Appraisal Environmental and Social Review Summary

Appraisal Stage

(ESRS Appraisal Stage)

Date Prepared/Updated: 07/28/2020 | Report No: ESRSA00972

BASIC INFORMATION

A. Basic Project Data

Country	Region	Project ID	Parent Project ID (if any)
Pakistan	SOUTH ASIA	P173021	
Project Name	Karachi Solid Waste Emergency and Efficiency Project		
Practice Area (Lead)	Financing Instrument	Estimated Appraisal Date	Estimated Board Date
Urban, Resilience and Land	Investment Project Financing	7/23/2020	9/29/2020
Borrower(s)	Implementing Agency(ies)		
Islamic Republic of Pakistan	Local Government, Housing and Town Planning Department, Province of Sindh		

Proposed Development Objective

To mitigate the impacts of flooding and COVID-19 emergencies, and to improve solid waste management services in Karachi.

Financing (in USD Million)	Amount
Total Project Cost	105.00

B. Is the project being prepared in a Situation of Urgent Need of Assistance or Capacity Constraints, as per Bank IPF Policy, para. 12?

Yes

C. Summary Description of Proposed Project [including overview of Country, Sectoral & Institutional Contexts and Relationship to CPF]

With an urban population of more than 16 million, Karachi generates an estimated 12,000 to 16,000 tonnes of municipal waste every day. Only a fraction of this waste is collected, and none of it is disposed in sanitary engineered facilities. Since July 2019, Karachi is facing an environmental and public health emergency that is partly caused by the inadequate management of municipal waste, with risks compounded over the last few months from disruption of services and added vulnerabilities due to the COVID-19 crisis. The proposed project will finance interventions implemented over two phases: (a) in the immediate emergency response phase, activities will aim to mitigate (i) high

flooding risks linked to the 2020 monsoon and caused by accumulation of solid waste in the city's natural drainage channels (nullahs), as well as (ii) public health risks caused by exposure to poorly managed COVID-19 contaminated waste; and (b) in the medium-to-long-term phase, the Project will improve backbone SWM infrastructure and service delivery to address the underlying risk factors leading to recurring emergency flooding situations.

Briefly, under Component 1 the project will include: i. Construction of a temporary storage cell at Jam Chakro dumpsite for waste and sediments cleared from drains/nullahs. The material cleared from nullahs will be temporarily stored for about 12 months, before it is transferred to a new sanitary disposal cell that will also be constructed at Jam Chakro (under Component 2). The construction of the temporary storage cell is required to be available prior to the nullah cleaning work, to ensure safe disposal of waste extracted from the nullahs. The SSWMB will be responsible for the construction and operation of the temporary cell; and, ii. Cleaning of nullahs by removing waste obstructing the flow of water and restoring their drainage capacity. Waste removal from the nullahs will be carried out according to strict technical protocols developed for this project, adapted from procedures of the Karachi Metropolitan Corporation (KMC), the agency responsible for maintenance of the major nullahs. The cleaning of nullahs will be managed by KMC and executed by private contractors adequately trained and equipped for such work.

Under Component 2 the project will include: i. Retrofitting of existing and construction of new kachra kundis (waste collection points). In an effort to improve collection services, the project will finance the upgrading of at least 30 existing kachra kundis, and the construction of approximately 50 new points at appropriate locations. Location of interventions will be will be planned based on need and consultations with nearby residents, particularly in underserviced and flood-prone areas, to prevent illegal dumping in the nullahs. The project will also support the provision of critical equipment to improve occupational safety and operational efficiency to District Municipal Corporations and the Sindh Solid Waste Management Board; ii. Design and construction of a new landfill cell on underutilized available land within the perimeter of the Jam Chakro dumpsite, including design and the construction of a Material Recovery Facility (MRF) adjacent to the new landfill cell at Jam Chakro; iii. Implementation of measures to improve safety and environmental performance of the Jam Chakro dumpsite, and progressive closure and rehabilitation of areas that have no additional capacity to receive more waste. This will include construction of a perimeter wall to protect the site from intrusion and restrict waste deposits, stabilization of areas at risk of collapsing, retrofitting facilities for better management of incoming flows, construction of test wells to monitor groundwater contamination, and fire extinction and cooling to stop constant burning. Saturated areas will also be closed and partially rehabilitated; iv. Construction/pgrading of transfer stations. The project will finance the construction of up to four modern transfer stations. The number and location will be determined based on the Integrated Karachi SWM Strategy and on land availability; and, v. Development of Long-Term Waste Solutions for Karachi. The project will support the development of long-term waste solutions for Karachi, which address the limited capacity remaining at existing disposal sites. A top priority will be the construction of a new sanitary landfill for Karachi. The GoS has designated a 3,000-acre site in Dhabeji, about 60 kilometers east of Karachi, for the development of an integrated waste treatment facility. The project will finance the planning, design and construction of a modern facility, co-located with adjacent activities to sort, process and extract value from the waste. The project will also support the design and construction of solutions to improve treatment of non-municipal waste streams such as medical waste and/or construction and demolition (C&D) waste by supporting, inter alia: a) Assessment of existing systems for collection, transport and disposal of medical and C&D waste streams; (b) Identification of gaps to be addressed through investments in technologies and management modalities; (c) Development of service improvement plans needed to build end-to-end solutions for each stream, and policy recommendations on regulation and tariffs for generators; and

(d) Identification of priority investments, including technical specifications for transport, treatment and disposal solutions, optimal locations for facilities, contractual arrangements, etc.

D. Environmental and Social Overview

D.1. Detailed project location(s) and salient physical characteristics relevant to the E&S assessment [geographic, environmental, social]

The Project location is Karachi and its surrounding areas. Karachi is the largest and most diverse city of Pakistan, with a large variety of ethnic, religious and social groups. Karachi has been named among the 10 least livable cities in the world by the Economic Intelligence Unit (EIU) based on security, access to and quality of services and poor infrastructure. Air pollution, lack of proper waste management infrastructure and degradation of water bodies are the major environmental issues in the city. Since the early 1990s, Karachi suffered due to law and order issues and experienced a high incidence of crime and violence. In recent years, however, violence and crime have reduced. Like the rest of Pakistan, Karachi also has a large informal sector and according to estimates, over 70% of jobs are in the informal economy. The informal waste management sector is also a source of livelihood within the informal economy.

In recent years, the city has been significantly affected by climate change including heat waves, sea level rise, droughts and floods. Karachi is also close to the Indus River Delta, where the Indus flows into the Arabian Sea. Urban flooding due to unprecedented rainfalls in monsoon has also become a recurring natural hazard, especially since most of the natural storm water drains have been encroached upon, or blocked due to haphazard, ill planned city development. As a result, the city is facing loss of lives and property. A number of small natural or man-made drainage channels pass through various parts of the city, with general drainage running from western and northern areas to the south into the seasonal Lyari and Malir rivers – which carry the city's sewage. There is a large number of slums in Karachi and many of them are built alongside drains or nullahs. These drains carry both rainwater and wastewater from homes, businesses and industries through the city and to flush the effluent – most of it untreated – out to sea. These drains got further chocked with trash generated by the city , out of which only two percent trash is collected, leaving the remaining end up in streets, around drainage channels and heaps of trash along the roadside.

The primary drainage system of Karachi consists of 41 nullahs, which are obstructed by the accumulation of waste, and encroachments; therefore, the nullah cleaning activities under Component-1 focus on selected choking points in those nullahs. Under Component-2, the project will include improvement and construction of sanitary engineered site at Jam Chakro Dumpsite, along with SWM value chain activities to provide an end to end solution to the management of municipal waste in the short to medium term under the Project. The area of influence of the project will be the urban centers and peripheries of Karachi city. The project activities are not planned in any critical or protected area. However, Hub Dam Canal is located around 6 km from the Jam Chakro existing dump site, where construction of temporary storage cell and new sanitary disposal cell are planned. It is important to consider the efficient use of water resources, and any short term or long term possible risk of water pollution of the Hub Dam Canal.

D. 2. Borrower's Institutional Capacity

The Sindh Solid Waste Management Board (SSWMB) will be the primary implementing agency for SWEEP. A PIU will be established under SSWMB with adequate staffing including environmental and social specialists to be recruited and resources provided to implement SWEEP. Sub-component 1.1 cleaning of nullah and disposal of waste will be implemented by the Karachi Metropolitan Corporation (KMC) and the Sindh Solid Waste Management Board. Both agencies have limited experience of working with the Bank, and no experience of the Bank's ESF. The PIU established under the Bank financed Competitive and Livable City of Karachi (CLICK) project – which was approved in June 2019

and in which KMC is an implementing agency and there is a TA component for SSWMB – is tasked to support implementing agencies for activities under Component 1 prior to, and during, the 2020 monsoon. SSWMB and KMC do not have environmental and social specialists. Environmental Specialist and Social Specialist hired by the CLICK PIU will contribute during planning and implementation of activities. Once SWEEP becomes effective, one Environmental Specialist, one Health and Safety Specialist, one Resettlement Specialist and one Social Development Specialist (for gender and community/stakeholder engagement) will be recruited under the PIU. In addition, to supplement the roles of these specialists and to ensure compliance of Component 1 with ESF requirement, a third party monitoring firm is being hired by the implementing agencies to undertake spot checks and report on adherence to protocols.

II. SUMMARY OF ENVIRONMENTAL AND SOCIAL (ES) RISKS AND IMPACTS

A. Environmental and Social Risk Classification (ESRC)

High

Environmental Risk Rating High

The project activities are intended to create positive environmental impacts by preventing the potential immediate flooding and public health risks through emergency intervention and awareness campaign as well as by providing improved collection, transfer, and disposal systems of solid wastes following international standards for the mid-term. However, because of the environmental, health and safety risks associated with nullah cleaning, transportation and temporary storage of potentially biologically and chemically contaminated waste materials cleared from drains, safety improvement and rehabilitation works of Jam Chakro dump site and construction and operation of collection points, transfer station, sanitary land fill cell at Jam Chakro and advanced waste management facility in Dhabeji, the Project is classified as High Risk.

The project activities under component-1 are an emergency operation and would involve significant environmental, occupational and community health and safety risks as the result of nullah cleaning, transport and temporary storage of potentially biologically and chemically contaminated waste cleared from drains. The environmental risks of nullah cleaning activities are mainly associated with removal of accumulated waste, it's handling, transport, temporary storage and disposal. Generation of gas/odors that can cause short term effects on workers' and community health and air quality. If the waste removed from drains is not properly stored and transported to the temporary storage, the waste may create unhygienic conditions in the nearby communities around nullahs and along transportation routes in different areas of Karachi, resulting in the spread of pathogens. There will also be increased noise due to use of machinery, equipment and vehicles for nullah cleaning and transportation of waste cleared from drains. The Occupational, Health and Safety (OHS) risks to the workers directly involved in the nullah cleaning activity and Community Health and Safety (CHS) risks to nearby communities are expected due to potential exposure to gas/odors like methane and hydrogen sulfide which would become health hazards, and cause fire and explosions, electric shocks while working with electric equipment close to water, and hot and humid weather that may cause dehydration of workers. In addition, construction and operation of temporary storage cell would involve OHS and CHS risks such as civil works, receiving and storing of waste removed from drains, potential contacts with waste pickers who would be moving around the temporary storage cell in the Jam Chakro dump site. Potential soil and groundwater contamination if residual water content within the wet waste at temporary storage cell is not properly controlled.

The project is also planning to support construction and operation of various waste management facilities to provide the medium term waste management solution under Component-2. During construction, environmental risks and

impacts such as vegetation clearance, borrow materials collection and supply, generation of dust, wastewater, soil erosion, noise, generation of solid waste are anticipated. The project will also have long term environmental risks and impacts during operations of a sanitary landfill cell in Jam Chakro and waste treatment facilities in Dhabeji. In addition, Component 2 will support progressive rehabilitation of areas that have no additional capacity to receive more waste and the measures to improve environmental and safety in Jam Chakro dump site. There are environmental, health and safety risks related to those activities as the project need to deal with historical and existing issues such as contaminated leachate, collapse risk of solid waste stockpile, landfill gas and dust at Jam Chakro dump site. Considering all above environmental, health and safety risks and the low capacity of the implementation agencies to manage these risks, the project risk rating is assessed as High.

Social Risk Rating High

No private land acquisition is planned/anticipated under the project. However, the city has a problem of encroachment and a significant number of squatters are settled on or using public land for residential and/or livelihood purposes respectively. Under Component 1, cleaning drains/nullahs does not involve removal of encroachment from nullahs. However, there is a risk that there may be some inadvertent damage to structures (established for livelihood purposes) that may have extended/encroached onto nullahs.

Under Component 2, a major risk is of potential need for resettlement of and/or livelihood impacts on squatters, a community of waste-pickers including 410 households, settled at the Jam Chakro dumpsite. There may be additional risks of resettlement (estimated to be of a much smaller scale compared to Jam Chakro) in case squatters are settled on and/or encroachers have extended onto the land for transfer stations, new landfill (e.g. at Dhabeji), or treatment infrastructure for non-municipal waste streams.

While locally available labor will be preferred, influx of labor (mainly from within Karachi) may be anticipated and labor camps may be established for the construction of the sanitary cell and the development of the new sanitary landfill at Dhabeji. There is a significant risk of gender-based violence/sexual exploitation and abuse (GBV/SEA) and violence against children (VAC) from labor for the women waste-pickers and children living at Jam Chakro. These are poor and marginalized communities who already face a significant level of exploitation (e.g. from within their communities, private contractors) and have poor protection mechanisms, and any GBV survivors among them would have reduced access to requisite support mechanisms. The construction activities e.g. for transfer stations will take place in the city, and while the risk of GBV/SEA and VAC can be comparatively reduced in dense settings, this risk may be moderate to significant for women sanitary workers and informal sector women and children waste-pickers working around potential project locations because of their existing vulnerabilities, and lack access to GBV support systems for survivors. Hence, on this basis at appraisal stage the risk of GBV/SEA and VAC is assessed as substantial.

An anti-encroachment drive was undertaken in many parts of Karachi under an order of the Supreme Court of Pakistan around October 2018 and some encroachments were intermittently removed over the following year. The AED is not consistent with the Bank's ESF requirements, as there were no provisions to compensate displaced persons, nor for compensation of loss of livelihood. There is a risk that some anti-encroachment activity may have occurred at Jam Chakro, or the lands for transfer stations, new landfill (e.g. Dhabeji), and treatment infrastructure for non-municipal waste streams since the inception of project preparation (November 21, 2019).

Other major social risks relate to: widespread involvement of economic migrants, and children and minors in waste recovery at subproject locations; health and safety risks for waste-pickers and sanitary workers; exploitation of informal sector workers, many who are ethnic/religious minorities, by middlemen and contractors managing dumpsites; and, potential exclusion of/lack of meaningful engagement with vulnerable groups e.g women, minorities, residents of low income settlements etc. Low capacity of the IA to manage social issues also raises the project risk.

B. Environment and Social Standards (ESSs) that Apply to the Activities Being Considered

B.1. General Assessment

ESS1 Assessment and Management of Environmental and Social Risks and Impacts

Overview of the relevance of the Standard for the Project:

ESS1 is relevant. The emergency interventions under Component-1 can have significant environmental, OHS and CHS risks as the result of cleaning, transport and temporary storage of potentially biologically and chemically contaminated wet waste materials. Nullah cleaning activities would be a source of pollution and OHS and CHS concern if the cleaning, temporary storage and transport of potentially contaminated waste is not properly managed as the areas around nullahs and transportation routes to the temporary storage cell are densely populated. For example, the following issues would be possible: (i) poor maintenance of dump trucks that are not covered and watertight, causing sludge leak with foul smell along the transportation corridor to the storage cell; (ii) Illegal dumping of waste outside dedicated temporary storage cell; (iii) Uncollected waste in temporary disposal site in residential neighborhoods that spills into roadways and nullahs and creates sanitation and aesthetic problems. The temporary storage cell construction and operation will also involve the potential significant EHS risks and impacts. The temporary storage cell will be located within the premises of the existing Jam Chakro dump site where legacy pollution such as leachate impacts on soil and groundwater, landfill gas emission and dust from disposed wastes would exist and waste pickers are present. These legacy issues would be significant OHS and CHS risks for workers and informal communities and waste pickers. The operation of the temporary storage cell will have risks of accidental leakage of residual water content from the wet waste cleared from drains in addition to the other issues such as air, noise, OHS and CHS.

Under component 2, the project will finance number of large scale infrastructure activities including a new sanitary landfill cell at the Jam Chakro existing dump site, construction of new garbage transfer stations, development of modern landfilling capacity at Dhabeji, and treatment infrastructure for non-municipal waste streams. The construction of landfill cell will involve excavation, clearing of land, generation of dust, odor, soil erosion, noise, construction waste and wastewater occupational health and safety risks associated with generation of landfill gases, waste handling, risk of fire and explosion, and risks of slips, trips and falls during construction works. Development of advanced waste treatment facility in Dhabeji will involve the similar EHS impacts but there will be limited historical issues as it is a greenfield development.

The Component 2 will also support progressive closure and rehabilitation of areas that have no additional capacity to receive more waste through several interventions to mitigate potential environmental and safety risks, including (i) construction of a fence wall to limit intrusion into and restricting waste deposits; (ii) stabilization of areas at risk of collapse, by regrading unstable slopes; (iii) retrofitting of access gate, weighbridge and offices for better control of incoming flows; (iv) construction of test wells to monitor potential groundwater contamination; and (v) fire extinction activities to stop burning and prevent re-ignition by the means of covering or cooling. These activities will need to address legacy environmental issues such as dust, odor, landfill gas, leachate from dump site in addition to EHS risks and impacts from construction and operation of those activities.

The implementation of the project overall will have positive environmental impacts through addressing the issue of flooding and SWM in long run; however, the adequate engineering design of the project with consideration of EHS aspects will be key to achieve the intended objectives. The temporary storage facility will be equipped with raised

berms to form a waterproof lagoon-like structure, lined with synthetic liner to contain and evaporate the leachate. The cleaning of nulllahs will start after the temporary storage capacity is available, and will also make use of equipment to reduce residual water content from cleared waste as well as specified routes for transfer of waste. Once the sanitary landfill cell is started operation in one year or so, the wastes stored at temporary storage cell will be transported to the sanitary landfill cell with leachate collection and treatment system. The measures to address legacy pollution at Jam Chakro would include: leachate collection from waste piles for treatment, installation of gas vents in the dump site, diversion and control of surface water run-off, application of soil cover to reduce exposure to the dust and gas, vegetation and greening to prevent soil erosion. ESIA to be prepared for progressive closure and rehabilitation will include EHS risk and impact assessment on legacy pollution. For the other SWM infrastructure development, technical alternatives will be considered through ESIA/ESMP preparation to minimize and mitigate the E&S risks and impacts.

Social Impacts

Under ESS1, GBV/SEA and VAC are important issues and, as discussed earlier, women waste-pickers and children living at Jam Chakro and working around the subproject locations within the city may be particularly at risk due to existing vulnerabilities and limited access to support services for survivors. Hence, at appraisal stage the risk of GBV/SEA and VAC is assessed as substantial. In order to make a final assessment, the GBV risk assessment tool will be run during the design of project activities and a standalone GBV/SEA and VAC Action Plan will be prepared and disclosed within 60 days of project effectiveness.

Under ESS1, social issues relate to lack of meaningful engagement with, and exclusion of vulnerable and marginalized groups from project benefits. These include waste-pickers (particularly women and children), many of whom belong to religious and ethnic minorities, or are migrants; and, people living in low-income settlements such as katchi abadis, particularly women, the elderly, minorities and the poor. Other social issues include the dominance of unregulated, undocumented, informal sector in waste-picking and recycling and the control of power groups within. These social impacts will be assessed in ESIAs and requisite mitigation measures will be proposed in ESMPs and built into project design. The ESIAs/ESMPs will also include an assessment of potential GBV/SEA and VAC risk and appropriate preventive measures will be developed.

Environmental and Social Management Instruments

The following instruments are planned to be prepared for various project activities in accordance with national regulations and ESF as well as international best practices including WBG General EHS Guidelines and EHS Guidelines for Waste Management Facilities. The proposed environmental and social instruments for Component 2 will be prepared prior to issuing bidding documents to be included in the bidding documents of the corresponding contracts and their implementation becomes contractual obligation of the contractors.

1. A draft ESMF will be prepared, consulted on, cleared by the Bank, and disclosed before the approval of the project by the World Bank Board. The ESMF will include the screening process to integrate E&S considerations in sub-projects and inform the site specific E&S instrument for effective environmental and social management. The ESMF will also include the E&S audit process and requirements for activities under Component 1 which are to be financed retroactively. The draft ESMF will be updated in light of further assessment within 60 days of project effectiveness. The updated ESMF will be cleared by the Bank and disclosed. Once the locations of sub-projects are finalized, site specific ESIA/ESMPs will be prepared by independent consultants, consulted on, cleared by the Bank and disclosed prior to issuing bid documents for the corresponding works.

E&S Instruments prepared for Immediate Emergency Response Interventions (Component 1):
2. E&S Audit: As the project will retroactively reimburse the expenditure for Component 1 i.e. cleaning of nullah, transportation and unloading of collected waste at temporary storage, temporary storage construction and operation, after effectiveness, a third-party E&S audit of compliance with the Bank's ESF will be carried out for Component 1. The environmental and social audit process and requirements for activities under Component 1 will be explained in ESMF. The commitment to complete the E&S Audit and timeframe will be recorded in the ESCP. Retroactive financing will be approved and made available upon implementation of the corrective action plan based on the E&S audit findings, and a commitment in this regard will be recorded in the ESCP. The client has applied their own protocols to mitigate the E&S risks and impacts from regular nullah cleaning in compliance with the applicable national regulations. The Bank team provided guidance to follow ESF requirements and the client agreed so that the gap filling measures to be identified in E&S audit will be minimal and easier to comply.

E&S Instruments for Development of SWM Backbone Infrastructure (Component-2):
3. ESIA and ESMPs (as required) – including a detailed social assessment focusing on the community of waste-pickers living on site – will be prepared for the development of the sanitary engineered landfill cell at Jam Chakro Dumpsite. The documents will be prepared, consulted on, cleared by the Bank and disclosed prior to issuing bid documents for the corresponding works.
4. An ESIA/ESMP for the Development of Advanced Waste Treatment Facility in Dhabeji will be prepared, consulted on, cleared by the Bank and disclosed prior to issuing bid documents for the corresponding works.
5. Finally, instruments, schedule of preparation, and responsibilities will be discussed and agreed with the PIU by project appraisal and will be a key element in the ESCP.

ESS10 Stakeholder Engagement and Information Disclosure

The project involves diverse stakeholders. In addition to government implementing agencies and other concerned agencies, project affected parties include private contractors working with the SSWMB on solid waste collection and transport; waste pickers and recyclers in the informal economy; communities at landfill sites, labor engaged in sanitation services and labor unions, elected representatives and the citizens of Karachi in general; and other interested parties include civil society organizations (e.g. NGOs and CBOs focusing on urban development issues), academic departments and think tanks focusing on urban and informality issues, and the media (electronic and print). The project will also affect some vulnerable groups, including women from marginalized communities; low income communities living in polluted environments; minorities who are often employed as sanitation workers at the lowest levels; and migrants and refugees resident in the city many of whom are engaged in waste picking and sorting. Additional stakeholders may be identified during project implementation.

Under ESS10, the IA is required to prepare a detailed Stakeholder Engagement Plan (SEP) to identify the key stakeholders and ensure that all stakeholders are engaged throughout the project. Given the continuing rise in Covid-19 cases in Karachi, consultations at the field level are not possible at this time and these will be completed when conditions allow. Hence, a preliminary SEP (including a project grievance redress mechanism (GRM)) is being prepared in accordance with the WB technical note on community consultations under conditions of restricted public gatherings, consulted on, and disclosed in-country and on the Bank's website. The SEP will be updated, as required,

within 60 days of effectiveness and redisclosed. The commitment to update and redisclose the SEP will be included in the ESCP.

The SEP will be a 'living' document and hence, may be updated periodically during project implementation. The SEP will also outline the mechanisms for information sharing and disclosure and for consultation, including with women and vulnerable/marginalized groups such as waste-pickers, the poor, residents of katchi abadis (low-income settlements), minorities, elderly etc. Stakeholders will be engaged through various modes of engagement (focus group discussion, through social and electronic media, community leaders and NGOs etc.) throughout the life of the project. During implementation, in case of Covid-19 lockdowns, grassroots level consultations will be conducted in small groups and in open air locations, with all participants following government mandated SOPs. An awareness campaign aimed at a larger audience will rely mainly on social media messaging through short videos and advertisements, memes, and jingles and songs which will be broadcast on electronic media or circulated through apps like WhatsApp, TikTok and Instagram. Consultations with experts will take place through meeting apps. Once lockdown opens, more face to face interactions, and community level meetings will be organized under the project. The ESCP will include the condition for updating the SEP, as required, during project implementation. The project GRM will become operational no later than 30 days after the Effective date, as agreed in the ESCP, and comittment to maintain the GRM throughout the project will also be reflected in the ESCP.

B.2. Specific Risks and Impacts

A brief description of the potential environmental and social risks and impacts relevant to the Project.

ESS2 Labor and Working Conditions

The project will involve direct workers (IA employees transferred to the PIU, specialists engaged from the market); contracted workers engaged in construction work and consultancy services for the project (e.g. daily wage workers engaged by contractors for the labor-intensive works under Component 1); and, primary supply workers or suppliers who, on an ongoing basis, provide directly to the project goods or materials essential for the core functions of the project. An assessment of the types and number of workers will be made during project implementation as part of the ESIAs.

Pakistan has comprehensive labor laws covering the terms and conditions of employment, termination of contracts, working time and rest time (working hours, paid leave, maternity leave and maternity protection, other leave entitlements), prevent child and forced labor, minimum age and protection of young workers, equality, pay issues, workers' representation in the enterprise, trade union and employers' association regulation and other aspects. In addition, Pakistan has also ratified several ILO labor conventions. However, the implementation of these laws and the management of certain labor issues addressed under ESS5 – such as OHS, GBV/SEA and VAC, protection against discrimination of religious minorities (many formal sector workers belong to religious minority groups), and grievance redress – is not done effectively. Such gaps will be addressed by enhancement of implementation and supervision capacity mainly through supervision consultants. These aspects will also be assessed in greater detail during project implementation and incorporated in the LMP.

The project activities such as nullah cleaning, storage and disposal of solid wastes entail Occupational, Health and Safety (OHS) hazard and risks. Nullah cleaning workers would be exposed to gases like hydrogen sulfide, methane and

ammonia. The wet wastes from nullahs can contain bacteria, fungus, viruses and parasites that coudl cause the spread of disease. There are also mechanical and ergonomic hazards related to the use of machinery and repetitive movement and work. The workers engaging in solid waste collection, storage, disposal and rehabilitation of dump sites will be exposed to chemicals, pathogens/vectors and accident and injury risks related to the content of the materials they are handling, emissions from those materials such as gas and leachate, and the equipment and vehicles being used. Accidents and injuries would be related to trucks and other moving equipment vehicles, slides of unstable waste piles, fires and explosion, heavy lifting and contact with sharp objects. Chemical hazards related to waste management facilities are toxic gas, leachate and hazardous dust. Worker would also be exposed to pathogens contained in wet waste collected from nullahs. Uncontrolled dumping would also attract rats, flies, and other insects that can transmit diseases.

In keeping with the requirements of ESS2, stand-alone Labor Management Procedures (LMP) will be prepared under the project. The LMP will include an assessment of potential labor related risks (e.g handling of waste material, construction related risks etc.); an overview of labor regulations, policies and procedures; contract terms and conditions; working age regulations; mechanism for redressal of labor related grievances; and other requirements of ESS2. A separate GBV/SEA and VAC action plan will be prepared under ESS1 and will also inform the labor related risk mitigation measures to prepared prior to implementation of project activities. Most importantly, consistent with the requirements of ESS2, a GRM for project related labor issues will also be outlined in the LMP.

In order to minimize and mitigate the OHS risks, the comprehensive OHS management measures will be developed as part of the sub-project specific environmental and social mitigation plans such as ESIAs and ESMPs. Contractors will be required to prepare OHS Plans. Such measures should take into account WBG EHS General EHSGs and EHSGs for Waste Management Facilities and include but not limited to (i) identification of potential hazards to project workers (ii) provision of preventive and protective measures, (iii) training of project workers; (iv) documentation and reporting of occupational accidents, diseases and incidents; (v) Emergency Response and Preparedness Plan; and (vi) remedies for adverse impacts such as occupational injuries, deaths, disability and disease. The contractors will be required to prepare OHS plan and procedures for waste management activities.

ESS3 Resource Efficiency and Pollution Prevention and Management

ESS3 is relevant as the project will support the collection and storage of the wastes collected from nullah cleaning for the short term and support collection, storage, treatment and disposal of solid wastes generated in Karachi for the medium term. The project involves largescale construction works and operation of various solid waste management facilities and is required to prevent and control potential pollution. Waste collection and transportation is required to address potential air emission and leakage of waste from the collection vehicles. Waste storage, treatment and disposal will generate the potential environmental issues such as dust, noise, wastewater, soil erosion, generation of waste residue, landfill gas and leachate treatment. The rehabilitation of Jam Chakro dump site also needs to address the historical erstwhile pollution of air, soil and groundwater due to poor waste disposal practices and leachate generation over previous years.

For Component 1, the temporary storage facility will be equipped with raised berms to form a waterproof lagoon-like structure, lined with synthetic liner to contain and evaporate the leachate. The cleaning of nulllahs will commence after the temporary storage capacity is available, and will also make use of equipment to reduce residual water

content from cleared waste as well as specified routes for transfer of waste. Each contractor will be also required to prepare Dredged Materials Collection, Transport, Disposal and Management Plan for the proper management of collected wastes. Once the sanitary landfill cell is started operation in one year or so, the wastes stored at temporary storage cell will be transported to the sanitary landfill cell with leachate collection and treatment system. To mitigate these issues, For Component 2, the environmental management instruments such as ESIAs and ESMPs will be prepared for each sub-project. These instruments will propose necessary pollution prevention and management measures and waste management procedures in accordance with national regulations as well as international standards and best practices including WBG EHS guidelines for Waste Management Facilities so that the contractors are obliged to follow the requirements proposed in these instruments. The measures to address legacy environmental issues for progressive closure and rehabilitation of areas that have reached capacity at Jam Chakro dumpsite would include: leachate collection from waste piles for treatment, installation of gas vents in the dump site, diversion and control of surface water run-off, application of soil cover to reduce exposure to the dust and gas, vegetation and greening to prevent soil erosion. The comprehensive mitigation measures including the above will be developed based on EHS risk and impact assessment of legacy pollution in the ESIA. In addition, during the design of Component 2, project alternatives will be analyzed taking into account environmental, health and safety aspects of waste management and disposal.

ESS4 Community Health and Safety

ESS4 is relevant as the porposed project activties involves potential adverse risks and impacts on health and safety of project-affected communities. There are low income community settlements around nallahs and the nullah cleaning may pose potential health and safety risks and impacts to those communities through cleaning of waste in nallahs, movement of heavy vehicle and machinaries, temporary storage and transportation of wet waste. These would include potential exposure to dust, odor, noise/vibration, potentially contaminated waste and traffic safety. In Jam Chakro dump site, there are waste pickers and they may face health and safety risks related to receiving and storage of waste dredred from nallahs, construction and operation of temporary storage cell and sanitary landfill cell, the measures to improve environmental and safety performance and rehabilitation and closure of Jam Chakro dump site. In addition, there must be local communities around to-be-determined locations of transfer stations, kachra kundis and advanced waste management facilities. Hence, the careful assessment of potential community health and safety risks and impacts is required in this regards.

The Client is going to assess the potential health and safety risks and impacts associated with the Project and include necessary mitigation measures in the ESMF to be prepared for the project and ESIAs/ESMPs for sub-projects. In the sub-project specific instruments, the Client is required to include provisions for traffic management plan, community health and safety measures and emergency response preparedness plan to mitigate all the health and safety risks and impacts of the project during construction and operations of the Project. Furthermore, in the process of design of various waste management facilities under Component 2, potential risks and impacts of the planned facilities such as exposure to the wastes and other pollutants, traffic accidents, risk of fire and explosion, flooding and other climate change risks will be considered. In view of the assessed potential risk of GBV/SEA and VAC, a GBV/SEA and VAC risk mitigation action plan will also be prepared.

ESS5 Land Acquisition, Restrictions on Land Use and Involuntary Resettlement

ESS5 is relevant. The project does not include or anticipate private land acquisition as the proposed infrastructure will be constructed on public land. Under Component 1, the IA (KMC) agrees that the work on the nullahs includes the cleaning of drains and does not involve any widening or rehabilitation works. The implementation of the nullah cleaning will be monitored by an independent third-party monitoring firm. During implementation, the nullahs will be accessed from points that do not have encroachment issues. In case some encroached location cannot be avoided and are critical for effective cleaning, manual cleaning (with all the necessary health and safety precautions) will be done at such points. Hence, removal of squatters and other informal settlers will not be included under this component. This agreement will be reflected in the preliminary RF. In the event of any inadvertent damage to structures during the cleaning works; or if manual cleaning is not an option and any structures need to be removed in order to access the drains, the IA and independent third-party monitors overseeing the works on the nullahs will prepare and maintain a complete record of such cases/impacts. If any such damage is categorized as an impact on livelihood and/or physical displacement (in keeping with ESS5) in the E&S Audit, compensation for the affected person(s) will be included in the Corrective Action Plan based on the E&S audit findings. This mechanism will be reflected in the preliminary RF. The retroactive financing for Component 1 will be approved and made available upon implementation of the E&S Audit Corrective Action Plan, and a commitment in this regard will be recorded in the ESCP.

Under Component 2, there will be some resettlement impacts. The Government of Sindh (GoS) does not have a resettlement policy to cover compensation (for physical or economic displacement impacts) for encroachers/squatters on public land, so there is a gap between the government's policy and ESS5. The project will entail resettlement and/or livelihood impacts on the community of waste-pickers settled at the Jam Chakro dumpsite. A preliminary assessment indicates that 410 household have been living at this dumpsite for almost three decades. These waste-pickers include religious and ethnic minorities, as well as children working alongside adult family members. Once the plans for developing a sanitary engineered landfill site at Jam Chakro are finalised, a comprehensive resettlement plan (RP) (including livelihood impacts) for the community of waste pickers at Jam Chakro will be designed and implemented. This RP will be consulted on and publicly disclosed, and a commitment to prepare and implement the RP within the lifetime of the project will be included in the ESCP. The project has prepared and disclosed (in-country and on the Bank system) a draft Resettlement Framework (RF) by project appraisal. This draft RF provides the principles for RPs (including for the community at Jam Chakro) which will need to be prepared and implemented under the project. The draft RF will be updated within 60 days of project effectiveness, in light of further assessment of impacts, and redisclosed. The commitment to update and redisclose the RF will be included in the ESCP.

Under Component 2, there may be additional resettlement and/or livelihood impacts in case squatters are settled on or encroachers have extended onto the lands for transfer stations, new landfill (likely at Dhabeji), and treatment infrastructure for non-municipal waste streams. The need for any additional resettlement and/or economic displacement will be determined during project implementation and requisite RPs (in accordance with the updated project RF) will be prepared and implemented accordingly. A commitment to prepare and implement RPs, before executing civil works for subprojects, will be included in the ESCP.

A set of mitigation measures will be used to address project-related risks associated with the recent anti-encroachment drive in the city and ensure compliance with the Bank's social management policies, specifically ESS5. Briefly, (i) any removal of encroachments or resettlement from subproject sites where transfer stations, landfills, or treatment infrastructure for non-municipal waste streams, will be built or upgraded will be in accordance with the RF; (ii) the IAs will protect their transfer stations, landfills, or treatment infrastructure for non-municipal waste streams, from fresh encroachments; (iii) no upgrading or fresh construction of transfer stations, landfills, or treatment

infrastructure for non-municipal waste streams, will take place on subproject sites where anti-encroachment measures have been taken since November 21, 2019 (the project initiation date in the Bank system) without provision of compensation in line with the RF; and, (iv) once project implementation begins, any unforeseen anti-encroachment activities which may take place on the subproject sites where transfer stations, landfills, or treatment infrastructure for non-municipal waste streams, will be built or upgraded will have to comply with the provisions of the project RF/RP, for any subproject to proceed. These criteria are included in the ESCP, and requisite/corresponding screening and site selection measures will be included in the updated RF/RPs.

ESS6 Biodiversity Conservation and Sustainable Management of Living Natural Resources

The project is not planned to have any activities within natural habitats, wildlife reserves, protected areas or critical natural habitats and its buffer zones, however considering the mega infrastructure activities, the project may need to clear large land areas which result in loss of some ecological habitat. Hub dam canal which is around 6 km from Jam Chakro is rich in bird's diversity. Though the project is not anticipated to have any direct impacts on the biodiversity of hub dam canal, the potential biodiversity impacts will be avoided and mitigated through preparation of safeguard instrument such as ESIA and ESMP for each intervention that will be prepared under ESS1. In case ESIA/ESMP identify any significant biodiversity impacts, separate Biodiversity Management Plans would be prepared.

On the other hand, the potential positive impacts would also be expected as the result of removal of the wet wastes which are blocking the water flow of the nallah, and the potential decrease of garbage dumpling into the nullahs. nullahs are flowing into natural creeks, rivers such as Mallir River and Lyari River and Arabian Sea and lesser pollution load into nullahs would help improving ecological function of these natural habitats in the coastal areas.

ESS7 Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities

There are no IPs in the project area and therefore ESS7 is not relevant.

ESS8 Cultural Heritage

Not relevant. There is no known cultural heritage in the project areas. In case cultural heritage is pre-identified in the potential sub-project location, such location will be excluded from the sub-project site through the screening procedure included in ESMF. A chance find procedure will be also included in environmental and social management instruments for each sub-project.

ESS9 Financial Intermediaries

FI will not be involved in the project.

B.3 Other Relevant Project Risks

The project implementation may be affected by COVID-19. Therefore, the project is going to prepare SOPs to mitigate the risks of COVID-19 and operations manual will provide the clear technical guidance and requirements on how to prevent and control COVID-19 infection and respond to the cases of infection. SOPs will be implemented by project

workers and contractors through the contractual agreement. SOPs will be prepared according to relevant WHO Guidelines.

C. Legal Operational Policies that Apply

OP 7.50 Projects on International Waterways	No
OP 7.60 Projects in Disputed Areas	No

III. BORROWER'S ENVIRONMENTAL AND SOCIAL COMMITMENT PLAN (ESCP)

DELIVERABLES against MEASURES AND ACTIONs IDENTIFIED	TIMELINE
ESS 1 Assessment and Management of Environmental and Social Risks and Impacts	
Third party E&S audit report including the proposal of gap filling measures	11/2020
Recruiting an Environmental Specialist, a Health and Safety Specialist, a Resettlement Specialist and a Social Development Specialist	11/2020
Preparation and disclosure of the draft ESMF	09/2020
Update and finalization of the draft ESMF	11/2020
Preparation and disclosure of standalone GBV/SEA and VAC Action Plan	11/2020
ESS 10 Stakeholder Engagement and Information Disclosure	
Updating and disclosing Stakeholder Engagement Plan	11/2020
ESS 2 Labor and Working Conditions	
Preparation and disclosure of stand alone Labor Management Procedures	11/2020
Preparation of OHS plans by contractors	07/2020
ESS 3 Resource Efficiency and Pollution Prevention and Management	
Preparation of Dredged Materials Collection, Transport, Disposal and Management Plan by contractors	07/2020
ESS 4 Community Health and Safety	
Preparation and disclosure of Community Health and Safety Plan, as part of ESMF	11/2020
ESS 5 Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	

Updating and disclosing Resettlement Framework	11/2020
ESS 6 Biodiversity Conservation and Sustainable Management of Living Natural Resources	
Relevant aspects of this standard shall be considered, as needed, under actions under ESS1 above. In case ESIAs/ESMPs identify significant biodiversity impacts, separate Biodiversity Management Plan would be prepared.	11/2020
ESS 7 Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	
ESS 8 Cultural Heritage	
ESS 9 Financial Intermediaries	

B.3. Reliance on Borrower's policy, legal and institutional framework, relevant to the Project risks and impacts

Is this project being prepared for use of Borrower Framework? No

Areas where "Use of Borrower Framework" is being considered:

NA

IV. CONTACT POINTS

World Bank

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Borrower/Client/Recipient

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Implementing Agency(ies)

Implementing Agency: Local Government, Housing and Town Planning Department

Implementing Agency: Province of Sindh

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VI. APPROVAL

Task Team Leader(s):	Suhaib Rasheed
Practice Manager (ENR/Social)	Josefo Tuyor Cleared on 27-Jul-2020 at 10:19:33 EDT
Safeguards Advisor ESSA	Agnes I. Kiss (SAESSA) Concurred on 28-Jul-2020 at 21:35:37 EDT