



RESTRUCTURING PAPER  
ON A  
PROPOSED PROJECT RESTRUCTURING  
OF  
MODERNIZATION OF WATER SUPPLY AND SANITATION SERVICES  
APPROVED ON JULY 26, 2018  
TO  
REPUBLIC OF PERU

WATER

LATIN AMERICA AND CARIBBEAN

Regional Vice President:	Carlos Felipe Jaramillo
Country Director:	Marianne Fay
Regional Director:	Anna Wellenstein
Practice Manager/Manager:	David Michaud
Task Team Leader(s):	Malva Baskovich, Carmen Rosa Yee-Batista



**ABBREVIATIONS AND ACRONYMS**

<b>Aguas de Lima Norte</b>	Formerly known as Municipal Water and Sanitation Services Company of Huacho ( <i>Empresa Municipal Prestadora de Servicios de Agua Potable y Saneamiento de Huacho now known as Aguas de Lima Norte</i> )
<b>ARP</b>	Abbreviated Resettlement Plan
<b>CE</b>	Cost-Effectiveness
<b>DED</b>	Detailed Engineering Designs
<b>E&amp;S</b>	Environmental and Social
<b>ERR</b>	Economic Rate of Return
<b>EMAPA Huaral</b>	Municipal Water and Sanitation Services Company of Huaral ( <i>Empresa Municipal Prestadora de Servicios de Agua Potable y Saneamiento de Huaral</i> )
<b>EMAPACOP</b>	Municipal Water and Sewerage Company of Coronel Portillo ( <i>Empresa Municipal de Agua Potable y Alcantarillado Coronel Portillo</i> )
<b>EPS</b>	Public Water Supply and Sanitation Utility ( <i>Empresa Prestadora de Servicios de Saneamiento</i> )
<b>ESMF</b>	Environmental and Social Management Framework
<b>FM</b>	Financial Management
<b>FU</b>	Functional Unit
<b>GoP</b>	Government of Peru
<b>IPPF</b>	Indigenous Peoples Planning Framework
<b>ISC</b>	Implementation Support Consultant
<b>M&amp;E</b>	Monitoring and Evaluation
<b>MEF</b>	Ministry of Economy and Finance
<b>MVCS</b>	Ministry of Housing, Construction, and [Water and] Sanitation ( <i>Ministerio de Vivienda, Construcción y Saneamiento</i> )
<b>NRW</b>	Nonrevenue Water
<b>OTASS</b>	Technical Organization for the Administration of [Water and] Sanitation Services ( <i>Organismo Técnico de la Administración de los Servicios de Saneamiento</i> )
<b>PDO</b>	Project Development Objective
<b>PIU</b>	Project Implementation Unit
<b>PNSU</b>	National Program for Urban [Water and] Sanitation ( <i>Programa Nacional de Saneamiento Urbano</i> )
<b>PPP</b>	Public-Private Partnership
<b>RPF</b>	Resettlement Policy Framework
<b>SEDACUSCO</b>	Potable Water and Sanitation Services [Company] of Cusco ( <i>Servicio de Agua Potable y Saneamiento del Cusco</i> )
<b>SEDAPAR</b>	Potable Water and Sanitation Services [Company] of Arequipa ( <i>Servicio de Agua Potable y Saneamiento de Arequipa</i> )
<b>SEAS</b>	Specific Environmental Assessment Study



## The World Bank

Modernization of Water Supply and Sanitation Services (P157043)

---

<b>SEMAPA Barranca</b>	Municipal Potable Water and Sewerage Service Provider of Barranca ( <i>Servicio Municipal de Agua Potable y Alcantarillado de Barranca</i> )
<b>SUNASS</b>	National Superintendence of [Water and] Sanitation Services ( <i>Superintendencia Nacional de Servicios de Saneamiento</i> )
<b>TA</b>	Technical Assistance
<b>VMCS</b>	Vice Minister of Housing, Construction, and [Water and] Sanitation ( <i>Viceministerio de Construcción y Saneamiento</i> )
<b>WSS</b>	Water Supply and Sanitation



**BASIC DATA**

**Product Information**

Project ID P157043	Financing Instrument Investment Project Financing
Original EA Category Partial Assessment (B)	Current EA Category Partial Assessment (B)
Approval Date 26-Jul-2018	Current Closing Date 31-Dec-2023

**Organizations**

Borrower Republic of Peru	Responsible Agency
------------------------------	--------------------

**Project Development Objective (PDO)**

Original PDO

The proposed Development Objective is to increase access to, and quality of, water and sanitation services in selected areas, and develop the Borrower’s sectoral institutions and participating EPS management capacity to provide efficient water and sanitation services.

**Summary Status of Financing (US\$, Millions)**

Ln/Cr/Tf	Approval	Signing	Effectiveness	Closing	Net Commitment	Disbursed	Undisbursed
IBRD-88990	26-Jul-2018	28-Jan-2019	16-May-2019	31-Dec-2023	70.00	10.39	59.61

**Policy Waiver(s)**

Does this restructuring trigger the need for any policy waiver(s)?

No



## I. PROJECT STATUS AND RATIONALE FOR RESTRUCTURING

**A. Summary.** This Restructuring Paper (RP) seeks the approval of the Country Director for a Level 2 restructuring of the ‘Peru-Modernization of Water Supply and Sanitation Services Project’ (P157043). This would be the first restructuring of this operation. The proposed restructuring is needed to respond to unforeseeable challenges presented by the COVID-19 pandemic and the political instability seen in Peru. This has resulted in mobilization restrictions combined with recurring changes in the PIU staff and leadership due to several political transitions in the 2020-2021 period. Additionally, this project started implementation without confirmed readiness of various subprojects. This situation has produced procurement and implementation delays as well as cost overruns that have affected project capacity to achieve the PDO within the planned schedule. The proposed restructuring entails approval for an extension of 20 months of the project closing date and a revision of the results framework, and consequently changes to the implementation schedule and revision of the disbursement estimates—as requested by Peru’s Ministry of Economy and Finance.

### Overall Status of Implementation

#### B. Project background

1. The Project was approved by the Board on July 26, 2018 and declared effective on May 16, 2019. At board approval, the Project estimated cost was US\$200 million, of which US\$70 million was proposed to be financed by IBRD Loan 8899-PE, US\$30 million by sovereign bonds and US\$100 million as national counterpart by the Government of Peru. The Project Development Objective (PDO) of the Project is to increase access to, and quality of, water supply and sanitation (WSS) services in selected areas and develop the Borrower’s sectoral institutions and participating service providers’ (EPS, Empresa Prestadora de Servicios de Saneamiento) management capacity to provide efficient WSS services. The Project consists of three components: (i) Component 1 (US\$38.73 million, of which US\$16.27 million IBRD financing) Improving Governance of Water Supply and Sanitation Service Providers; (ii) Component 2 (US\$151.52 million of which US\$53.03 million IBRD financing) Improving and Expanding Water Supply and Sanitation Services; and (iii) Component 3 (US\$9.75 million, of which US\$0.7 million IBRD financing) General Project Administration.
2. The Project has been designed to directly improve the efficiency of the sector by financing activities that will support national-level sector entities (sector regulator, governing body, and technical agency for WSS utilities),<sup>1</sup> as well as the efficiency of the six WSS utilities (EPSs).<sup>2</sup> The Project is implemented by two entities: (1) OTASS, through its Project implementation unit (PIU-OTASS), which is responsible for carrying out Components 1 and 3, and (2) by the National Program for Urban Sanitation (PNSU, *Programa Nacional de Saneamiento Urbano*) through its Project functional unit (FU-PNSU) which is responsible for carrying out Component 2 under the supervision of PIU-OTASS. Furthermore, there are several actors involved under the implementation arrangements—primarily the MVCS, OTASS, and SUNASS, as well as the six selected EPSs.

#### C. Current status

3. As of June 2022, 15 percent of the Bank loan proceeds (about US\$10.39 million) have been disbursed and USD 37.13 million (53.04%) of the IBRD loan has been committed. A total of USD 53.6 million has been committed by all sources of

<sup>1</sup> Key sector entities include the Ministry of Housing, Construction, and [Water and] Sanitation (MVCS, Ministerio de Vivienda, Construcción y Saneamiento), Technical Organization for the Administration of [Water and] Sanitation Services (OTASS, Organismo Técnico de la Administración de los Servicios de Saneamiento), and National Superintendence of [Water and] Sanitation Services (SUNASS, Superintendencia Nacional de Servicios de Saneamiento).

<sup>2</sup> The six utilities which form part of this Project are: Servicio de Agua Potable y Saneamiento del Cusco S.A. (SEDACUSCO), Servicio de Agua Potable y Saneamiento de Arequipa (SEDAPAR), Empresa Municipal de Agua Potable y Alcantarillado Coronel Portillo (EMAPACOP), Servicio Municipal de Agua Potable y Alcantarillado de Barranca (SEMAPA Barranca), and Empresa Municipal Prestadora de Servicios de Agua Potable y Saneamiento de Huaral (EMAPA Huaral), and Aguas de Lima Norte (formerly known as Empresa Municipal Prestadora de Servicios de Agua Potable y Saneamiento de Huacho).



financing (IBRD loan, sovereign bonds, and national counterpart), representing a commitment level of 27% with respect to the total amount of the Project. Today, progress towards the Development Objective is rated as Moderated Unsatisfactory as the PDO can no longer be achieved within the available resources and time, as explained in following sections. Overall Implementation Performance is rated Moderately Unsatisfactory (MU) because the Project has a significant delay in the level of disbursements as a result in delays in the implementation schedule.

4. *Delays in implementation schedule.* The project has had a slow start in implementation due to the lack of readiness of various projects as only 30% of the subprojects under component 2 had been declared viable at the start of project implementation. Annex 1 provides an overview of the status per component. These early delays in project implementation were met with COVID-19 mobilization restrictions and recurring changes in the PIU staff and leadership due to political transition in the 2020-2021 period, which have presented Project setbacks, as also reported in previous ISRs. More specifically, procurement processes in component 1 saw delays as the signing of contracts required in-person physical signatures from all parties, and some contracts for component 2 were cancelled due to force majeure situations, as contractors and suppliers are not able to carry out their contracts due to border closings or self-isolation. Also, high turnover of staff in PIU-OTASS and FIU-PNSU especially in 2020-early 2021 because of changes in the line ministry, presented additional delays. Updated timelines indicate that the project will not be able to achieve the PDO by the project closing date (December 2023), and the PIU has informed the Bank that the project will not be able to achieve the original targets within the remaining two years of implementation.
5. *Cost overruns.* The budget for this Project, at design phase, was estimated prior to the development of the detailed engineering designs (DEDs) for the subprojects under component 2. The development of the DEDs, as well as updated and recent feasibility studies, has allowed PIU-OTASS and FU-PNSU to estimate a project budget increase in the range of 35-51% to achieve the original project scope (which is expected to yield higher than expected targets by representing an increase in number of beneficiaries within the original service area). The updated budgets indicate that the available resources under the original project design are not sufficient to cover costs.
6. However, the World Bank team has seen marked progress over the last 8 months which coincides with a new PIU-OTASS team as well as the appointment of a PIU-OTASS Director. PIU-OTASS and FU-PNSU have recruited a highly qualified team, with the capacity to revise the Program's way forward. The level of organization and planning of the Project, which now has a designated director, complete technical teams, a clear roadmap on its way forwards with milestones, and monitoring systems, is a major achievement of the project, and a notable improvement. The critical evaluation by the PIUs has informed the analysis to propose the project restructuring.
7. Important achievements include: (i) the increase in level of commitments represented by a total amount of USD 53.6 million (27%) with respect to the total amount of the Project; (ii) the timely identification of the key activities under component 1 in terms of their contribution towards achieving the PDO, as well as agreements on the scope of the activities with the multiple institutions involved (SUNASS, VMCS, OTASS, PNSU, EPSs); (iii) the progress of some performance indicators<sup>3</sup> that reflects activities that some institutions and EPSs have carried out with their own resources; (iv) compliance with financial audits and their positive results; and (v) preparation of the Program's Theory of Change and review of the indicators and their objectives. These positive advancements are expected to improve disbursements going forward.
8. **Financial Management.** FM reviews have been carried out periodically by the World Bank during project implementation. Based on the latest FM Virtual Implementation Support Mission, FM performance is currently rated Satisfactory, because

---

<sup>3</sup> Note that the Loan Agreement includes 'Performance Indicators at Participating EPS Level' and 'Performance Indicators at Participating Locality Level'; these are different than the indicators included in the project Results Framework.



PIUs have overcome some of the shortcoming that were affecting some of the FM arrangements. The PIUs have been able to: (i) recruit the needed FM staff; (ii) increase budget execution; (iii) increase the level of disbursements; and (iv) hire the firm to conduct the 2021 external audit. There are no outstanding financial audit reports. The first financial audit of the project as of December 31, 2020, was found acceptable to the Bank. The audit report for Fiscal Year 2021 was delivered in April 2022 and is under Bank review.

9. **Procurement.** World Bank procurement procedures are being followed by the PIUs, in line with the approved procurement plan. Procurement performance is currently rated Moderately Satisfactory as implementation of procurement processes still happens with some delay, but these are being streamlined and followed up closely through the provision of Hands-on Expanded Implementation Support (HEIS) requested by the government and approved by the Bank on March 26, 2022. The HEIS has increased the pace of procurement processes completion and thus accelerated overall project implementation. Also, the Procurement Systematic Tracking of Exchanges (STEP) system has been updated to reflect the expected timeline for the implementation of activities.
10. **Environmental and Social Safeguards.** According to the original Loan, the Project was classified as Category B Project, considering moderate risks and impacts for which there are readily available and standard mitigation measures. The proposed works (aqueducts, sewers, etc.) will be implemented in already intervened urban areas. Currently, the Project safeguards performance is rated as Satisfactory.
11. **Risks.** Overall, the risk to achieving the PDO remains rated Substantial. The country's continued political instability, together with fiduciary aspects which have had an impact on implementation, continue to pose substantial risks to the achievement of the PDO. However, risk ratings regarding the macroeconomy, sector policies, institutional capacity, E&S aspects, and stakeholder risk, are currently rated as moderate as the sector has maintained a relatively stable work environment despite the high turnover of the government, and the PIUs have gained experience and expertise in implementing World Bank-financed projects, having significantly improved implementation in recent months. Given Peru's continued political instability caused by recurring political corruption scandals and the current government's frequent reshuffling of ministers—which could affect, yet again, the PIUs staffing and local interest/ownership to the project activities, the political and governance risks are substantial. The fiduciary risk is also rated as substantial to reflect the slow implementation to date.

### Rationale for Restructuring

12. **A key finding of the Mid-Term Review conducted in February 2022, was that the project cannot achieve its original PDO in the time and with the resources available.** The MTR process (reflected in the MTR Report and as discussed during the MTR Virtual Mission) has allowed the PIUs and World Bank to conduct an in-depth analysis of the project's best way forward. The discussions have identified restructuring options,<sup>4</sup> considering the extension versus the non-extension of the project closing date (as well as the length of the needed extension period), additional financing needs, and corresponding changes to the results framework.
13. **The Government of Peru has opted to proceed with an extension of the project closing date, and no additional financing.** The Ministry of Economy and Finance (MEF) has indicated that it is not possible to increase the budget for this project and has therefore selects scenario 1.

---

<sup>4</sup> The PIUs have identified three scenarios, which are detailed in the MTR Report: Scenario 1- Extension of the Project closing date by 18-24 months and no budget increase; Scenario 2 - Extension of the Project closing date by 18-24 months, and an increase in the project budget by US\$ 58.21 million (35% budget increase); Scenario 3 - Extension - of the Project closing date by 36 years, till December 2026, and an increase in budget of US\$ 83.83 million (51% budget increase).



- 14. **The proposed restructuring includes an extension of 20 months of the closing date, revision of the results framework, and consequently changes to the implementation schedule, and revision of the disbursement estimates.** The restructuring would allow the full implementation of consultancy activities under component 1, which is directly related to the improvement of the performance indicators of the EPSs as included in the Loan Agreement.<sup>5</sup> In the case of component 2, subprojects will be prioritized based on their progress, clearly identifying those infrastructure works and the DEDs that can be completed within the extension period and the approved program budget. It is expected that 8 of the 17 subprojects will be completed under component 2, reaching 65,586 people with access to improved water sources and 52,409 people receive access to improved sanitation services. Without the extension, the Project will not be able to reach its PDO nor full disbursement of the USD 70 million IBRD loan. Other important considerations include ensuring compliance with Bank safeguard policies, in particular the application of social and environmental management plans during construction and completion of plans affecting the project beneficiaries. In addition, the extension will allow for orderly completion of the Project and closing of the Loan.
- 15. Concrete measurable actions with corresponding milestones for project monitoring had been agreed with PIU-OTASS and are presented in Table 1. This will ensure the Project continues to be on a good path towards achieving the PDO. Implementation performance and progress towards achieving the project’s PDO over the extension period will have to be used to evaluate the future of the Project.

Action	Milestone to be completed by
The selection processes of the seven strategic activities identified under Component 1 (activities 9, 11, 14, 15, 17, 19 and 20) will be completed, contracts will be signed, and consultants will be ready to start implementation.	By December 31, 2022
The detailed engineering designs (DEDs) for 3 sub-projects in Cusco (Huatanay, and Cusco city water supply and sewerage networks), currently under implementation will be completed and approved.	
The works contract for 3 sub-projects in Cusco (Huatanay, and Cusco city water supply and sewerage networks) will be signed and works will be ready to start.	
The works contract for the Chuquibamba subproject in Arequipa will be signed and works will be ready to start.	
Consultancy contracts for the preparation of the DEDs for 2 SCADA sub-projects (SCADA in Arequipa and Cusco) will be signed and the consultancies will be under implementation.	

## II. DESCRIPTION OF PROPOSED CHANGES

- 16. The proposed restructuring includes an extension of 20 months of the closing date, revision of the results framework, and consequently changes to the implementation schedule, and revision of the disbursement estimates.
- 17. **Extension of the Project closing date.** The 20-month extension from 31 December 2023 to 31 August 2025, would allow the Borrower to complete all the activities of component 1 (19 activities), which is directly related to the improvement of the performance indicators of the EPSs. In the case of component 2, subprojects have been prioritized based on their progress, clearly identifying those infrastructure works and the DEDs that can be completed within the extension period and the approved program budget. It is expected that 8 of the 17 subprojects will be completed under component 2.
- 18. **Changes in the Results Framework (RF), including addition and deletion of indicators.** The Restructuring proposes dropping several indicators from the RF that were not well-linked to the Project activities and/or PDO and adding several indicators to measure progress and evaluate the efficacy of all aspects of the Project PDO. These adjustments to the RF

<sup>5</sup> The changes proposed under this Restructuring Paper refer to the indicators in the Results Framework as presented in the Project Appraisal Document; the Project Restructuring does not include changes to the Performance Indicators as included in the Loan Agreement.





were based on an analysis of the Project’s theory of change that was carried out by PIU-OTASS and Bank Team. The analysis resulted in a breakdown of the Project’s PDO into five key outcomes: (PDO1) Increase access to WSS services; (PDO2) Increase quality of water service; (PDO3) Increase quality of sanitation service; (PDO4) Develop management capacity of sectoral institutions to increase efficiency of WSS services; and (PDO5) Develop management capacity of participating service providers to increase efficiency of WSS services. Annex 3 provides a description and overview of the proposed changes to the RF.

- 19. **Changes in implementation schedule.** The additional time of project implementation would allow for the completion of all activities under component 1, i.e., 19 out of the 20 originally planned activities will be completed considering that one activity (consultancy for the development of the regulatory framework for small EPS) has already been developed by SUNASS outside the scope of this program and with their own resources. The subproject portfolio of component 2 will undergo important changes where 8 works will be maintained as originally planned and all works will be completed within the project extension. Also, given the lack of resources, 8 works under component 2 will not be completed within the program, despite the extension in the project closing date. However, it is expected that the detailed engineering designs (DEDs) for all these subprojects listed below will be completed. Once these projects count with their DEDs (including their corresponding Environmental Documentation to obtain licensing according to local regulation) and technical viability, financing mechanisms may be explored outside of this project in negotiation with the sector. Lastly, throughout project implementation and for various reasons, it has been decided to delete three subprojects from the project portfolio. Annex 2 provides an overview of the changes to Component 2.
- 20. **Changes in the total number of beneficiaries.** The modifications to the portfolio of Component 2 have direct implications on the total number of beneficiaries.

Outcome indicator	Original end target	Revised end target	Percentage of beneficiaries to be achieved based on original end target
People provided with access to improved water sources	161,000.00	65,586.00	40.73%
People provided with access to improved water sources, of which # of female	80,661.00	32,859.00	40.73%
People provided with access to improved sanitation services	93,000.00	52,409.00	56.35%
People provided with access to improved sanitation services, of which # of female	46,593.00	26,257.00	56.35%

- 21. **Summary of the financial and economic analysis.** A revision of the economic analysis conducted within the context of the project restructuring<sup>6</sup> shows that the investments per capita and the incremental O&M costs, are in some cases underestimating or overestimating the number beneficiaries; modifications in O&M costs and beneficiaries are some of

<sup>6</sup> The restructuring process has called for an update of the economic analysis of the project; the revision of the economic analysis which has used the same methodology as the analysis conducted for the project design and included in the PAD, has relied on documentation registered for each subproject (8) available in the Banco de Inversiones. This documentation contains economic evaluations under the Cost-Benefit methodology for water projects (with the exception of Water Cusco Production) and Cost-Effectiveness (CE) for the rest. The update kept the same methodology used by the team at the PAD. Costs and benefits were expressed in constant prices. NPVs were estimated with a 8% discount rate which is the rate for Perú. All evaluations have a project lifetime of 20 years. It is important to highlight that the evaluation presented here will not coincide with the evaluations registered in the Banco de Inversiones. The Bank team analyzed each subproject profile formulation and evaluation documentation in-depth, and found significant defects all of which were amended. Evaluation parameters like NPVs, ERR, CE ratios shown in the tables come from the assessment of each of the amended subprojects.



the adjustments made in the restructuring. After these adjustments, the investment per inhabitant (considered at the end of year 2020) is: USD182 for all water expansion and improvement subprojects, USD253 for the Cusco water production subproject, and USD270 for the Cusco sewerage subproject. When also considering the health benefits that the subprojects bring to the beneficiaries (those determined in the PAD are adjusted by the number of beneficiaries), the benefits of 7 water and sewerage subprojects are equivalent to 3.7 times their costs, and the net benefits are USD 228 million (the Cusco water production subproject is not considered here, as its social cost is USD 62.8 million and has a cost-effectiveness ratio per inhabitant of USD 325). See annex 4 for more information.

22. When not considering the health benefits, the water subprojects on average exceed an Economic Rate of Return (ERR) of 8% and the sewerage subprojects have acceptable Cost-Effectiveness (CE). Only one project has an ERR just below 8% (Chuquibamba Water 7.9%). Financially, in all cases, it is verified that the rate is higher than the average incremental costs of O&M but lower than the total average incremental costs in SEDAPAR and higher in SEDACUSCO, although the Cusco projects are the least well-founded. According to Peruvian regulations, sewerage projects must not exceed a certain ICC,<sup>7</sup> all sewerage projects meet this condition. See annex 4 for more information.
23. **Changes in Safeguards issues.** Taking into account that the restructuring of the project i) does not include the addition of new projects or new activities that could generate impacts not foreseen in the ESMF, but rather considers a reduction in subprojects under component 2, ii) does not require modification of the environmental team responsible for the supervision carried out by the PIU on environmental and occupational health and safety issues, iii) does not require changes in the procedures for environmental monitoring and supervision of the works, iv) does not require modification of the environmental safeguards activated for the project; therefore, it is considered that the existing ESMF does not need substantial modifications. However, the ESMF will need to be updated to include the new project scope considering that: i) only 8 of the 19 subprojects will be completed; 2) the detailed engineering and the Environmental and Social (E&S) documentation to comply with local regulations and the E&S World Bank policies will be prepared for 8 projects; 3) 3 subprojects will not continue under the portfolio of this Operation.
24. Regarding the social safeguards the PIU has prepared a Resettlement Policy Framework (RPF) and an Indigenous Peoples Planning Framework (IPPF) for the whole project, which due to change in the project scope, should be updated, like the ESMF. Additionally, the PIU is preparing an Abbreviated Resettlement Plan (ARP) for Caravelí, and for the N-31 and N-39 Subprojects. IPPs have not yet been required.

---

<sup>7</sup> ICC refers to the amount of the investment at market prices divided by the average inhabitants of years 1 and 20. This value is different depending on the region.



**III. SUMMARY OF CHANGES**

	Changed	Not Changed
Results Framework	✓	
Components and Cost	✓	
Loan Closing Date(s)	✓	
Disbursements Arrangements	✓	
Disbursement Estimates	✓	
Implementation Schedule	✓	
Economic and Financial Analysis	✓	
Implementing Agency		✓
DDO Status		✓
Project's Development Objectives		✓
PBCs		✓
Cancellations Proposed		✓
Reallocation between Disbursement Categories		✓
Overall Risk Rating		✓
Safeguard Policies Triggered		✓
EA category		✓
Legal Covenants		✓
Institutional Arrangements		✓
Financial Management		✓
Procurement		✓
Other Change(s)		✓
Technical Analysis		✓
Social Analysis		✓
Environmental Analysis		✓

**IV. DETAILED CHANGE(S)**



**COMPONENTS**

Current Component Name	Current Cost (US\$M)	Action	Proposed Component Name	Proposed Cost (US\$M)
Improving Governance of Water Supply and Sanitation Service Providers	38.73	Revised	Improving Governance of Water Supply and Sanitation Service Providers	35.82
Improving and Expanding Water Supply and Sanitation Services in the Participating EPS	151.52	No Change	Improving and Expanding Water Supply and Sanitation Services in the Participating EPS	151.52
General Project Administration	9.75	Revised	General Project Administration	12.66
<b>TOTAL</b>	<b>200.00</b>			<b>200.00</b>

**LOAN CLOSING DATE(S)**

Ln/Cr/Tf	Status	Original Closing	Revised Closing(s)	Proposed Closing	Proposed Deadline for Withdrawal Applications
IBRD-88990	Effective	31-Dec-2023		31-Aug-2025	31-Dec-2025

**DISBURSEMENT ESTIMATES**

Change in Disbursement Estimates  
Yes

Year	Current	Proposed
2018	0.00	0.00
2019	0.00	0.00
2020	10,832,284.00	80,966.00
2021	21,209,164.00	6,586,799.00
2022	18,912,886.00	3,724,053.16
2023	13,076,730.00	6,286,015.84
2024	5,968,936.00	30,745,717.00



## The World Bank

Modernization of Water Supply and Sanitation Services (P157043)

2025	0.00	21,343,216.00
2026	0.00	1,233,233.00



**Results framework**

**COUNTRY: Peru**

**Modernization of Water Supply and Sanitation Services**

**Project Development Objectives(s)**

The proposed Development Objective is to increase access to, and quality of, water and sanitation services in selected areas, and develop the Borrower’s sectoral institutions and participating EPS management capacity to provide efficient water and sanitation services.

**Project Development Objective Indicators by Objectives/ Outcomes**

Indicator Name	PBC	Baseline	End Target
<b>Improve access to water and sanitation services in selected areas (Action: This Objective has been Revised)</b>			
People provided with access to improved water sources (CRI, Number)		0.00	65,586.00
<b>Action: This indicator has been Revised</b>			
Of which female (Number)		0.00	32,859.00
<b>Action: This indicator has been Revised</b>			
People provided with access to improved sanitation services (CRI, Number)		0.00	52,409.00
<b>Action: This indicator has been Revised</b>			
Of which female (Number)		0.00	26,257.00
<b>Action: This indicator has been Revised</b>			
<b>Increase quality of water services (Action: This Objective is New)</b>			
Number of participating EPSs that meet their water continuity goals (Number)		0.00	6.00
<b>Action: This indicator is New</b>			



Indicator Name	PBC	Baseline	End Target
Continuity increased in SEDAPAR (Hours)		23.13	23.27
<b>Action: This indicator is New</b>		<b>Rationale: (Hours per day)</b>	
Continuity increased in SEDACUSCO (Hours)		20.01	21.37
<b>Action: This indicator is New</b>			
Continuity increased in EMAPACOP (Hours)		17.72	19.34
<b>Action: This indicator is New</b>		<b>Rationale: (Hours per day)</b>	
Continuity increased in EPS Barranca (Hours)		15.68	19.99
<b>Action: This indicator is New</b>		<b>Rationale: (hours per day)</b>	
Continuity increased in EMAPA Huaral (Hours)		10.68	16.33
<b>Action: This indicator is New</b>		<b>Rationale: (hours per day)</b>	
Continuity increased in EPS Aguas de Lima Norte (Hours)		13.61	14.31
<b>Action: This indicator is New</b>		<b>Rationale: (hours per day)</b>	
<b>Increase the quality of sanitation services (Action: This Objective is New)</b>			



Indicator Name	PBC	Baseline	End Target
Number of participating EPSs that meet their sewer line blockages goals (Number)		0.00	6.00
<i>Action: This indicator is New</i>			
Number of sewer line blockages reduced in SEDAPAR (Number)		0.00	2.41
<i>Action: This indicator is New</i>		<i>Rationale: (number of blockages per kilometer)</i>	
Number of sewer line blockages reduced in SEDACUSCO (Number)		0.00	3.11
<i>Action: This indicator is New</i>		<i>Rationale: (number of blockages per kilometer)</i>	
Number of sewer line blockages reduced in EMAPACOP (Number)		0.00	2.89
<i>Action: This indicator is New</i>		<i>Rationale: (number of blockages per kilometer)</i>	
Number of sewer line blockages reduced in EPS Barranca (Number)		0.00	2.51
<i>Action: This indicator is New</i>		<i>Rationale: (number of sewer blockages per kilometer)</i>	
Number of sewer line blockages reduced in EMAPA Huaral (Number)		0.00	8.71





Indicator Name	PBC	Baseline	End Target
<b>Action: This indicator is New</b>	<b>Rationale:</b> <i>(number of sewer line blockages per kilometer)</i>		
Number of sewer line blockages reduced in EPS Aguas de Lima Norte (Number)		0.00	15.73
<b>Action: This indicator is New</b>	<b>Rationale:</b> <i>(number of sewer line blockages per kilometer)</i>		
<b>Develop the Borrower's sectoral institutions' management capacity to provide efficient WSS services (Action: This Objective is New)</b>			
Number of instruments validated that improve the management and governance capacity of SUNASS, PNSU, MVCS, and OTASS to increase WSS service efficiency (Number)		0.00	6.00
<b>Action: This indicator is New</b>			
<b>Develop the participating service providers' management capacity to provide efficient WSS services (Action: This Objective is New)</b>			
Nonrevenue water reduction achieved in selected utilities (Percentage)		0.00	6.00
<b>Action: This indicator has been Revised</b>			
Nonrevenue water reduction achieved in SEDAPAR (Percentage)		34.13	27.00
<b>Action: This indicator has been Revised</b>			
Nonrevenue water reduction achieved in SEDACUSCO (Percentage)		37.81	32.00
<b>Action: This indicator has been Revised</b>			
Nonrevenue water reduction achieved in EMAPACOP (Percentage)		45.98	35.00



Indicator Name	PBC	Baseline	End Target
<b>Action: This indicator has been Revised</b>			
Nonrevenue water reduction achieved in SEMAPA Barranca (Percentage)		60.04	40.00
<b>Action: This indicator has been Revised</b>			
Nonrevenue water reduction achieved in EMAPA Huaral (Percentage)		38.60	33.02
<b>Action: This indicator has been Revised</b>			
Nonrevenue water reduction achieved in EPS Aguas de Lima Norte (Percentage)		34.02	29.00
<b>Action: This indicator has been Revised</b>			
<b>Develop Borrower's sectoral institutions and EPS's mngmt capacity to provide efficient WSS services (Action: This Objective has been Marked for Deletion)</b>			
C. Working ratio reduced in selected utilities (Number)		0.00	6.00
<b>Action: This indicator has been Marked for Deletion</b>			
C.1. Working ratio reduced in SEDAPAR (Number)		77.49	62.00
<b>Action: This indicator has been Marked for Deletion</b>			
C.2. Working ratio reduced in SEDACUSCO (Number)		75.09	65.00
<b>Action: This indicator has been Marked for Deletion</b>			
C.3. Working ratio reduced in EMAPACOP (Number)		83.13	65.00
<b>Action: This indicator has been Marked for Deletion</b>			
C.4. Working ratio reduced in SEMAPA Barranca (Number)		127.16	75.00
<b>Action: This indicator has been Marked for Deletion</b>			
C.5. Working ratio reduced in EMAPA Huaral (Number)		103.89	75.00



Indicator Name	PBC	Baseline	End Target
<i>Action: This indicator has been Marked for Deletion</i>			
C.6. Working ratio reduced in EMAPA Huacho (Number)		96.09	70.00
<i>Action: This indicator has been Marked for Deletion</i>			
E. Percentage of population served by service provider regulated by SUNASS (Percentage)		63.00	80.00
<i>Action: This indicator has been Marked for Deletion</i>			

### Intermediate Results Indicators by Components

Indicator Name	PBC	Baseline	End Target
<b>Improving Governance of Water Supply and Sanitation Service Providers</b> ( <i>Action: This Component has been Revised</i> )			
3. Development and integration of a performance-based mechanism in utilities' planning tools (Number)		0.00	6.00
<i>Action: This indicator has been Marked for Deletion</i>			
4. Comprehensive budgeting, planning and monitoring MIS established and operationalized (Yes/No)		No	Yes
<i>Action: This indicator has been Marked for Deletion</i>			
Number of utilities (EPS) supported by the Project that use gender-sensitive messages in their sanitary education activities (Number)		0.00	6.00
<i>Action: This indicator has been Revised</i>			
SUNASS: Information management system for coordination and regulation of sanitation service providers developed (Yes/No)		No	Yes



Indicator Name	PBC	Baseline	End Target
<b>Action: This indicator is New</b>			
MVCS: Number of policy management instruments (regulatory, administrative, and technical) developed for the WSS sector (Number)		0.00	3.00
<b>Action: This indicator is New</b>			
PNSU: Number of processes, platforms and instruments to improve the management of WSS investment projects developed (Number)		0.00	3.00
<b>Action: This indicator is New</b>			
OTASS: Norms developed for service providers' comprehensive salary systems, performance evaluation systems, career development plans and incentive plans for voluntary retirement (Number)		0.00	3.00
<b>Action: This indicator is New</b>			
Numbers of participating EPSs with updated optimized master plans (Number)		0.00	6.00
<b>Action: This indicator is New</b>			
Number of participating EPSs with an Integrated Management System implemented (Number)		0.00	6.00
<b>Action: This indicator is New</b>			
Number of participating EPSs with commercial and technical cadasters migrated to GIS platform (Number)		0.00	6.00
<b>Action: This indicator is New</b>			
Number of participating EPSs with a technical assistance plan adapted to improve their business management implemented (Number)		0.00	6.00



Indicator Name	PBC	Baseline	End Target
<b>Action: This indicator is New</b>			
<b>Improving and Expanding Water Supply and Sanitation Services in the participating EPS (Action: This Component has been Revised)</b>			
New piped household water connections that are resulting from the Project intervention (Number)		0.00	15,460.00
<b>Action: This indicator has been Revised</b>			
New household sewerage connections that are resulting from the Project intervention (Number)		0.00	13,460.00
<b>Action: This indicator has been Revised</b>			
Piped household water connections that are benefiting from rehabilitation works undertaken by the Project (Number)		0.00	1,601.00
<b>Action: This indicator has been Revised</b>			
Household sewerage connections that are benefiting from rehabilitation works undertaken by the Project (Number)		0.00	797.00
<b>Action: This indicator has been Revised</b>			
Customer satisfaction increased in selected utilities (Number)		0.00	6.00
<b>Action: This indicator has been Revised</b>			
Customer satisfaction in SEDAPAR (Number)		68.00	85.00
<b>Action: This indicator has been Revised</b>			
Customer satisfaction in SEDACUSCO (Number)		78.00	85.00
<b>Action: This indicator has been Revised</b>			
Customer satisfaction in EMAPACOP (Number)		66.00	75.00
<b>Action: This indicator has been Revised</b>			
Customer satisfaction in SEMAPA BARRANCA (Number)		64.00	75.00



Indicator Name	PBC	Baseline	End Target
<b>Action: This indicator has been Revised</b>			
Customer satisfaction in EMAPA HUARAL (Number)		67.00	75.00
<b>Action: This indicator has been Revised</b>			
Customer satisfaction in EPS Aguas de Lima Norte (Number)		61.00	75.00
<b>Action: This indicator has been Revised</b>			
7. Operating margin increased in selected utilities. (Percentage)		0.00	5.00
<b>Action: This indicator has been Marked for Deletion</b>			
7.1 Operating margin reduced in SEDAPAR (Percentage)		2.80	10.00
<b>Action: This indicator has been Marked for Deletion</b>			
7.2 Operating margin reduced in SEDACUSCO (Percentage)		16.50	21.00
<b>Action: This indicator has been Marked for Deletion</b>			
7.3 Operating margin reduced in EMAPACOP (Percentage)		0.00	8.00
<b>Action: This indicator has been Marked for Deletion</b>			
7.4 Operating margin reduced in SEMAPA BARRANCA (Percentage)		4.40	10.00
<b>Action: This indicator has been Marked for Deletion</b>			
7.5 Operating margin reduced in EMAPA Huaral (Percentage)		0.60	8.00
<b>Action: This indicator has been Marked for Deletion</b>			
7.6 Operating margin reduced in EMAPA Huacho (Percentage)		5.70	12.00
<b>Action: This indicator has been Marked for Deletion</b>			
8. Return on Assets (ROA) increased in selected utilities (Percentage)		0.00	3.00



Indicator Name	PBC	Baseline	End Target
<i>Action: This indicator has been Marked for Deletion</i>			
8.1 ROA increased in SEDAPAR (Percentage)		1.30	3.00
<i>Action: This indicator has been Marked for Deletion</i>			
8.2 ROA increased in SEDACUSCO (Percentage)		2.20	7.00
<i>Action: This indicator has been Marked for Deletion</i>			
8.3 ROA increased in EMAPACOP (Percentage)		0.00	3.00
<i>Action: This indicator has been Marked for Deletion</i>			
8.4 ROA increased in SEMAPA Barranca (Percentage)		0.20	3.00
<i>Action: This indicator has been Marked for Deletion</i>			
8.5 ROA increased in EMAPA Huaral (Percentage)		0.00	3.00
<i>Action: This indicator has been Marked for Deletion</i>			
8.6 ROA increased in EMAPA Huacho (Percentage)		0.60	4.00
<i>Action: This indicator has been Marked for Deletion</i>			
9. Return on Equity (ROE) increased in selected utilities. (Percentage)		0.00	2.00
<i>Action: This indicator has been Marked for Deletion</i>			
9.1 ROE increased in SEDAPAR (Percentage)		1.60	4.00
<i>Action: This indicator has been Marked for Deletion</i>			
9.2 ROE increased in SEDACUSCO (Percentage)		7.10	8.00
<i>Action: This indicator has been Marked for Deletion</i>			
9.3 ROE increased in EMAPACOP (Percentage)		0.10	4.00



Indicator Name	PBC	Baseline	End Target
<i>Action: This indicator has been Marked for Deletion</i>			
9.4 ROE increased in SEMAPA Barranca (Percentage)		-2.70	2.00
<i>Action: This indicator has been Marked for Deletion</i>			
9.5 ROE increased in EMAPA Huaral (Percentage)		0.00	4.00
<i>Action: This indicator has been Marked for Deletion</i>			
9.6 ROE increased in EMAPA Huacho (Percentage)		0.90	5.00
<i>Action: This indicator has been Marked for Deletion</i>			
10. Metering increased in selected utilities (Percentage)		0.00	5.00
<i>Action: This indicator has been Marked for Deletion</i>			
10.1 Metering increased in SEDAPAR (Percentage)		80.00	90.00
<i>Action: This indicator has been Marked for Deletion</i>			
10.2 Metering increased in SEDACUSCO (Percentage)		89.00	94.00
<i>Action: This indicator has been Marked for Deletion</i>			
10.3 Metering increased in SEMAPA Barranca (Percentage)		15.00	70.00
<i>Action: This indicator has been Marked for Deletion</i>			
10.4 Metering increased in EMAPA Huaral (Percentage)		26.00	70.00
<i>Action: This indicator has been Marked for Deletion</i>			
10.5 Metering increased in EMAPA Huacho (Percentage)		80.00	90.00
<i>Action: This indicator has been Marked for Deletion</i>			
Kilometers of the new drinking water network built in the Project area (Kilometers)		0.00	177.50





Indicator Name	PBC	Baseline	End Target
<b>Action: This indicator is New</b>			
Increase in the volume of potable water storage in the Project area (Cubic Meter(m3))		0.00	13,750.00
<b>Action: This indicator is New</b>			
Number of micrometers installed in the Project area (Number)		0.00	15,460.00
<b>Action: This indicator is New</b>			
Kilometers of new sewerage network built in the Project area (Kilometers)		0.00	150.30
<b>Action: This indicator is New</b>			
Kilometers of rehabilitated water network in the Project area (Kilometers)		0.00	21.20
<b>Action: This indicator is New</b>			
Kilometers of sewerage network rehabilitated in the Project area (Kilometers)		0.00	15.60
<b>Action: This indicator is New</b>			
Volume of treated wastewater (Cubic Meter(m3))		70,020,907.00	80,637,679.00
<b>Action: This indicator is New</b>			



Annex 1. Overview of the status per component.

Project components	IBRD Financing (US\$ m)	IBRD Disbursed (US\$ m)	Progress as of April 2022
<p><b>Component 1 – Improving Governance of Water Supply and Sanitation Service Providers</b></p> <p>It aims to contribute to improving the efficiency of the sector by financing activities that will support national-level sector entities and the efficiency of the six selected EPSs. It consists of 20 consultancies.</p>	16.27	1.04	<p>6 consultancies are under implementation, 13 consultancies have defined the scope and strategy of the activity and are in or near to start the selection process, and 1 consultancy for SUNASS has been cancelled as SUNASS has already implemented this with their own budget.</p> <p>Seven activities have been identified as “key”, i.e., they are essential for improving overall sector governance and strategic to the project in terms of their contribution towards achieving the PDO. These seven key activities represent 80% of the total budget for component 1.</p> <p>An analysis of the implementation schedule has recently been carried out within the context of the project Mid-Term Review process (February 2022) and shows that only 9 out of the total 19 activities (i.e. after deleting one activity relating to SUNASS as described above) would be completed before the project end date, and the remaining 10 activities are expected to be finalized by August 2025.</p> <p>Significant progress has been made in designing these activities with strong participation and ownership of participating national agencies and EPSs. All these activities are expected to be contracted by December 2022.</p>
<p><b>Component 2 – Improving and Expanding Water Supply and Sanitation Services in the Participating EPS.</b></p> <p>This component finances the rehabilitation and expansion of WSS infrastructure of participating EPSs. 20 subprojects were originally included under Component 2.</p>	53.03	6.16	<p>3 subprojects are currently under construction, 1 subproject is currently tendering the contractor for the works, 4 subprojects are developing their DEDs, and the remaining 8 subprojects are in earlier phases (either developing the ToRs to hire the consultant to develop the DEDs, or in the selection process of the consultant to develop the DED or pre-investment assessment); 3 projects have been deleted from the project portfolio as will be described in section II of the RP ‘Description of Proposed Changes’.</p> <p>An analysis of the implementation schedule of this component shows that today, none of the infrastructure works would be completed before the project end date. Two important infrastructure works currently ongoing are those relating to N-31 and N-39 infrastructure works in Cerro Colorado, Arequipa. Potential risks have been identified in relation to the noncompliance of some technical, financial, and environmental and social safeguard matters, for which remedial actions are necessary. The PIU-OTASS and FU-PNSU are working closely and swiftly with the contractor to implement a series of measures and propose potential adjustments to the contract to mitigate the risk of such breaches in the future.</p>
<p><b>Component 3 – General Project Administration</b></p>	0.70	0.20	<p>Over the past few months, PIU-OTASS and FU-PNSU have been able to fill various of the key missing positions, and now all project teams in the PIU and FU are complete. Regarding FM, a</p>



# The World Bank

Modernization of Water Supply and Sanitation Services (P157043)

---

<p>This component supports the management and monitoring of activities associated with project implementation, including procurement and financial management (FM) activities, the environmental and social safeguards monitoring, monitoring and evaluation (M&amp;E), and final project evaluation.</p>			<p>contract has been signed with the SOA Espinoza y Asociados firm, tasked to carry out the audit of the program for the rest of the project life.</p>
---	--	--	--



**Annex 2. Overview of the changes to Component 2 under the Project Restructuring**

Changes to the portfolio of Component 2		
A.	Maintained (to be fully completed within new project closing date)	Status
1	Sedacusco – Margen derecha Huatanay	Preparation of DED in process
2	Sedacusco – Redes de agua potable	Preparation of DED in process
3	Sedacusco – Redes de alcantarillado	Preparation of DED in process
4	Sedacusco – Produccion de agua	Preparation of DED in process
5	Sedapar – Cerro Colorado N-31	Works in process
6	Sedapar – Cerro Colorado N-39	Works in process
7	Sedapar –Caraveli	Works in process
8	Sedapar – Chuquibamba	Tendering of contractor is ongoing
B.	Designs (completed only till Detailed Engineering Designs-DEDS)	Status
1	Sedapar - SCADA Arequipa	Selection process of consultant to develop the DED is ongoing
2	Sedacusco - SCADA Cusco	Selection process of consultant to develop the DED is ongoing
3	EPS Aguas Lima Norte – Huacho	ToRs to hire the consultant to develop the DED under development
4	EPS Aguas Lima Norte – Vegueta	ToRs to hire the consultant to develop the DED under development
5	EPS Aguas Lima Norte – Sayan	ToRs to hire the consultant to develop the DED under development
6	EPS Barranca – Barranca	Selection process of consultant to develop the pre-investment assessment is ongoing
7	EPS Barranca – Supe	Selection process of consultant to develop the pre-investment assessment is ongoing
8	EPS Huaral – Huaral	Selection process of consultant to develop the pre-investment assessment is ongoing
C.	Deleted from project portfolio (*)	
1	La Joya project in Arequipa (SEDAPAR)	Deleted from project portfolio
2	The Kor Kor project in Cusco (SEDACUSCO)	Deleted from project portfolio
3	SCADA for EPS Aguas de Lima Norte	Deleted from project portfolio

(\*) Notes: The La Joya project in Arequipa (SEDAPAR) has been withdrawn as the agreement made in the previous mission (November 2021) to obtain its legal physical sanitation has not been achieved within the agreed timeframe. The Kor Kor project in Cusco (SEDACUSCO) was



## **The World Bank**

Modernization of Water Supply and Sanitation Services (P157043)

---

closed on June 19, 2020 and withdrawn from the project as SEDACUSCO did not have the availability of the land where the springs of the Kor Kor system are located, springs located in the jurisdiction of the communities of Chinchero, Cachimayo and Poroy who also demand the use of springs. The SCADA for EPS Aguas de Lima Norte requires level of detail from investments (Huacho, Vegueta, Sayan) currently will not have detailed engineering designs, thus period of project extension will not allow to complete this SCADA project within time.



**Annex 3. Changes in the Results Framework (RF), including addition and deletion of indicators.**

The Project’s PDO has been broken down into five key outcomes: (PDO1) Increase access to WSS services; (PDO2) Increase quality of water service; (PDO3) Increase quality of sanitation service; (PDO4) Develop management capacity of sectoral institutions to increase efficiency of WSS services; and (PDO5) Develop management capacity of participating service providers to increase efficiency of WSS services.

The original design did not have an associated PDO-indicator to measure the increased quality of WSS services, and as such, the restructuring includes two new PDO-level indicators (increase in water service continuity and decrease in sewer line blockages) to measure each of these aspects. Although the original PDO indicator for PDO4, percentage of population served by service providers regulated by SUNASS, has already been achieved, it does not reflect the results of the Project investments. As a result, the Restructuring proposes dropping this indicator and adding a composite indicator, ‘Number of instruments validated that improve the management and governance capacity of SUNASS, PNSU, MVCS and OTASS to increase WSS service efficiency’, to measure the Project’s wider impact on sector institutions’ management capacity. Finally, under PDO5, the restructuring proposes dropping the working ratio indicator given the disconnect between Project investments and the ratio as well as the large number of externalities outside of the Project’s control that can impact this indicator. The Project maintains the original NRW reduction indicator to measure achievement of PDO5. These changes are summarized in the table below.

**Changes in the Results Framework (RF): Project Development Objective Indicators by Objectives/ Outcomes**

Original	Revised	New	Deleted
<b>PDO 1. Improve access to water and sanitation services in selected areas</b>			
<ul style="list-style-type: none"> <li>• People provided with access to improved water sources and improved sanitation services, of which # of female</li> </ul>	Same indicators, changes in end target <ul style="list-style-type: none"> <li>• People provided with access to improved water sources and improved sanitation services, of which # of female</li> </ul>		
<b>Increase quality of water and sanitation services (PDO has been split in two)</b>			
		<b>New PDO 2. Increase quality of water service</b> <ul style="list-style-type: none"> <li>• Number of participating EPSS that meet their water continuity goals</li> </ul>	
		<b>New PDO 3. Increase quality of sanitation service</b> <ul style="list-style-type: none"> <li>• Number of participating EPSS that meet their sewer line blockages goals</li> </ul>	
<b>Develop Borrower’s sectoral institutions and EPS's management capacity to provide efficient WSS services (PDO has been split in two)</b>			
<ul style="list-style-type: none"> <li>• Percentage of population served by service provider regulated by SUNASS</li> <li>• Nonrevenue water reduction achieved in selected utilities</li> <li>• Working ratio reduced in selected</li> </ul>		<b>New PDO 4. Develop management capacity of sectoral institutions to increase efficiency of WSS services</b> <ul style="list-style-type: none"> <li>• Number of instruments validated that improve the management and governance capacity of SUNASS, PNSU, MVCS, and</li> </ul>	<ul style="list-style-type: none"> <li>• Percentage of population served by service provider regulated by SUNASS</li> <li>• Working ratio reduced in selected utilities</li> </ul>



<ul style="list-style-type: none"> <li>utilities</li> <li>Percentage of Nonrevenue water reduction achieved in selected utilities</li> </ul>		<p>OTASS to increase WSS service efficiency</p> <p><b>New PDO 5. Develop management capacity of participating service providers to increase efficiency of WSS services</b></p> <p><i>Note: the existing indicator 'Percentage of Nonrevenue water reduction achieved in selected utilities' will be used to measure this new PDO.</i></p>	
--	--	---	--

The Restructuring also proposes adjustments to the intermediate indicators as several of the original intermediate indicators are not closely tied to Project investments, are sensitive to external impacts, and lean towards outcome indicators, making monitoring of progress difficult. The Restructuring proposes dropping these indicators (operating margin, ROA and ROE) and adjusting the metering increase in each EPS indicator to Number of micrometers installed in the Project area. These indicators (as well as the working ratio indicator), however, form part of each of the EPS' Project Participation Agreements, which include 17 performance indicators and establish targets for five, 10, 15 and 20-years after the launch of the Project. The loan contract includes these indicators as commitments between the PIU-OTASS and each of the participating EPSs, as their commitment to participate in the Modernization Project. As such, PIU-OTASS will continue to monitor and report on the EPS' achievement of these indicators during and after the close of the Project. The Loan Agreement establishes that it is PIU-OTASS' responsibility to ensure that the borrower meet these targets.

Two additional intermediate indicators (development and integration of a performance-based mechanism in utilities' planning tools and comprehensive budgeting, planning, and monitoring MIS established and operationalized) were not clearly defined in the original RF and were replaced with more specific indicators to capture the Project's advances on building management capacity. Finally, several additional intermediate indicators were added to enable the PDO to systematically track progress towards achievement of each of the Project's outcomes. All changes are summarized in the table below:

**Changes in the Results Framework (RF): Intermediate Results Indicators by Components**

Original	Revised	New	Deleted
<b>Improving Governance of Water Supply and Sanitation Service Providers</b>			
<ul style="list-style-type: none"> <li>Development and integration of a performance-based mechanism in utilities' planning tools</li> <li>Comprehensive budgeting, planning and monitoring MIS established and operationalized (Yes/No)</li> <li>Number of utilities (EPS) supported by the Project that use gender-sensitive</li> </ul>		<ul style="list-style-type: none"> <li>SUNASS: Information management system for coordination and regulation of sanitation service providers developed</li> <li>PNSU: Number of processes, platforms and instruments to improve the management of WSS investment projects developed</li> </ul>	<ul style="list-style-type: none"> <li>Development and integration of a performance-based mechanism in utilities' planning tools</li> <li>Comprehensive budgeting, planning and monitoring MIS established and operationalized (Yes/No)</li> </ul>



<p>messages in their sanitary education activities (<i>note: this indicator is marked as revised in the RF matrix as formatting edits were made to the title.</i>)</p>		<ul style="list-style-type: none"> <li>OTASS: Number of Norms developed for service providers' comprehensive salary systems, performance evaluation systems, career development plans and incentive plans for voluntary retirement</li> <li>Numbers of participating EPSs with updated optimized master plans</li> <li>Number of participating EPSs with an Integrated Management System implemented</li> <li>Number of participating EPSs with commercial and technical cadasters migrated to GIS platform</li> <li>Number of participating EPSs with a technical assistance plan adapted to improve their business management implemented</li> </ul>	
<p><b>Improving and Expanding Water Supply and Sanitation Services</b></p>			
<ul style="list-style-type: none"> <li>New piped household water connections and sewerage connections that are resulting from the Project intervention</li> <li>Piped household water connections and sewerage connections that are benefiting from rehabilitation works undertaken by the Project</li> <li>Customer satisfaction increased in selected utilities (<i>note: this indicator is marked as revised in the RF matrix as formatting edits were made to the title.</i>)</li> <li>Operating margin increased in selected utilities.</li> <li>Operating margin increased in selected utilities.</li> </ul>	<p>Same indicators, changes in end targets</p> <ul style="list-style-type: none"> <li>New piped household water connections and sewerage connections that are resulting from the Project intervention</li> <li>Piped household water connections and sewerage connections that are benefiting from rehabilitation works undertaken by the Project</li> </ul>	<ul style="list-style-type: none"> <li>Kilometers of the new drinking water network built in the Project area</li> <li>Kilometers of new sewerage network built in the Project area</li> <li>Kilometers of rehabilitated water network in the Project area</li> <li>Kilometers of rehabilitated water network in the Project area</li> <li>Increase in the volume of potable water storage in the Project area (Cubic Meter(m3))</li> <li>Volume of treated wastewater (Cubic Meter(m3))</li> </ul>	<ul style="list-style-type: none"> <li>Operating margin increased in selected utilities.</li> <li>Operating margin increased in selected utilities.</li> <li>Return on Equity (ROE) increased in selected utilities.</li> <li>Metering increased in selected utilities</li> </ul>





# The World Bank

Modernization of Water Supply and Sanitation Services (P157043)

---

<ul style="list-style-type: none"><li>• Return on Equity (ROE) increased in selected utilities.</li><li>• Metering increased in selected utilities</li></ul>		<ul style="list-style-type: none"><li>• Number of micrometers installed in the Project area</li></ul>	
--	--	---	--



**Annex 4. Update of the Economic & Financial Analysis as conducted in the Project Appraisal Document (PAD).**

Table - Benefit / Cost Relationship for Families (First part of Table 5.3. of the updated PAD)

Beneficiary	Economic	Social Health		Total	Project Cost in Component	Benefit-Cost Ratio
Family	Gross Benefit = 105.0 (1)	35.3 (Water) (2)	171.5 (Sewerage)	(1)+(2)+(3) = 311	83,7a	3.7
	Net Benefit = 60.0 (Water)		(3)			

The scope of this economic-social estimation is 7 subprojects from 2 utilities (the project will fund many more), and the time frame is 20 years for the economic assessment and 18 years for social/health evaluation. Note: a. Refers to the NPV of capital expenditure + O&M costs at social prices (Does not include costs of the Cusco Water Production Plant of USD 62.8 million).

Table - Summary Economic Analysis of the Projects

Sector/EPS	Investment	Population		ERR (1)	NPVS
	USD	Inicio	Final		USD (8%)
Water					
SEDAPAR	26.932.019	71.996	147.028	31,3%	45.803.587
Subtotal SEDACUSCO	9.293.916	27.003	51.492	57,2%	14.240.960
<b>Water before Production Cusco</b>				<b>37,5%</b>	<b>60.044.547</b>
				<b>CE (1)</b>	<b>Inv. MP/ Pop 20 (1)</b>
Cusco Water Production	69.936.616	110.828	276.371	325	253
SEDACUSCO	79.230.532	137.831	327.864		
<b>Water Total</b>	<b>106.162.551</b>	<b>209.827</b>	<b>474.891</b>		
Sewerage					
SEDAPAR	42.034.239	71.994	151.175	318	278
SEDACUSCO	3.430.627	12.593	17.288	214	198
<b>Sewerage</b>	<b>45.464.866</b>	<b>84.587</b>	<b>168.463</b>	<b>306</b>	<b>270</b>
<b>Water + Sewerage</b>	<b>151.627.417</b>	<b>294.414</b>	<b>643.354</b>		

(1) The total values of these columns correspond to weighted averages, CE: Effective cost = NPV of Total Cost at social price (20 years, 8% discount rate) divided by the average inhabitants of years 1 and 20 (methodology is applied regulations in force in Peru). Inv. MP / Pop 20 = Investment at market prices divided by the inhabitants in year 20.