporated into Project Design and Residual Risk Rating

Risk Type[51]/Description	Risk Rating	Risk Mitigating Measures Incorporated into Project Design	Residual Risk Rating
Inherent risk	**H**		**S**
Country level Chronic country fragility characterized by socio-political instability, and weak governance and lack of accountability in the use of public resources is likely to favor fraudulent and corruption behavior in the use of the project funds (for example ineligible expenditures) that may disrupt the implementation progress of the project and delay the achievement of PDOs.	H	Through collaboration with various donors, the governance system including external and internal control institutions is being strengthened. This includes the World Bank financed Statistic and public financial management project that aims to improve efficiency, transparency, and accountability in the use of public funds all backed up by solid statistical data. As a result, in the meantime, this project will not rely on the country system, it rather will be implemented using a dedicated implementing unit with an established internal control environment based on international standards. Country systems will only be relied on if deemed appropriate and consistent with the design and objectives of the project.	S
Entity DINEPA has implemented a World Bank funded project EPARD (P148970) that closed on March 31,2023. The latest FM performance for the EPARD project was rated Moderately Satisfactory, mostly due to moderate shortcomings affecting the capacity to provide timely and reliable information required to manage and monitor the implementation of the project.	S	DINEPA´s Finance Directorate is responsible for managing and controlling DINEPA's financial resources. Its main responsibilities are outlined in DINEPA's internal administrative, finance and accounting manual, and will be complemented with specific FM arrangement included in the POM, such as: (a) implementing mechanisms to control and supervise the proper use of funds, (b) preparing institutional and specific (project) financial reports and statements, (c) verifying that procurement processes comply with applicable regulations, in coordination with the Procurement Direction and, (d) monitoring budget execution. Internal controls will be established in the PIU, and all procedures are clearly documented in the POM which will be updated as necessary.	S
Project The main components of the project will require the involvement of United Nations agencies (UNICEF and UNOPS) and NGO, communities and participating local governments executing subprojects under a CDD approach. DINEPA´s structure operating budget will	S	The PIU will have a qualified and experienced FM specialist dedicated exclusively to the project and responsible for keeping accounting records, preparing interim financial reports (IFRs) and submitting disbursement applications This staff will receive support also from DINEPA´s Finance Directorate. DINEPA will contract the UN agencies under agreed	S

[51] The **FM inherent risk** is that which arises from the environment in which the project is situated. The **FM control risk** is the risk that the project's FM system is inadequate to ensure project funds are used economically and efficiently and for the purpose intended. The **overall FM risk** is the combination of the inherent and control risks as mitigated by the client control frameworks. The **residual FM risk** is the overall FM risk as mitigated by the World Bank supervision effort.

Risk Type[51]/Description	Risk Rating	Risk Mitigating Measures Incorporated into Project Design	Residual Risk Rating
be partially financed through PBCs		contract terms to ensure accountability and timely completion of project deliverables.	
Control risk	**S**		**M**
Budgeting The project will be financed entirely with IDA grant proceeds, without Government counterpart funding. Cash or in-kind contributions (labor and/or materials) from beneficiaries are expected on subprojects´ implementation. Also, during project implementation, there may be deviations in executing the budget as some activities may not be implemented as planned given the level of decentralization of project activities.	S	The operational plan and budget will be prepared before the beginning of the new fiscal year. It will be submitted to the World Bank for non-objection. Budget monitoring will be carried out periodically (quarterly and bi-annually), through the overall and fiduciary supervision missions as well as through bi-annual unaudited IFRs and annual financial audits. The POM details the timelines for the annual work plan and budget preparation. The POM indicates the responsibilities for the budget preparation, execution, and monitoring.	S
Accounting DINEPA uses the ACCPAC accounting software for recording various project transactions. However, the actual version of the system does not allow preparation of financial reports according to the World Bank's requirements. These reports are prepared using an auxiliary system (Excel sheets).	S	The format and content of financial reports will need to be set up to keep track and report project expenditures in accordance with World Bank's FM requirements. The POM details the financial and administrative procedures related to the project activities. It will also retain the mechanism for engaging UN agencies. This will ensure accurate documentation of all the transactions of the project, including subprojects' activities.	M
Internal controls Lessons learned from the project EPARD indicate moderate shortcomings affecting the capacity to provide timely and reliable information required to manage and monitor the implementation of the project. Due to the decentralized execution and nature of the activities of the project, controls may be affected by weak capacities.	S	Control procedures over services and work carried out during supervision of work done in the region by the technical experts as detailed in the POM. The POM reflects revised internal procedures required for reporting on PBCs (including Eligible Expenditure Programs (EEPs), verification protocols for PBCs achievement, funds allocation and disbursement plans), community driven activities under the CDD approach including guidelines on resources management, accounting records and expenditures documentation. Bi-annual internal control reviews will be performed by an external audit firm acceptable to the Bank.	S
Funds flow The PIU is responsible for implementing other donor funded projects. Funds from other sources may be complied with the new project's funds.	S	A Designated Account (DA) will be opened at *Banque de la Republique d'Haiti* (the Central Bank of Haiti, BRH) to receive the project's funds and to make payments related to the project activities. The external auditor terms of reference will also cover the risk of double payments. The project FM specialist will review the activities planned for in the annual work plan and budget and	S

Risk Type[51]/Description	Risk Rating	Risk Mitigating Measures Incorporated into Project Design	Residual Risk Rating
		arrange for timely disbursements for work and services completed and delivered. The PIU will also ensure that the transactions for these activities are recorded and documented on time. For the NGO, the direct payment method will be used.	
Financial reporting Increased volume of work and information received from decentralized activities may result in delays in recording and consolidating the project financial data. This may delay the preparation and submission of the IFRs within the agreed timelines.	S	Format and content are detailed in the POM under terms acceptable to the World Bank. IFR will allow the World Bank to monitor disbursements and financial and budgetary project information. Project financial information will include the use of funds by the NGO, communities, and participating local governments. The Window Manager will submit progress and financial reports to the PIU, and this information will be consolidated and presented in project IFRs and audited financial statements.	M
Auditing The information included in the annual financial reports may not be reliable and the audit firms may not be able to provide consistent opinion, sound internal control system analysis and related recommendations due to the poor quality of the audit firms operating in the country. There may be delays in the submission of audited financial statements to the Bank according to the Financing Agreement.	S	An audit firms´ quality review was carried out in 2020 in collaboration with the Interamerican Development Bank to identify the weakness in audit firm capacity and how to address it. Annual audits on project financial statements and eligibility of expenditures will be performed in accordance with the World Bank policy, under terms of reference and by an independent auditor acceptable to the World Bank. The scope of the audit will include the review of project investments and activities delegated to the NGO, communities and participating local governments and ensure that project proceeds are used for the intended purposes.	S
Fraud and corruption The country's fragile and weak governance and economic context put the project at high risk of fraud and corruption issues. In addition, there is no functional accountability mechanism at the local level to help capture all deviations especially in the funds utilization and selection of beneficiaries and execution of activities.	H	The internal control system at the central and local levels will be strengthened with detailed procedures and processes developed in the manuals. It may also be considered during implementation to set up a complaint-handling mechanism. Moreover, the external audit terms of reference will include specific aspects pertaining to more frequent internal control reviews and fraud and corruption detection. Finally, the fraud and corruption training recently received by the PIUs aimed at helping them identify and prevent risk of fraud and corruption.	S
Overall project FM risk	**S**		**S**

Note: H = High; S = Substantial; M = Modest; L = Low.

Table 1.5: Time-Bound FM Action Plan

Description of Action/Condition	By Whom	By When
(a) Recruit qualified and experienced FM staff (FM specialist and accountant) to the project and PIU's structure assigning an FM specialist dedicated to the project.	DINEPA	No later than six (6) months after effectiveness
(b) Prepare terms of reference for the World Bank's no-objection to hire external auditors to perform the project financial audit and internal control reviews, including a requirement for the auditors to issue an opinion that covers the risk of double payments.	DINEPA	No later than six (6) months after effectiveness
(c) Define and prepare subsidiary agreements and coordinating mechanisms to be used with United Nations agencies, NGOs, communities, and participating local governments.	DINEPA	No later than six (6) months after effectiveness
(d) DINEPA receives tailored training on PBC mechanism and required actions to comply with the requirements linked to disbursements.	World Bank	No later than six (6) months after effectiveness
(e) Define content, periodicity, and format of financial reports to be included in the POM, containing those required from NGOs, communities, and participating local governments.	DINEPA	Adopted on April 13, 2023
(f) Prepare a POM including FM and disbursements arrangements specific to the project's execution, reflecting also revised internal procedures required for reporting on PBCs (including EEPs, verification protocols for PBCs achievement, funds allocation, and disbursement plans), a section for community-driven activities under the CDD approach including guidelines on resources management, accounting records, and expenditures documentation.	DINEPA	Adopted on April 13, 2023
(g) Recruit an external auditor to be contracted following terms of reference accepted by the World Bank. The audit scope will include activities executed by NGOs, communities, and participating local governments. It will also consider the verification of the EEPs and the achievement of the PBCs.	DINEPA	No later than six (6) months after effectiveness

11. **PBCs.** Disbursements against PBCs will be triggered by the execution and documentation of the Eligible Expenditure Program (EEP) and the evidence of achievement of the PBCs. The verification of the achievement will be done by an independent verification agency (IVA). In case of nonachievement of a PBC, the associated incurred EEPs will not be eligible for World Bank financing. The EEPs are defined under DINEPA budget lines and will mainly consist of salaries and operating costs paid by DINEPA and OREPA. DINEPA's budget lines associated to the EEPs are described in the operational manual. The amount to be disbursed upon achievement of a PBC will be the lower of the incurred and documented EEPs or the amount allocated to that PBC. Therefore, the amounts claimed would make it up to the agreed amount for the PBC. The final amount approved by the World Bank will be transferred from the financing account into DINEPA account. The call of funds will be done using the reimbursement method and based on a certification report issued by the verification entity. An advance on the PBC mechanism is detailed in the Disbursement and Financial Information Letter (DFIL) [52]. The advance to the DA will be linked to the

[52] The use of Designated Accounts under this project will be subject to the resolution of pending outstanding advances under

achievement of the PBC, and a refund will be due to the World Bank if the PBC is eventually not met. The POM provides detailed guidance on verification protocols and underlying eligible expenditures for each PBC.

12. **Community-driven activities.** The NGO to be involved for Subcomponent 2.2 will appraise subprojects, manage funds, and make transfers to subprojects holders based on the progression of activities. The selection process for the NGO will need to follow strict eligibility and selection criteria to ensure that s/he has adequate technical, administrative, and operational capacity including sound FM arrangements that allow for regular reporting on the progress of the implementation of the project activities and the use of the project funds. The PIU will put in place adequate supervision and monitoring procedures for delegated activities to ensure that project activities and investments are satisfactorily implemented and accounted for. Specific FM arrangements and dedicated bank accounts will be required for the entities executing activities under this modality. A simplified operational manual specifically developed for community-driven activities, including guidelines on the selection of beneficiaries, the management of allocated resources, accounting records, reporting, and expenditures documentation and control, among others, will be developed in addition to the POM. Subproject beneficiaries will need to comply with and follow the guidelines and requirements established in the document. Training for the beneficiary communities on these specific arrangements will be conducted by the NGO and/or DINEPA/OREPAs before executing the intended activities. The project will use digital technologies and remote arrangements such as GEMS to help project monitoring and supervision, and specific FM feedback is expected to be included in this tool.

13. The project's activities will be executed mainly by the PIU and through third-party entities. The Government will sign agreements with United Nations agencies, NGOs, local governments, and other beneficiaries. To strengthen the PIU's capacity to monitor these activities, it will be required to hire a contract management specialist dedicated to the project.

14. As a result of this assessment and based on the current performance of DINEPA, the main challenges include the following: (a) there is lack of a well-functioning and staffed implementing unit; (b) internal control weaknesses were detected during the ongoing IDA-financed project; (c) DINEPA relies heavily on external funding for executing several projects concurrently; (d) effective coordination is lacking between the multiple institutions, communities, and participating local governments that will collaborate and execute the project's activities; (e) DINEPA has extensive experience working with the World Bank, but this is the first time it will work on PBCs, and this may require more awareness training sessions; (f) the production of financial information will be based on DINEPA's accounting software, but in the current setting, Excel spreadsheets will also be used to complement this information specifically for financial reporting and monitoring, and this may result in errors and additional processing time resulting from any manual treatment of data; (g) specific control and reporting mechanisms for activities executed by NGOs under the CDD approach are lacking and will need to be put in place to achieve expected results and ensure a minimum level of accountability; and (h) decentralized activities and mobility restrictions due to the volatile social and security situation may constrain field supervisions.

Haiti portfolio. There is a closed project (HT P144614) that failed to refund undocumented advances in the Designated Account of IDA H9440 within two months after the Disbursement Deadline Date for that grant.

15. To manage the associated fiduciary risk, the following additional measures need to be taken:

(a) Appointment of qualified FM staff with relevant accounting and financial experience dedicated to the project as part of the implementation team.

(b) Elaboration of agreements that include coordinating mechanisms along with clear roles and responsibilities between DINEPA and the Window Manager (NGO), communities, and participating local governments. Close coordination with other development partners will be needed to clearly define the financing boundaries for activities and staff related to the execution, monitoring, and evaluation of the overall program to be reflected in the program's budget.

(c) Provision of tailored training to the PIU staff on PBC mechanism and associated requirements as needed.

(d) Definition of the content, format, and periodicity of financial reports, including those required from the NGO, communities, and participating local governments.

(e) Preparation and adoption of a POM that includes FM and disbursements arrangements specific to the project's execution, also reflecting revised internal procedures required for reporting on PBCs (including EEPs, verification protocols for PBCs achievement, funds allocation, and disbursement plans). A simplified operational manual will be specifically developed for community-driven activities under the CDD approach including guidelines on the selection of beneficiaries, resources management, accounting records, reporting, and expenditures documentation.

(f) Extension of the external audit scope to include activities executed by NGOs, communities, and participating local governments. Expansion of the external auditor mission scope to include verification of the EEPs and the achievement of the PBCs will be considered. The external auditor would also be entitled to perform biannual internal control reviews to strengthen the internal control system and issue a specific opinion that covers the risk of double payments of the project's eligible expenditures, for example, by another external financing source.

16. **Organization and staffing.** DINEPA's Finance Directorate is responsible for managing and controlling DINEPA's financial resources. Its main responsibilities are outlined in DINEPA's internal administrative, finance, and accounting manual and will be complemented with specific FM arrangements included in the POM, such as (a) implementing mechanisms to control and supervise the proper use of funds, (b) preparing institutional and specific (project) financial reports and statements, (c) verifying that procurement processes comply with applicable regulations in coordination with the Procurement Direction, and (d) monitoring budget execution.

17. DINEPA has experienced staff who are currently involved in an ongoing IDA-financed project and in projects with other development institutions. A PIU will be established under DINEPA including a qualified and experienced FM staff dedicated exclusively to the project and responsible for keeping accounting records, preparing IFR, and submitting disbursement applications.

18. **Budgeting arrangements.** The project will be financed entirely with IDA grant proceeds, without Government counterpart funding. Cash or in-kind contributions (labor and/or materials) from beneficiaries are expected on subprojects' implementation. The PIU will be responsible for planning

project activities and preparing the annual operational plan and budget, to be approved by the World Bank before the end of the fiscal year and monitored periodically through the overall and fiduciary supervision and project progress and financial reports (biannual unaudited IFRs and annual audits). The budget process is detailed in the POM. The annual operational plan and budget will be prepared specifying activities by project components and subcomponents and will include detailed information on operational costs which will also need to be reviewed and approved by the World Bank.

19. **Accounting system.** DINEPA uses the ACCPAC accounting system for the accounting of the IDA projects under implementation. However, the actual version of the system does not allow preparation of financial reports according to the World Bank's requirements. These reports are prepared using an auxiliary system (Excel sheets). Format and content of financial reports will need to be set up to keep track of and report the project's expenditures in accordance with the World Bank's FM requirements

20. **Financial reporting.** Unaudited IFRs will be prepared and submitted biannually to the World Bank no later than 45 days after the end of each fiscal semester. Format and content will be detailed in the POM under terms acceptable to the World Bank. IFR will allow the World Bank to monitor disbursements and financial and budgetary project information.

21. The project financial information will include the use of funds by subproject holders. The Window Manager will submit to the PIU progress and financial reports, and this information will be consolidated and presented in project IFRs and audited financial statements.

22. **Internal control and internal auditing.** As part of the overall implementation arrangements, the POM adopted by DINEPA describes, among others, specific FM arrangements and internal control procedures. Specific mechanisms to control and safeguard the project's financial information and assets is incorporated in the POM, including detailed eligibility criteria and procedures to select and engage an NGO for the implementation of activities and investments delegated to these agencies and ensure the use of project funds for intended purposes. It is envisaged also to incorporate guarantees or insurance mechanisms for funds transferred to the UN agencies until they are totally documented or recovered.

23. Adequate supervision and monitoring procedures for delegated activities will also need to be included in this manual to ensure that project activities and investments are timely and satisfactorily implemented and accounted for. The manual will also reflect revised internal procedures required for reporting on PBCs (including EEPs, verification protocols for PBCs achievement, funds allocation, and disbursement plans). A simplified operational manual will be specifically developed for community-driven activities under the CDD approach including guidelines on resources management, accounting records, and expenditures documentation.

24. **Disbursement and flow of funds[53].** The main disbursement method used by the project will be the advance of funds. Project funds will be advanced to a dedicated DA in US dollars at BRH, and it will be managed by the PIU making payments for project activities and to an NGO. Advanced funds will be documented by the PIU to account for grant proceeds and replenish the DA using Statement of

[53] The flow of funds will be subject to the resolution of pending outstanding advances under Haiti portfolio. The use of Designated Accounts under this project will be subject to the resolution of pending outstanding advances under Haiti portfolio. There is a closed project (HT P144614) that failed to refund undocumented advances in the Designated Account of IDA H9440 within two months after the Disbursement Deadline Date for that grant.

Expenditures, as agreed with the World Bank. Other disbursement methods would be direct payments and reimbursements. For the NGO acting Window Manager, the direct payment method will be used.

25. **Disbursement arrangement will include retroactive expenditures** for eligible payments that are paid up from April 1, 2023. These will not exceed 10 percent of the grant amount and as far as these items are procured in accordance with the applicable World Bank procurement procedures.

26. **External audit.** Annual audits on project financial statements and eligibility of expenditures will be performed in accordance with Bank policy, under terms of reference and by an independent auditor acceptable to the World Bank. The scope of the audit will include the review of project investments and activities delegated to NGOs, communities and participating local governments and ensure that project proceeds are used for the intended purposes.

27. **FM supervision.** The World Bank will conduct at least two FM supervisions per year. FM performance and compliance will also be monitored through the review of bi-annual IFR and yearly audit reports and may also include the inspection of subproject holders' records and documents.

C. Procurement

28. The procurement risk is substantial. DINEPA already manages the procurement of the current water project and has a team that already knows the bank procedures and systems. However, for this new operation, a project-specific implementation unit (PIU) will be established under DINEPA with a fully dedicated staff in charge of project implementation. The staff will be assigned to the project based on their qualifications and experience. The problem of insecurity and the political situation coupled with the rise of cholera will make it difficult to attract qualified contractors and consultants. Furthermore, the previous project has suffered from significant contract management shortcomings. The staff has struggled to manage properly the risks related to the contracts, monitor the progress of the contracts, manage contract variation and changes, and significant contract information has not been captured, reported, and communicated in a productive, consistent, and timely manner. DINEPA will also need to develop internal monitoring and control mechanisms to ensure the procurement carried out as part of the CDD approach is done in accordance with the applicable procedures.

29. These risks can be mitigated through the following measures : (i) Organize workshop sessions to train all staff involved in the procurement under the Project on Bank procurement policies; (ii) Raising awareness and communicate with potential NGOs, suppliers/ contractors and consultants about the upcoming tenders; (iii) Recruitment of two contracts managers; (iv) Periodic submission of reports on procurement and contract management activities; (v) use SOL as an Application for communities to carry out subproject procurement (CDD) more transparently, safely, and fast.

30. The previous project has suffered from significant contract management shortcomings. To address this issue, the project will seek to reduce the number of contracts by relying on the delivery capacities of UN agencies and NGOs. The project will contract UNICEF to deliver the emergency response planned under Component 1 and UNOPS to design, procure, construct/rehabilitate and

supervise works for the priority water supply systems under Sub-component 2.1. The contracts with the UN agencies will go through direct selection and the appropriate standard form of agreement will be used. When it is appropriate to place greater reliance on, or to delegate part or whole of project implementation to, UN agencies, direct selection may be used in accordance with paragraphs 6.47 and 6.48 of Section VI and paragraphs 7.27 and 7.28 of Section VII of the Procurement Regulations for Borrowers. The project will also use services of specialized NGO under Subcomponent 2.2 to provide TA and manage the subgrants. This NGO will play a key role in simplifying and reducing DINEPA's workload in terms of contract management.

31. In addition to the strategic choices made to reduce the number of contracts in this project, the PIU will be reinforced with a contract manager. The contract manager, using the new STEP contract management module, will:

(a) Work with the other keys staff of the PIU to ensure the technical and administrative supervision of the contracts.
(b) Oversee the governance of external supplier management – e.g., service performance review, risk and control, continuous improvement, quality assurance, escalations, and incident management.
(c) The responsibility to monitor progress of contracts implementation to ensure that it abides by the stipulated standards, procedures, and planned timetable.
(d) Conduct weekly meetings with the WB team and other counterparts.
(e) Prepare and submit periodically performance and activity reporting including on contract delivery targets.

32. The project will benefit from Hands on Expanded Implementation Support (HEIS) to speed up the procurement processes. HEIS is hands on physical support to help and enable the Borrower. It will support the Borrower in the execution of the procurement processes by (i) drafting procurement documents (bidding documents used to solicit bids from market) (ii) Identifying strengths and weaknesses in proposals (iii) observing dialogue and negotiations with bidders; (iv) drafting procurement reports (evaluation reports after bids are evaluated) and award documentation. The use of HEIS in the project will contribute to build DINEPA's Capacity and increases likelihood of better project delivery/outcomes

33. **All procurement activities will be implemented by the PIU.** Procurement will be executed in accordance with the "World Bank Procurement Regulations for Borrowers under Investment Policy Financing" (November 2020) ("Procurement Regulations"), as well as the provisions stipulated in the Procurement Plan and the POM. The procurement audit report will be furnished to the World Bank, along with other information concerning procurement records, documentation, and reviews.

34. **STEP.** In accordance with paragraph 5.9 of the World Bank Procurement Regulations, the World Bank's Systematic Tracking of Exchanges in Procurement (STEP) system will be used to prepare, clear, and update procurement plans, monitor all procurement transactions and manage all the contracts for the Project.

35. **General Procurement Notice.** The Borrower shall prepare and submit to the World Bank a General Procurement Notice before beginning any procurement activity under the project, and the World

Bank will arrange for its publication in United Nations Development Business (UNDB) Online and on the World Bank's external website.

36. **Specific Procurement Notice.** For open, international competitive procurement, the Borrower shall publish Specific Procurement Notices for all goods, non-consulting services, and Requests for Expressions of Interest for consulting services on its free-access website, if available, and in at least one newspaper of national circulation in the Borrower's country, in the official gazette, and in UNDB Online.

37. **Standard Procurement Documents.** The World Bank's Standard Procurement Documents must be used for all project contracts subject to international competitive procurement. In addition, these documents shall be used for project contracts not subject to open international market approach as well.

38. **The procurement functions, roles, responsibilities, and proceedings are further detailed in the POM.** Periodic procurement reports will be required covering the same periods as the IFRs, containing at least the following information: STEP, contract number, contract number, supplier name, contract date, final contract amount, date of the World Bank's no objection to contract, total amount paid to supplier during the reporting period, contract rate of progress and the World Bank's share of amount paid to the supplier during the reporting period. When the contract falls under operations cost, training, or another non-procurable category defined in the legal agreement, the STEP contract number will be replaced by an acronym and specify the expenditure type.

39. **Procurement assessment.** DINEPA submitted a Project Procurement Strategy for Development (PPSD) acceptable to the World Bank (see below). The procurement plan for the next 18 months has been finalized and will be uploaded in STEP. The procurement risks identified by the assessment and the agreed mitigation measures are summarized in table 1.6. The project procurement risk is rated "Substantial."

Table 1.6 Procurement Risks and Mitigation Measures

Risk description	Mitigation measures	Risk owner
Staff involved in the Project who may be overloaded or not have sufficient knowledge on the World Bank procurement framework	Hire a dedicated Procurement Specialist based on ToR acceptable for the Bank Organize workshop sessions to train all staff involved in the procurement under the Project on the New Procurement Framework Continuous hands-on trainings of identified key staff on the procurement regulation	WB and the PIU
Due to the climate of insecurity, companies qualified for the supply of goods, works, and consultancy services will be reluctant to bid	Implement market awareness actions to expand the project's supply base. Organize pre-award meetings to better inform potential bidders about the specifics of the bids, thereby increasing bidders' knowledge of the technical specifications and TOR, fees and taxes, payments, and management skills. Discuss mobilization strategies.	PIU

Risk description	Mitigation measures	Risk owner
	This will minimize the bidder's risk assessment, attracting more bidders to submit bids/proposals.	
Protect against the risks of exchange losses linked to the depreciation of the gourde and the country's inflation	Define clear and simple payment mechanisms in contractual clauses. Include price adjustment clauses in the contracts	PIU
Interferences in the procurement process	World Bank procedures and regulations to apply. Explain the process to the authorities and counterparts	PIU
Inaccurate cost estimate	Comprehensive and detailed cost estimates based on market analysis to align estimates with market value; therefore, reducing the risk of unresponsive proposals.	PIU
Delay in payment of supplier invoices	Set up a monitoring mechanism for payment of default interest.	PIU
The delay in the delivery time	Apply the public procurement code late delivery penalties. Contract managers to ensure close monitoring of the contracts Ensure upstream the technical and financial capacity of the supplier to be able to deliver the supplies or goods, including an analysis aimed at identifying abnormally high/low offers leading to the rejection/acceptance of unreasonable proposals.	PIU
Lack of technical and financial capacity of bidders	Strengthen contract management and cost control, monitoring payments against quality and not only against progress of deliverables expected from contractors/consultants, as per contract.	
Administrative routines may increase delays in the procurement processes and affect project implementation	Exercise quality control on all aspects of the procurement process, including developing ToRs, technical specifications, bidding documents, proposals, request for quotations, evaluation, and award	PIU
Poor filing, which can lead to loss of documents	Set an appropriate filing system at the level of PIU to ensure compliance with the World Bank procurement filing manual Systematical use of STEP for all procurement transactions and contracts management	PIU

40. Procurement of goods, works, and consultancy services will be carried out in accordance with the World Bank's Procurement Regulations for IPF Borrowers (Procurement Regulations) dated November 2020, which would be applicable for procurement under the Project.

41. The PPSD, which has been approved by the World Bank, contains a market analysis for different packages of procurement, and based on its findings, decisions on the optimal procurement approach for works, goods, and services can be finalized to ensure adequate participation of bidders. Based on the PPSD, it can be concluded that the national environment is not always favorable for the acquisition of works, goods, and services identified for implementation under the Project. However, the use of UN agencies and NGO to support the execution of works through CDD approach will help mitigating this risk.

Procurement Methods and Thresholds

42. Procurement and selection processes will be subject to the Bank's prior review procedures in accordance with the following thresholds and methods:

Table 1.7 Thresholds for Procurement Methods and Prior Review

Category	Procurement Threshold (US$, thousands)	Procurement/Selection Methods	Prior Review Thresholds
1. Works	>3,000	Request for bids	All contracts
	From 1,000 to 3,000	Request for quotations	None
	Any involved amount	Direct selection	All contracts
2. Goods and Non consulting services	>500	Request for bids	All contracts
	≤500	Request for quotations	None
	Any involved amount	Direct selection	All contracts
3. Consulting services 3.A Consulting firms	> 300	QCBS, QBS, FBS, LCS*	All contracts above US$200,000
	≤300	CQ	All contracts above US$100,000
	Any involved amount	Direct selection	All contracts
3.B Individual consultants	Any involved amount	Curriculum Vitae comparison and procedures in accordance with Section VII, Items 7.34 to 7.39 of the Bank's Procurement Regulations for Borrowers	All contracts above US$100,000 and some key project's posts

Oversight and Monitoring Arrangements

45. The PPSD and associated PP define the project contracts that will be subject to the World Bank's prior review and those that will be subject to the World Bank's post review only. Besides prior reviewing the contracts indicated in the PPSD and PP, the World Bank will also conduct post reviews of at least 10 percent of the project contracts that are not subject to the World Bank's prior review. In addition, the World Bank will regularly follow up on the progress of project procurement during the project implementation support missions that are expected to take place twice a year. Procurement needs and risks assessment has been carried out through the preparation of the PPSD. The PPSD has been prepared by DINEPA. The analysis ensures that procurement procedures and market approach are fit for purpose and are appropriate to the size, value, and risk associated with the project operating context. The PPSD and the PP consider the current situation in Haiti. Attracting international qualified firms is challenging, and remote activities are to be promoted while publishing tenders.

D. Implementation Support Plan

46. A core World Bank technical team (Table 1.8), including a senior water and sanitation specialist task team leader and a senior social development specialist co-task team leader and World Bank core technical team members based in Washington, DC, and Port-au-Prince, will provide hands-on support to the implementing agency and coordinate with development partners. Moreover, the World Bank's implementation support team will leverage the presence of specialists in procurement and FM, safeguards, and communication all of whom have had significant experience in supporting programs in an FCV setting. To ensure strong and continuous implementation support, a yearly supervision budget will be established for supervision activities to cover World Bank staff and consultants' travel expenses.

Table 1.8. Implementation Support Team

	Staff Weeks per Year	Number of Support Missions per Year
Water and sanitation specialist (task team leader)	12	4
Social development/CDD specialist (co-task team leader)	10	4
Sector specialists	8	4
Procurement specialist	8	2
FM specialist	8	2
Environmental specialist	5	2
Social specialist	5	2
Technical consultants (ICT, M&E, and so on)	20	10
GEMS specialist	4	2

ANNEX 2: ECONOMIC ANALYSIS

COUNTRY: Haiti
Decentralized Sustainable and Resilient Rural Water and Sanitation Project

Economic Analysis

1. The beneficiaries of the proposed project are primarily the population living in rural areas and small towns. It is estimated that 250,000 people can benefit from increased access to water supply and 125,000 from improved sanitation, as well as improved resilience to climate change-exacerbated extreme heat, droughts, and flooding. Potential benefits include reduction of time spent on water collection, savings on prices paid for water, reduction in waterborne diseases, and overall health and environmental benefits for all direct beneficiaries.

2. The economic evaluation was conducted using cost-benefit analysis. Expected benefits were measured using the Avoided Cost Approach. Under this method, benefits were measured as savings for households when the water service improves. Currently, the water operator provides poor service, lacking quality and quantity. Consequently, families must find alternative sources of water to satisfy their needs, such as fetching water from a distance source, private vendors, private boreholes, and bottled water. Each of these alternatives has an associated price that families must pay. When the water service improves, families will rely mostly on the water utility and the need to find alternative sources will significantly reduce or eliminate, bringing along savings to the households, which were measured as benefits of the project. Moreover, providing better access to improved water and sanitation brings substantial benefits that are difficult to measure, such as improving living standards, health, well-being, and environmental protection.

3. For this evaluation, a sample of 42 water subprojects pre-identified by DINEPA as potential candidates and 8 additional subprojects for which technical studies were already prepared were examined. The subprojects consist mostly of rehabilitation and expansion of piped water systems and small works on water system with rapid impact on population and water point development. All these subprojects represent the type of works to be implemented under the project.

4. There is a wide variation of the costs among the subprojects of rehabilitation and expansion. Of the subprojects, 35 percent have an investment per person higher than US$250 (average US$332), 42 percent have unit investment cost US$150–250, and 23 percent have a cost lower than US$150 (average US$76). The other types of works such as small works on water systems with rapid impact on population and water point development have investment cost lower than US$50 per person.

Table 2.1. Sample of Subprojects

Water Subprojects of Rehabilitation and Extension of Water Systems	# Subprojects	Beneficiaries	Investment (US$, thousands)	Unit Cost (US$/person)
Investment per capita higher than US$250	9	22,234	68,998	322
Investment per capita US$150–250	11	19,289	88,458	218
Investment per capita lower than US$150	6	4,412	57,822	76

Water Subprojects of Rehabilitation and Extension of Water Systems	# Subprojects	Beneficiaries	Investment (US$, thousands)	Unit Cost (US$/person)
Total	*26*	*45,936*	*215,278*	*213*
Small work on water system with rapid impact on population and water point development	24	1,264	126,346	10
Total	*50*	*47,200*	*341,624*	*138*

5. There is uncertainty as to what subprojects will be financed, as they will be chosen during project implementation based on the fulfillment of the prerequisites by Participating communes. This evaluation was conducted under the most conservative scenario, that is, using the subprojects with higher investment cost per person, for the rehabilitation and expansion of the water systems. The evaluation was completed with sensitivity analysis to test results for different investment costs per person.

6. **Current situation.** In 2020, only 43 percent of the rural population had access to at least basic drinking water service, which consists of standposts, kiosks, or household connections. For those with service, the supply of water is not continuous and available three days per week on average. The rural population is served through about 12,000 improved water sources and 1,065 piped network systems. Out of the 1,065 existing rural piped water network systems, about one-third are not functional according to the SIEPA database of ONEPA.

7. Connected households and population with access to standposts, kiosks, or water points need to find alternative sources of water to satisfy their basic needs. Connected households get additional water from standposts and wells (57 percent) and springs or rivers nearby (37 percent) while those served through a kiosk or standpost complement their water needs mostly for wells (54 percent), according to the survey conducted on beneficiaries during the preparation of the Implementation Completion and Results Report (ICR) of the Rural Water and Sanitation Project.[54]

Table 2.2. Sources of Water (without Project) (%)

	Standposts	Well	Purchase	Spring	River	Other	Total
Connected Households	16	41	2	17	20	4	100
Kiosks and Standposts	33	54	0	6	2	5	100

8. The average daily water consumption of connected households is estimated at 24 liters per capita per day. The population with access to kiosks and standposts collect about 1 *bokit* (US 5 gallon or 18.9 liters) per day.[55] The quality of the drinking water is not acceptable for 93 percent of households, who systematically use chlorination to treat the water.

9. Households pay an economic price for each of the available sources of water, which varies from about US$2 per month to the water provider when connected to the service to US$1 per bottle of water containing 1.5 liters.

[54] World Bank. 2014. *ICR of the Water and Sanitation Project in Haiti*. Washington, DC: World Bank.
[55] World Bank. 2015. *PAD of the Sustainable Rural and Small Towns Water and Sanitation Project*. Washington, DC: World Bank.

Table 2.3. Price Paid by Connected Households per Sources of Water

Water Piped System	HTG	US$
Fixed charge/5 m^3/month	200.00	1.59
Price per additional m^3	1.59	0.01
Bokit (18.9 liters)	2.00	0.02
Water treatment/month/household	300.00	2.39
Bottled water (1.5 liters)	125.00	1.00

Note: Exchange rate - HTG 125.43 to US$1.

10. As shown in Table 2.2, 16 percent of connected households use standposts or kiosks to complement their water needs. They buy at least 1 bokit per person per day, which corresponds to a monthly payment of US$4 per household per month. About 41 percent of connected households get additional water from private wells, using an electric pump and paying for the water to the owner of the well; assuming the same price per bokit, the monthly payment would be US$4 per month per household. About 2 percent of connected households buy bottled water. If only one bottle per day is bought, the monthly payment would be US$30. About 33 percent of unconnected households with access to standposts or kiosks use them as the main source, 54 percent complement their water needs with wells, and 8 percent with distant sources such as springs or rivers.

11. **Water fetching time.** Households must walk to access sources of water. According to a study carried out by the World Bank[56] more than one-third of households with access to piped water spend more than 30 minutes a day collecting it. In the rural areas, the percentage of population with improved water within 30 minutes is about 40 percent. This evaluation used 10 minutes per trip to get to kiosks and standposts and 30 minutes to distant sources such as rivers and springs. The value of time was estimated using the minimum wage in the rural areas, which varies from HTG 7,000–12,000 per month (US$55–99 per month). The resulting value of time per hour is HTG 75 (US$0.6).

12. The current total monthly economic price paid for water per household was estimated as the price to access each source multiplied by the percentage of households using it, plus the value of time multiplied by the percentage of households doing it. The results show that the economic price is US$25 for connected households and US$26 for non-connected households.

Table 2.4. Sources of Water (without Project)

US$ per Household per Month	Connected Households	%	Standposts or Kiosks	%
Charges paid to water provider	1.59	—	—	—
Price paid at kiosks	14.33	16	14.33	33
Price paid at wells	14.33	41	14.33	54
Price paid for bottled water	30.00	2	30.00	0
Value of time:				

[56] World Bank. 2018. Looking Beyond Government-Led Delivery of Water Supply and Sanitation Services: The Market Choices and Practices of Haiti's Most Vulnerable People. WASH Poverty Diagnostic, Washington, DC: World Bank.

US$ per Household per Month	Connected Households	%	Standposts or Kiosks	%
Going to kiosks and standposts	10.17	16	10.17	33
Going to wells	10.17	41	10.17	54
Going to streams or rivers	15.25	37	15.25	8
Treating water	2.39	90	2.39	95
Weighted average price	*24.79*		*25.99*	

13. **Expected situation under the project.** The service is expected to improve when water systems are expanded and rehabilitated. The connected households are expected to increase their water supply from 24 to at least 40 liters per capita per day from the system. Households with access to kiosks, standposts, or water point will have reliable access to at least 18.9 liters per capita per day and more if needed. Alternative sources of water will significantly reduce or eliminate.

14. The monthly payment of connected households will correspond to charges paid to the water utility, which for 40 liters per capita per day will be US$2.5 per month per household. The monthly payments of households with access to kiosks, standposts, or water points will be US$14.33 for the consumption of 18.9 liters per capita per day.

15. **Savings for households.** Estimated economic savings are estimated at US$22 per household per month for connected households and US$12 per household per month for unconnected households. Savings to households are a fraction of the benefits that the project will bring to the communities, given that well-being will improve significantly as water will be of good quality supplied at higher quantities and lower prices.

Table 2.5. Savings per Household under the Project

USD per Household per Month	Connected Households	Standposts and Kiosks
Without project	24.79	25.99
With the project	2.47	14.00
Savings per household per month	*22.32*	*11.66*
Savings per household per year	*268.00*	*140.00*

16. Assuming that 50 percent of the beneficiaries will be provided with household connection and 50 percent will be supplied through kiosks or standposts, the average benefit per household per year will be US$204 per household per year. By applying the benefits to the number of beneficiaries of the subprojects evaluated (215,278 people or 35,880 households), the expected benefit will be US$7.3 million per year, equivalent to a present value of US$81 million during the lifetime of the project estimated at 20 years.

17. **Results of the economic evaluation of subprojects evaluated.** Expected economic benefits will be 60 percent higher than expected costs. Net economic benefits are expected to be US$30 million and an expected return of 14 percent, higher than the 6 percent discount rate used for the evaluation.

Table 2.6. Results of the Economic Evaluation of the Sample of Subprojects

	Present Value of Flows (US$, thousands)			IRR (%)
	Costs	Benefits	Net Benefit	
Rehabilitation and expansion water systems	51,061	81,617	30,556	14

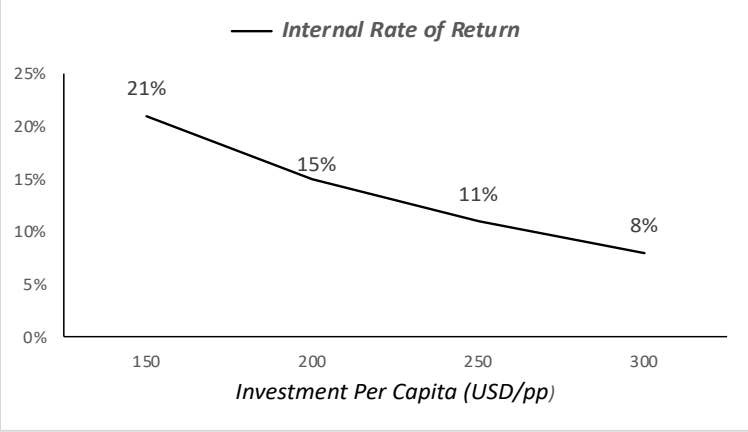
18. Equivalent benefit per person during the lifetime of the project results in US$379/person, which is 80 percent higher than the average unit investment cost of all subprojects of rehabilitation and expansion of water systems (US$213; see Table 2.1). The lower the investment cost per capita the higher the net benefit. For investment costs of US$300 per person, the return will be 8 percent. If unit costs were US$150 per person, the net benefit would be US$212 per person and return 21 percent.

Table 2.7. Results of Economic Evaluation per Person for Rehabilitation and Expansion of Water Systems

Results of the Project According to Unit Investment Cost	Present Value of Flows (US$)			IRR (%)
	Costs (Investment and O&M)	Benefits	Net Benefit	
Investment cost per person US$300	333	379	46	8
Investment cost per person US$250	278	379	101	11
Investment cost per person US$200	222	379	157	15
Investment cost per person US$150	167	379	212	21

19. Figure 2.1 presents the same results.

Figure 2.1 Results per Capita According to Investment Cost



Source: author's estimates

20. **Results of the economic evaluation of the whole project.** Replicating this benefit per person (US$379) during the lifetime of the project to the whole population expected to be benefited (250,000) and using the total investment cost of US$80 million (US$320 per person), the evaluation shows net benefits of US$6 million and IRR of 7 percent.

Table 2.8. Results of the Economic Evaluation of the Whole Investment

	Present Value of Flows (US$, thousands)			IRR (%)
	Costs	Benefits	Net Benefit	
Total project	88,926	94,781	5,855	7

21. Results are reassuring given that additional benefits that the project will bring along were not measured, such as sanitation benefits, health benefits, and environmental benefits, and in general the improvement of the well-being of the population. Health benefits are especially important at current times when cholera is present in Haiti.

GHG Emissions

22. GHG emissions are global externalities, which can be positive or negative, depending on the net impact of the project.[57] Gross emissions are the emissions that project activities cause over its economic lifetime. These are compared to a baseline scenario.[58] The project's net emissions are the difference between the gross emissions and the baseline emissions. For each component of the project, the GHG emissions were estimated in tCO_2eq using the World Bank's Water Global Practice's GHG Accounting Excel Tool.

23. **Results show that the net emissions over the 20-year life of the project are estimated at 73,569 tCO_2eq and the gross emissions at 86,811 tCO_2eq.** On average, the project will generate estimated net annual emissions of 3,678 tCO_2eq. The rehabilitation, construction, and expansion of water supply systems under Component 2 account for 43,569 tCO_2eq of the total net emissions increase, while the investments in institutional sanitation facilities and FSM under Subcomponent 2.3 account for an increase of 30,000 tCO_2eq. The estimated water supply–related net (and gross) emissions under Component 2 benefited from investments in solar power for pumping (which reduced gross emissions by 50 percent) and energy efficiency gains due to improvements in operational and commercial management (which reduced gross emissions by an additional 10 percent). The total net and gross emissions under Subcomponent 2.3 are identical because the baseline scenario for the sanitation-related activities is assumed to be the continued practice of open defecation, which yields negligible emissions.

24. **Shadow price of carbon.** To value the net GHG emissions generated by the project, the shadow price of carbon recommended in the World Bank guidelines[59] was used. The price lies between US$41.8 (low estimate) to US$83.7 (high estimate) per tCO_2eq in 2022 and increases to US$50 and US$100 per tCO_2eq by 2030. From 2030 to 2050, the guidelines recommend using a growth rate of 2.26 percent per year.

[57] If the net balance is a generation of GHG emissions, the project is generating a negative externality. If the net balance is a reduction of GHG emissions, the project is generating a positive externality.
[58] There are three primary approaches to defining a baseline counterfactual; the No Change Scenario assumes status quo, the Use of Past Trends approach extrapolates data from the recent past into the near future, and the Use of Future Trends approach uses advanced modeling to make projections about the future. Elements from any combination of these approaches may be used when defining a counterfactual.
[59] World Bank. 2017. "Shadow Price of Carbon in Economic Analysis: Guidance Note." World Bank, Washington, DC.

25. Results show that the project will generate a negative externality as it will increase the GHG emissions. The economic cost of the net generation of GHG emissions is estimated at US$3.4 million when the high shadow price of carbon is used, and US$1.7 when the low shadow price of carbon is used.

26. **Impact on the results of cost-benefit analysis.** Results show that when the negative impact of the GHG emissions is included in the economic evaluation, the project still yields positive net benefits. If the high shadow price of carbon is used, the resulting expected net benefit is US$2.4 million and return of 6.4 percent. If the low shadow price of carbon is used, the project generates US$4 million of net benefit and return of 6.7 percent.

Table 2.9. Results of the Economic Evaluation with and without GHG Emissions

Net Economic Benefits	Net Benefit (US$, thousands)			IRR (%)		
	Without GHG Emission	With GHG		Without GHG Emission	With GHG	
		Low Price of Carbon	High Price of Carbon		Low Price of Carbon	High Price of Carbon
Water project	5,855	4,126	2,403	7	6.7	6.4