



**ASIAN INFRASTRUCTURE  
INVESTMENT BANK**

PD000082-PAK  
September 26, 2019

---

**Project Document  
of the Asian Infrastructure Investment Bank**

**Sovereign-backed Financing**

**Islamic Republic of Pakistan  
Karachi Water and Sewerage Services Improvement Project**

## **Currency Equivalents**

(As at April 30, 2019)

Currency Unit – Pakistani Rupee (PKR)

PKR1.00 = USD 0.0070

USD1.00 = PKR 141.65

## **Borrower's Fiscal year**

July 1 – June 30

## **Abbreviations**

AED	Anti-Encroachment Drive
AIIB	Asian Infrastructure Investment Bank
CoC	Commitment of Cooperation
EFA	Economic and Financial Analysis
EMF	Environmental Management Framework
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
ESP	Environmental and Social Policy
ESS	Environmental and Social Standard
ETC	Et cetera
GAP	Gender Action Plan
GIS	Geographic Information System
GoP	Government of Pakistan
GoS	Government of Sindh
GRS	Grievance Redress Service
IA	Implementation Agency
IBRD	International Bank for Reconstruction and Development
ICB	International Competitive Bidding
IRR	Internal Rate of Return
KWSB	Karachi Water and Sewerage Board
KWSSI	Karachi Water and Sewerage Services Improvement
M&E	Monitoring and Evaluation
MGD	Million Gallons per Day
NCB	National Competitive Bidding
NGO	Non-Governmental Organization
NPV	Net Present Value
NRW	Non-Revenue Water
O&M	Operations and Maintenance
OP	Operational Policy
PIE	Project Implementing Entity
PIU	Project Implementation Unit
PPM	Project-affected People's Mechanism
PPP	Policy on Prohibited Practices
PPSD	Project Procurement Strategy of Development
PRRP	Project Risk Reducing Procedure

RAP	Resettlement Action Plan
RMF	Resettlement Management Framework
RWG	Reform Working Group
SBD	Standard Bidding Documents
SOP	Series of Projects
SMF	Social Management Framework
WASH	Water, Sanitation and Hygiene
WB	World Bank

## Contents

<b>1. SUMMARY SHEET</b> .....	<b>1</b>
<b>2. PROJECT DESCRIPTION</b> .....	<b>3</b>
A. Rationale.....	3
B. Project Objective and Expected Results .....	5
C. Description and Components.....	5
D. Cost and Financing Plan.....	9
E. Implementation Arrangements.....	9
<b>3. PROJECT ASSESSMENT</b> .....	<b>11</b>
A. Technical .....	11
B. Economic and Financial Analysis.....	12
C. Fiduciary and Governance.....	13
D. Environmental and Social .....	14
E. Project Risk Assessment and Mitigation Measures .....	19
Annex 1: Results Monitoring Framework .....	21
Annex 2: Economic and Financial Analysis .....	23
Annex 3: Project Investment Selection Criteria .....	29
Annex 4: Sovereign Credit Fact Sheet.....	32

**1. Summary Sheet**  
**Islamic Republic of Pakistan**  
**Karachi Water and Sewerage Services Improvement Project**

Project No.	000082
Borrower	Islamic Republic of Pakistan
Project Implementation Entity/ Implementation Agency	Provincial Government of Sindh (GoS) / Karachi Water and Sewerage Board (KWSB)
Sector Subsector	Water Water Supply and Wastewater Management
Project Objective	To improve access to safe water services in Karachi and increase KWSB's financial and operational performance.
Project Description	<p>The Project will support infrastructure rehabilitation, capacity building of KWSB, and improvements to the enabling environment for mobilizing private finance and enhancements in services delivery. Project activities are grouped in following three components:</p> <ol style="list-style-type: none"> <li>1. <b>Operational &amp; Enabling Environment Reform:</b> This component will build KWSB technical and managerial capacity and improve operational performance.</li> <li>2. <b>Infrastructure Investments:</b> This component will support investments in water and sewerage infrastructure, mostly rehabilitation of existing infrastructure. This component will also support measures to improve energy efficiency in KWSB's pumping stations and treatment plants.</li> <li>3. <b>Project Management and Studies:</b> This component will support project management costs including contract management; as well as the preparation of subsequent phases.</li> </ol>
Implementation Period	Start Date: October 2019 End Date: March 2025
Expected Loan Closing Date	June 2025
Cost and Financing Plan	<p>Project cost: USD 100 million</p> <p><u>Financing Plan:</u></p> <p>AiIB loan: USD 40 million</p> <p>IBRD loan: USD 40 million</p> <p>Govt of Sindh: USD 20 million</p>
Size and Terms of AiIB Loan	<p>USD 40 million.</p> <p>30-year term; level repayments, including a grace period of 5.5 years in accordance the Bank's standard terms for sovereign-backed variable spread loans.</p>
Co-financing (Size and Terms)	IBRD: USD 40 million.
Environmental	B

and Social Category	
Risk (Low/Medium/High)	High
Conditions for Effectiveness	The Co-financing Agreement has been executed
Key Covenants	<ul style="list-style-type: none"> <li>- The PIE shall maintain the Reform Working Group established to facilitate the implementation of the Component 1 of the Project (Project Agreement).</li> <li>- The PIE shall cause the PIU established within the KWSB to be maintained and expanded as and when needed for efficient implementation of the project (Project Agreement).</li> <li>- The PIE will furnish, no later than April 30 of each year, the annual work plan and budget for the following year of the implementation of the project except for the annual work plan and budget for the Project for the first year of the implementation which shall be furnished within one (1) month after the Effective Date. (Project Agreement).</li> <li>- Within one (1) month after the Effective Date, the PIE shall prepare, or cause KWSB to prepare and adopt a Project Operations Manual for implementation of the project (Project Agreement).</li> </ul>
Retroactive Financing (Loan % and dates)	Subject to compliance with WB's retroactive financing procedures, which are consistent with AIIB's Procurement Instructions on Advance Procurement and Retroactive Financing.
Policy Waivers Requested	N/A
Policy Assurance	The Vice President, Policy and Strategy confirms an overall assurance that the Bank is in compliance with the policies applicable to the Project.

President	Jin Liqun
Vice President, CIO	D.J. Pandian
Director General, IO	Supee Teravaninthorn
Manager, IO	Gregory Liu
Team Leader	Ghufran Shafi, Senior Investment Operations Specialist
Team Members	David Ginting, Young Professional, Julius Thaler, Senior Counsel, Mirza Nadia Bashnin, Young Professional, Omar Khalid, Social Development Consultant, Xiaowei Guo, Senior Procurement Specialist, Xiao Zhang, Project Assistant, Zhixi Zhu, Environment Specialist

## 2. Project Description

### A. Rationale

1. **Country Context.** Pakistan is the world's sixth most populous country with a population of 212 million people. The economy performed reasonably well from 2013 to 2018 with annual GDP growth averaging more than 5 percent during this time. However, the macroeconomic imbalances – as reflected by the current account and fiscal side deficits – are expected to slow down the growth rate significantly; from 5.5 percent in FY18 to a projected 3.3 percent in FY19. After the onset of another boom and bust cycle, a new IMF program is under discussion. Growth is expected to gradually recover as structural reforms take effect and macroeconomic conditions improve. Poverty in Pakistan has declined gradually from 64.3 percent in 2001 to 24.3 percent in 2015, but inequality persists.

2. Karachi, the capital of the province of Sindh, is the largest city and economic center of Pakistan. Relying on manufacturing, trade and services, Karachi is central in the national economy, contributing 15 percent to the country's GDP. The city's economy has steadily grown and per capita income is the highest in the country. Yet the development of city's infrastructure, institutions and the provision of basic urban services have failed to keep up with the rapid growth of the city. While Karachi has the potential to be the engine of economic growth for the country given its size, location, and industrial and human capital, its livability and competitiveness have declined in recent decades. Large number of its residents live in informal settlements (*katchi abadis*), only half of the city's water demands are met, and public transportation and services need major improvements.

3. The World Bank's (WB) Karachi City Diagnostic and Transformation Strategy<sup>1</sup> identifies infrastructure gaps of over \$9 billion in public infrastructure. Institutional strengthening and investments aiming to enhance livability, competitiveness and sustainability have emerged as priorities for Karachi. Recognizing the needs, the Government of Sindh (GoS) and Government of Pakistan (GoP), through the support of International Financial Institutions, are investing to upgrade key infrastructure services in the city including water supply and sewerage, urban management and competitiveness, and urban mobility and transport. WB's Maximizing Financing for Development approach is providing guiding principles to leverage commercial and other sources of finances and solutions.

4. **Sectoral and Institutional Context.** Karachi is continuously growing and steadily spawning the development of high-density apartments and businesses. As is typical of other megacities in developing countries around the world, the development of basic urban infrastructure in Karachi has failed to keep up with this rapid growth. This is reflected in the operations of city's water and sewerage utility, Karachi Water and Sewerage Board (KWSB), which is no longer sufficiently equipped and empowered to deal with the challenging realities on the ground. As a result, Karachi is experiencing a worsening water and sewerage situation that stems largely from governance and institutional shortfalls.

---

<sup>1</sup> World Bank, Transforming Karachi into a Livable and Competitive Megacity – A City Diagnostic and Transformation Strategy, Washington DC, 2018

5. KWSB provides 650 Million Gallons per Day (MGD) of water to Karachi which is estimated to be only half of the total needs. Financing is typically ad-hoc and aimed at addressing immediate needs rather than achieving long-term goals. Due to inadequate water availability, rationing is widespread, and leakages and pilferages are common. Non-Revenue Water (NRW) from physical losses is estimated to be more than half of total supplied water. A new project to augment the water supply is currently under implementation which, upon completion, will provide an additional 260 MGD of water. But there is a need to integrate the additional capacity with the existing network; introduce hydraulic and energy efficiencies in the system; and ensure that the water that the city receives has been adequately treated for potable use. The city has limited access to integrated sewerage services. The existing sewage treatment plants have fallen into disrepair and not working. As a result, an estimated 475 MGD of sewage is discharged into Arabian sea untreated.

6. KWSB was established in 1981 and operated under a complex, and often suboptimal, institutional framework. After going through a series of institutional evolution, the utility was placed under the management of the GoS by the enforcement of KWSB Act 1996. The Act provides the legal framework, responsibility and constitution of a Board of Directors, financial guidelines and delegation of powers. The present gaps in services delivery result from inadequate operational performance, historical under-investment and a weak enabling environment which is neither conducive to efficient utility operations, nor supportive to private sector participation. However, GoS and KWSB are committed to reforms and have already initiated measures to improve the performance of the utility. This includes closing all unlicensed water hydrants that were illegally extracting water from the KWSB's system and profiting from sales of pilfered water; metering and outsourcing of selected hydrants; and, reforms in financial and customer management, including the creation of NRW cell with dedicated staff to reduce water thefts and leakages. Because of these measures, revenue collection increased by 32 percent from FY16 to FY18 without any tariff revision, which in turn enabled KWSB to increase expenditures for urgently needed Operations and Maintenance (O&M).

7. **Strategic fit for AIIB.** The project has a strong relevance with the Bank's thematic priority of Sustainable Infrastructure, and well aligned with the Bank's primary mandate, namely to promote social and economic development in Asia through investment in sustainable infrastructure. By investing in improvement of water supply and wastewater management in Karachi, the project will contribute to the goals outlined in the Bank's Articles of Agreement, namely (i) fostering sustainable economic development – by reducing NRW and upgrading the hydraulic infrastructure of Karachi, the project will reduce the unmet demand of water supply in the city, thereby improving its water security and living conditions. At the same time, by treating wastewater, the project will improve the city's urban environment, water bodies and coastal areas; and (ii) addressing development challenges through collaboration with other development institutions – the Bank will co-finance the Project with the WB, which has been working in Pakistan's water and urban sector for a longer period.

8. **Value addition by AIIB.** The Bank's value addition involves mobilizing sufficient financial resources to fill the investment gap in the project as well as contributing to the technical designs of its various components. The Bank's team reviewed the engineering designs and technical studies of the sewage collection, transport and treatment details and provided advice on the

optimization of the treatment technologies; separation of storm water from waste water; and devising institutional mechanism to separate solid waste from liquid waste for the long-term sustainability of the waste water treatment systems. The Bank team also reviewed the procurement strategy and procurement plan and assisted with finalization of these documents.

9. **Value addition to AIIB.** Besides investing in urban water and waste water infrastructure, the project aims at improving the governance of a large water utility and transform it into a successful corporate enterprise. Sectoral experience and research in urban services delivery provide ample evidence that institutional reforms must be accompanied with infrastructure investments for the sustainability of outcomes. In particular, service delivery improvements in any utility are more sustainability achieved by investing in infrastructure and accompanying institutional reforms. The Bank’s partnership and joint preparation and implementation of the project with the WB – which has a long and established history of working in public sector corporate reforms – provide the project team with the opportunity to gain valuable experience in governance, structural and corporate reforms, and measures. This will increase capacity of the Bank’s staff to address operational inefficiencies in public sector entities through sharing of experience and knowledge.

## B. Project Objective and Expected Results

10. **Project Objective.** The project Objective is to improve access to safe water services in Karachi and increase KWSB’s financial and operational performance.

11. **Expected Results.** Achievement of the Results will be measured through the following indicators: (i) persons provided with access to drinking water uncontaminated by fecal coliforms under the project (ii) coverage of operation and maintenance costs; and (iii) KWSB Act amended to increase KWSB’s financial and operational autonomy.

12. **Expected Beneficiaries.** The main beneficiaries are the residents of Karachi who will directly benefit from reliable and sustainable water supply and sanitation services and associated gains in health. Gender disaggregated data will be collected to measure female beneficiaries. Predictable and reliable water supply to industries and private businesses will also contribute to the economic prosperity of the city. Secondly, KWSB will benefit from enhanced distribution capacity and service quality as well as capacity building measures. The infrastructure improvements will translate into higher revenues through improved billing and collections and greater accountability to customers.

**Table 1: Expected Number of Beneficiaries**

Beneficiaries covered	2019	2020	2021	2022	2023	2024	2025
Number (of which female)	0 (0)	0 (0)	50,000 (25,000)	150,000 (75,000)	500,000 (250,000)	1,000,000 (500,000)	2,000,000 (1,000,000)

## C. Description and Components

13. **Overview of Karachi Water and Sewerage Services Improvement (KWSSI) Program.** KWSSI Program has been prepared by the Government as a phased program and agreed on a financing approach as a Series of Projects (SOP) with four overlapping phases over a 12 year-period with a total indicative cost of approximately USD1.6 billion. The SOP has been assessed

to be the most suitable financing modality for the complex, long-term challenge of addressing the serious water and sanitation service gaps in the rapidly growing megacity of Karachi. The SOP will provide strategic coherence and a long-term financial framework for a major infrastructure expansion and an ambitious utility reform program. This approach signals commitment of the government as well as financiers; provides continuity to large operations; and offers greater predictability for stakeholders to plan for the longer term.

14. To mainstream the reforms that the SOP supports, a Commitment of Cooperation (CoC) has been agreed between the GoS, KWSB and the WB. The CoC outlines a reform roadmap aligned with the objectives of the proposed SOP. The CoC vision is to transform KWSB by 2030 into a modern, efficient utility, accountable to its customers and capable of providing safely managed water and sanitation services, while recovering costs and promoting private sector participation. The CoC Roadmap outlines concrete reforms with specific timelines. The core institutional reform will be an amendment of the KWSB Act, including critical changes such as (i) the right of the management to recruit staff without interference from the KWSB Board of Directors or the Government; (ii) changing the service rules following principles of diversity, accountability and transparency; (iii) establishing tariff setting rules based on affordability and O&M cost recovery; and (vi) allowing the KWSB Board to approve tariffs proposed by the management based on the new tariff setting rules and public consultations. To operationalize and implement the CoC after project approval, a KWSB Reform Working Group (RWG) has been established by the Ministry of Local Government.

15. **KWSSI Program Phase-1 (the project)** will invest US\$100 million under all three pillars of the KWSSI Program including infrastructure investments, capacity building to raise operational performance and improvements to enabling environment. The project is strongly underpinned by the enabling environment reforms which will lay the foundation for future private operations in Karachi's water business by improving the business environment for private sector; improve urban conditions in the city by increasing reliability and predictability of water and sanitation services; and enhance public resource management through improved performance and increased transparency in selected institutions. The approach and activities under different project's components are summarized below:

16. **Component 1 – Operational & Enabling Environment Reform (US\$7 million).** To build capacity and raise operational performance, as well as to prepare and implement planned enabling environment reforms, this component will support an array of measures including:

i. *Revenue Management, Customer Care and Communication:* Improving customer service is a critical objective both to provide better, more accountable services to the population of Karachi and to increase revenue streams. Higher revenues will enable KWSB to spend more on O&M, thus directly contributing to more reliable services and increasing Karachi residents' resilience to climate-exacerbated water shortages. The initial focus of revenue enhancement measures will not be water tariffs, but lower hanging fruits. As most of KWSB revenues comes from bulk customers, generally either unmetered or inaccurately metered, improving metering and enforcing bulk customer bill collection will be the first priority. Similarly, domestic connections are unmetered and tariffs are based on largely outdated building descriptions. Updating KWSB customer data using a customer identification survey is expected to significantly increase revenue given the pace of urban densification. Additional revenue increases will come from

upgrades to the metering and billing systems, and from a reintroduction of pre-existing but suspended wastewater tariffs. The project will study the relationship between cost-recovery and KWSB tariff levels to guide the introduction of universal domestic metering with volumetric tariffs under future projects. Beyond revenue enhancement, KWSB will seek matching improvements in customer service by creating six new customer service centers. These will not only have staff from the complaints cell but also staff from the revenue and operational departments.

- ii. *NRW Reduction Program*: A key aspect of improving operational performance and financial sustainability will be the reduction of the presently very high levels of NRW. The project will develop a systematic NRW reduction program, including the design and establishment of district meter areas, improvements in leak detection and repair, and a program for maintenance of meters installed under the project. These measures, in combination with network rehabilitation works and commercial revenue enhancement, are expected to significantly reduce commercial and technical losses. Lower technical losses that increase supply to customers will make Karachi's citizens more resilient to extreme, climate-related water events.
- iii. *Institutional Reforms and Human Resources*: The project will provide technical assistance and training to KWSB on human resources management, including on gender equality and preventing sexual harassment at the workplace. HR systems (software and hardware) will be upgraded and technical assistance will be designed to train KWSB staff, in particular in program focus areas. Beyond such core HR support, the component will also finance the design and implementation of an institutional reform program, including the preparation of planned amendments to the KWSB Act, as well as to develop a modern Human Resources Strategy with an emphasis on diversity, accountability and transparency in recruiting and staff management.
- iv. *Social Sector Policy and Katchi Abadi Program*: The project will support the informal settlements unit of KWSB by financing infrastructure investments in at least three *katchi abadis* (informal settlements), and to ensure that lessons learnt are translated into a large-scale informal settlement program. This program will include resources to support KWSB cooperation with local Non-Governmental Organizations (NGOs) and community-based entrepreneurs, in particular women's organizations, to assist vulnerable customer groups in a targeted manner by learning from existing successful approaches (e.g. by conducting education and awareness campaigns for inhouse water storages, water contamination and water quality). Awareness campaigns will also target reduction of solid waste entering sewerage network, which cause blockages and eventually end up in rivers and sea.
- v. *Capacity Building - Asset Management, Financial Management, Industrial Discharge Monitoring*: The project will finance additional capacity building activities including the design and implementation of an asset management program and improvements to the existing Geographic Information System (GIS) of KWSB. The asset management program will contribute to sustainable utility operations within KWSB and climate change adaptation in Karachi. The 2012 KWSB Climate Adaptation Study had identified at least 11 climate related threats to specific KWSB assets, ranging from lower reservoir levels to exposure of pumping stations to storm surges. The asset management program will build on this adaptation study by assigning, prioritizing and initiating asset-specific adaptation measures such as the

provision of submersible pumps and back-up generators for assets exposed to high storm surge risks. As part of overall sewerage improvement program, the project will also support improved monitoring of industrial discharges into the sewerage and storm water system by drafting indirect discharge regulations into sewerage. Results of these works and survey of the condition of sewers will guide the rehabilitation designs of priority sewers.

17. **Component 2 – Infrastructure Investments (US\$77 million):** The infrastructure interventions of the project will be determined by a criteria that guides the selection of specific capital investment, while retaining the flexibility needed to align investments dynamically with the evolving reform agenda (see Section 3.A: Technical Assessment, for summary, and Annex 3: Project Investment Selection Criteria, for details). Moreover, selection, design and implementation of each subproject will be based on a set of screening criteria as part of a “Project Risk Reducing Procedure” (PRRP), a multi-level screening process that has been built into project design to avoid project-related social risks, and ensure compliance with the WB’s social safeguards policies, specifically the policy on Involuntary Resettlement (OP 4.12). The screening criteria and other aspects of PRRP are included in the Social Management Framework (SMF) and Resettlement Management Framework (RMF).

18. The selected infrastructure interventions will reinforce the impact of capacity building and institutional reforms and lay the foundation for scaling-up capital investments in subsequent phases. Priority areas for investments include:

- i. *Water Network Rehabilitation:* To reinforce the NRW and revenue management reforms of Component 1, priority areas of the network will be rehabilitated, focusing on reducing major leaks, installing district and customer meters, and developing treatment facilities. Leakage reduction will reduce the energy footprint of water supplied to consumers. Modern meters with data loggers for large bulk customers will be installed and KWSB will be equipped with meter-reading devices. Reducing NRW losses and introducing consumption metering will increase the supply of water and promote the conservation of water, thereby making Karachi’s residents more resilient to water shortages. A key intervention under this sub-component, which is expected to result in improved access to uncontaminated water for at least 2,000,000 consumers is the installation of additional chlorination facilities within the existing network.
- ii. *Sewer Network Rehabilitation:* The project will invest in priority sewer network rehabilitation to restore network integrity in critical areas and reduce leakage of sewage and the associated health threats to Karachi’s population. The project will strengthen KWSB’s fleet of sewage suction and jetting trucks. New fuel-efficient sewage suction and jetting trucks will modernize the KWSB fleet and reduce sewer clogging. These interventions will be made in the wastewater collection areas of the two wastewater treatment plants currently under rehabilitation, and will reduce health risks for Karachi residents.
- iii. *Rehabilitation and improvement of safe water supply in informal settlements:* The project will improve water supply and sanitation in three *Katchi Abadis*, including through the installation or upgrading of water automated teller machines, metered house connections and provision of bulk water supply, using various arrangements for their O&M, in close consultation with the communities. To select pilot *Katchi Abadis*, all informal settlements will be screened to assess if the existing KWSB infrastructure can be improved to enhance the quality and access of water

and sanitation services. *Katchi Abadis* will be ranked according to criteria including need and cost-effectiveness. These efforts will be supported by intensive stakeholder consultations to manage expectations and build political consensus and community support

- iv. *Improving Energy Efficiency*: The project will reduce energy consumption of KWSB pumping stations and water treatment plants, and thus current high energy costs and KWSB carbon footprint, reinforcing the impact of the asset management improvement program
- v. Other areas for capital investments will be considered in light of the evolution of the Component 1 reform program, screened by aforementioned criteria.

19. **Component 3 – Project Management and Studies (US\$16 million)**: This component will support the costs of managing the project and preparing subsequent phases. This will include direct project management costs; contract management consultancies to support infrastructure investments; and the preparation of safeguards, feasibility and tender documents. Other critical studies include an energy audit, a review of PPP options for some operations of KWSB, and a groundwater protection assessment. Large scale infrastructure works would be carried out in subsequent phases of the KWSSI Program including: a new system to collect, transmit and treat sewage in Malir river basin of Karachi; and water transmission infrastructure to connect a newly built water production system with the existing water network of Karachi. Component 3 will also support feasibility studies, tender and safeguard documents for these capital investments to be undertaken in subsequent phases of the program.

#### D. Cost and Financing Plan

20. The project cost is expected to be USD100 million to be financed as follows: (i) a sovereign backed loan of USD40 million from the Bank, and (ii) a sovereign backed loan of USD40 million from the WB, and (iii) USD20 million counterpart financing by GoS. A summary of the project cost and financing is given in Table 2.

**Table 2: Project Cost and Financing Plan (USD, millions)**

Item	Project Cost	Financing		
		AiIB	IBRD	GoS
Component 1	7	2.8	2.8	1.4
Component 2	77	30.8	30.8	15.4
Component 3	16	6.4	6.4	3.2
<b>Grand Total</b>	<b>100</b>	<b>40</b>	<b>40</b>	<b>20</b>

#### E. Implementation Arrangements

21. The project implementation will be underpinned by a collaborative spirit among GoS (which will be the Project Implementing Entity, PIE), KWSB and other relevant provincial institutions including Planning and Development Department, Local Government Department and Karachi Metropolitan Corporation. The PIE, represented by Chairman, Planning and Development Board, will establish a Project Steering Committee which will have representation

from all the key institutions and provide oversight and strategic direction during the project implementation.

22. The Implementation Agency (IA) will be KWSB. A Project Implementation Unit (PIU) has been established within KWSB to manage the project, which consists of two sub-units: one dedicated to implementing the reform program (component 1 and 3), and one in charge of developing and implementing the capital investment framework (component 2). This organizational structure seeks to safeguard implementation of the reforms as in past projects pressure to focus on infrastructure components has led to reduced attention to reform components, which ultimately undermined the value of the infrastructure investments. The PIU will mostly be staffed by KWSB permanent staff which will build KWSB's long-term capacity to plan and manage major interventions. To mitigate weaknesses in certain specialized areas, PIU will recruit individual consultants to strengthen project preparation and implementation capacity. An engineering firm will also be engaged to provide specialized contract management support. The PIU will report to KWSB Management represented by the Managing Director.

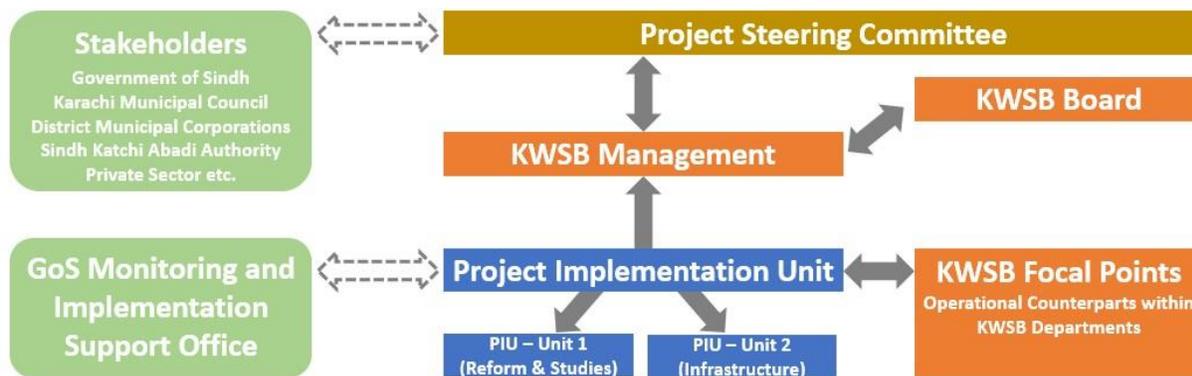


Figure 1: Project Implementation Arrangements

23. **Monitoring and Evaluation (M&E).** M&E will be an integral part of the project. This function will be the responsibility of the PIU in liaison with the KWSB focal points. Existing baseline data and M&E systems are weak and the PIU will be expected to carry out its own data collection and verification processes. M&E specialists based in the PIU will collect data to monitor project implementation and track indicators for intermediate results. The PIU will provide quarterly progress reports to KWSB management. An assessment of project impacts, including a beneficiary survey, will be conducted at project closing but mid-term evaluations will be designed and conducted.

24. **AIIB's Implementation Support.** AIIB will work closely with WB who, as lead financier, will take the lead on procurement, disbursements, environmental and social safeguard aspects, and project management and reporting. It will supervise the project and administer Bank's loan on behalf of the Bank, in accordance with Co-Financing Framework Agreement.

25. **Procurement.** Procurement for the project will follow the WB's Procurement Regulations for Borrowers for Goods, Works, Non-Consulting Services and Consulting Services, dated August 2018 that are materially consistent with the Bank's Core Procurement Principles and Procurement

Standards. The procurement activities under the project, to be carried out by the PIU, will consist of goods and civil works for rehabilitation and upgrade of water and sewerage infrastructure, and consulting services. The WB's Standard Bidding Documents (SBD) for International Competitive Bidding (ICB) will be used. Some small civil works, goods and consulting services will be procured through National Competitive Bidding (NCB). The WB has engaged with GoS to suitably improve the SBD which will be used for NCB. KWSB has prepared the Project Procurement Strategy for Development (PPSD) with support of the WB, in which an initial 18-month procurement plan is included.

26. To strengthen procurement monitoring, PIU will use the WB's on-line procurement management system, "STEP" (Systematic Tracking of Exchanges in Procurement). The PPSD and procurement arrangements developed through the support of the WB are acceptable to the Bank. The WB will conduct training sessions on procurement and contract management as required and coordinate with Bank for supervision missions.

27. **Funds Flow.** The proceeds from the WB's and AIB's loans will be transferred to an account of State Bank of Pakistan and released through the Finance Division to the IA, who will operate a segregated Designated Account (DA) at the National Bank of Pakistan. The DA will be operated in accordance with the provisions of "Revised Accounting Procedure for Revolving Fund Account" of the Finance Division of GoP. The payments will be authorized to contractors and service providers through electronic funds transfer.

28. **Disbursements.** The project will use the Advance and Direct Payment method of disbursements, which will be report-based with an initial advance equivalent to six months projection of expected payments. Eligible expenditures will comprise of works, consulting and non-consulting services, goods, workshops and training, and incremental operating costs incurred for implementing the project. KWSB will prepare an Interim Unaudited Financial Report, which will be furnished to WB within 45 days of the close of every quarter, and which will report quarterly fund receipts and utilization. Retroactive Financing for the expenditure incurred by the implementing agencies out of budgetary funds will be reimbursed subject to compliance with WB's procurement procedures.

### 3. Project Assessment

#### A. Technical

29. **Project Design.** The project will rehabilitate water and sewer infrastructure in the KWSB service area. The final technical designs are under preparation for the first year's work program. Subsequent year's investments will be selected during implementation. In general, the technical designs for the interventions are expected to follow the pre-existing infrastructure that has been operated by the utility for many years, using well-established technical approaches appropriate for local conditions. From a technical perspective, the project will thus pursue an approach with only moderate risks. The detailed selection criteria for investments are given in Annex 3 and summarized below.

- *Alignment with Project Objectives:* investments must benefit the Karachi Municipality area and support the project Objective;

- *Compliance with Relevant Guidelines and Policies:* investments must comply with all social, environmental, procurement and financial management requirements of the WB, GoS and GoP;
- *Prioritization of Reform Agenda:* Priority will be given to investments aligned with the project reform program;
- *Standardized Selection and Approval Cycle:* investments will be approved according to the roadmap given in the CoC (Reform Roadmap), which sets out short, medium and long term operational and service standards for KWSB.

30. **Operational sustainability.** The GoS is committed to the project as demonstrated by the establishment of RWG with renowned civil society water sector specialists. Moreover, the GoS has agreed to the CoC, outlining a reform roadmap, establishment of a Steering Committee, and establishment of a new, more representative Board. KWSB has the institutional capacity to implement regular infrastructure investments. However, the project envisions much more than traditional infrastructure, for which KWSB has demonstrated its commitment by agreeing to a substantial and challenging re-organization, and a far-reaching reform agenda, recognizing that these measures will enable more sustainable and efficient services to its customers. Supported by the reform agenda, the measures financed under the Component 1 and 2 of the project are expected to achieve full cost-recovery – as captured in the Results Framework and Economic and Financial Analysis (EFA) of the project – and, therefore, address the financial sustainability of KWSB.

## **B. Economic and Financial Analysis**

31. Global cost-benefit studies have demonstrated that Water, Sanitation and Hygiene (WASH) services provide good social and economic returns. Evidence from global as well as country studies in general shows high returns on WASH spending, for example, a global average benefit-cost ratio of 5.5 for improved sanitation and 2.0 for improved drinking water.

32. The KWSSI Program would help Karachi maximize potential economic returns over its 12-year planning horizon. With a potential user base of at least 15 million and an existing installed capacity of approx. 3 million cubic meters per day (650 MGD), KWSB has a unique opportunity to improve operational performance and become a profitable utility providing essential services. The Project economic and financial analysis (EFA), outlined below for Phase-1, indicates positive expected returns. The EFA examined financial and economic benefits of the first phase over a 15-year period, using constant 2018 prices in Pakistani Rupees (PKR). The net present value (NPV) and internal rate of return (IRR) were calculated by comparing with- and without-project scenarios. A full description of the analyses, including recommendations for key variables to be monitored during supervision, is provided in Annex 2: Economic and Financial Analysis.

**Financial Analysis.** The financial analysis has considered only those results that are directly attributable to the project namely reduced NRW, increase in water customer accounts and improvement in energy efficiency. The projected financial performance of the project is strong (Table 3). Institutional reforms and other external measures will also improve collection rates and

introduce wastewater tariff which have not been included in the financial analysis.<sup>2</sup> The IRR was estimated at 26.7 percent with NPV of PKR 7,042 million based on a 10 percent discount rate. The IRR is high due to the composition of the project that includes high-yielding reform-focused activities and no-regret investments.

**Table 3: Financial performance projection: with – without project scenario**

Year	2019	2022	2025	2028	2031	2034
Net Financial: With	(6,748)	(10,068)	(6,511)	(6,475)	(6,438)	(6,401)
Net Financial: Without	(6,748)	(9,164)	(9,208)	(9,147)	(9,134)	(9,097)
With – Without:	-	(904)	2,696	2,696	2,696	2,696

33. **Economic Analysis.** The project is economically viable. The economic analysis includes direct benefits from improved services as well as indirect health and GHG benefits. The IRR from the economic analysis was estimated at 50.6 percent with NPV of PKR 14,995 million at a discount rate of 10 percent. The high IRR is due to the composition of the project that results in large direct and indirect (especially health) benefits compared to the investment costs.

34. The net emissions of the project are an estimated reduction of 415,562 tCO<sub>2</sub>-eq over the 15-year analysis period. On average, the project provides a net reduction in emissions of 27,704 tCO<sub>2</sub>-eq annually. As outlined in Annex 2, net emission reductions are driven by improvements in energy efficiency.

### C. Fiduciary and Governance

35. **Financial Management (FM).** The FM arrangements follow the government systems, including budgeting, internal controls, accounting and reporting, flow of funds, and audits. A unified public FM system exists at all three levels of government in Pakistan. WB has assessed the FM arrangements and found that the mitigated FM arrangements will provide reasonable assurance that the financing proceeds will be used for the intended purposes, with due attention to the principles of economy, efficiency, effectiveness, transparency, and accountability to achieve the desired results. KWSB has a detailed chart of accounts used for recording of transactions, which will be used for the project accounting. Annual external FM audits will be conducted by the Department of Auditor General and submitted to the Bank by December 31 each year. Financial Risk has been identified as medium. Key risks identified include: the need to enhance the FM capacity for smooth project implementation; enhancing the role of internal audit; and a need for documenting the Standard Operating Procedures to ensure segregation of functions. These risks would be mitigated through hiring of FM specialist; establishing FM's Standard Operating Procedures; and strengthening of the internal audit.

36. **Procurement.** The project will be subject to WB's Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants," dated July 1, 2016 (Anti-Corruption Guidelines), and the Bank's Policy on Prohibited

---

<sup>2</sup> Taken together, the investments made under the project along with the concurrent reform measures that GoS will introduce during the implementation are expected to help KWSB achieve financial sustainability and full operating cost recovery.

Practices or PPP (2016). KWSB's routine procurement functions include large works, goods and consultancy services but it lacks a separate procurement and contract management section. However, several of its staff, including few assigned to PIU, have extensive procurement experience under provincial procurement rules, as well as donor-funded projects. Procurement will present a substantive workload under the project which will entail strengthening of PIU's procurement capacity by engaging technical experts as well as a project implementation support firm. The PPSD has been prepared, which provides details of the capacity assessments, market analysis, strengths and weaknesses analysis, risks and mitigation measures, and form the basis for a procurement plan. Based on the market analysis, the project has so far identified eleven consultancy contracts for institutional, technical and engineering support, three works within NCB threshold, two IT packages and some goods contracts. WB will provide implementation support for reviewing procurement documents, including technical specifications, and providing timely feedback; monitoring procurement progress against the procurement plan; and providing procurement training on WB's guidelines and processes to the PIU. The fiduciary risk has been rated as medium which will be mitigated through hiring qualified staff and professional support. Detailed mitigation measures are noted in Table 4.

37. **Anti-corruption.** The Bank is committed to preventing fraud and corruption in the projects that it finances. It places highest priority on ensuring that projects are implemented in strict compliance with the Bank's PPP. The Bank will monitor the work related to tender document preparation and tender/proposal evaluation and award under Bank financing. Implementation will also be monitored regularly by Bank staff in coordination with WB. The Bank reserves the right to investigate, directly or indirectly through its agents, any alleged Prohibited Practices relating to the project and to take necessary measures to prevent and redress any issues in a timely manner, as appropriate. To the extent that the WB's Anti-corruption Guidelines are similar to the Bank's PPP, the WB's Anti-Corruption Guidelines will apply to the project activities financed in whole or in part by the proceeds of the proposed Bank and WB Loans. Detailed requirements are specified in the Loan Agreement and will also be included in the Co-Lenders' Agreement and the project tender documents.

#### **D. Environmental and Social**

38. **Environmental and Social Policy and Categorization.** The Bank has agreed with the WB that: (a) the Environmental and Social Safeguard Policies and related procedures of the WB (WB Safeguard Policies) will apply to this project; and (b) AIIB will rely on the WB's determination as to whether compliance with WB Safeguard Policies have been achieved under the project. AIIB is satisfied that: (i) the WB Safeguard Policies are consistent with the Bank's Articles of Agreement and materially consistent with the provisions of the Bank's Environmental and Social Policy (ESP) and relevant Environmental and Social Standards (ESS), and (ii) the monitoring procedures that the WB has in place to ascertain compliance with the Safeguard Policies are appropriate for the project. In addition, pursuant to AIIB's agreement with the WB, AIIB will rely

on the WB's corporate Grievance Redress Service (GRS)<sup>3</sup> and the WB's independent Inspection Panel<sup>4</sup> to handle complaints relating to environmental and social issues that may arise under the project. Consequently, in accordance with the Bank's Policy on the Project-affected People's Mechanism (PPM), submissions to the PPM under this Project will not be eligible for consideration by the PPM.

39. At the concept stage, the phase-1 of KWSSI Program was envisaged to have an outlay of \$400 million and support large infrastructure works and, therefore, assigned Category A. The project has now been scaled down to \$100 million by deferring the major infrastructure sub-activities to the subsequent phases of the program. The current investments include operational and enabling-environment reforms, water and sewerage networks rehabilitation, safe water supply to informal settlements, and improving system efficiency. Hence the project has been re-assigned Category B since the proposed activities are unlikely to cause large scale, widespread, significant, or irreversible environmental and or social impacts.

40. The joint AIB and WB due diligence process for environmental and social aspects during project preparation was carried out with reference to the WB Safeguard Policies. This due diligence has resulted in the application of WB's Safeguard Policies on Environmental Assessment (OP/BP 4.01), Physical Cultural Resources (OP/BP 4.11), Involuntary Resettlement (OP/BP 4.12) and Dam Safety (OP/BP 4.37). The Bank's OP on International Relations also applies.

41. The project will involve rehabilitation of the water supply and sewerage networks in densely populated urban areas of both commercial and residential use. These interventions are likely to cause some temporary negative livelihood impacts to small businesses during construction. The rehabilitation works may also result in limited involuntary resettlement of some street vendors. As the precise location of the civil works have not been determined, an Environmental Management Framework (EMF) and a Social Management Framework (SMF) which also includes a Resettlement Policy Framework (RPF) have been prepared, consulted upon and disclosed locally by KWSB (both in English and Urdu)<sup>5</sup> and on the WB's website (in English)<sup>6</sup>. The sub-projects will be identified and confirmed during the implementation phase. The EMF and SMF provide guidance on the implementation of the proposed sub-projects and confirm the required documents, including sub-project level Environmental and Social Impact Assessment (ESIA), Environmental and Social Management Plan (ESMP), and Resettlement Action Plan (RAP) or an abbreviated RAP. In addition, an Environmental Audit Report and Management Action Plan are required for ongoing sewer network rehabilitation works, as part of required due diligence.

42. **Environmental Aspects.** Upon completion, the project will improve the environmental conditions of the city and contribute to the overall socioeconomic development of local

---

<sup>3</sup> <https://projects-beta.worldbank.org/en/projects-operations/products-and-services/grievance-redress-service#5>

<sup>4</sup> [www.inspectionpanel.org](http://www.inspectionpanel.org)

<sup>5</sup> <http://www.kwsb.gos.pk/View.aspx?Page=30;>

[http://www.kwsb.gos.pk/SitePdfFiles/Executive%20Summary%20KWSSIP%20EMF%20in%20Urdu%20\(1\).PDF;](http://www.kwsb.gos.pk/SitePdfFiles/Executive%20Summary%20KWSSIP%20EMF%20in%20Urdu%20(1).PDF;)

<http://www.kwsb.gos.pk/SitePdfFiles/Executive%20Summary%20SMF%20KWSSIP%20in%20URDU.PDF>

<sup>6</sup> <http://projects.worldbank.org/P164704?lang=en>

communities. The significant anticipated benefits include improved water quality of the affected rivers and coast; availability of safe, reliable and predictable water supply and sewerage services; improved health, hygiene and solid waste management; and cost and time savings particularly for marginalized communities. Women and children are especially expected to benefit from the project since they suffer most from poor or lack of basic urban services. Major adverse environmental impacts include discharge of effluent and generation of odor and sludge from wastewater treatment plants; removal and disposal of solid waste including construction debris and sludge from the drains and river channels; and soil erosion, air pollution and noise during construction. Poor O&M of the infrastructure can also present environmental risks, therefore continuous management will be needed after commissioning of works.

43. The EMF addresses general environmental impacts of this project and sets out the processes, procedures and measures required for management of environmental risks and impacts during implementation. This is consistent with the Project Investment Selection Criteria given in **Annex 3** and requires preparation of sub-project level ESIA and ESMP in compliance with all applicable WB safeguards policies, all federal and provincial regulations and standards, and any relevant and applicable international standards. The EMF also prohibits financing of investments and preparatory studies of any kind that would be assigned an environmental category A under OP 4.01 or High under ESS-1 of WB's Environmental and Social Framework.

44. **Social Aspects.** No large-scale land acquisition or resettlement is anticipated in the project but limited involuntary economic displacement and temporary negative livelihood impacts may occur during construction. Civil works in densely populated urban areas are likely to negatively impact businesses and individuals because of restricted access and temporary relocation. Rehabilitation works may also cause limited involuntary resettlement of temporary markets and vendors.

45. To avoid and mitigate social risks associated with the ongoing Anti-Encroachment Drive<sup>7</sup> (AED) a Project Risk Reducing Procedure (PRRP) has been incorporated in the project design which explicitly excludes any investment located in sites affected by the AED and ensures compliance with the WB policy on Involuntary Resettlement (OP 4.12). The PRRP includes a set of screening criteria for the selection, design and implementation of subprojects to be financed under the project. Only subprojects located in areas that have not been impacted by the AED will be eligible for financing.

46. The SMF, developed for the project, includes: (i) a comprehensive mechanism for social screening of sub-projects to determine their eligibility and the type of social safeguard instruments to be prepared; (ii) RPF as an annex to the SMF; (iii) management frameworks for gender and vulnerability, labor impacts during construction including gender-based violence and sexual exploitation and abuse, stakeholder engagement, and M&E; (iv) Grievance Redress Mechanism; and (v) institutional requirements and capacity enhancement measures. Site-specific ESIA's and,

---

<sup>7</sup> A major anti-encroachment drive was initiated in Karachi in October 2018. Concerned authorities have removed encroachments from public spaces affecting small business and street vendors. The drive is not in conformity with WB's involuntary resettlement policy, in particular, there are no legal or procedural provisions to rehabilitate squatters. Screening will take the anti-encroachment drive into account and only select sub-projects which are in compliance with the WB's standards and policy requirements.

in case of any involuntary resettlement, RAPs, will be prepared for subprojects after precise locations and alignments have been determined. These documents will be prepared in accordance with the SMF guidelines, including stakeholder consultation, and will be reviewed, approved, and disclosed locally and on the WB's website.

47. **Gender.** Women face various gender inequalities and disadvantages in the social context of Sindh which affect their access to urban services and participation in community-based initiatives. Women are important stakeholders, both as affected persons and beneficiaries, in water and sanitation projects. It is important to understand the gender dimensions of the project and its differential impacts on women so as to maximize project benefits. Failure to recognize the importance of gender in sub-project implementation can have negative social impacts on women. The project will ensure that the adverse impacts on women and children are assessed, mitigated and minimized. A Gender Action Plan (GAP) will be prepared during the project implementation but before undertaking any sub-projects and appropriate mitigation measures included in ESMPs and RAPs. The project design will have a strong focus on citizen engagement and gender participation. The existing system of customer feedback will be strengthened by establishing regional service centers and providing technological tools for outreach, reporting and complaint resolution. The outreach will focus on women and other vulnerable groups who find the existing mechanisms difficult to access for various reasons.

48. The initial assessment of KWSB also revealed that women are seriously underrepresented in technical and managerial positions. The project will identify barriers within the existing system and introduce HR reforms for hiring and retention of women. A gender assessment will systematically analyze conditions and constraints faced by women working at KWSB in terms of their professional opportunities, as well as examine limitations female customers face in their ability to access the full range of KWSB services. The GAP will then operationalize recommendations from the gender assessment and focus group discussions with female KWSB employees. This will help ensure that women's voices and needs inform institutional reforms, project design and implementation processes.

49. **Climate Change.** Pakistan in general, and Karachi in particular, are highly vulnerable to climate change risks. Rising temperature and heatwaves increase water scarcity and sea-level rise. Sudden spells of intense precipitation occurring simultaneously with storm surges cause major urban flooding and aggravate the problems of poor drainage and inadequate sewer infrastructure. The project is investing in KWSB energy efficiency which will contribute to climate change mitigation. An energy audit under Component 3 is expected to prepare physical investments of about \$19 million in Component 2 to modernize KWSB electro-mechanical facilities. Major investments to reduce NRW significantly by rehabilitating the piped network will reduce leakages and further increase energy efficiency. These benefits are captured in the results framework of the project.

50. **Occupational Health and Safety, Labor and Employment Conditions.** The issues on occupational health and safety, labor and working conditions have been discussed and the associated mitigation measures included in the EMF and SMF. More detailed mitigation measures will be included in the subproject-specific ESMPs. The PIU will ensure that these measures are specified in tender documents for civil work contracts.

51. **Dam Safety.** WB has triggered OP/BP 4.37 (Dam Safety) as Karachi's only reliable water source is from Kotri Barrage on the Indus River. A safety assessment of the barrage is being conducted under the WB's ongoing Sindh Barrages Improvement Project by a Panel of Experts. This project will also prepare emergency preparedness and operational plans, and provide required training.

52. **Operational Policy on International Relations.** The Bank's Operational Policy on International Relations is triggered because the project involves the use of water from the Indus River – an international waterway under the Policy. Pursuant to Section 2.3 of the Policy, the Bank may, instead of carrying out its own assessment, rely on the assessment of the co-financier if the Bank is satisfied with the assessment capacity and process of the co-financier, as well as the assessment itself. The WB has concluded through application of its OP/BP 7.50 Projects on International Waterways that the project will only include minor additions or alterations to an ongoing scheme and is therefore expected to have only minimal effect on any of the other riparians and therefore does not require a riparian notification. The Bank has reviewed the supporting WB documentation and is satisfied with the WB's assessment capacity and process, as well as the assessment as such, in accordance with the Policy. The Bank therefore concurs that the project is expected to have minimal or no effect on any of the riparians. As a result, the exception in the Bank's Policy in paragraph 3.3(c)(i) of the Policy to the notification requirement in paragraph 3.3(a) applies.

53. **Stakeholder Consultation and Information Disclosure.** Extensive consultations have been carried out with a wide range of stakeholders (communities and institutional stakeholders) while preparing the EMF and SMF through focus group discussions, meetings and interviews. A public consultation workshop was organized after disclosing these documents locally. The EMF and SMF also include consultation and engagement frameworks to be implemented during project implementation. The targeted and meaningful consultations will be carried out while preparing the project-specific ESIA, ESMP and RAP ensuring that the views and concerns of women and vulnerable groups are also captured. These documents will also be disclosed locally as well as on the KWSB and WB website to which the Bank will provide links.

54. **Project Grievance Redress Mechanism (GRM).** A multi-tiered GRM will be established and implemented for the project at local and central level. The KWSB's existing web-based GRM platform will be improved. The staff of the complaint cells, to be established and modernized under the project, will be trained in customer engagement and effective GRM. Communities and individuals who believe that they are adversely affected by the project may submit complaints to the project-level GRM or the WB's GRS. The GRS is designed to ensure that complaints received are promptly reviewed in order to address project-related concerns.

55. **Monitoring and Supervision Arrangements.** The project's environmental and social issues will be monitored through the environmental and social specialists engaged by the construction supervision consultants. The PIU will also have its own E&S professionals to supervise the development and implementation of ESMP and RAP. The Bank and the WB teams will also provide regular support during project implementation.

## E. Project Risk Assessment and Mitigation Measures

56. During appraisal, the Bank and WB assessed the project-level risks of various risk categories. The overall project risk has been rated as High because of High political and governance; environmental and social; and stakeholders' risks. The fiduciary, technical design and sector strategies and policies risks have been categorized as Medium. Many of these risks relate to the institutional capacity of KWSB, which, though experienced in implementing large scale infrastructure projects, has not implemented any recent major investment project financed by International Financial Institutions. External consultancy firms and capacity building activities will be designed to improve operational capacity of PIU within KWSB. Key project risks and their mitigation measures are summarized in table below:

**Table 4: Summary of Risks and Mitigating Measures**

<b>Risk Description</b>	<b>Assessment Ratings</b>	<b>Mitigation Measures</b>
<p><b>Political and Governance</b></p> <ul style="list-style-type: none"> <li>- Complex political context of project with multiple actors at different tiers of government could create challenges to project sustainability. Topics such as project target areas, tariffs, or employment in KWSB can be contentious.</li> </ul>	<b>High</b>	<ul style="list-style-type: none"> <li>- The Project Steering Committee will bring diverse actors together and provide strategic guidance.</li> <li>- Appointment of RWG to find solutions in a collaborative spirit and agreement on CoC prior to project effectiveness will institutionalize many envisaged reforms.</li> </ul>
<p><b>Sector Strategies and Policies</b></p> <ul style="list-style-type: none"> <li>- Resistance to changes proposed in development of sector strategies and policies</li> </ul>	<b>Medium</b>	<ul style="list-style-type: none"> <li>- Leverage PSC and CoC, and include civil society participation, for development of sector strategies and policies that are in line with project objectives and critical for its success.</li> </ul>
<p><b>Fiduciary</b></p> <ul style="list-style-type: none"> <li>- FM: weak internal audit and controls; and non-segregation of accounting, financial management and audit functions.</li> <li>- Procurement: low capacity of procurement and contract management; lack of experience in WB's procurement framework</li> </ul>	<b>Medium</b>	<ul style="list-style-type: none"> <li>- Build PIU capacity by engaging FM specialist, strengthening internal audit functions, and establishing standard operating procedures to ensure segregation of functions.</li> <li>- Enhancing KWSB competencies in procurement and contract management through hiring qualified procurement staff and contract management firms; training to PIU staff in WB's procurement rules</li> </ul>

Risk Description	Assessment Ratings	Mitigation Measures
<p><b>Environmental and Social</b></p> <ul style="list-style-type: none"> <li>- Low capacity of PIU in application of EMF/SMF and E&amp;S risk management,</li> <li>- Social risks related to anti-encroachment drive</li> </ul>	<p><b>High</b></p>	<ul style="list-style-type: none"> <li>- Recruitment of E&amp;S specialists in PIU, and design and supervision consulting firms,</li> <li>- Sub-projects selection will be guided by PRRP which lays down the procedure to screen and exclude areas affected by AED</li> </ul>
<p><b>Stakeholders</b></p> <ul style="list-style-type: none"> <li>- Various formal and informal stakeholders with conflicting interest are active in Karachi water sector</li> </ul>	<p><b>High</b></p>	<ul style="list-style-type: none"> <li>- Design and implement a professional communication program with outreach to all important stakeholders. KWSB's <i>katchi abadi</i> cell to be strengthened and its presence expanded to <i>katchi abadis</i> selected in the project.</li> </ul>

## Annex 1: Results Monitoring Framework

Project Objective:		The Project Objective is to improve access to safe water services in Karachi and to increase KWSB's financial and operational performance.								
Indicator Name	Unit of measure	Baseline Data Year	Cumulative Target Values					End Target	Frequency	Responsibility
			YR1	YR2	YR3	YR4	YR5			
<b>Project Objective Indicators:</b>										
<b>A. To improve access to safe water services in the project area</b>										
Persons (of which females) provided with access to drinking water uncontaminated by fecal coliforms under the project	Number (Females)	0 (50%)	0 (0)	50,000 (25,000)	150,000 (75,000)	500,000 (250,000)	1,000,000 (500,000)	2,000,000 (1,000,000)	Annually	KWSB
<b>B. To increase KWSB's financial and operational performance.</b>										
Coverage of Operation & Maintenance Costs	%age	59.00	59.0	62.0	68.0	74.0	85.0	100.0	Annually	KWSB/Auditor
KWSB Act amended to increase KWSB's financial and operational autonomy	Yes/No	No	N	N	Y	Y	Y	Yes	Annually	KWSB
<b>Intermediate Results Indicators:</b>										
<b>A. Operational &amp; Enabling Environment Reform</b>										
New customer service centers opened that are adequately staffed including a separate desk for women	Number	0.00	0	2	3	4	5	6	Annually	KWSB
Wastewater Tariff Re-established	Yes/No	No	N	N	Y	Y	Y	Yes	Annually	KWSB
Percentage of grievances redressed within stipulated time	%age	25.00	25	35	45	55	65	75.00	Annually	KWSB
Percentage of females of all newly recruited staff grade 16 and below	%age	1.44	To be established					20.00	Annually	KWSB
Percentage of females of all newly recruited staff grade 17 or above	%age	0.86	To be established					30.00	Annually	KWSB
Informal settlements provided with improved water and sewer services by KWSB under the project	Number	0.00	0	0	1	2	3	3.00	Annually	KWSB
Asset Management Program Implemented	Yes/No	No	To be established					Yes	Annually	KWSB
KWSB Master Plan Updated (Yes/No)	Yes/No	No	N	N	Y	Y	Y	Yes	Annually	KWSB
Collected revenues of KWSB	Text	PKR 8,446 million	8,000	8,500	10,000	12,500	14,000	PKR 16,500 million	Annually	KWSB
<b>B. Infrastructure Investments</b>										
Piped household water connections affected by rehabilitation works undertaken under the project	Number	0.00	To be established					400,000	Annually	KWSB
Number of in-network chlorination units operational under the project	Number	0.00	0.0	0.0	4.0	8.0	12.0	12.00	Annually	KWSB

<b>Project Objective:</b>		<b>The Project Objective is to improve access to safe water services in Karachi and to increase KWSB's financial and operational performance.</b>								
Indicator Name	Unit of measure	Baseline Data Year	Cumulative Target Values					End Target	Frequency	Responsibility
			YR1	YR2	YR3	YR4	YR5			
Kilometers of sewerage network rehabilitated	Text	0 Kilometers	0	0	40	80	120	160 kilometers	Annually	KWSB
Bulk accounts metered	%age	40.00	40.0	50.0	60.0	70.0	85	100.00	Annually	KWSB
Improvement in Energy Efficiency	Text	368,714,889 kilowatt hours	To be established					To be established	Annually	KWSB
Non Revenue Water Reduction	Cubic meters/year	0.00	To be established					32,000,000.00	Annually	KWSB

## Annex 2: Economic and Financial Analysis

### A. Introduction

1. **Objectives.** The objectives of the economic and financial analysis (EFA) were to: (i) assess the past and current financial performance of KWSB; (ii) forecast the financial performance of the project; (iii) determine the economic viability of the project; and (iv) provide recommendations for key variables to be monitored during supervision through sensitivity and switching analyses.

2. **Methodology and overall assumptions.** EFA examined financial and economic benefits of the project for a 15-year period, using constant 2018 PKR prices. The net present value (NPV) and internal rate of return (IRR) evaluations were conducted through a comparison of the with- and without-project scenarios. The assumptions used under both the with- and without-project scenarios in the EFA are as follows:

- The foreign exchange rate is PKR141.51 per US\$1. Annual inflation is 7.5 percent, based on the recent 8-year average.
- The population growth rate in Karachi is 2.5 percent, based on 2017 and 1998 census of Pakistan. The number of households grow at the same rate, resulting in organic increase in retail customers.
- Water production is held constant at 2.5 million cubic meters (MCM) per day. Water demand is also held constant at 106 liters per capita per day, which translates into 1.7 MCM per day in 2019 and 2.4 MCM per day in 2034; the increase is due to the population growth.<sup>1</sup>
- NRW in 2018 is at 55 percent, 35 percentage points of which are from leakage, 10 percentage points from “authorized but unbilled” retail connections, and 10 percentage points from theft.
- The number of customer accounts grows by 2.3 percent per year for retail and 0.5 percent per year for bulk, based on the recent trend.
- Water tariffs are estimated at PKR41 per cubic meter for retail, and PKR42 per cubic meter for bulk. For hydrants, KWSB charges PKR53 per cubic meter. There is no water tariff increase in real terms.
- The ongoing construction and rehabilitation of the wastewater system funded by the government—S3 phase 1 (including TP 1 and TP3)—are completed by the end of 2021 and remain operational thereafter.
- Fixed O&M costs, including personnel, are held constant. Variable O&M costs, such as electricity and chemicals, for the water supply system are calculated based on the average unit cost in 2017 and 2018. Data to estimate the variable O&M costs for the sewerage system are unavailable. Therefore, it is assumed that the sewerage system has the same O&M average unit costs as the water supply system, except for the electricity cost, which is assumed to be 50 percent that of the water supply system due to much less pumping required.
- The value of time is measured by a minimum monthly wage of PKR15,000 but the benefits

---

<sup>1</sup> Under the project, not all water consumption is expected to be provided through piped water source. In other words, without the follow-up projects, it is projected people would still have to buy a significant amount of water elsewhere. Therefore, it is assumed that water demand for the overall population would not increase.

associated with savings in time due to improved household water services have not been included in EFA.

- Both the financial and economic opportunity costs of capital are assumed at 10 percent.

3. **Without-project situation.** The KWSB’s current situation and key assumptions used for projecting the scenario where there is no project are described below.

- NRW. Although NRW is high, the exact figure is unknown. NRW is assumed to be 55 percent in 2018 and deteriorating by 0.4 percentage point every year until 2024, reaching 58 percent under the without-project scenario.
- Customer accounts. In 2018, KWSB had about 1.8 million retail and 9,500 bulk customer accounts being billed. However, it is widely believed that the billing rate is low, given the large number of “authorized but un-billed” retail connections and unauthorized retail and bulk connections. Under the without-project scenario, it is assumed that unbilled water would increase further by 0.1 percentage point every year until 2024, reflected in the increasing NRW mentioned above.

4. **With-project situation.** The project directly attributable to its results is estimated to cost PKR13,019 million or US\$92 million in 2019 nominal prices (or PKR9,790 million in 2018 prices), inclusive of contingencies, and it would be disbursed over five years. The government will provide the project proceeds to KWSB as grants. The project interventions include investments in rehabilitating priority water and sewer networks, increasing energy efficiency, and installing meters, as a result of which the project would help KWSB achieve the following operational improvements:

- NRW. NRW would gradually reduce from 55 percent in 2018 to 39 percent by 2024. The largest reduction comes from fixing leakages.
- Customer accounts. In addition to the organic increase of retail customers by 2.3 percent per year, the number of retail customers would grow by turning “authorized but un-billed” retail connections into billed customers. Between 2020 and 2024, a total of more than 300,000 customer accounts are assumed to be added by the project through this way, resulting in 4 percentage point decrease in NRW over the same period.
- Energy efficiency. Implementing recommendations of the energy audit is assumed to bring down the electricity unit cost by 19 percent by 2023.
- Repairs and maintenance costs. KWSB would increase repairs and maintenance costs by 3 percent per year between 2020 and 2024.

5. Major institutional and policy reforms will also be undertaken, which would result in, among others, increased collection rates and introduction of wastewater tariffs. However, the analysis has not considered these benefits as the estimation of project attributable direct impacts as a result of these measures are difficult.

**Table A2.1: Key parameters for EFA – KWSB**

Item	2019	2022	2025	2028	2031	2034
Karachi population (million)	16	17	18	20	21	23
Water tariff:						
Retail (2017 PKR/m3)	37.8	40.6	40.6	40.6	40.6	40.6
Bulk (2017 PKR/m3)	42.2	42.2	42.2	42.2	42.2	42.2
<b>Without project</b>						
Water sold (MCM)	403	392	385	385	385	385

Number of customers: Retail	1,887,056	2,018,594	2,159,301	2,309,816	2,470,823	2,643,052
Number of customers: Bulk	9,496	9,627	9,759	9,894	10,030	10,168
Wastewater treated (MCM)	-	465	465	465	465	465
Wastewater discharge tariff:						
Retail (2017 PKR/m3)	-	-	-	-	-	-
Wastewater discharge tariff:						
Bulk (2017 PKR/m3)	-	-	-	-	-	-
Wastewater treatment tariff:						
Retail (2017 PKR/m3)	-	-	-	-	-	-
Wastewater treatment tariff:						
Bulk (2017 PKR/m3)	-	-	-	-	-	-
Collection rate: Retail	27%	27%	27%	27%	27%	27%
Collection rate: Bulk	59%	59%	59%	59%	59%	59%
<b>With project</b>						
Water sold (MCM)	403	455	559	559	559	559
Number of customers: Retail	1,887,056	2,069,196	2,260,505	2,411,020	2,572,027	2,744,256
Number of customers: Bulk	9,496	9,627	9,759	9,894	10,030	10,168
Wastewater treated (MCM)	-	465	465	465	465	465
Wastewater discharge tariff:						
Retail (2017 PKR/m3) *	-	4.1	4.1	4.1	4.1	4.1
Wastewater discharge tariff:						
Bulk (2017 PKR/m3) *	-	4.2	4.2	4.2	4.2	4.2
Wastewater treatment tariff:						
Retail (2017 PKR/m3) *	-	2.4	2.4	2.4	2.4	2.4
Wastewater treatment tariff:						
Bulk (2017 PKR/m3) *	-	2.5	2.5	2.5	2.5	2.5
Collection rate: Retail	27%	40%	67%	67%	67%	67%
Collection rate: Bulk	59%	69%	89%	89%	89%	89%
<b>Increments due to the project</b>						
Water sold (MCM)	-	63	173	173	173	173
Number of customers: Retail	-	50,602	101,204	101,204	101,204	101,204
Wastewater treated (MCM)	-	-	-	-	-	-

\* Not included in EFA

Source: WB staff calculation

## B. Financial Analysis

6. **Past financial performance.** Due to high NRW, low billing and collection rates, and absence of a wastewater tariff, KWSB is in an unsustainable financial position, having made a large net operating loss on a cash basis in recent years (see Table A2.2). In 2017 and 2018, revenues increased, and electricity costs decreased significantly, but these improvements were still not enough to close the wide gap in revenues and expenses, resulting in large net operating deficits in both years. KWSB has been dependent on subsidies from the provincial government to pay for electricity, which has accounted for about 41-52 percent of its operating costs. KWSB's most recent audited financial statements are for 2006, so financial information on an accrual basis, such as assets, depreciation, and net income, is not available.

**Table A2.2: Past financial performance – KWSB**

PKR million	2014	2015	2016	2017	2018
<b>Revenues</b>	6,450	6,339	6,392	7,989	8,446
<b>Expenses</b>					
O&M except electricity	6,825	6,722	6,797	7,512	8,493
Electricity (currently subsidized)	7,399	6,876	6,897	5,984	5,896

<b>Net operating income</b>	<b>(7,774)</b>	<b>(7,259)</b>	<b>(7,302)</b>	<b>(5,507)</b>	<b>(5,942)</b>
-----------------------------	----------------	----------------	----------------	----------------	----------------

Source: KWSB

7. **Projected financial performance of the with-project scenario.** The projected cash-based with-project financial performance of KWSB for the period from 2019 to 2034 are summarized in Table A2.3 below. The financial projections indicate that the project would help increase KWSB's revenues and reduce the net operating losses.

**Table A2.3: Projected cash-based with-project financial performance – KWSB**

PKR million	2019	2022	2025	2028	2031	2034
<b>Revenues</b>	8,178	8,776	9,936	9,973	10,009	10,047
<b>Expenses</b>						
O&M except electricity	8,984	10,036	10,122	10,122	10,122	10,122
Electricity (currently subsidized)	5,942	6,860	6,326	6,326	6,326	6,326
<b>Net operating income</b>	<b>(6,748)</b>	<b>(8,121)</b>	<b>(6,511)</b>	<b>(6,475)</b>	<b>(6,438)</b>	<b>(6,401)</b>

Source: WB staff calculation

8. **With- and without-project comparison accounting for the investment costs.** Although the investment costs do not have cash impact on KWSB, NPV and IRR are calculated using the investment cost and the cash flow difference between the with- and without-project scenarios in order to assess whether the investment is financially viable considering KWSB's indicative cost of capital. The results of the financial analysis including NVP calculation at the discount rate of 10 percent, and sensitivity analysis around key project risks are summarized in the Table A2.4 below. The project is financially viable in the base case scenario, having a positive NPV. The high IRR is due to the composition of the project that includes high-yielding reform-focused activities and no-regret investments. The sensitivity analysis shows that the project is generally robust against downside risks.

**Table A2.4: With- vs. without-project financial analysis – KWSB**

Scenario	Change	NPV <sup>1/</sup> (PKR million)	IRR (%)	SI <sup>2/</sup>	SV <sup>3/</sup>
Base case		7,042	27%		
Increase in project costs	20%	5,537	21%	1.07	75%
Increase in O&M costs	20%	(20,517)	n/a	19.57	n/a
Decrease in NRW reduction	-20%	5,235	23%	1.28	n/a
Decrease in energy efficiency enhancement	-20%	5,845	24%	0.85	n/a

<sup>1/</sup> NPV = Net Present Value discounted at 10%

<sup>2/</sup> SI = Sensitivity Indicator (ratio of % change in NPV to % change in a variable)

<sup>3/</sup> SV = Switching Value (% change in a variable to reduce the NPV to zero)

Source: WB staff calculation

9. **Implication for supervision to ensure financial sustainability.** In order to ensure financial sustainability of the project, the following issues will require close monitoring: (a) controlling the O&M costs; (b) improving the collection rate; (c) timely kick-off and execution of implementation; and (d) reaching the NRW reduction target, in the order of importance. It will be also important that KWSB reviews and adjusts the tariffs annually to reflect inflation. The Bank will work closely with WB and KWSB's management to ensure timely follow-ups of these issues.

### C. Economic Analysis

10. **Economic benefits.** The quantifiable benefits of the project are measured based on the following:

- Direct benefits of the water supply and sanitation service provision are equivalent to the avoided private costs, such as water purchased from vendors and private investment and operational costs for wells and suction pumps, less the tariff payments that the customers would pay for the getting the similar service from KWSB. Reliable data on these private costs are not available, so it is assumed that customers' additional tariff payments due to the project represent the value of surplus that consumers get through the service provision, thus measuring the direct benefits. The wastewater discharge and treatment tariffs are excluded to be conservative.
- Despite the difficulties of estimating water supply externalities, the following indirect benefits (or costs) are considered, with key parameters used summarized in Table A2.5:
  - The health benefits arise from avoided costs due to reduced diarrheal illness. They are estimated by the value of healthy life arising from the quality of life enhancement due to reduced diarrheal disease incidence. More specifically, the reduction in Disability Adjusted Life Years (DALY) averted attributable to diarrhea is calculated, and the value of averted DALY is measured by the minimum wage, which is used to represent the minimum value of healthier life. Because not all disease incidence can be averted due to improved water quality and sanitation interventions, and as the activities under phase-1 are focused toward improving water quality through chlorination, the probability of reduction in the risk of diarrhea due to improvements in water quality through the project is assumed to be 15 percent. In the analysis, the number of the beneficiaries from water and sewer network rehabilitation is assumed to gradually reach 2,000,000 by 2024.
  - The project's environmental benefits (or costs) arising from greenhouse gas (GHG) emission are calculated using the lower-bound shadow price of carbon (US\$39 per ton of CO<sub>2</sub>e in 2019, rising to US\$55 per ton of CO<sub>2</sub>e by 2034). The net emissions from the project are - 415,562 tCO<sub>2</sub>e over the analysis period, mainly due to energy efficiency improvements. This estimation was calculated based on actual energy use distribution, where 57 percent of energy consumption is assumed to take place during source transmission, 29 percent at water filtration plants, and the rest in others.

**Table A2.5: Key parameters for economic analysis – KWSB**

Item	2019	2022	2025	2028	2031	2034
Population served by water and sewer network rehabilitation	-	666,668	2,000,000	2,000,000	2,000,000	2,000,000
Diarrheal infections averted in DALY	-	1,906	5,718	5,718	5,718	5,718
Avoided GHG emissions (tCO <sub>2</sub> e)	-	27,704	27,704	27,704	27,704	27,704

Source: WB staff calculation

- The avoided GHG emissions are likely to be higher, if two following factors that were unable to be quantified due to the lack of data are considered:
  - Reduction in NRW is likely to improve pumping efficiency throughout the system.
  - Over the 15-year analysis period, it is estimated that the average water consumption from private boreholes decreases from 345 MCM per year to 211

MCM per year. As a result, the GHG emission would be reduced through less pumping in wells and less trucking to transport water.

- All saved water from NRW reduction through the project is assumed to be consumed, so water production would remain the same. An analysis was carried out to separately show the GHG emission effect of NRW reduction, the results of which are shown in Table A2.6.

**Table A2.6: GHG emission effect of NRW reduction – KWSB**

	When saved water from NRW reduction is not consumed	Using saved water for consumption	Total
Water produced (m3 per day)	2,134,283	366,067	2,500,350
Water delivered (m3 per day)	1,064,524	366,067	1,430,591
Avoided GHG emissions total (tCO <sub>2</sub> e)	799,589	(384,027)	415,562
Avoided GHG emissions per year (tCO <sub>2</sub> e)	53,306	(25,602)	27,704

Source: WB staff calculation

11. **Economic costs.** The economic price of the investment cost was calculated by netting out 17 percent from the financial price to account for the federal sales tax on goods.

12. **Results of economic analysis.** The results of the economic and sensitivity analysis are summarized in the Table A2.7 below. The project is economically viable in the base case scenario and is robust against downside risks. The high IRR is due to the composition of the project that results in large direct and indirect (especially health) benefits compared to the investment costs.

**Table A2.7: With- vs. without-project economic analysis – KWSB**

In PKR million	2019	2022	2025	2028	2031	2034
Direct benefits	-	681	1,886	1,886	1,886	1,886
Indirect benefits: Reduced DALY from less diarrheal infections	-	343	1,029	1,029	1,029	1,029
Indirect benefits: Reduced GHG emission	-	164	175	187	200	214
Economic investment costs	-	1,665	-	-	-	-
Incremental O&M costs	-	(362)	(811)	(811)	(811)	(811)
Net economic benefits	-	(114)	3,901	3,913	3,926	3,940

Scenario	Change	NPV <sup>1/</sup> (PKR million)	IRR (%)	SI <sup>2/</sup>	SV <sup>3/</sup>
Base case		14,995	51%		
Base case with higher-bound carbon price		16,342	57%		
Increase in capital costs	+20%	13,708	41%	0.43	217%
Increase in O&M costs	+20%	(12,564)	-11%	9.19	n/a
Decrease in direct benefits	-20%	12,951	45%	0.68	n/a
Decrease in indirect benefits	-20%	13,623	47%	0.46	n/a

<sup>1/</sup> NPV = Net Present Value discounted at 10%

<sup>2/</sup> SI = Sensitivity Indicator (ratio of % change in NPV to % change in a variable)

<sup>3/</sup> SV = Switching Value (% change in a variable to reduce the NPV to zero)

13. **Implication for supervision to ensure economic viability.** The sensitivity analysis shows that the project's economic performance most depends on: controlling O&M costs, realizing direct benefits, and keeping the implementation kick-off and execution on schedule, in the order of importance.

### **Annex 3: Project Investment Selection Criteria**

The selection criteria outlined in this section apply to and will guide the selection of infrastructure investments for the project in this SOP, and are the following:

#### **A. General Criteria**

1. Selected infrastructure investments must be within Sindh Province, Pakistan and benefit the area of Karachi Municipality;
2. Selected investments must directly improve water supply, access to safely managed sanitation and/or the financial sustainability of KWSB or be otherwise in line with the project development objective;
3. Selected investments which may indirectly lead to improvements in water supply, access to safely managed sanitation and/or the financial sustainability of KWSB may be eligible if the linkages with such improvements are convincingly demonstrated;
4. Selected investments must follow all social-, environmental-, procurement- and financial management requirements of the World Bank and the Government of Pakistan and Government of Sindh, and obtain all required environmental and regulatory clearances;
5. Investment will not be prepared for, or take place in, areas where the standards and conditions of the Bank's operational policy on involuntary resettlement (OP 4.12), and/or Environmental and Social Standard 5 (ESS5 of the Bank's Environmental and Social Framework (ESF)) on land acquisition, restrictions on land use, and involuntary resettlement cannot be ensured. OP 4.12 and ESS5, among other stipulations, require compensation and (if applicable) rehabilitation of affected people including persons without land title, squatters, vendors, hawkers etc.
6. Ceteris paribus, priority shall be given to infrastructure investments that align with the reform program of Component 1 of the project.;
7. Cost effectiveness and cost efficiency shall be key criteria for selected investments. Ceteris paribus, interventions with higher expected return shall be given priority.
8. Selected investments shall not adversely change the quality or quantity of water flows to other riparian(s), and will not be adversely affected by the other riparian states possible water use;

#### **B. Appraisal Criteria and Standards of Preparation**

9. Preparation shall be based on the completion of detailed field surveys and engineering designs to ensure feasibility, cost-effectiveness and compliance of technical standards with international best practice;
10. Preparation should be based on a suitable design period for each kind of asset based on forecasts of: population, water use/supply, and wastewater quantity and quality. These assumptions must be suitably validated
11. A detailed Project Implementation Plan must be prepared for each selected investment with realistic timelines for each stage of preparation and implementation;
12. Adequate budget provisions must be confirmed, including price and physical contingencies as appropriate;

13. Adequate consideration is to be given to operations and maintenance costs and arrangements to ensure investments are sustainable from a financial and institutional point of view;
14. Planning and design should be consistent with other investments undertaken by KWSB, and in particular, expected works under Projects 2 and 3 of this SOP;
15. Where possible, selected investments should use local labor and include suitable provisions for improving the working conditions of local workers;
16. Selected investments should avoid areas of disputed land tenure, although such areas will be considered with clear proposals for early resolution. Priority will be given to subprojects that avoid land acquisition altogether and/or can obtain land through donation;

### **C. Selection and Approval Cycle**

17. Stage 1 - Annual Planning Meeting: An annual planning meeting will be organized by the Project Implementation Unit with participation of KWSB management, the Project Steering Committee and other relevant stakeholders. At this meeting, the PIU will update stakeholders on project progress and present a draft action plan with a proposed long-list of investments to be undertaken in the next planning period.
18. Any proposed investments are to comply with the General and Appraisal Criteria outlined above. Taking into account feedback received at the meeting, the PIU will then submit a finalized action plan to the World Bank for comments, review and no objection.
19. Stage 2 – Preparation and Evaluation of Detailed Project Reports (DPRs): The PIU will prepare DPRs for investments contained in the approved action plan. This will involve compiling feasibility reports with detailed engineering designs, cost projections and the environment and social assessments as needed in line with the Environment & Social Management framework of the project.
20. The PIU with support of KWSB will conduct consultations with the local community on all aspects of the proposed investment(s), while making available all relevant information to the public. Evidence of consultations and community agreement are to be integrated into the DPR.
21. Finalized DPRs will be submitted to KWSB management for approval, and subsequently to the World Bank for review and no-objection.
22. Stage 3 –Approval: DPRs recommended by KWSB management and in receipt of no-objection by the World Bank will be considered approved for tendering for contract amounts below US\$ 5 million. Contracts above this threshold will be reviewed and receive approval from the Project Steering Committee.
23. Stage 4 – Bid Documents and Bidding: The Project Implementation Unit will be responsible for managing the tendering processes associated with approved DPRs in line with World Bank procurement and financial management rules.
24. Stage 5 – Construction Supervision, Quality Assurance, Monitoring and Evaluation: The PIU would be responsible for putting in place arrangements for supervision of all contracts. All civil and mechanical works investments would require comprehensive on-site construction supervision, in accordance with international best practice.

25. If required, the PIUs may procure and manage supervision consultants to address any capacity gap for effective construction supervision. Based on quarterly monitoring reports, the Project Steering Committee will also help monitor the implementation of investments.

## Annex 4: Sovereign Credit Fact Sheet

### A. Recent Economic Development

1. Pakistan is a lower-middle-income country with GDP per capita at USD 1,472 and a population of 212 million.<sup>1</sup> Growth in Pakistan increased from 5.2 percent in 2017 to 5.5 percent in 2018, but the country continued to grapple with its large twin deficits.<sup>2</sup> With an expansionary fiscal policy<sup>3</sup>, the budget deficit surged from 5.8 percent of GDP in 2017 to 6.4 percent in 2018, which is 2.4 percent more than budgeted.<sup>4</sup> This is due to the underperformance of revenue collection and expenditure overruns in the run-up to the elections in 2018.<sup>5</sup> Under the impact of ongoing trade conflict, Pakistan current account deficit expanded from 4.1 percent in 2017 to 6.3 percent in 2018, reflecting the stagnated exports growth and the surged of fuel import .

2. According to IMF Fiscal Monitor April 2019, the country's general government gross debt rose from 67 percent of GDP in 2017 to 72 percent in 2018, above the 60 percent threshold stipulated in the Fiscal Responsibility and Debt Limitation Act.<sup>6</sup>

### B. Economic Indicators

**Selected Macroeconomic Indicators - Pakistan (2015-2020)**

No.	Economic Indicators	2015	2016	2017	2018	2019*	2020*
1	Real GDP growth	4.1	4.6	5.2	5.5	3.3	2.4
2	CPI Inflation (% change, average)	4.5	2.9	4.1	3.9	7.3	13.0
3	Current account balance (% of GDP)	-1.0	-1.7	-4.1	-6.3	-4.6	-2.6
4	General government overall balance (% of GDP)	-5.3	-4.4	-5.8	-6.4	-6.8	-7.1
5	Nominal gross public debt (% of GDP)	63.3	67.6	70.7	75.3	79.1	80.5
6	Public gross financing needs (% of GDP)	31.4	28.5	29.4	33.7	36.0	23.6
7	External debt (% of GDP)	24.1	26.2	27.4	30.3	36.7	43.4
8	Gross external financing need (% of GDP)	3.4	4.1	7.1	9.2	9.0	8.9
9	Foreign Direct Investment (% of GDP)	0.3	0.8	0.9	1.1	0.6	0.8
10	Gross official reserves (months of imports)	3.2	3.7	3.0	1.9	1.4	2.2
11	Broad money (M2, % change)	13.2	13.7	13.7	9.7	10.8	12.1

<sup>1</sup> The income group classification for fiscal year 2019 is based on World Bank criteria, details seen: <https://datahelpdesk.worldbank.org/knowledgebase/articles/906519>; GDP Per Capita and population use World Bank 2018 data.

<sup>2</sup> Asian Development Outlook 2019 Strengthening Disaster Resilience, April 2019.

<sup>3</sup> Fiscal Policy Statement 2018-19, Pakistan's fiscal deficit in 2017 surged in the basis of a sharp increase in expenditure, particularly provincial expenditure, while in 2018, it was caused by a combination of slower growth in revenue and continued expansion of public spending. [http://www.finance.gov.pk/publications/FPS\\_2018\\_19.pdf](http://www.finance.gov.pk/publications/FPS_2018_19.pdf)

<sup>4</sup> Debt Policy Statement 2017-18, Federal Government budget deficit shall be reduced at 4 percent of GDP (excluding foreign grants) during the period 2017-18 to 2019-20 and 3.5 percent of GDP thereafter. [http://www.finance.gov.pk/publications/DPS\\_2017\\_18.pdf](http://www.finance.gov.pk/publications/DPS_2017_18.pdf)

<sup>5</sup> IMF Fiscal Monitor, April 2019. Pakistan went through Senate election on March 3, 2018, National Assembly election on July 25, 2018, and Presidential election on September 4, 2018.

<sup>6</sup> Debt Policy Statement 2017-18, Pakistan's public debt shall be reduced to 60 percent of estimated GDP until 2017-18, and thereafter a 15-year transition has been set to bring down debt-to-GDP ratio to 50 percent.

12	Exchange rate (PRs/USD, EOP)	104.7	104.4	110.4	138.6	158.7	--
----	------------------------------	-------	-------	-------	-------	-------	----

Note: \* denotes projected figures. Indicator no. 1-11 are from IMF Country Report No. 19/212 (July 2019), with IMF's newly approved US\$6 billion 39-Month Extended Fund Facility program included. Indicator no. 12 is from Thomson Reuters and the exchange rate for 2019 is estimated as of Aug. 31, 2019.

### C. Economic Outlook and Risks

3. Looking ahead, the country's growth is expected to drop sharply to 3.3 percent in 2019 as macroeconomic challenges mount. The external and domestic risks may arise from a slower global economy and higher geopolitical tensions respectively. Despite a tighter monetary policy<sup>7</sup> and lower international oil prices, inflation is expected to rise sharply to an average 7.3 percent in 2019, due to hikes of domestic gas and electricity tariffs, and pass through effects from a weaker exchange rate.<sup>8</sup> The current account deficit is expected to ease but will remain high at 4.6 percent of GDP in 2019.

4. IMF approved a US\$6 billion 39-Month Extended Fund Facility (EFF) for Pakistan on July 3, 2019. The EFF-supported program aims at helping Pakistan to reduce economic vulnerabilities and generate sustainable and balanced growth focusing on: a decisive fiscal consolidation to reduce public debt and build resilience while expanding social spending; a flexible, market-determined exchange rate to restore competitiveness and rebuild official reserves; to eliminate quasi-fiscal losses in the energy sector; and to strengthen institutions and enhance transparency.<sup>9</sup>

5. On debt outlook, under the EFF program scenario, public debt is projected to reverse its trajectory from 2020 onwards. Gross public debt is expected to reach 80.5 percent of GDP in 2020, partly reflecting currency depreciation, but will fall sharply to 67 percent of GDP by 2024. Gross financing needs are expected to decline sharply to 23.6 percent of GDP in 2020 and further to 16.7 percent by 2024, reflecting the reprofiling of short-term domestic debt held by the Central Bank.

6. External debt risks remain high. Nevertheless, under the EFF, external debt is estimated to remain sustainable given the strong commitments from bilateral official lenders. External debt is projected to rise to around 37 percent of GDP at the end of 2019 mainly driven by sizable external borrowing, a large current account deficit, and currency depreciation. External debt is projected to steadily decline after peaking in 2021, returning to a more sustainable path, under the macro policy prescription of the EFF. The moderation in external debt is mainly driven by a narrower current account deficit, non-debt creating capital inflows, and a recovery in economic growth. The main downward risk would be the unexpected delays of implementation of the planned EFF-supported programs and policies.

<sup>7</sup> Bank of Pakistan has raised its policy rate 7 times since January 2018. The most recent raise was by 50 basis points to 10.75 percent in its 2019 March meeting.

<sup>8</sup> IMF Regional Economic Outlook Update Middle East, North Africa, Afghanistan, and Pakistan, April 2019.

<sup>9</sup> IMF Country Report No. 19/212 (July 2019).