

December 2020

Karachi Water & Sewerage Services Improvement Project [KWSSIP]

Project Implementation Unit, Karachi Water & Sewerage Board

Room No. 10, Block-C, 9th Mile KW&SB Office, Shahra-e-Faisal, Karachi

Request for Expression of Interest

For

Environment & Social Assessment Studies of

Group - 2 for SOP 2 of KWSSIP

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**REQUEST FOR EXPRESSION OF INTEREST**

(CONSULTING SERVICES – FIRMS SELECTION)

**Islamic Republic of Pakistan**

**Karachi Water and Sewerage Services Improvement Project-2 (KWSSIP-2)**

**AIIB Special Fund (AIIB – SF) Grant No. S0404A**

**Assignment Title: Environmental and Social Assessment Studies of Group 02 for SOP-II KWSSIP**

**Reference No. (As per Procurement Plan): 2**

The Karachi Water and Sewerage Board (KWSB) has applied for financing as Grant in Aid from the Asian Infrastructure Investment Bank (AIIB) toward the cost of the consulting services for the preparation of sub-projects of KWSSIP-2.

The consulting services (“the Services”) for the Group 2 Sub-Projects for KWSSIP-2 consist of Environmental and Social Assessment Studies for i. Improve Water Supply and Sewerage in Additional Low Income Communities (*KatchiAbadis*), ii. Priority Sewer Network Rehabilitation and Extension and Rehabilitation of Wastewater Pumping Stations, iii. Priority Water Network Rehabilitation and Extension incl. Meters and DMAs to Reduce NRW and additional chlorination facilities to improve the water quality, iv. Reducing Energy Consumption, v. Malir basin wastewater interceptors and treatment plant (S-3 Phase 2), vi. Rehabilitation of Existing and Construction of New Filtration Plants to assure treatment of all water currently produced (Additional treatment capacity for new sources would be part of component 1). The Services include level of effort of relevant professionals, with implementation period of **06 months**, expected start date shall not be later than March, 2021, ensuring full consistency with the TORs attached to this REOI.

The detailed Terms of Reference (TOR) for the assignment can be obtained from the address given below during the office hours, i.e. 0900 – 1700 H on working days, Monday to Friday or downloaded from KW&SB website.

The KWSB now invites eligible consulting firms (“Consultants”) to indicate their interest in providing the Services. Interested Consultants should provide information demonstrating that they have the required qualifications and relevant experience to perform the Services.

The shortlisting criteria i.e. experience in providing services in the areas of Environmental and Social Assessment Studies for three (03) infrastructure development works undertaken during the last ten (10) years, as detailed in the Section 3 (Shortlisting Criteria) of this document. Key Experts will not be evaluated at the shortlisting stage.

The attention of interested Consultants is drawn to Section II, paragraph 4.4, and paragraph 4.9 of the AIIB’s “Procurement Instructions for Recipients” June 2, 2016, setting forth the AIIB’s policy on conflict of interest and eligibility.

Consultants may associate with other firms to enhance their qualifications, but should indicate clearly whether the association is in the form of a joint venture and/or a sub-consultancy. In the case of a joint venture, all the partners in the joint venture shall be jointly and severally liable for the entire contract, if selected.

A Consultant will be selected in accordance with the Quality and Cost Based Selection method set out in the Procurement Instructions for Recipients.

Further information can be obtained at the address below during office hours 0900 – 1700 Hours on working days, Monday to Friday

Expressions of interest must be delivered in a written form to the address below (in person, or by mail) latest by **12th January 2021.**

**The Project Director**

**Project Implementation Unit (PIU)**

**Karachi Water & Sewerage Services Improvement Project (KWSSIP)**

**Karachi Water & Sewerage Board**

**Room No. 10, Block-C, 9th Mile KW&SB Office,**

**Shahra-e-Faisal, Karachi.**

**Tel No. +92-21-99245134**

# Instructions to Consultants

## **General Instructions**

While expressing the interest, consultants have to consider the following:

1. The Project Implementation Unit (PIU) invites eligible consulting firms/ Joint Venture(s) with specific and proven competence and experience to indicate their interest in providing the services. Eligible firm(s) / JV’s should submit Expression of Interest (EOI) in English language along with the required relevant complete details of the qualification and experience requested in Item 3 – Shortlisting Criteria.
2. Interested consulting firm(s) / Joint Venture(s) must provide information indicating that they are qualified to perform above services (e.g. description of similar assignments, value of previous assignments, experience under similar conditions, availability of appropriate professionals etc.).
3. Association of consultants can either be in the form of joint venture (JV) or a sub-consultancy. Therefore, the consultant submitting their Expression of Interest in association should clearly mention whether the association is a Joint Venture or Sub-consultancy. The experience of all the firms in the JV will be considered for evaluation and each partner must meet the shortlisting criteria as defined under Section 3. In case of Sub consultancy, the experience of the sub-consultant will not be considered in qualification.
4. The maximum numbers of entities allowed in joint venture are three [03].
5. An applicant can express only one interest either as a single entity or in joint venture, however, a sub-consultant can associate with more than one applicant.
6. A firm that applied either as single entity or JV member cannot be a sub-consultant to another entity or JV. In such a case, all the applications in which the firm is involved shall be disqualified and rejected. While selecting a sub-consultant, applicants are advised to check this requirement.
7. A consulting firm / Joint Venture will be shortlisted in accordance with AIIB Procurement Policy, January 2016, and Interim Operational Directive: Procurement Instructions for Recipients, June 2016.
8. The attention of interested Consultants is drawn to Section II, paragraphs, 4.4 and 4.4.2 of the AIIB’s Interim Operational Directives on Procurement Instruction for Recipient (PIR) June 2016, setting forth the AIIB’s policy on conflict of interest that can be seen at <https://www.aiib.org/cms/en/search/index.html?query=procurement%20instructitons%20for%20recipient>
9. it is expected that the interested firm(s)/ joint venture(s) will have expertise in the areas of environmental and social management, all related public and donor-funded development projects / affairs of the city of Karachi in these areas including but not limited to management frameworks of these, dealing with relevant public sector governing authorities and coordination with, roles of civil societies, impacts of new projects, environmental and social safeguards, resettlement action plans, collection of data, field surveys, public campaigning, public hearings, specific problems of urban informal settlements [katchi abadi], land use patterns, village setup and system in rural areas etc.
10. The consultant(s) should ensure that the submitted information is correct. An EOI containing significant omissions / errors shall not be considered. A firm / JV qualifying on the grounds of misrepresentation of facts shall be disqualified at any stage even after the award of contract and the sanctions / penalties may also be imposed on the firm as per AIIB / World Bank’s rules and regulations.
11. The information need to be presented in a clear and comprehensive manner free of ambiguities. The copies of documents attached should be clean and legible.
12. If the EOI consists of more than one volume, the applicant must clearly number the volumes constituting the EOI and include a table of contents for each volume. **All documents should be securely bound**.
13. Consultant selection as a result of this REOI shall be in accordance with the Quality and Cost Based Selection Method. Both, local and international consulting firms can express interest.
14. Once your team is shortlisted and invited for submission of the Proposal, it is not permissible to transfer the invitation to any other firm, such as Consultant’s parent or sister companies, subsidiaries and affiliates.
15. The procuring agency will reject a Proposal if the Consultant drops a JV member without the Client’s prior consent, which is given only in exceptional circumstances, such as debarment of the JV partner or occurrence of Force Majeure.
16. Submit one original and two copies of EOI in hard format and soft copy of complete EOI on USB device. Documents related to qualification / generated docs have to be either in Word and Excel. Only attachments like certificates, company registration and financial documents are acceptable in scanned / pdf form.

# Information Needed for EOI

## Basic Information – Part A

1. Name of the Company, Phone, Fax, E-mail address, postal address of the head office and name of Contact Person. In case of JV, provide information of all JV members.
2. Certificate of Registration of the firm as Legal Entity. In case of JV, provide information of all JV members.
3. Firm(s)/ joint venture(s) name, address, copy of the Registration Certificate with relevant professional bodies of the concerned Government, supported by latest/ updated renewal, Country of Operations (if the firm is registered and operating in several countries). Memorandum/ Article of Association/ Partnership Deed or Joint Venture Agreement Or a letter of intent to form a joint venture (as applicable).
4. National Tax Number of the firm/joint venture;
5. List of other works similar to indicated in General and Specific Experience above completed in last ten (10) years or in progress of the firm / joint venture members indicating the following:
6. Name of the Project;
7. Name and address of the Client;
8. Value of the contract in US$.
9. Start and Completion Date
10. Whether worked as Consultant, Sub-consultant or JV Member. In case of JV Member indicate the share in the JV.
11. If worked as sub-consultant or JV member, provide details / component of works performed.
12. Any additional document(s) to support relevant experience of firm(s)/ Joint Venture(s);
13. List of the litigation/arbitration during last ten (10) years, if any, in which the company has been involved and the current status.
14. An Affidavit from firm / all the participating partners of the association / JV confirming that: (a) applicant firm has never been blacklisted by any International, Government / Semi Government Organization and (b) All the information provided by the applicant firm in this EOI is correct.

## Basic Information – Part B

**Expression of Interest (EOI) Consulting Firms**

Table 2.1: EOI for Assignment

|  |  |
| --- | --- |
| Assignment Name |  |
| Project Name |  |
| Project Country |  |

**I. Consulting Firm Information**

Table 2.2: Firm Information

|  |  |
| --- | --- |
| Date: | Country of Incorporation: |
| Consultant Name: | Acronym: |
| EOI Submission Authorized by: | Position |

**Associations (Joint Venture or Sub-consultancy)**

Table 2.3: Information of Association

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Consultant | Acronym | Country of  Incorporation1 | Joint Venture  (JV) or Sub- consultant | EOI  Submission  Authorized By | Position |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

**II. Assignment Specific Qualifications and Experience**

**A. Project References**

Please select three post relevant projects completed in last 10 years to demonstrate the firm’s technical qualifications and geographical experience where similar studies related to environmental and social safeguard assessment have been performed for the MDB’s financed projects for water supply and Sewerage systems, filtration processes for potable water and sewage treatment facilities. The completion date of each project must be within last 10 years and the total construction value of each shall not be less than US$10 million. The services must include relevant environmental and social assessment studies. Minor studies for small scale projects will not be considered. The completion certificates shall be attached as per details below.

Table 2.5: Most Relevant Projects during Last 10 Years

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| SN | Project | Period | Client | Country | Firm |
| 1 |  |  |  |  |  |
| 2 |  |  |  |  |  |
| 3 |  |  |  |  |  |
| 4 |  |  |  |  |  |
| 5 |  |  |  |  |  |

Project Summary

**Project of**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| ● Project Name |  | | | | | |
| ● Name of Client |  | | | | | |
| ● Country |  | | | Project location  Country | |  |
| ● Participation |  | As lead firm  As associate firm | | | | |
| ● Value of Services |  | | (US$) | | | |
| ● Source of Financing |  | | | | | |
| • Consultancy Services | | | | | | |
| (i) No. of staff |  | | | | | |
| (ii) No. of person months |  | | | | | |
| • Length of Consultancy Assignment | | | | | | |
| ● Start Date |  | | | | (dd/mm/yyyy) | |
| ● Scheduled date of Completion |  | | | | (dd/mm/yyyy) | |
| ● Actual Date of Completion |  | | | | (dd/mm/yyyy) | |
| ● Continuous / Intermittent |  | | | |  | |
| • Name of Associate Firms (if any) | | | | | | |
|  | | | | | | |
| • No. of Person-Months of Professional Staff Provided by Associated Firm(s) | | | | | | |
| • Name of Senior Staff (Project Director/Coordinator, Team Leader) Involved and Functions  Performed | | | | | | |
|  | | | | | | |
| • Detailed Narrative Description of the Project with total cost | | | | | | |
|  | | | | | | |
| • Detailed Description of the Actual Services Provided by your Firm | | | | | | |
|  | | | | | | |

(Please insert more tables as necessary)

**III. Comments on Terms of Reference**

|  |
| --- |
|  |

**VI. EOI Attachments**

Table 2.6: Attachments

|  |  |
| --- | --- |
| SN | Description |
| 1 | Certificate of Incorporation of the lead member |
| 2 | Certificate of Incorporation of the JV member (for each member) |
| 3 | Certificate of Incorporation of the Sub-Consultant (for each sub-consultant) |
| 4 | Letter of Association/letter of intent to form a JV/Association |
| 5 |  |

(Please insert more rows as necessary)

**VI. Eligibility Declaration**

We, the undersigned, certify to the best of our knowledge and belief [Eligibility refers to AIIB’s Procurement Policy, Clause 5.8 and 7.0 on Prohibited Practice and Integrity].

Table 2.7: Eligibility Declarations

|  |  |  | Indicate  Yes / No |
| --- | --- | --- | --- |
| We have read the advertisement, including the terms of reference (TOR), for this assignment. | | |  |
| Neither the consulting firm nor its JV member or sub-consultant or any of its experts prepared the TOR for this activity. | | |  |
| We confirm that the project references submitted as part of this EOI accurately reflect the experience of the specified firm/consortium. | | |  |
| We further confirm that, if any of our experts is engaged to prepare the TOR for any ensuing assignment resulting from our work product under this assignment, our firm, JV member or sub-consultant, and the expert(s) will be disqualified from short-listing and participation in the assignment. | | |  |
| All consulting entities and experts proposed in this EOI are eligible to participate in AIIB-funded, supported and administered activities. | | |  |
| The lead entity and JV member or sub-consultant are NOT currently sanctioned by AIIB or other MDBs. Neither the consulting firm nor the JV member or sub- consultant has ever been convicted of an integrity-related offense or crime related to theft, corruption, fraud, collusion or coercion. | | |  |
| We understand that it is our obligation to notify AIIB should any member of the consortium become ineligible to work with AIIB or other MDBs or be convicted of an integrity-related offense or crime as described above. | | |  |
| JV member or sub-consultant, including all proposed experts named in this EOI, confirmed their interest in this activity in writing. | | |  |
| JV member or sub-consultant, including all proposed experts named in this EOI, authorized us in writing to represent them in expressing interest in this activity. | | |  |
| None of the proposed consortiums are subsidiaries of and/or dependent on the Executing Agency or the Implementing Agency or individuals related to them. | | |  |
| We understand that any misrepresentations that knowingly or recklessly mislead or attempt to mislead may lead to the automatic rejection of the proposal or cancellation of the contract, if awarded, and may result in further remedial action, in accordance with AIIB’s Prohibited Practice. | | |  |

# Shortlisting Criteria

## Shortlisting Criteria

The shortlisting criteria is as under:

Table 3.1: Shortlisting Criteria

| **No.** | **Criterion** |
| --- | --- |
|  | **General Experience**  Provide services in the areas of Environmental and Social Assessment Studies for three (03) infrastructure development works undertaken during the last ten (10) years.  List the project name, name of the Client, location and type of facility / development for that works were performed.  Single Entity: Must Meet.  Joint Venture:  The Lead Member must have done two [02] projects  Other Members: must have done minimum one [01] project of above nature |
|  | **Specific Experience of Water Supply and Sewerage system, water Filtration Process and Sewage Treatment Facilities and Infrastructure Development for Low Income Communities:**   1. Experience of at least three (03) Projects related to the specified fields completed in the last ten (10) years for Environmental and Social Assessment studies of contracts value equivalent to US$ 0.25 million, are required. 2. All above consultancy assignments should have been for the projects having construction value of US$ 10 million, are required.   Single Entity / Firm: Must Meet  Joint Venture:   1. The lead member must have done at least one [01] water supply with filtration process and one [01] sewerage system with sewage treatment facility project of value as defined above.   Other members: must have done either one [01] specified project.  The projects listed here and in Item 2 above:   * Must be a completed project with a completion certificate issued by the Client. Attach the Completion Certificate and letter of award indicating the contract value for each reference project. * If the work(s) have been performed in a joint venture, indicate share in the JV to work out the number of projects required for the qualification of this assignment. |
|  | Overall **Managerial Capacity** (Core Managerial and Technical Staff) |

Appendices

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| [Appendix A. Terms Of Reference 13](#_Toc56524253) |

**Appendix-A**

# **Terms of Reference for Environmental and Social Assessment Studies of Group-02 for SOP-I of KWSSIP**

1. **BACKGROUND**

Karachi, a megacity, is the economic capital of Pakistan. According to the recently released provisional 2017 National Census data, the population of Karachi is reported to be 14.9 million, however this is largely contested, and final results are still pending.[[1]](#footnote-1) It is Pakistan’s main seaport and international trade hub and contributes about 15 percent to the national Gross Domestic Product (GDP).[[2]](#footnote-2)

However, Karachi is also among the world’s least livable cities. The city ranks in the bottom ten cities (out of 140) in the 2017 Global Livability Index,[[3]](#footnote-3) performing poorly in the dimensions of livability, health, environment, safety and education. Green and open spaces, as a share of the city’s land area, are declining and high-density luxury apartments are perceived as displacing public spaces for the middle and lower classes. The city is also very dense, with more than 20,000 persons per square km. From 2001 to 2013, the urban footprint expanded by more than a quarter with signs of sprawl, without the accompanying investments in services and infrastructure. Migration is the primary growth factor, and the city is characterized by pockets of ethnically homogenous zones within a heterogeneous city.

Karachi, like all megacities, has grown so quickly that it struggles to deliver basic infrastructure services, including potable water and wastewater collection and treatment. The water and sewerage utility, Karachi Water and Sewerage Board (KWSB), is no longer equipped or empowered to deal with the challenging reality on the ground. There is a huge unmet demand for water (550 million gallon per day ‑ MGD current capacity versus an estimated demand of 1200 MGD); a high non-revenue water percentage (50-60 percent); very large financial losses (estimated at PKR 569 million/US$5.4 million per month); and significant outstanding arrears (estimated at PRK 32 billion/US$305 million). Most of KWSB’s 1.1 million customers get water through the piped network on an irregular basis, and some just 2-4 hours every other day. There is currently no sewerage treatment, as the city’s sewage treatment facilities are dilapidated and not working, resulting in an estimated 475 MG of sewage/day being discharged into the Arabian Sea via the storm water network. The utility has not had significant capital investment for more than a decade, and the last investment project financed by an international financing institution (IFI) dates to the mid-1990s. Most of its infrastructure is worn out and operating far below its rated capacity.

1. **PROJECT OVERVIEW**

The proposed Project’s Development objectives are to: (i) raise KWSB’s operational capacity to deliver to all of its customers safe and reliable water service on a sustainable and predictable basis; (ii) restore KWSB’s operation to financial stability; and (iii) establish an enabling environment for future private sector investments in water supply and wastewater treatment.

The World Bank (WB) and Asian Infrastructure Investment Bank (AIIB) have joined hands with the Government of Sindh under programmatic engagement spread over a period of 12 years. The investment program (Karachi Water and Sewerage Services Improvement Project **-** KWSSIP) is divided into four parts called Series of Projects (SOPs). Under the WB and AIIB investments, KWSB’s performance will be improved to make it a turn-around utility through the development of technical and customer response capacity to meet its mandate of reliably delivering water and wastewater services to one of the world’s most populous metropolitan areas. WB and AIIB have approved loans for KWSSIP-SOP 1. This assignment is for the environmental and social assessment studies for KWSSIP- SOP 2.

1. **PROJECT COMPONENTS and Safeguard Work**

The proposed KWSSIP has three inter-related components: (i) Reform; (ii) Securing Sustainable Water Supply and Sewerage; and (iii) Project Management and Studies. All selected project activities will support the following five goals identified as priority for KWSB: (i) 24/7 safe and reliable water supply for all customers; (ii) majority of wastewater is collected and safely disposed; (iii) KWSB’s operations become financially sustainable; (iv) KWSB operates under a modern and effective governance framework; and (v) KWSB improves the enabling environment for private sector investments. ***Component 1*** will finance both capacity building and reform measures to improve the enabling environment, thus contributing to improved utility performance, including more reliable and energy efficient services. ***Component 2*** will undertake selected infrastructure investments, thereby ameliorating water and sewer services in Karachi and increasing the city’s resilience to water shortages, floods, and saltwater intrusion. ***Component 3*** will fund project management and associated studies.

During the preparation of KWSSIP- SOP1, an Environmental Management Framework (EMF) and a Social Management Framework (SMF) including a Resettlement Policy Framework (RPF) have been prepared for KWSSIP- SOP1, in accordance with WB’s Operational Policies.

1. **INVESTMENT PLAN FOR SOP-2**

The project activities of SOP-2 (or KWSSIP-2) under its component 2 related to infrastructure investments have been grouped in line with the project components as descried below.

**Component 2 – Infrastructure Investments:** KWSB will implement subprojects (works) for infrastructure in their mandate, as per screening criteria and other procedures. KWSB is responsible for design and implementation of subprojects in compliance with the World Bank’s policies on social and environmental management. Selection, design and implementation of each subproject will be based on a set of screening criteria as part of a *“Project Risk Reducing Procedure*” (RRP), a multi-level screening process that has been built into project design to avoid project-related social risks, especially associated with the ongoing Anti Encroachment Drive (AED), and ensure compliance with the World Bank’s Environmental and Social Framework (ESF), and relevant Environmental and Social Standards, specifically the Environmental and Social Standards-5 (ESS5) (Land Acquisition, Restrictions on Land Use and Involuntary Resettlement).

The activities listed below have been included under Component-2 of the SOP-2. The proposed infrastructure investment plan for KWSSIP-2 addresses three interlinked structural problems in Karachi’s water and sewerage system – the overall supply shortfall; the low water quality; and the lack of sewage treatment capacity. The environmental and social assessment studies have been divided into two groups. The KWSSIP-2 activities are grouped accordingly in the table below. The present ToRs are for the Group 2 studies.

| **Table-1: KWSSIP-2 Subprojects under Component 2** | | |
| --- | --- | --- |
| **Component 2 - Securing Sustainable Water Supply and Sewerage Services** | | |
| Group 1 | 1 | Additional Bulk Water Supply Investment |
| 2 | K-IV Augmentation (Connection of K-IV Treatment plants to the network) |
| Group 2 | 3 | Improve Water Supply and Sewerage in Additional Low Income Communities (*KatchiAbadis*) |
| 4 | Priority Sewer Network Rehabilitation and Extension and Rehabilitation of Wastewater Pumping Stations |
| 5 | Priority Water Network Rehabilitation and Extension incl. Meters and DMAs to Reduce NRW and additional chlorination facilities to improve the water quality |
| 6 | Reducing Energy Consumption |
| 7 | Malir basin wastewater interceptors and treatment plant (S-3 Phase 2) |
| 8 | Rehabilitation of Existing and Construction of New Filtration Plants to assure treatment of all water currently produced (Additional treatment capacity for new sources would be part of component 1). |

A brief description of proposed subprojects for which safeguard studies will be carried out under the present ToRs is provided below.

* + 1. **Malir Basin Wastewater Interceptors and Treatment Plant (S-3 Phase 2):**

The KWSB is implementing a very comprehensive Sewerage Improvement Project, planned to treat all the municipal wastewater being generated in Karachi city and currently being discharged untreated to two large rivers Lyari and Malir flowing through it. The Lyari River Basin component has been under implementation and substantial conveyance and treatment works have been completed whereas the Malir Basin component which is in the Eastern part of the Karachi remains unimplemented because of the financial constrain. This sub-component would complement the ongoing S-3 Phase 1 investments carried out by the Government of Sindh and significantly improve the ability of KWSB to collect and treat wastewater in the Malir basin of Karachi. The project design of Malir Basin component of S-III is already done and available, and alternative financing sources are presently highly uncertain. The proposed subproject under SOP-2 is planned to treat 180 MGD municipal wastewater with secondary level treatment. The subsequent intervention could be to assess the possibility of a PPP solution for tertiary treatment and reuse of treated water from the Malir wastewater treatment plant in the nearby industrial areas of Landhi and Korangi, which may relive pressure on the domestic water supply to all areas of District East which are currently water stressed. An ESIA or an ESMP and a RP (if required) would need to be prepared for these works, in accordance with the screening criteria defined in the EMF and SMF.

* + 1. **Improve Water Supply and Sewerage in Additional Low Income Communities (Katchi Abadis or low income settlements):**

Building on the pilots in three selected low income informal settlement in Karachi targeted during SOP-1, the proposed SOP-2 will upscale the support to informal settlements, improving and expanding water supply and sewerage infrastructure as well as accompanying social and communications measures. The proposed project will improve the quality water supply and sewerage in the targeted informal settlement, including but not limited through the installation or upgrading of water automated teller machines, metered house connections and provision of bulk water supply, drawing on lessons learnt during the SOP-1 pilots. This program will include resources to support KWSB cooperation with local NGOs and community-based entrepreneurs, particularly women’s organizations and work closely to convince them to pay the charges against the improved services to be provided. These measures will improve the climate resilience of *informal settlement* residents, who are particularly vulnerable to heat waves and extreme storm water events, which increase demand for water, and/or flooding, which the latter has a larger impact if floodwater is contaminated by sewage. An ESIA or an ESMP and a RP (if required) would need to be prepared for these works, in accordance with the screening criteria defined in the EMF and SMF.

* + 1. **PrioritySewer Network Rehabilitation and Extension and Rehabilitation of Wastewater Pumping Stations:**

The on-going sub-project regarding priority sewer network improvement will be scaled up in the identified priority sewerage districts, aimed to restore network integrity in critical areas, and to reduce sewage contamination and its frequent flooding. A well-functioning sewerage system reduces the impact of floods—not only by reducing the contamination of water systems, but also reduces the probability of infrastructure, existing water sources, and local communities becoming overwhelmed by sewage floods, which may be potential threat to public health. In this sub-project the sewage collection and conveyance system will be improved by redesign to cater to the future need and be redirected to any nearby interceptor(s) for the required level of treatment before discharging in to any water body. An ESIA or an ESMP and a RP (if required) would need to be prepared for these works, in accordance with the screening criteria defined in the EMF and SMF.

* + 1. **Priority Water Network Rehabilitation and Extension incl. Meters and DMAs to Reduce NRW and additional chlorination facilities to improve the water quality:**

Scaling up interventions under SOP-1, this proposed sub-component will reinforce the non-revenue water 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 chlorination facilities. Leakage reduction will reduce the energy bill of water supplied to consumers. Modern meters with data loggers for large bulk customers will be installed, and equipped with KWSB meter-reading devices. Reducing NRW losses and introducing consumption metering for every household in the project area will improve the supply of water and promote its conservation, thereby making Karachi’s residents more satisfied with the quality water services. An ESIA or an ESMP and a RP (if required) would need to be prepared for these works, in accordance with the screening criteria defined in the EMF and SMF.

* + 1. **Reducing Energy Consumption:**

This subproject will be implemented as per the recommendations of the Energy Audit carried out under SOP-1. It is planned to modernize and upgrade major equipment modernization, particularly in KWSB’s main water pumping stations. The implementation of the subproject will result in significant energy savings and thus cost savings for KWSB making its operations economical. The design can only start during early implementation of SOP-2 after the energy audits are completed. This sub-project will have considerable bearing on financial health of KWSB, as it is reported that the electrical / mechanical installations of KWSB are function below the 40% of their designed efficiency and causing huge technical loss to KWSB and resulting in poor and unreliable water and sewerage services. An ESIA or an ESMP and a RP (if required) would need to be prepared for these works, in accordance with the screening criteria defined in the EMF and SMF.

* + 1. **Rehabilitation of Existing and Construction of New Filtration Plants:**

This proposed sub-project responds to the challenge of water quality by including an allocation for the rehabilitation of existing Filtration Plants and construction of new water filtration plants, so that KWSB can treat all their existing raw water. Currently, KWSB has a cumulative treatment capacity of only 440 MGD for an estimated 515 MGD of daily water supply which is likely to increase by 650 MGD tapping all the existing allocated water quota, resulting in significant amounts of treated raw water supplied into its network. The rehabilitation and construction of new facilities would alleviate the on-going public health threat, and reduces the disease burden, generally very common among the citizens of Karachi. An ESIA or an ESMP and a RP (if required) would need to be prepared for these works, in accordance with the screening criteria defined in the EMF and SMF.

1. **RELEVANT LAWS AND POLICIES**

The proposed subprojects and their assessments to be carried out under the present ToRs will have to comply with the national/provincial regulatory requirements relevant for environmental and social aspects as well as WB’s ESF. In case of any conflict or gap, more stringent of the two requirements/standards will be followed.

1. **Environmental and Social Assessment Studies and their Grouping**

In order to address the potentially adverse environmental and social impacts of the subprojects described under **Section 4** and in compliance with the local laws and regulations as well as WB environmental and social standards, comprehensive assessments will need to be carried out and the associated E&S documents will need to be prepared. These studies and documents have been divided in two groups, primarily for ease and better flexibility during the procurement of these service; **the present ToRs cover the E&S studies of subprojects under Group 2**. The groups are listed below.

**Group 1 (Not covered under the present ToRs)**

1. A Stakeholder Engagement Plan (SEP) for the entire SOP-2
2. Labor Management Procedures (LMP) for the entire SOP-2
3. Revising, Updating and upgrading the Environmental Management Framework (EMF) that was prepared for SOP-1, and making it applicable to SOP-2
4. Revising, Updating and upgrading the Social Management Framework (SMF) including a Resettlement Framework (RF) that was prepared for SOP-1, and making it applicable to SOP-2
5. Environmental and Social Impact Assessment (ESIA)/Environmental and Social Management Plan (ESMP) and Resettlement Plan (RP) (if required) for K-IV Augmentation
6. ESIA/ESMP and RP (if required) for Bulk Water Supply Systems
7. Environmental and Social Audit of on-going K-IV project
8. Ecological assessment for the wetlands/Ramsar sites for downstream-Indus impacts.

**Group 2 (Covered under the present ToRs)**

1. ESIA/ESMP and RP (if required) for Malir Basin Wastewater Interceptors and Treatment Plant (S-3, Phase 2).
2. ESIA/ESMP and RP (if required) for Improved Water Supply and Sewerage in Low Income Communities.
3. ESIA/ESMP and RP (if required) for PrioritySewer Network Rehabilitation and Extension and Rehabilitation of Wastewater Pumping Stations, Priority Water Network Rehabilitation and Extension, and Rehabilitation of Existing and Construction of New Filtration Plants.
4. ESIA/ESMP and RP (if required) for Reducing Energy Consumption.
5. Cumulative Impact Assessment for KWSSIP-SOP2.
6. **OBJECTIVES OF THESE TERMS OF REFERENCE**

The objective of the assignment under these ToRs is to ensure that the subprojects under SOP-2 are prepared and implemented in an environmentally and socially sustainable manner and with effective stakeholder involvement, and also compliant with the relevant laws and policies of the Islamic Republic of Pakistan, the Provincial Government of Sindh, the City of Karachi as well as the applicable WB ESS.

1. **DETAILED SCOPE OF WORK**
   1. **Preparation of Inception Report**

The Consultant shall use the inception period to familiarize with the project details, in particular the subprojects covered under the present ToRs: Malir Basin Wastewater Interceptors and Treatment Plant (S-3, Phase 2); Improved Water Supply and Sewerage in Low Income Communities; PrioritySewer Network Rehabilitation and Extension and Rehabilitation of Wastewater Pumping Stations, Priority Water Network Rehabilitation and Extension, and Rehabilitation of Existing and Construction of New Filtration Plants; and Reducing Energy Consumption. The Consultant shall be cognizant of engineering studies being prepared in parallel. The Consultant should also recognize that due care and diligent planning during the inception stage helps in improving the timing and quality of the various reports to be prepared under the assignment.

During the inception period the Consultant shall (a) conduct a desk review of the project information to appreciate the context within which the various E&S studies should be carried-out, (b) identify the sources of secondary information on the project and on the project area, (c) conduct reconnaissance field visit(s) to understand environment and social settings, identify parameters for E&S screening, design and developing formats for field and design survey; (d) prepare preliminary estimation of impacts on private and community properties including impacts on non-titleholders (e) carry out identification of stakeholders, plan consultations with stakeholders and likely project affected parties; and (e) study the various available surveys, techniques, models and software in order to determine the most appropriate options in the context of the project.

The Consultant will review and identify national/provincial regulations as well as WB ESS relevant to the present assignment. The Consultant will also identify any material differences between these two sets of requirements (in case of any conflict, the more stringent requirement would prevail).;

The Consultant after appreciation of consultancy assignment scope and site conditions shall fine tune the methodology(ies) that shall be used for carrying out various E&S studies for proposed interventions under **Group-2**.

As an outcome of this task, the Consultant will prepare the Inception Report of the entire assignment covered under the present ToRs. The Inception Report will provide among others methodologies and work plans of the studies to be carried out, their time schedule, and a summary of the applicable national/provincial regulation and WB ESF.

The Inception Report will also summarize the applicable national/provincial regulations and also identify their inconsistency or lack of clarity and aspects relevant to address subproject’s E&S risks and impacts; and deviations with respect to requirements described in WB ESSs. The Inception Report shall suggest actions to address E&S risks and impacts that may be implemented during project preparation and implementation. The Consultant shall assist the KWSB in preparing application and supplementary reports for obtaining requisite clearances or permits.

1. The Consultant shall interact with the Feasibility and Design Consultant to determine how the E&S studies / activities fit into the overall project preparation/ project cycle; and to appropriately plan the timing of the deliverables of the E&S studies. The Consultant will also interact with the Consultant for E&S studies under Group-1.
   1. **UNDERTAKING ENVIRONMENTAL and SOCIAL SCREENING AND SCOPING FOR IDENTIFIED SUBPROJECTS UNDER SOP-2, Group-2**

Under this task, environmental and social screening and scoping will be carried out for the Malir Basin Wastewater Interceptors and Treatment Plant (S-3, Phase 2); Improved Water Supply and Sewerage in Low Income Communities; PrioritySewer Network Rehabilitation and Extension and Rehabilitation of Wastewater Pumping Stations, Priority Water Network Rehabilitation and Extension, and Rehabilitation of Existing and Construction of New Filtration Plants; and Reducing Energy Consumption.

1. **Screening of subprojects**

The Consultant shall carry out the screening as per with the criteria and methodology defined in the EMF, SMF, and also set of criteria defined in the KWSSIP Project Risk Reducing Procedure (KWSSIP-RRP).

The outcome of the screening process would be to determine the type of assessment to be carried out and the associated document prepared for each subproject. In general, complex subprojects potentially causing significant and widespread adverse impacts would require an ESIA to be carried out, while subprojects causing less significant and localized adverse impacts would require an ESMP to be prepared. Similarly, subprojects potentially causing resettlement impacts would require a RP to be prepared.

1. **Define project’s ‘study area’ or project influence area**

The Consultant shall define the ‘study area’ of each subproject under SOP-2 (Group-2), considering different environmental and social settings, subproject activities and associated facilities[[4]](#footnote-4). Specify the boundaries of the study area for the assessment: watersheds, enhanced access to sensitive/remote areas such as parks/reserves/forests, in- migration and settlement, natural resource exploitation and commercial development.

1. **Conduct Preliminary Surveys**

The Consultant shall collect information on the existing environment and social scenario from authentic secondary sources, and identify gaps to be filled, relevant to the environmental screening needs from primary surveys. Reconnaissance site surveys will be conducted where possible/necessary (in continuation with the initial site visits carried out during the Inception stage described above).

1. **Planning for Baseline Data Collection**

The Consultant while planning baseline data collection shall ensure (a) relevance of baseline data to predict impact and design mitigation measures; (b) identify data gaps and uncertainties associated with prediction; (c) based on current information, assess the scope of the area to be studied based on physical, biological, and socioeconomic conditions; (d) take into account current and proposed development activities within the project area but not directly connected to the project.

1. **Scoping**

The Consultant shall define boundaries of the project E&S studies after careful consideration of the baseline scenario, likely potential environmental and social risks and impacts on the identified sensitive receptors. The scoping shall include a listing of potential environment and social issues that do not deserve a detailed examination in the project E&S studies (such impacts will be scoped out) along with a justification. The scoping needs to identify potential environmental and social risks and impacts that should be studied during E&S studies (ie, ‘scoped-in’)

* 1. **UNDERTAKING ESIAs AND PREPARATION OF ESMPs FOR WATER SUPPLY AND SEWAGE SUBPROJECTS (Group-2)**

Based on the screening and scoping discussed earlier, the Consultant shall determine the scale and type of the assessment that will be conducted proportional to the E&S risks and impacts of the subproject. The intent of studies shall be to: (a) validate secondary data with latest baseline information; (b) collect primary baseline data; (c) carry out assessment of impacts and risks of the proposed activities on environment and people; d) facilitate the design and integration of appropriate management / mitigation measures; and (e) comply with the regulatory as well as WB requirements and to facilitate KWSB/ GoS (as applicable) to process relevant environmental clearances.

As already stated in **Section 8.2**, a full ESIA would be carried out for complex subprojects while an ESMP would be prepared for less complex and simpler subprojects. Furthermore, while collecting baseline data, carrying out the assessments and determining mitigation and control measures, the principle of proportionality will be followed and therefore the extent and depth of these studies would be congruent with the nature and significance of the potential risks and impacts on environment and people.

The key steps under this task are described below; many of these activities will be a continuation of the earlier planning and assessment work carried out under the earlier tasks described above.

1. **Baseline Surveys:**

Following the scoping and planning for data collection discussed under **Section 8.2** above, the Consultant will {a} collect information from secondary sources that are relevant to understand the baseline, as well as the design of mitigation measures pertaining to physical, biological and socio- economic and cultural environments; {b} carry out site visits, collect baseline data on key environmental and social parameters and identify environmentally and social sensitive features/ locations within direct or indirect subproject area and document them on the base maps to identify conflict points with preliminary designs (including verification of these from authentic sources of information, such as from the revenue records); and {c} prepare detailed descriptions and specific maps showing details of candidate sites with opportunities to enhance positive impacts of subproject. The baseline data to be collected would be relevant to the subproject activities and the associated risks and impacts. Furthermore, while collecting baseline data for each ESIA, the proportionality principle would be followed as described earlier.

**Environmental data**. Existing basic documents (such as topographical and geological maps, technical documents on climate and meteorology, geology, hydrogeology, road characteristics, water quality/quantity, etc.) shall be collected, reviewed, synthesized, and analyzed. Relevant existing monitoring data for ambient environmental quality covering air, water and noise should also be collected and analyzed for project area and project areas of influence. Additional information shall be sought from various government agencies, academic or research institutions, and/or consulting firms. To the extent feasible residents and professionals shall be consulted to validate information from other sources and identify potential gaps in the technical data.

Field surveys shall also be conducted to collect primary data where existing site-specific information is expected to be inadequate or incomplete. Of special importance is data about the water quality and biodiversity of water bodies that are likely to be impacted by the subproject activities such as the Malir River. Should the data not be available, field surveys need to be contacted on several locations mid- stream and on both banks of the river. The survey points should start upstream of the interceptor where no project input can be expected (to have a reference) and go downstream below the discharged point of the treated wastewater. The data to be collected should as a minimum include: flow, temperature, turbidity, fecal coliforms (and other relevant pathogens), oxygen concentration, BOD5, COD, salinity, ammonium, nitrate, nitrite and phosphate (all unfiltered). The water quality should be classified using chemical and benthic organism. The instream fauna such as fish, insects, reptiles and the flora should be described. In addition, key species of the bank fauna and flora should also be described. The consultant shall propose an approach how to monitor the solid waste content in the water and at the shore, and establish the baseline.

All surveys shall be carried out in compliance with the GoS and GoP standards/guidelines/norms as well as WB requirements. Wherever such guidelines/norms are not available, the techniques, tools and samples employed for the surveys shall conform to the international best practices. Whenever directly relevant secondary data is available, these should be used, while indirectly relevant data should be verified through primary survey. Environmental quality (air, water and noise) monitoring shall include an adequate number of samples, as established on a sampling network to provide a representative picture of pollution levels in all project sites. Additional data on sensitive environmental / ecological receptors, if any, shall be collected such as to analyze and predict the possible risks and impacts to a degree and precision of acceptable standards. The natural and critical habitats that could potentially be affected by the proposed activities would also be identified. The surveys shall necessarily cover as appropriate information on land form, inventory of trees, streams/rivers, historical/cultural sites, construction material sources, land use, sensitive receptors, etc., in subproject areas, including preparation of tree cutting schedules and forest land diversion case. Further, additional specialized surveys, such as biodiversity assessment survey, and hydrological surveys shall be conducted, if and when needed as part of environmental scoping.

The Consultant shall collect information on all relevant regionally or nationally recognized environmental resources and features within the subproject area, which shall be clearly identified and studied in relation to activities proposed under the subproject. These will include all protected areas (national parks, wildlife sanctuaries, reserved forests, biosphere reserves, wilderness zones), unprotected and community forests and forest patches, all wetlands, rivers, rivulets and other surface water bodies.

The Consultant shall consolidate all these information on maps of adequate scale (1:250,000 minimum), superimposed with the subproject area.

**Social and Socioeconomic data.**  The consultant should then collect relevant socioeconomic baseline information related to the potential positive and negative impacts at each location of the investments including the potential subproject area of influence. The information would help to assess socio-economic benefits of the project and establish a set of indicators aimed at measuring the socio-economic impacts of the proposed intervention. Special attention should be paid to the needs and priorities of vulnerable and disadvantaged groups including but not limited to women, the poor, and disabled. The baseline information needs to be relevant to the subprojects and their impacts and can include but not be limited to the following with gender disaggregated data:

* Population and demography;
* Vulnerable groups and poverty profile;
* Gender aspects including information on Sexual Exploitation and Abuse and Sexual Harassment (SEA/SH);
* Pattern of land use and natural resources including agriculture;
* Livestock, grazing, forestry;
* Land tenure system;
* Land use patterns
* Industry
* Occupational structure;
* Formal and informal occupations and structures; to access the level of encroachment within right of way (ROW) if any.
* household income and expenditure;
* Economic activities e.g. labor (industrial, daily-wage etc.); business; services; fisheries; trade; quarrying, tourism, transport etc.;
* Water supply and consumption data by source of supply, quality, cost;
* Status of sanitation services – wastewater disposal, collection of solid waste;
* Access to social services (education, health, communication); status of education, health, vaccination/immunization and social well-being (i.e. distance to schools, to primary health facility/nearest hospital);
* Transport facilities; (included upcoming BRTs corridors if intersecting the proposed KWSSIP interventions)
* Vehicular traffic on important road arteries connecting the project area;
* Law and order and security profile;
* Local government institutions;
* Public institutions
* Private institutions
* Community organizations and institutions (including for service delivery related complaints resolution);
* Active NGOs working in that specific areas and their area of services
* Recreational areas and public spaces, potential;
* Cultural heritage; archaeology; objects and places of special interest (e.g. graveyards and monuments; and others);
* Sensitive receptors.

1. **Environmental and Social Risk and Impacts and Mitigation Measures:**

The consultant will assess all direct, indirect, induced and cumulative impacts and risks in both the short-term and the long-term resulting from both construction and operation stages activities of the proposed project. The analysis should follow methodology(ies) proposed in the Inception Report and agreed with the KWSB and WB, t to assign significance levels to each identified impact. The consultant should use both qualitative and quantitative (using analytical and mathematical means) approaches, as appropriate and relevant as well as congruent with the level and nature of risks, to assess the potential impacts, and should distinguish between significant positive and negative impacts, direct and indirect impacts, and immediate and longer-term impacts. The consultant should identify adverse impacts which are likely to be unavoidable or irreversible. The assessment of impacts is directly related to the definition of sensitive receptors. As such, the consultant shall identify sensitive receptors located on-site and its surroundings and assess each potential impact separately in the project areas and areas of influence of the proposed activities. As an example, for each possible adverse impact identified, the following information should be provided:

* A description of the impact and related major issues.
* cause and effect relationships with the planned project activities.
* Assessment of significance of predicted direct, indirect, and cumulative impacts, with their relative risks.
* Significance of the residual impacts (ie, impacts after the implementation of mitigation measures).

Particular attention should be paid to the impacts to ambient water and air quality as the result of the project’s construction and operation, but also the following issues are considered likely to be relevant as well;

**Water (ground and surface)**

The consultant shall assess the following water quality impacts on water resources, as appropriate and relevant:

* Emissions/releases from construction activities
* Emissions/releases from completed activities during operation and maintenance of the subprojects.
* Accidental leaks in the sewage collection and treatment system
* Any direct discharge of wastewater through sewers or stormwater drains.
* Chemical contamination from wastes and accidental spills
* Hydrology: describe any changes in the water drainage which may be introduced with the proposed activities.
* Erosion, runoff, and sedimentation from construction, and grading for access roads
* Water balance analysis and sustainability of the water resources (where relevant).

**Air quality**

The consultant shall assess at least the following air quality impacts, as appropriate and relevant:

* Emissions from construction activities
* Emissions from construction equipment and trucks
* Dust from during construction phase in all project areas and areas of influence, including access roads, disposal sites, for excavations, etc.
* Plant induced emissions including odor during the operations and maintenance phase

**Noise**

The consultant shall assess at least the following noise impacts, as appropriate and relevant:

* Noise generated by powered mechanical equipment (PME) employed during the construction phase.
* Noise generate by low lift and high lift pumps during operations
* Other noise emissions during the operation and maintenance phases

**Traffic**

The consultant shall assess at least the following traffic impacts, as appropriate and relevant:

* Increased traffic and congestion during the construction phase due to detours and slow movement of heavy construction vehicles
* Access roads during construction.

**Biodiversity**

The consultant shall assess at least the following biological impacts, as appropriate and relevant:

* Habitat and species impacts/loss in the project areas and areas of influence at all stages of the project.
* Identification of natural and critical habitats that could potentially be impacted by the subproject activities,
* Ecosystem fragmentation.

**Landscape**

The consultant shall assess at least the following impacts on landscape, as appropriate and relevant:

* Presence of equipment or material, soil heaps, and borrow pits during the construction phase
* Potential loss of trees and vegetation during construction and operations

**Spoil, sludge waste and wastewater generation, management and disposal**

The consultant shall assess at least the following impacts, as appropriate and relevant:

* Solid waste, spoil, sludge and wastewater generation linked with construction and operation activities

**Resource efficiency use**

The consultant shall assess at least the following resource use impacts, as appropriate and relevant:

* Source of construction material and its transport to the project area
* Energy use and cost saving requirements for pumps, filtration systems and other mechanical plants during operations

**Cultural and religious heritage**

The consultant shall assess at least the following cultural heritage impacts, as appropriate and relevant:

* Field-based survey will be conducted to define physical cultural resources and the potential impacts of the proposed works on such areas will be evaluated.

**Health and safety**

The consultant shall assess at least the following health and safety impacts, as appropriate and relevant:

* Occupational health and safety (OHS) risks such as improper handling and storage of fuels, oils, chemicals, construction materials as well as accidents occurring with the operation of moving equipment and with trucks moving on-site
* Traffic and other site accidents during both construction and operation phases
* Pipeline and/or storage tanks fracturing, leakage, as well as explosion and fire hazards
* Worker camps and their impacts on host communities, especially on women and girls.
* Potential sabotage: risk assessment and emergency response.
* Adequateness of response mechanism and time in case of accidents.

**Social and socioeconomic aspects**

The consultant shall assess at least the following social and socioeconomic impacts, as appropriate and relevant:

* Land acquisition and resettlement
* Public health and safety issues
* Issues related with influx of labor, conflict between labor and local residents
* Encroaching the privacy of people particularly women
* Blocked access
* SEA/SH issues
* Impacts on vulnerable groups
* Impacts on livelihood and income generation
* Impacts on agriculture, livestock and irrigation
* Impacts on public infrastructure
* Land use change
* Aesthetic aspects of the area.

The Consultant shall (a) identify feasible measures for resource efficiency i.e. energy use, water usage and management, and raw materials so as to minimize project’s foot prints on finite natural resources; (b) estimate carbon and GHG emissions due to implementation of project, identify feasible measures for reducing such emissions, creating carbon sink, and climate resilient measures to suite local needs and challenges, and by possible use of alternative technologies. The Consultant shall be responsible to validate project boundary, baseline data, tools and methods that shall be used for estimating GHG emission and designing mitigation measures.

The Consultant for identified environmental and social risks and impacts shall identify appropriate mitigation and control measures, in accordance to ‘mitigation hierarchy’, which will (a) identify the set of responses to potentially adverse impacts; (b) determine requirements for ensuring that those responses are made effectively and in a timely manner; and (c) describe the means for meeting those requirements.

The Consultant will also carry out (with assistance from the Consultants for the Group-1 studies) Cumulative Impact Assessment (CIA) and also assess the induced effects of the construction and operational activities of the subprojects along with other existing and planned development activities in the project area. A single CIA will be carried out for all the subprojects under the SOP-2 (Groups 1 and 2), as a standalone document. The main purpose of the CIA would be to determine any potential combined impacts of the SOP-2 subprojects and any other development works either on-going or planned, in the SOP-2 project area. Such impacts are generally not addressed in the EIAs/ESIAs of the individual projects/subprojects and hence there is a need to carry out a high level assessment to determine the cumulative and induced impacts of all the known relevant infrastructure development activities in the area. In particular, the SOP-2 itself comprises a number of water supply and sewerage interventions that may have cumulative impacts. Similarly, the under implementation K-IV water supply project shares the project area with some of the subprojects under SOP-2.

For the CIA, the Consultant will work with the Consultant of Group-1 studies in identifying Valued Environmental Components specifically relevant to the Cumulative Impact Assessment based on inputs from stakeholders, and will assess the potential impacts of multiple development activities on the consumers. For this purpose, some standard methodology should be used such as the one prepared by the International Finance Corporation (IFC).[[5]](#footnote-5) This methodology proposes a six-step procedure to address the cumulative impacts: i) determine spatial and temporal boundaries; ii) identify VECs in consultation with affected communities and stakeholders and identify all developments and external natural and social stressors affecting the VECs; iii) determine present conditions of VEC; iv) Assess cumulative impacts; v) evaluate their significance over VECs’ predicted future conditions; and vi) design and implement: (a) adequate strategies, plans, and procedures to manage cumulative impacts, (b) appropriate monitoring indicators, and (c) effective supervision mechanisms. This methodology should be proposed in the Inception Report and its approval obtained from KWSB and WB.

While carrying out the impact assessment and determining mitigation measures as described above, the Consultant will follow the provisions of the WB ESF and applicable standards, particularly ESS1, ESS2, ESS3, ESS4, ESS5, ESS6, and ESS8. In addition, the Consultant will follow the WBG Environment, Health and Safety (EHS) Guidelines.

1. **Analysis of Alternatives**

The Consultant while doing analysis of alternatives shall compares at least three feasible alternatives where applicable to the proposed subproject sites/alignments, technology, design, and operation—including environmental and social risks and impacts “with project” and “without project” scenarios. The Consultant shall quantify and provide estimated budget for the alternative mitigation measures; and suggest institutional, training and monitoring requirements for implementation. This analysis will be carried out for subprojects potentially causing significant and widespread impacts.

The consultant shall review the earlier studies concerning alternative options if available for the subproject options including the non- implementation of the Project which would meet the objectives of the project but result in optimum resource efficiency use, protection of surface water, fewer adverse impacts on people and the environment. Other potential project alternatives might include engineering design alternatives, technology changes including for compliance with discharge standards, sludge disposal management, construction techniques and phasing, and operating and maintenance procedures.

1. **Environment and Social Management Plan**

* Based on the environmental and social impacts assessed, ESMPs separate for each identified subproject shall be prepared. ESMPs will consist of a set of mitigation, monitoring, and institutional measures required to reduce if not eliminate adverse environmental and social risks and impacts. The ESMP shall be prepared as per the requirements of WB’s ESSs and should identify responses to potentially adverse impacts; determine requirements for ensuring timely responses; and describe the means for meeting those requirements. The technical details for each mitigation measure shall include the type of impact to which it relates, the conditions under which it is required (e.g., continuously or in the event of contingencies), as well as preliminary design, equipment descriptions, and operating procedures, as appropriate.
* Estimate the impacts and costs of the mitigation measures for each of the activities separately and of the institutional and training requirements to implement them. Assess compensation to affected parties for impacts that cannot be mitigated.
* The Consultant shall recommend feasible and cost-effective measures to prevent or reduce significant negative impacts to acceptable levels. Apart from mitigation of the potential adverse impacts on the environmental and social components, the ESMP shall identify opportunities that exist to induce positive impacts of subproject . This shall include but not limited to the enhancement of specific locations as water bodies; micro-watershed; innovative storm water management practices - like rain water harvesting and bio-retention apart from preventing water logging conditions in the adjoining settlements of the water and sewage network; enhancement of scenic areas along the corridor; enhancement of community and cultural assets, etc. Residual impacts from the environmental and social measures shall also be clearly identified. Include measures for emergency response to accidental events (land slips during construction or operation.), as appropriate
* The ESMP shall include sample plans (ie, guidelines for construction contractors to prepare the Contractor’s ESMP), such as for management and redevelopment of borrow areas and construction camps, waste management plan traffic management plan, working conditions and management of workers, management of chemical, hazardous and non-hazardous material/waste, noise, occupational health and safety of workers and community, SEA/SH, labor influx (workers accommodation, COVID-19 and HIV/AIDS prevention etc.), and other key impacts under contractors’ control. The actual plans will need to be prepared by the construction contractors with the help of these sample plans. In addition, the ESMP shall include good practice guidelines, relates to construction and upkeep of plant and machinery.
* Responsibilities for execution and supervision of each of the mitigation and enhancement measures shall be specified in the ESMP. ESMP will also have a detailed organogram showing all actors to be involved in ESMP implementation, monitoring, reporting, independent supervision and auditing, their relationship to overall project construction and operational management teams and contractors, and points of interface with independent oversight entities. Organogram should indicate entry points for local citizen engagement and NGO participation in monitoring and reporting.
* To monitor implementation of ESMP, for different stage of project (pre-construction, construction, post construction), the Consultant shall identify the performance indicators, approach of monitoring, and frequency. The performance indicators should include both quantitative and qualitative types, but the Consultant shall consider practicality aspect and provide approach for monitoring each identified indicator.
* The Consultant for unanticipated incidents arising from both natural and man-made hazards, shall prepare Emergency Response Plan (ERP) particularly for the construction stage.
* The Consultant shall also prepare management plans with specific actions to be taken by the contractors and sub-contractors with regard to working conditions and management of workers, management of chemical, hazardous and non-hazardous material/waste, noise, occupational health and safety of workers and community, labor influx (workers accommodation, COVID-19 and HIV/ AIDS prevention, SEA/SH etc.), and other key impacts under contractors’ control.
* The ESMP shall specify the environmental supervision, monitoring and auditing requirements. The monitoring program shall specify performance indicators, monitoring parameters (air, water, noise, and soil), reference standards, monitoring method, frequency, duration, location, and reporting on progress and results of mitigation. All environmental lab testing shall be conducted by an approved environmental lab by EPA-GoS. In addition, the program will specify what action should be taken and by whom in the event that the proposed mitigation measures fail, either partially or totally, to achieve the level of environmental and social protection expected. An outline of the contents of the ESMP to be included in the project’s Operational Manual should be provided along with environmental / social protection clauses for contracts and specifications.
* The ESMP will also include a grievance redress mechanism (GRM) to provide an easy to access, efficient as well as effective means of resolving subproject-related grievances and complaints in a timely and amicable manner.
* The ESMP shall highlight the special environmental clauses (SECs) to be included in the Tender Document under General/Particular Specification. These clauses are aimed at ensuring that the Contractor carries out his responsibility of implementing the ESMP and other environmental and safety measures.
* The Consultant shall provide assessment on existing institutional/ organizational status to support timely and effective of environmental and social aspects of the subproject . The findings shall be basis to identify measures and actions to strengthen environmental and social management capability in KWSB. The ESMPs shall describe the implementation arrangement needed for the subproject, especially the capacity building proposals including the staffing of the environment unit adequate to implement the environmental and social mitigation and enhancement measures. For each staff position recommended to be created, detailed job responsibilities shall be defined. Equipment and resources required for the environment and social unit, training plan and modules shall be specified, and bill of quantities prepared.
* The Consultant shall provide implementation schedule for measures that must be carried out as part of the subproject, showing phasing and coordination with overall project implementation plans; and estimated cost and sources of funds for implementing the ESMP (integrated into the total project cost tables).
* The Consultant shall ensure implementation costs of mitigation measures and actions are integrated into the project’s overall planning, design, budget, and implementation.

1. **Stakeholder Engagement**

The Consultant will update the nature/type, scope and frequency of stakeholder engagement required in the SEP (prepared under Group 1 scope) proportionate to environmental and social risks and impacts identified during E&S screening. The Consultant will conduct stakeholder engagement during ESIA/ESMP preparation as per updated SEP. The feedbacks received shall be analyzed, and the Consultant shall determine how these can be addressed in the final ESIA/ESMP and project designs. It is recommended that consultation sessions shall be organized in co-ordination with the Feasibility and Design Consultant. The ESIA/ESMP will include the planning of the stakeholder engagement before and during the project implementation. In carrying out these activities, the Consultant will follow the provisions of WB ESF and ESS10.

* 1. **PREPARE RPs FOR WATER SUPPLY AND SEWAGE SUBPROJECTS (Group 2)**

The scope and level of detail of the resettlement plans vary with the magnitude and complexity of resettlement. The plans shall be prepared based on social assessment survey and should cover the impacts on the community and other adversely affected groups and mitigation measures.

**Scope of Work for Preparation of RPs**

The RPs will identify and provide a description of the area in which the intervention will take place. It will identify project impacts, including the impacts on livelihoods; the project activities that give rise to resettlement and/or loss of livelihood; the zone of impact of such activities; the alternatives considered to avoid or minimize resettlement; the alternatives considered to avoid or minimize loss of livelihood; and the mechanisms established to minimize resettlement and loss of livelihood, to the extent possible, during project implementation.

The RP preparation shall follow the requirements of the World Bank’s ESF and ESS5. The RPs shall also refer to Government of Pakistan’s legal and institutional requirements related to land acquisition. Any gaps between these two requirements are to be clearly identified, explaining how these gaps will be filled, and which should take precedence and why.

The following tasks will be undertaken by the consultant for each RP:

* Identify the key social impacts that will be associated with the involuntary resettlement process, the magnitude of such impacts, and the main categories of project affected PAPs, men and women, that will experience these impacts;
* Prepare a socioeconomic inventory and census of the PAPs to establish a basis for the design of the resettlement program and to exclude subsequent inflows of people from eligibility compensation and resettlement assistance. This would include, among other things, identifying and quantifying different categories of PAPs who require some form of assistance, compensation, rehabilitation or relocation. Information on vulnerable groups or persons (e.g. the poor, widows, women headed households, ethnic/religious minorities, displaced person, disabled persons, elderly, etc.) for whom special provisions may be needed should be provided;
* Adopt/customize the entitlements matrix given in RF based on a detailed measurements survey listing all likely effects as per relevant typologies to be developed on assets and resources;
* Prepare a compensation and restoration package for each category of PAPs aimed at replacing/compensating for all types of losses, including loss of livelihood, as appropriate;
* Develop a clear timeline and implementation schedule for RP implementation linking the various steps to project components and execution plan, including institutional responsibilities, and monitoring parameters;
* Document the various consultation activities to be conducted as part of the RP and ensuring that information has been shared transparently through an active and informative consultation process;
* Develop a communication and consultation plan to be adopted by the project for consulting and maintaining information flow with the PAPs;
* Identify the institutional responsibility for implementation and procedures for grievance redress, arrangements for monitoring of RP implementation. For this purpose, the GRM described under **Section 8.3** can be used/adopted Provide a framework of grievance redress mechanism (GRM). The GRM should be simple, easily accessible (for different categories of PAPs), robust, transparent, and multi-tiered. The GRM should also consider the local or societal systems and mechanisms for addressing and resolving governance related grievances. Ideally, the GRM should be linked to or be in synergy with the grievance redress mechanism of the implementing agency or responsible authority;
* Consult the staff responsible for land acquisition within KWSB and other institutions participating in the arrangement of resettlement activities and clearly define their roles and activities in RP implementation; and,
* Provide a detailed budget for resettlement compensation, and livelihood compensation and restoration measures proposed in the RP.
* The Consultant should employ a participatory, bottom-up, transparent approach in the preparation of the RP. Various qualitative and quantitative data collection tools should be used to engage various categories of PAPs.

**Consultation for the Draft RPs**

The Consultant will employ a consultative and participatory approach that allows stakeholder feedback and facilitates a process of endorsement of the information collected by the PAPs. A consultation meeting for presenting the RPs findings will be planned. This will aim to engage local key stakeholders and involve them in the revision of the draft findings of the RP. This step is very important and a key disclosure requirement for the World Bank. The requirements for arranging a public consultation include but are not limited to:

* Identification and invitation of various groups of stakeholders and ensure balanced representation (according to affiliation, gender, interests, etc.) for all the groups including those who will be encountering various types of adverse impacts;
* Selecting a venue which is neutral and convenient, and provide transportation (if required) to encourage women and marginalized groups to participate;
* Preparation and dissemination of a non-technical executive summary in Urdu/local languages before the consultation, and ensuring its circulation and dissemination well before the public consultation;
* Preparation and delivering of a presentation of the findings of the RP; and
* Recording and addressing the comments and concerns that the participants will raise during the Consultation and ensure proper documentation of the event to feature as an Annex in the final RP.
  1. **PUBLIC DISCLOSURE**

The Consultant will assist KWSB for in-country disclosure of E&S documents at KWSB website, in accordance with the requirements described in SEP, specifying the timing and locations; translate the key documents, such as the executive summary of ESIA, ESMP, RP or any other documents in local language and draft advertisement for the newspaper announcements for disclosure; and help the KWSB to place all the related Environmental and Social Impact Assessment reports on the KWSB’s website. The draft safeguard documents should also be available in a public place accessible to affected groups and local NGOs*.*

Relevant materials i.e informative leaflets, broachers or E&S documents executive summery etc will be provided to affected groups in a timely manner prior to consultation and in a form and language that is understandable and accessible to the groups being consulted. The Consultant should maintain a record of the public consultation and the records should indicate: means other than consultations (e.g., surveys) used to seek the views of affected stakeholders; the date and location of the consultation meetings, a list of the attendees and their affiliation and contact address; a video of the consultation workshop and summary minutes.

* 1. **OTHER ASSISTANCE TO THE KWSB**

The Consultant shall support the KWSB to furnish any relevant information required for obtaining clearance from various government agencies. This may include {a} assisting the KWSB in the submission of application for the Clearance of Reserved or Protected Forests to the Forest Department, {b} completion and submission of the EPA requirements for public hearing (the costs of such hearing to be borne by the KWSB) {c} assistance in public hearing process {d} assistance in submission for any other clearance requirements with respect to the environmental components relevant to the project; {e} to prepare presentation, brochures, pamphlets for any kind of stakeholder consultation and disclosure; {f} consultation with WB Mission as and when required upon instruction of KWSB; {g} to attend all progress review meetings with Team Leader as and when called by the KWSB as well as to prepare progress review reports.

1. **ROLES AND RESPONSIBILITIES** 
   1. **The Consultant**

The Consultant shall at the direction of KWSB ensure absolute coordination and shall include but not limited to the following as part of the scope of work:

* Field visits: Visit to potential project implementation sites, as identified by the KWSB, for understanding the key environmental and social issues. The consultancy will be required to undertake field-visits as per the project requirements.
* Following the site visits and stakeholder consultations, KWSB will convey a meeting with key government stakeholders and the consultant firm to (a) review of the scope of work, and conditions of contract between the consultant and KWSB, the adequacy of the allocated manpower, time and budgets and shall clearly bring out major/minor deviations.
* The consultants shall interact with the Engineering consultants and KWSB to determine how the ESIA/RP/EMF/SMF work fits into the overall project preparation/ project cycle; how overlapping areas are to be jointly addressed; and to appropriately plan the timing of the deliverables of the EA process.
* The Consultant Firm will assist the KWSB and the State in disclosure and consultation process of the ESIA/RP/EMF/SMF in compliance with the ESF and ESSs of the World Bank.
* All information gathered, including raw and refined data as well as interviews transcripts, images, among others, belongs to the Sindh Government (KWSB), and will be handed over during and upon the completion of the assignment, as requested.
* The consultancy will work under the overall supervision the KWSB who will facilitate the consultancy in contacting local administration in the areas and accessing information and data needed to carry out the assessment. The KWSB will submit the draft reports to the Bank to determine their acceptability. The Consultant shall be able to communicate with the Bank to request clarifications, etc. if necessary.
* The consultancy will report to the KWSB. The work and performance of the consultancy shall be reviewed by the Project Director/Senior Engineer, KWSB on a periodic basis.
  1. **The KWSB**

The KWSB shall provide all necessary and reasonable support to the Consultant to collect secondary data by issuing authorization letters. The Consultant will be responsible for any translation of documents and for processing of data. The Project Director or his representative will liaise with the Consultant for all activities and participate as possible in the study. The KWSB will provide the following reports:

* All relevant documents relevant to the specific projects; and relevant background documentation and studies.
* Making all necessary arrangements for supporting the work of the Consultant(s), by e.g. facilitating access to government authorities and other project stakeholders and infrastructure facilities.
* After the consultancy is on board, the KWSB will organize a consultation and discussion with the MC and consultants and World Bank.
* Disclosure of draft documents, sending out of invitations for workshops, organization of venues for public hearings, and being present as discussant at all public hearings.
* On drafts produced by the consultant, KWSB will provide review and comments on consultant drafts within 14 days of draft submission and send to the Bank for clearance.
* The KWSB will ensure the timely flow of information and documents from one consultant to other.
* The KWSB will also help in organizing the formal presentations from all consultants engaged in project preparation.

1. **DELIVERABLES**

By way of illustrations, and not limitation, the reports to be submitted by the Consultants to KWSSIP as part of deliverables under consultancy services will include the following. A common Inception Report for all the assignments will be submitted within given timelines.

**Inception Report**

| **#** | **TASK** |
| --- | --- |
| 1 | Inception report comprising of work plan, timelines, and methodology. |
| 2 | Public disclosure and consultation workshop with stakeholders |
| 3 | Review by KWSB, WB, and AIIB |
| 4 | Submission of final draft report |
| 5 | KWSB, WB, and AIIB will provide clearance for disclosure of final draft report in about two weeks (if report is of sufficient quality). |

**ESIA/ ESMP and RP for S-III**

| **#** | **TASK** |
| --- | --- |
| 1 | Submission of first draft ESIA and RP including the Draft Executive summary in sufficient quality to be disclosed. |
| 2 | KWSB, WB, and AIIB will review and provide comments and clearance for disclosure of first draft report in not more than two weeks (if report is of sufficient quality). |
| 3 | Conduct public consultations meeting(s) on draft reports |
| 4 | Submission of final draft ESIA and RP including summary of public consultations, executive summary and incorporating comments. |
| 5 | KWSB, WB, and AIIB will provide clearance for disclosure of final draft report in about two weeks (if report is of sufficient quality). |

**ESIA/ESMP and RP for Water Supply and Sanitation Low-income Areas**

| **#** | **TASK** |
| --- | --- |
| 1 | Submission of first draft ESIA and RP including the Draft Executive summary in sufficient quality to be disclosed. |
| 2 | KWSB, WB, and AIIB will review and provide comments and clearance for disclosure of first draft report in not more than two weeks (if report is of sufficient quality). |
| 3 | Conduct public consultations meeting(s) on draft reports |
| 4 | Submission of final draft ESIA and RP including summary of public consultations, executive summary and incorporating comments. |
| 5 | KWSB, WB, and AIIB will provide clearance for disclosure of final draft report in about two weeks (if report is of sufficient quality). |

**ESIA/ESMP and RP for Priority Water and Sewer Networks, Pumping Stations, Filtration Plants, Reducing Energy Consumption**

| **#** | **TASK** |
| --- | --- |
| 1 | Submission of first draft ESIA and RP including the Draft Executive summary in sufficient quality to be disclosed. |
| 2 | KWSB, WB, and AIIB will review and provide comments and clearance for disclosure of first draft report in not more than two weeks (if report is of sufficient quality). |
| 3 | Conduct public consultations meeting(s) on draft reports |
| 4 | Submission of final draft ESIA and RP including summary of public consultations, executive summary and incorporating comments. |
| 5 | KWSB, WB, and AIIB will provide clearance for disclosure of final draft report in about two weeks (if report is of sufficient quality). |

**CIA for KWSSIP SOP-2**

| **#** | **TASK** |
| --- | --- |
| 1 | Submission of first draft CIA report in sufficient quality to be disclosed. |
| 2 | KWSB, WB, and AIIB will review and provide comments and clearance for disclosure of first draft report in not more than two weeks (if report is of sufficient quality). |
| 3 | Conduct public consultations meeting(s) on draft reports |
| 4 | Submission of final draft CIA report and incorporating comments. |
| 5 | KWSB, WB, and AIIB will provide clearance for disclosure of final draft report in about two weeks (if report is of sufficient quality). |

1. During the past 19 years, Karachi’s population increased from 9.339 million (1998 Census) to 14.91 million (preliminary 2017 Census results) – a net addition of 5.56 million people. When we look at the recent literature from World Bank and the World Health Organization’s estimates which place Karachi’s population at around 23 million against the figure of 14.9 million as reported in the preliminary census results. These results have not been accepted by GoS (<https://www.dawn.com/news/amp/1354567>; <https://www.thenews.com.pk/print/228657-Karachis-census-results-are-all-terribly-wrong>; https://tribune.com.pk/story/1494020/mqm-p-rejects-fake-census-results/). [↑](#footnote-ref-1)
2. According to World Bank (2016), “Karachi City Diagnostic Report”, unpublished draft – the population figures for Karachi range around 24 million [↑](#footnote-ref-2)
3. Economist Intelligence Unit - http://www.smh.com.au/cqstatic/gxx1l4/LiveabilityReport2017.pdf [↑](#footnote-ref-3)
4. Refer ESF of the World Bank [↑](#footnote-ref-4)
5. IFC Good Practice Note on Cumulative Impact Assessment can be found at: <https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/publications/publications_handbook_cumulativeimpactassessment> [↑](#footnote-ref-5)