

PAKISTAN
PROGRAM-FOR-RESULTS

Punjab Green Development Program

Environmental and Social Systems Assessment
(ESSA)

(Final Version for Disclosure)

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Executive Summary

Purpose of the ESSA

- This Environmental and Social Systems Assessment (ESSA) has been prepared by the World Bank for the proposed Punjab Green Development Program (GDP). It includes the following information: (a) an introduction of the Program; (b) a summary of environmental and social (E&S) risks and benefits associated with Program activities for achieving the Program Development Objective (PDO) and the Disbursement-linked Indicators (DLIs) for each Results Area, (c) an assessment of the borrower's E&S management systems which apply to these activities and their risks and benefits, (d) an evaluation of the borrower's performance and track record in implementing its E&S management systems, (e) an assessment of the extent to which the borrower's E&S management systems are consistent with the World Bank's core E&S principles spelled out in the World Bank policy and associated guidance materials, (e) results of stakeholder consultation on the draft ESSA; and (f) recommendations and actions the borrower has agreed to undertake to improve the implementation of applicable systems.
- The World Bank task team prepared this report through the review of existing Program materials and available technical literature, interviews with government staff, and consultations with key stakeholders and experts. Findings of the assessment are incorporated into the overall Program Action Plan (PAP) as key measures to improve E&S management outcomes of the Program. The findings, conclusions, and opinions expressed in the ESSA document are those of the World Bank. Recommendations contained in the analysis have been discussed and agreed with the Government of Punjab (GoPunjab) counterparts.

Program Description

- GoPunjab has developed a broad program to address environmental issues and promote green development in Punjab in the short, medium, and long term. This program is presented in recent strategic documents adopted by GoPunjab, such as the Punjab Environment Policy 2015, the Punjab Smog Policy 2017, and the Punjab Climate Change Policy (under preparation). The objectives of these policies are notably to improve environmental quality in the province and reduce air, soil, and water pollution; address deforestation, floods, and land degradation; manage surface water and groundwater resources; conserve natural resources and protect biodiversity; promote sustainable urbanization and industrialization; develop public transportation and other alternatives to private motorized vehicles; integrate environmental considerations in public policy making and private investments; comply with international standards and enhance green competitiveness; and promote resource and EE. The EPD is the main department responsible for ensuring the implementation of these policies, in coordination with relevant line departments.
- The Punjab GDP is developed through broad stakeholder consultation. The proposed Program Development Objectives (PDO) are to strengthen environmental governance and promote green investment in Punjab. Two Results Areas identified for the support of the proposed GDP are (a) strengthening environmental governance and (b) promoting green investments.¹ The proposed Program budget items were either selected from GoPunjab's Mid-term Development

¹ Green investments are defined broadly to refer investments of resource efficiency and cleaner production (RECP), low pollution, low carbon intensity, improved occupational health and safety (OHS) performance, and/or green job creation.

Framework (MTDF 2017–2020) and Annual Development Program 2017-2018 or proposed based on international best practices to help GoPunjab achieve the proposed PDOs.

Results Area 1: Strengthening Environmental Governance

- This Results Area will support the EPD to restructure its organizational set-up and improve its technical and financial capacity to perform its environmental management responsibilities. Specifically the Program will enhance the province's environmental monitoring and enforcement efforts to create regulatory and financial incentives for polluting entities to improve their environmental performance. In the long run, these efforts will help the province improve its environmental quality and achieve sustained economic development and poverty reduction.

Results Area 2: Promoting Green Investments

- The Program will support GoPunjab to develop new green financing schemes with an aim to provide sustained financing for green investments beyond the implementation period of this Program. In addition, the Program will support identified green investments in the public sector and the private sector.
- The Program has the following Disbursement Linked Indicators (DLIs):
- **DLI 1 – Improving EPD Capacity.** The EPD and its EPA have so far lacked the structure and resources to effectively carry out several of its environmental management mandates, including environmental clearance of investment proposals and inspection of industries for environmental compliance. This DLI will measure results achieved under the Program to improve the EPD's capacity, with the approval by GoPunjab of the department's restructuring plan during the first year and a gradual increase in the number of annual inspections for industrial effluents and stack emissions over subsequent years. A more active inspection regime will increase the pressure for polluting industries to comply with environmental standards and invest in cleaner technologies.
- **DLI 2 – Air and Water Quality Monitoring.** With only six air quality monitoring stations and no water quality monitoring stations available, the EPA has so far not been able to collect a sufficient amount of pollution data to give meaningful estimates on the evolution of environmental quality in Punjab. This DLI will measure results to improve this situation through investments and capacity building efforts under the Program. Targets include the collection by EPA of air and water quality data from an increasing number of monitoring stations by the Program's second and third year, as well as the establishment of a fully operational EMC by the fourth year with the capacity to analyze the data collected and carry out modelling exercises.
- **DLI 3 – Disclosure of Environmental Information and Citizen Engagement.** In addition to limiting GoPunjab's capacity to take informed decisions to curb pollution, the lack of information on pollution and environmental quality in the province has undermined the public's trust in GoPunjab's efforts to manage the environment. As such, the adoption of an environmental information disclosure and citizen engagement regulation is a key step to show the Government's willingness to become more transparent and accountable on environmental management. Following this regulation, the annual publication by EPD of a substantial report providing environmental quality data and information on actions taken to strengthen

environmental governance and reduce pollution, incorporating feedback solicited during public consultations, would be a major achievement to translate such a willingness into concrete actions. This will reflect both the EPD's increased capacity to collect and analyze environmental quality data and progress on transparency and citizen engagement for environmental management. As such, these two actions are used as key outputs to be delivered under DLI 3. Considering the time needed to improve EPD's monitoring and analysis capacity, the publication of a partial report is expected in the third year of the Program, to be followed by comprehensive reports from the following year onward.

- **DLI 4 – Sound Management of Plastics.** Plastics accounts for a significant share of Punjab's pollution and solid waste issues, and the province lacks a comprehensive framework to manage this issue in an environmentally, socially and economically sound way. Under this DLI, GoPunjab will adopt and implement a plastics management strategy and a regulation on single-use plastics, as well as conduct awareness campaigns, to reduce plastic production, consumption and disposal.
- **DLI 5 – Energy Efficiency Investments in Public Institutions.** Inefficient use of electricity in Punjab is driving up its demand and putting unnecessary burden on the available energy supply. PEECA's initial efforts to promote energy efficiency in the public sector will be scaled up under the Program. This DLI will measure the energy saved through the installation by PEECA of energy efficient light bulbs and fans in the 50 public institutions with the highest energy consumption in Punjab. By reducing electricity consumption, this will have a positive impact on reducing emissions of local air pollutants and GHGs from thermal power plants and diesel generators.
- **DLI 6 – Vehicle Compliance with Emission Standards.** The number of vehicles has grown rapidly in Punjab in recent years and is expected to continue increasing, representing a growing source of air pollution and GHG emissions. Following the planned expansion of the VICS's scope under the Program, this DLI will measure the results achieved to ensure that a growing proportion of the private vehicle fleet is inspected and certified as compliant with emissions standards.
- **DLI 7 – Green Investments by Polluting Industries.** Technical and financial capacity constraints have limited the adoption of RECP technologies in industrial sectors in Punjab. This DLI measures results to promote the adoption of such technologies by polluting industrial sectors (such as brick kiln and leather) in Punjab. Specifically, the first result will be the number of sectors in which EPD has supported the piloting of new RECP technologies. The second result will be the volume of investment in such technologies by SMEs supported under the Program.
- **DLI 8 – Mobilization of Sustainable Green Financing.** This DLI will measure the achievement of expected results to develop new sources of green financing. The first, second, and last targets will focus on the development of legal and administrative structure of the EEF, the capitalization of the fund, and its actual operations. Its third target will focus on the Program's support for the development of principles for green *sukuk*.

Environmental and Social Effects of the Proposed Program

- The proposed PforR operation is consistent with the requirements of the Bank policy in that it does not undertake or support activities, which are considered to be a high risk from an environmental or social perspective. In fact, proposed measures to re-structure the EPD, the entire environmental and social governance systems, the relocation of the tanneries scattered throughout the city of Sialkot, to a common location to improve their management, and to

provide funding for technology to improve energy and resource efficiency of certain key polluting sectors are together expected to reduce environmental pollution significantly.

- Notwithstanding, the proposed program will pose substantial environmental and social (E&S) risks if business-as-usual is maintained in managing the E&S effects of its regulatory reform and green investment activities. Specifically, substantial E&S risks are associated with: (a) inability to integrate social issues into the capacity building, EPD restructuring, strategy development and citizen engagements; (b) poor construction quality of physical structures; (c) poor operations and maintenance (O&M) of industrial investments, (d) unsafe disposal of replaced equipment and wastes; (e) land acquisition for green building and pilot wastewater treatment sites and (f) transfer of tannery production to the Sialkot Tannery Zone (STZ). Such risks are manageable if the Program's promoted regulatory reform, EPD capacity building and green investments can be properly designed and implemented with full stakeholder consultation and the adoption of international best practices that are most suitable to local conditions.

Assessment of Borrower Systems

- Environmental management is decentralized in Pakistan and provincial authorities in Punjab are committed to improving their capacity to address environmental degradation. The 18th Constitutional Amendment, adopted in 2010, devolved, among others, the responsibility for environmental planning, pollution control, and pollution prevention to the provinces, which still have very limited capacity to carry out such responsibilities.
- However, the provinces, including Punjab, in their current structure, are struggling to provide the necessary services to meet this mandate. The proposed Punjab Green Development Program (GDP) will support the provincial authorities' renewed efforts to strengthen environmental management and mainstream green development. The scope and priorities of the Program were developed through extensive stakeholder consultations organized during Program preparation. These include strengthening the technical and administrative capacity of the provincial Environmental Protection Department (EPD) and its Environmental Protection Agency (EPA) to provide better services to the population and the private sector; modernizing the legal and regulatory framework; and promoting investments in cleaner technologies at the provincial level to reduce air and water pollution releases from priority sectors.

Stakeholder Consultations

- The preparation of the ESSA has been carried out in a participatory manner involving feedback and inputs from a number of key stakeholders working in government, private sector, and nongovernmental organizations (NGOs). The Bank team has used informal interviews and stakeholder workshops in combination with more formal and structured focus groups and other public meetings to solicit information relevant to the analysis as well as to verify judgments made in the course of conducting this review. The Bank team conducted numerous field visits to Tanneries including the new STZ, brick kiln sites, etc., in Punjab to interact with the private sector, management boards, local and state governments as well as other international organizations and subject matter specialists active in this field.
- The Bank sponsored a multi-stakeholder workshop in Lahore on February 16, 2018 to review the draft of this ESSA and overall Program design. Participants included a range of stakeholders from the government, international organizations, academia, private sector, industry representatives, local government, and civil society. Participants expressed their support to the overall Program design and its proposed actions to enhance social and environmental issues of various Program

activities. A number of concerns were raised regarding the program design issues. They requested the clarification of the selectivity of activities, the rationale for the selection of industries targeted (e.g. why tanners and not the bigger polluters like the steel industry and other metals were included), the scope of the Environment Endowment Fund, the Energy Efficiency Program and the RECP Technologies Pilot Investments. They also requested that the Program focus more on gender responsive activities, sustainability of selected activities, targeting of funds/grants, research and development (R&D) activities and funding, monitoring of the program, and implementation and institutional arrangements.

- The Bank responded to the concerns raised during the consultations by informing the participants that the proposed program is the Bank's first direct investment operation in the environment sector in the Punjab. Recognizing the sheer size, scale and complexity of the root causes of pollution and the realities of the political economy, there was need for the Bank's support in this sector to be based on incremental, step by step and probably sequential approach over the medium to long term and proportional to the Government's ability to manage the program's risks satisfactorily. Also, restructuring of the EPA/EPD which is being supported by the proposed program, is a necessary first step which the government supports.
- The ESSA has reflected concerns raised and incorporated suggestions both in the ESSA itself as well as in the more substantive recommendations and proposed actions in the overall Program document.

Recommendations and proposed Actions

- The recommendations and proposed actions are focused on institutional strengthening by restructuring of the EPD to improve its efficiency and capacity to improve environmental governance of the Punjab, specifically with regard to the strengthening and enforcement of the regulatory framework and guidelines; certification of the STZ operations using the LWG protocol and tangible environmental management plans of specific activities. During the preparation and appraisal process for the PforR, specific agreements have been made with program counterparts on including these recommendations as core elements of the Program Action Plan (PAP). The recommendations and proposed actions are summarized below.
- **Proper program implementation requires provide adequate human resources to manage social issues of the Program activities.** It will ensure the proper identification and mitigation of social issues/risks of specific Program activities. Special attention will be needed for vulnerable groups of the population. Capacity-building program for the EPD and other related departments (such as Energy, Finance and Transport Departments) will include special sessions on the government regulations and environmental laws and social management principles (including labor, OHS, compensations, gender, inclusion, citizens engagement, etc.).
- **Specific E&S recommendations have been embedded into the results framework.** With the entire Results Area 1 designed to strengthen environmental governance, PDO, DLIs 1 to 4 will ensure social issues are well integrated into the new environmental regulatory systems, EPD restructuring, capacity building, strategy development and citizen engagement activities of the Program. In addition, DLIs 5 to 8 have focused on concrete measures to address priority pollution issues identified by the stakeholders.
- Table 1 below shows the Proposed Program Action Plan to management E&S effects and risks of the Program.

Table 1: Program Action Plan to Manage E&S Effects and Risks

Scope	Proposed Activity	Management Action	Responsible Institutions	Costs (\$m)
Improved Environmental Governance	Re-structuring and capacity building of the EPD	Completion of the EPD restructuring plan Preparation and implementation of a capacity assessment and strengthening plan including that for responding and managing social issues.	EPD/P &D	87
Enhancing the Environmental Legislative Framework	Review of the existing legislative framework and preparation of a list and drafting of new rules, regulations and guidelines and plan for enacting them.		Directorate of Environmental Law, Policy and Regulation/ EPD	6
Land acquisition	Green building and low cost wastewater treatment pilots	SOP, as explained in para 317 of this document, will be designed, which will include procedures for chance finds	EPD	*
Labor issues	Green investments focusing on safeguarding labor health and safety	Monitoring and enforcement	EPD and the Labor Department	*
Closed tanner sites	Site rehabilitation and environmental clean up	Environmental Management Plan	Tanners/ EPD	*
STZ	CETP, on-site sanitary landfill, adoption of RECP technologies	Environmental Management Plan; LGW and REACH compliance	STAGL/EPD	*
Energy efficiency investments in public institutions	Replacing energy inefficient light bulbs and electric fans from public institutions	Environmental management Plan; To use licensed hazardous waste operators to safely handle, transport and dispose of identified hazardous wastes.	EPD	
SPIU in EPD will lead coordination and will management of the E and S risks	Set up a social unit; Organize a training program on social issues for concerned line departments	Dedicated Environmental and Social Specialists to be assigned to manage program risks	EPD	*
		Investments with significant		50 for EEF;

Scope	Proposed Activity	Management Action	Responsible Institutions	Costs (\$m)
Environment Endowment Fund (EEF) Pilot/demonstration of RECP Technology Investments	Small scale investments to support R &D, pilot RECP demonstration technologies and environmental awareness programs.	adverse environmental and social impacts will not be eligible for funding. Activities will be implemented incrementally to allow RECP technologies be fully tested in the first two years before scaling up. This will also allow EPD to have time to implement its restructuring and improve its capacity.	SPIU/EPD	58 for RECP investments

* Costs budgeted in respective investment activities.

Introduction

Program Description

- The Punjab Green Development Program (GDP), a Program for Results (PforR) operation, is proposed in the context of mounting environmental challenges (air, water and soil pollution) of Punjab along with its continued economic growth in recent years. Frequent smog events and reported pollution cases have resulted in the public and business community's disbelief and distrust in the Environmental Protection Department (EPD) of GoPunjab and triggered court actions against the EPD and polluters for their failure to protect the environment.² Pollution, on the other hand, has affected industrial competitiveness. For example, Punjab's leather industry is losing its market share in the international market due to its poor environmental performance. As the first donor operation to address these challenges systematically, the Program aims to enable the EPD to properly perform its environmental management responsibilities, create a conducive environment for key provincial agencies to integrate environmental considerations into their development strategies, and promote public and private investments to start addressing selected priority pollution issues.
- The Program was developed through extensive consultations with stakeholders of the province, including a two-day Solutions Workshop, organized by the Bank in Lahore on September 14-15, 2017 with participations of over 40 representatives from key GoPunjab departments, industrial associations, universities and civil society organizations. At the workshop, stakeholders reviewed key pollution challenges faced by the province; identified priorities to be addressed by the Program; developed the overall program design, including the proposed PDO and Results Areas; identified risks and proposed mitigation measures; and agreed on the action plan to prepare and implement the Program. Stakeholder consultations after the Workshop then helped GoPunjab define the scope of the Program; results indicators and their targeted values to be measured against the achievements of the proposed PDOs; DLIs, their targeted values and associated disbursement arrangements; implementation arrangements of the Program; and a list of actions to be taken by GoPunjab's departments for successful Program implementation. On February 9, 2018, stakeholders endorsed the overall Program design and implementation arrangements at a consultation workshop, a follow-up event to the Solutions Workshop.
- The proposed PDOs of the Program are to strengthen environmental governance and promote green investment in Punjab. Two Results Areas identified for the support of the proposed GDP are (a) strengthening environmental governance and (b) promoting green investments.³ The Proposed Program budget items were either selected from GoPunjab's Mid-Term Development Framework (MTDF 2017-2020) and Annual Development Program (ADP 2017-2018) or proposed based on international best practices to help GoPunjab achieve the proposed PDOs. Table 2 shows the list of 18 budget items included in the Program and their respective budget allocations over the five years of Program implementation. As the table shows, the Program has included a number of capacity building and technical assistance activities to support the EPD, other GoPunjab departments, and industrial associations to develop their capacity to properly implement this Program.

² Detailed discussions on the provinces' environmental challenges can be found in the Program's Technical Assessment Report prepared by the Bank.

³ Green investments are defined broadly to refer investments of RECP, low pollution, low carbon intensity, improved occupational health and safety (OHS) performance, and/or green job creation.

- Under the Program, two results areas are proposed: strengthening environmental governance and promoting green investments. To assess its developmental impacts, the Program has developed a Results Framework (RF) with:
 - (a) three PDO indicators under Results Area 1- (a) average time to obtain Initial Environmental Examination (IEE) approval of investments with low safeguards risks, (b) stack emission and effluent discharge inspections carried out by EPA, and (c) disclosure of environmental information and citizen engagement.
 - (b) two PDO indicators under Results Area 2 – (iv) Volume of carbon emission avoided from green investments; (v) Volume of new public and private capital leveraged for green investments – to measure the Program’s impacts to promote green investments.
- The proposed Punjab GDP will finance a total of 18 budget items (see Table 1). These items include (a) 8 selected activities featured in the MTFD (2017–2020) and ADPs (2017–2018), four of which have expended scopes to better contribute to the PDOs, and (b) 10 new activities that GoPunjab has agreed to add in MTFD (2018–2021) and ADPs (2018–2019) for the Environment, Finance, Energy, and Transport sectors. Overall, the corresponding expenditures will finance a mix of regulatory and institutional reforms, capacity building and technical assistance (TA), green investments in both public and private sectors, small scale infrastructure development, monitoring and evaluation (M&E), and communications and citizen engagement activities.

Table 1. Expenditure framework of the Punjab GDP

Scope	Budget Item	GS No	Expenditure Types	Resp. Dept.	Est. eligible costs (US\$m)	Y1	Y2	Y3	Y4	Y5
Results Area 1: Strengthening Environmental Governance										
EPD Restructuring	EPD Restructuring and Program Capacity Building	9293	New organizational set-up; operating costs under the Program; capacity building for EPD and other relevant departments	EPD	22.6	2.3	4.5	6.8	4.5	4.5
	Establishment of Environmental Technology Center (ETC)	9291	Creation of new center; consultancy services; staff hiring; operating costs under the Program		13.5	1.4	2.7	4.1	2.7	2.7
	Establishment of Environmental Monitoring Center (EMC)	New	Water monitoring stations, mobile monitoring equipment, and the reference laboratory; green building with LEED certification		35.2	3.5	7.0	10.6	7.0	7.0
	Establishment of Environmental Policy Center (EPC)	New	Creation of new center; staff hiring; operating costs under the Program		2.3	0.2	0.5	0.7	0.5	0.5
	Air and Water Quality Monitoring Capacity Building	9288	Air monitoring stations, monitoring vehicles, monitoring equipment		10.3	2.4	7.9			
Regulatory Reform	Revision, Development of Environmental Quality & Industry Specific Standards	9282	Consulting services for standard development	EPD	0.3	0.0	0.1	0.1	0.1	0.1
	Policy and Regulatory Reforms	New	Consulting services on policy studies		5.0	0.5	1.0	1.5	1.0	1.0
	Expansion of Vehicle Inspection and Certification System	9258	Transaction advisory services for Public Private Partnership (PPP)	Transport Dept.	0.5	-	0.5	-	-	-
	Study on Safety & Emission Compliance of New Vehicles	New	Consulting services		0.3	-	0.3	-	-	-
Citizen Engagement	Public Disclosure, Awareness Raising and Citizen Engagement	New	Consulting and non-consulting services	EPD	3.2	0.3	0.6	0.9	0.6	0.6
Implementation Support	Strengthening of Strategic Planning & Implementation Unit	9287	Staff hiring; operating costs under the Program	EPD	7.6	0.8	1.5	2.3	1.5	1.5
	Technical Support for Program Implementation and Independent Verification	New	Consulting services		6.0	0.8	1.2	1.6	1.2	1.2
Subtotal					106.6	12.1	27.8	28.5	19.1	19.1
Results Area 2: Promoting Green Investments										
Green Financing	Green Financing Strategy	New	Consulting services	Finance Dept.	2.7	0.3	0.5	0.8	0.5	0.5
	Environment Endowment Fund	New	Fund capitalization	EPD	55.0	-	50.0	-	-	5.0
Public Sector Investments	Energy Efficiency & Conservation Program	8254	Non-consulting services	Energy Dept.	32.9	12.8	7.4	5.4	4.0	3.3
	Pilot of Low Cost Wastewater Treatment Technologies	New	Works	EPD	9.0	0.9	1.8	2.7	1.8	1.8
Private Sector Investments	Pilot / Demonstration of RECP Technologies	9284 / 9292 / 9289	Works/goods	EPD	57.8	3.6	13.5	13.5	13.5	13.5
	Support to Sialkot Tanneries	New	Works/goods		9.0	0.9	1.8	2.7	1.8	1.8
Sub-total					166.4	18.5	75.1	25.2	21.7	25.9
Total					273.0	30.6	103	53.7	40.8	45.1

Results Area 1: Strengthening Environmental Governance

- This Results Area will support the EPD to restructure its organizational set-up and improve its technical and financial capacity to perform its environmental management responsibilities. Specifically the Program will enhance the province's environmental monitoring and enforcement efforts to create regulatory and financial incentives for polluting entities to improve their environmental performance. In the long run, these efforts will help the province improve its environmental quality and achieve sustained economic development and poverty reduction.
- **EPD restructuring and capacity building.** The Program will support the EPD to improve its organizational structure, reform its regulatory regime, and modernize its administrative procedures and systems. Institutionally, this will include the creation of an Environmental Monitoring Center (EMC) with a network of air and water quality monitoring equipment and a reference laboratory; an Environmental Policy Center (EPC) to support sound environmental policymaking (e.g. pollution management, resource uses, climate mitigation/adaptation); and an Environmental Technology Center (ETC) to identify, pilot and demonstrate RECP and pollution control technologies for priority sectors and GHG sources. To address the lack of facilities that drastically limit the EPD's capacity to perform its functions, the Program will also finance the construction of a green building in Lahore to host the EMC and other EPD agencies.
- To provide better and more transparent services to the public and private sector, EPD's procedures and systems will be improved under the Program, including environmental approval; grievance redress; environmental monitoring, inspection and enforcement; interagency coordination; and environmental information disclosure and citizen engagement. TA and capacity building activities will also be conducted to strengthen the EPD's technical and administrative capacity, and to improve other provincial departments' capacity to manage environmental and social issues, including those potentially arising from Program-supported activities.⁴ Finally, the Program will support industrial associations to develop their technical knowledge and understanding of available green/RECP technologies.
- **Regulatory reforms.** GoPunab's environmental policies, laws and standards will be updated or established under the Program. This will notably include the preparation of:
 - (a) *Legislation:* (i) Revision of the Environmental Protection Act 1997; (ii) development of an environmental information disclosure and citizen engagement regulation.
 - (b) *Policy initiatives:* (i) Pollutant release and transfer register; (ii) pollution levy system; (iii) health advisory system targeting vulnerable groups (e.g., women, children); (iv) strategies for air/water quality, and integrated waste management; and (v) development and implementation of a plastics management strategy and a regulation on the production and consumption of single-use plastics.

⁴ These departments include the Planning and Development (P&D) Department; Departments of Health, Transport, Energy, Mining, Agriculture, Women Development, Labor, Irrigation; Housing, Urban Development, and Public Health Engineering Department (HUD&PHED); Industries, Commerce, and Investments Department (ICID); Local Government and Community Development (LGCD) Department; and Punjab Information Technology Board.

- (c) *Environmental standards*: Revision of provincial environmental quality standards and development of new ones, including industry-specific standards).
- (d) *Studies*: (i) Pollution impacts on public health with a focus on vulnerable groups, including the poor, women, children and the elderly⁵; (ii) sustainable transport strategy, notably considering ways to improve vehicle fuel efficiency, promote public transport, reduce traffic congestion and pollutant emission; and (iii) green industrial and industrial estate development strategy.
- Given the large contribution of vehicles to air pollution, the Program will support GoPunjab to strengthen its control over vehicle emissions. Specifically, the Transport Department will expand the scope of its existing public-private partnership (PPP) for the Vehicle Inspection and Certification System (VICS) to cover the entire fleet including private vehicles. It will also study the institutional and regulatory framework needed to ensure compliance of new vehicles with safety and emission standards, with a focus on rickshaw production. Finally, the Program will help EPD develop its capacity to test emission of new vehicle engines.
- **Information disclosure and cCitizen engagement.** The Program will strengthen EPD's capacity to disclose environmental information and engage citizens in environmental management through (a) the timely disclosure of environmental monitoring data online (real-time) and through other channels (such as TV, newspaper, radio) in both English and Urdu; (b) the annual public consultation and publication of a report on the State of Punjab's Environment in both English and Urdu; (c) the strengthening of existing citizen feedback and grievance redress schemes (for example, telephone hotlines and interactive internet portal); and (d) awareness campaigns on pollution management (for example, the management of single-use plastics) and green development.
- **Implementation support.** EPD's capacity to lead overall Program implementation will be strengthened. Specifically, GoPunjab has decided to increase budget support to the EPD's Strategic Project Implementation Unit (SPIU) to manage Program implementation, including the creation of a Social Unit within SPU to management social aspects of Program activities. In addition, GoPunjab will mobilize external technical expertise for implementation as needed and an independent firm for the verification of Program results.

Results Area 2: Promoting Green Investments

- Under the Program, GoPunjab will promote green financing as a way to mobilize resources for green investments beyond the Program's implementation period, and will directly support priority green investments in both the public and private sectors.
- a. Green Financing**

⁵ Documenting the impacts of pollution on these disproportionately affected groups is a recommendation of the 2017 Lancet Commission on Pollution and Health.

- **Green Financing Strategy.** The Finance Department (FD) will develop this strategy in close coordination with the EPD, ICID, and other public and private stakeholders. Four aspects of green financing will be explored:
 - (i) *Green Banking Guidelines:* The strategy will examine how to support commercial banks to operationalize the State Bank of Pakistan (SBP)'s October 2017 Green Banking Guidelines.⁶ Specifically, GoPunjab will work with commercial banks to improve their capacity to manage environmental and climate risks associated with their investment portfolios and promote green investments.
 - (ii) *Green SME financing:* GoPunjab will work with commercial banks to design effective mechanisms to enhance SMEs' access to finance for green investments. In line with international best practices, such scheme would enhance credit access on a commercial basis (i.e. no interest rate subsidy), focus on lowering risk through instruments such as credit risk guarantees (CRGs), and provide technical support and incentives to SMEs to prepare bankable projects for sound green investments.⁷ This work will be coordinated with SBP's national-level SME finance initiatives.⁸
 - (iii) *PPPs for environmental infrastructure:* The strategy will explore the opportunities and constraints for GoPunjab to make better use of PPPs to finance key public infrastructure to address Punjab's environmental challenges (for example wastewater treatment and waste management facilities).
 - (iv) *Green bonds/sukuk:* To mobilize domestic capital markets as a sustainable source of finance for green investments, the FD will develop a set of principles for the issuance of green bonds/sukuk (Islamic bonds).⁹
- **EEF.** In line with the Punjab Environmental Protection Act, 1997 (Amended 2012), which authorizes the creation of a provincial fund to finance environmental projects, GoPunjab will establish the EEF, including (i) establishment of the board, secretariat, and selection of a professional fund manager; (ii) capitalization of the fund with US\$55 million from the Program; and (c) adoption of fund management procedures (for example, selection and financing of proposals, M&E and reporting on the use of fund resources). Through the secretariat, the fund will issue regular calls for proposals to finance RECP pilots and demonstration activities, civil society proposals, and awareness-raising activities. The EEF will also set up a window for proposals that particularly benefit vulnerable groups. It is expected that GoPunjab will continue contributing to this fund to gradually strengthen its financial capacity and long-term impacts.

⁶ See: <http://www.sbp.org.pk/sme/d/circulars/2017/C8-Annex.pdf>

⁷ GoPunjab may subsequently launch a green SME financing scheme, which is currently not included in the Program.

• ⁸ The World Bank is currently supporting the SBP to redesign its central CRG scheme for SME financing, expected to result in a new CRG scheme and company that will be run on a sustainable basis.

⁹ This activity will be closely coordinated with the Bank's ongoing support to the FD on subnational financing, including for the issuance of GoPunjab's first regular bond, expected in 2018.

b. Public Sector

- The Program will include two areas of interventions in the public sector to generate quick results to reduce air and water pollution, as well as GHG emissions: energy efficiency and conservation and demonstration of low-cost domestic wastewater treatment technologies. For the first, the Punjab Energy Efficiency and Conservation Agency (PEECA) of the Energy Department will install energy efficient light bulbs and electric fans in the 50 public institutions in Punjab with the highest energy consumption. PEECA will also develop (i) an Energy Conservation and Efficiency Strategy and Policy for the province, (ii) a study on energy consumption norms for energy intensive industries and the public sector, and (iii) energy efficiency standards and labeling for air conditioners. For the second, EPD will identify, design and pilot low-cost and decentralized technologies, such as constructed wetland, to treat domestic wastewaters for small towns, villages and housing colonies. GoPunjab plans to use public land for all pilot areas, which will be selected through stakeholder consultations. In addition to reducing the releases of local air pollutants (such as oxides of nitrogen and sulfur, fly ash) and water pollutants (such as organic matters, nitrogen), these pilots will contribute to both climate adaptation, by facilitating decentralized access to clean water, and mitigation, by reducing the energy needed to treat wastewater and related GHG emissions.

c. Private Sector

- EPD will support the identification, piloting, and province-wide demonstration of suitable RECP technologies for Punjab's industries. The technologies to be demonstrated are expected to improve both the financial and environmental performances of polluting firms. All beneficiary firms will commit to achieving environmental compliance at successful completion of their investments. Direct support to SMEs with low technical and financial capacity through matching grants is justified by the large environmental externalities addressed in terms of air pollution, GHG emissions and water pollution and by the strong expected demonstration effects. The specific RECP technologies, levels of support and criteria for firm selection will be disclosed and consulted with the relevant industrial associations before the launching of pilots. Piloted technologies with the highest potential to help industries achieve environmental compliance will be recommended for future scaling up. In this regard, the EPD will assist SMEs interested in adopting demonstrated RECP technologies to prepare loan proposals, connect them with commercial lenders, and support them through the loan appraisal processes.
- RECP piloting and demonstration efforts will focus on a few priority polluting sectors and will directly support a small number of SMEs in each of them. During Program preparation, the following two priority sectors were identified – brick kilns and leather:¹⁰ It is estimated that Punjab has over 10,000 kilns. Brick making is a large source of employment and income, but also a major contributor to air pollution and GHG emissions. While mature cleaner production technologies have been widely adopted elsewhere in South Asia, they are still new to Pakistan

¹⁰ Additional polluting industries – stone crushers, rice husking mills, steel furnaces and rerolling units – may be included in the RECP pilot and demonstration scheme during Program implementation. Detailed assessments of technical, environmental and social impacts will be conducted for each sector after each pilot.

with only one such technology successfully piloted at a kiln in Raiwind, Punjab in 2017 with external TA and partial financial support from EPD. Grants are expected to be provided to a limited number of brick kilns for them to pilot RECP technologies.

- As Pakistan's second largest export industry, the leather sector employs between 500,000 and 1,000,000 workers. As a major source of water use and pollution, the sector's incapacity to comply with international buyers' environmental and social standards has become a significant threat to competitiveness, contributing to a recent decline in exports.¹¹ Program support for RECP technologies in the sector will help it improve its compliance. Grants are expected to be provided to a limited number of tanners.
- **Support to Sialkot tanners.** Sialkot is one of three tannery centers of Pakistan with about 250 tanners, about 31 percent of tanners in Pakistan. Currently, Sialkot tanneries are operating in ten clusters in the city with very limited wastewater treatment and are thus polluting the city's groundwater. To address the sector's pollution issues, in 2009 the Sialkot Chamber of Commerce and Industry and tanners formed the Sialkot Tanners Association (Guarantee) Ltd. (STAGL), a nonprofit organization, to develop a dedicated tannery estate—the Sialkot Tannery Zone (STZ)—with a CETP through a PPP arrangement with GoPunjab¹². All Sialkot tanners have purchased STZ plots to relocate their production there and the development of STZ is expected to be completed by 2020. Recognizing the economic importance of Sialkot tanners, GoPunjab agreed with STAGL through the Program to support (a) the construction of a grid connection station in STZ, (b) the construction of STZ's wastewater collection system, (c) the construction of the training center with a focus on RECP technologies and OHS for the leather sector, and (d) financial incentives for tanners to transfer their production to STZ according to agreed schedules. In addition, individual tanners will have opportunities to get access to the Program support to the pilot/demonstration and scaling up of RECP technologies based on their eligibility. All Sialkot tanners receiving Program support will commit to achieve full environmental compliance after the completion of their RECP investments.
- The Program has the following Disbursement Linked Indicators:
- **DLI 1 – Improving EPD Capacity.** The EPD and its EPA have so far lacked the structure and resources to effectively carry out several of its environmental management mandates, including

¹¹ Major lead brands (e.g., Adidas, H&M, IKEA, Nike) are increasingly seeking to buy products from manufacturers who are compliant with international standards set by the Leather Working Group (LWG) as well as the Registration, Evaluation, Authorisation, and Restriction of Chemicals Regulation (REACH) regulation of the European Union (EU). Pakistan is also a beneficiary since 2014 of the EU's Generalized Systems of Preferences (GSP+), which grants duty-free market access for over 60 percent of EU tariff lines and requires ratification of and compliance with twenty-seven international conventions, including eight on the environment.

¹² With support from GoPunjab and the federal government, as well as member contributions, STAGL has completed land acquisition and installation of fences, and has started building zone infrastructure such as roads. The United Nations Industrial Development Organization (UNIDO) has been supporting STZ development since 2015, including (a) ongoing technical training on RECP technologies, energy/material efficiency, pre-treatment of effluents, chromium recovery, and LWG compliance; (b) completed land-use planning, climate and social assessment, and waste management plan; and (c) design of a CETP and the construction of the first CETP module expected to be completed in 2019.

environmental clearance of investment proposals and inspection of industries for environmental compliance. This DLI will measure results achieved under the Program to improve the EPD's capacity, with the approval by GoPunjab of the department's restructuring plan during the first year and a gradual increase in the number of annual inspections for industrial effluents and stack emissions over subsequent years. A more active inspection regime will increase the pressure for polluting industries to comply with environmental standards and invest in cleaner technologies.

- **DLI 2 – Air and Water Quality Monitoring.** With only six air quality monitoring stations and no water quality monitoring stations available, the EPA has so far not been able to collect a sufficient amount of pollution data to give meaningful estimates on the evolution of environmental quality in Punjab. This DLI will measure results to improve this situation through investments and capacity building efforts under the Program. Targets include the collection by EPA of air and water quality data from an increasing number of monitoring stations by the Program's second and third year, as well as the establishment of a fully operational EMC by the fourth year with the capacity to analyze the data collected and carry out modelling exercises.
- **DLI 3 – Disclosure of Environmental Information and Citizen Engagement.** In addition to limiting GoPunjab's capacity to take informed decisions to curb pollution, the lack of information on pollution and environmental quality in the province has undermined the public's trust in GoPunjab's efforts to manage the environment. As such, the adoption of an environmental information disclosure and citizen engagement regulation is a key step to show the Government's willingness to become more transparent and accountable on environmental management. Following this regulation, the annual publication by EPD of a substantial report providing environmental quality data and information on actions taken to strengthen environmental governance and reduce pollution, incorporating feedback solicited during public consultations, would be a major achievement to translate such a willingness into concrete actions. This will reflect both the EPD's increased capacity to collect and analyze environmental quality data and progress on transparency and citizen engagement for environmental management. As such, these two actions are used as key outputs to be delivered under DLI 3. Considering the time needed to improve EPD's monitoring and analysis capacity, the publication of a partial report is expected in the third year of the Program, to be followed by comprehensive reports from the following year onward.
- **DLI 4 – Sound Management of Plastics.** Plastics accounts for a significant share of Punjab's pollution and solid waste issues, and the province lacks a comprehensive framework to manage this issue in an environmentally, socially and economically sound way. Under this DLI, GoPunjab will adopt and implement a plastics management strategy and a regulation on single-use plastics, as well as conduct awareness campaigns, to reduce plastic production, consumption and disposal.
- **DLI 5 – Energy Efficiency Investments in Public Institutions.** Inefficient use of electricity in Punjab is driving up its demand and putting unnecessary burden on the available energy supply. PEECA's initial efforts to promote energy efficiency in the public sector will be scaled up under the Program. This DLI will measure the energy saved through the installation by PEECA of energy efficient light bulbs and fans in the 50 public institutions with the highest energy consumption in

Punjab. By reducing electricity consumption, this will have a positive impact on reducing emissions of local air pollutants and GHGs from thermal power plants and diesel generators.

- **DLI 6 – Vehicle Compliance with Emission Standards.** The number of vehicles has grown rapidly in Punjab in recent years and is expected to continue increasing, representing a growing source of air pollution and GHG emissions. Following the planned expansion of the VICS's scope under the Program, this DLI will measure the results achieved to ensure that a growing proportion of the private vehicle fleet is inspected and certified as compliant with emissions standards.
- **DLI 7 – Green Investments by Polluting Industries.** Technical and financial capacity constraints have limited the adoption of RECP technologies in industrial sectors in Punjab. This DLI measures results to promote the adoption of such technologies by polluting industrial sectors (such as brick kiln and leather) in Punjab. Specifically, the first result will be the number of sectors in which EPD has supported the piloting of new RECP technologies. The second result will be the volume of investment in such technologies by SMEs supported under the Program.
- **DLI 8 – Mobilization of Sustainable Green Financing.** This DLI will measure the achievement of expected results to develop new sources of green financing. The first, second, and last targets will focus on the development of legal and administrative structure of the EEf, the capitalization of the fund, and its actual operations. Its third target will focus on the Program's support for the development of principles for green *sukuk*.

ESSA Methodology

- The ESSA has been prepared by the World Bank task team in accordance with the requirements of the World Bank's PforR policy and associated Interim Guidance Note for PforR operations. Specifically, the ESSA was developed based on (a) a review of existing policies, acts, regulations, frameworks, and guidelines; (b) list of questions prepared for each stakeholder institution based on the Program design and its respective role and responsibilities; (c) meetings and interviews with key personnel of Punjab departments and agencies participating in Program implementation; (d) an assessment of relevant environmental and social management systems relative to the PforR principles; (e) an assessment of the capacity and performance of institutions; (f) development of an action plan to enhance environmental and social management capacity and performance; (g) consultations on the draft ESSA with key stakeholders in Lahore on February 16, 2018; and (g) development of recommendations.

Environmental and Social Effects of the Proposed Program

- Successful implementation of the Program will generate positive environmental and social effects for the population of Punjab. The Program, as defined by its PDOs, results areas, DLIs and budget items, will help GoPunjab improve its environmental regulatory systems and strengthen its EPD's technical capacity and human and financial resources to better manage the Province's environment challenges. It will allow GoPunjab to use multiple instruments to steer public and private investments toward a sustainable development path, minimizing pollution discharges and the associated environmental and health impacts from such investments. The Program, however, will pose substantial environmental and social (E&S) risks if business-as-usual is maintained in managing the E&S effects of its regulatory reform and green investment activities. Specifically, substantial E&S risks are associated with: (a) inability to integrate social issues into the regulatory reform and strategy development; (b) poor construction quality of physical structures; (c) poor operations and maintenance (O&M) of industrial investments, (d) unsafe disposal of replaced equipment and wastes; (d) land acquisition for green building and pilot wastewater treatment sites; and (e) transfer of tannery production to the Sialkot Tannery Zone (STZ). Such risks are manageable if the Program's promoted regulatory reform, EPD capacity building and green investments can be properly designed and implemented with full stakeholder consultation and the adoption of international best practices that are most suitable to local conditions.
- The following sections provide a detailed overview of the likely range of environmental and social issues for the three activity categories and the nature and significance of environmental and social risks with respect to five key concerns: likely impacts, environmental and social context, sustainability, institutional and capacity risks, and reputational risks.

Boundary setting and risk management in Program Design

- As noted, the Program is developed on the basis of the MTFD (2017-2020) and applicable international best practices for key priority issues identified by stakeholders. During the selection process, the Program has excluded budget items that may pose a risk of potentially significant and irreversible adverse impacts on the environment and/or affected people. Such budget items may finance investments in new, or major expansion of, large-scale infrastructure, such as large municipal wastewater treatment plants, or other activities that may involve high social risks, such as restoration of a degraded river that may purchase lands from over 2,400 households. Details of contexts, technical soundness and expected impacts of proposed Program activities can be found in the Technical Assessment Report of this Program. Table 3 summarizes types of activities and their overall environmental and social issues.

Table 3: Overall Environmental and Social Issues of Different Types of Program Activities

Activity Types	Details of Activities	Environmental & Social Issues	
		Benefits	Risks ¹³
Creation of New Environmental Institutions	Environmental Policy Center (EPC), Environmental Technology Center (ETC), Environmental Endowment Fund (EEF), and Environmental Monitoring Center (EMC)	Improved capacity of the province to manage its environmental challenges.	Potential social risks with the EEF is that it fails to operate with a transparent and accountable modality. This risk is <i>low to moderate</i> as the Program will promote the adoption of international best practices in the EEF's creation and operation.
Restructuring of EPD	New EPD structure (including its Strategic Planning and Implementation Unit [SPIU]) with improved administrative processes, information technology, human resources, and associated capacity building	Improved capacity of the province to manage its environmental challenges.	Potential social risk is exclusion of capacity building of EPD on social concepts and safeguards. The risk is <i>substantial</i> as to date, EPD has not have a single dedicated resource on managing social challenges associated with environmental management and protection.
Regulatory reform	(a) revised Environment Act; (b) Environmental Information Disclosure regulation; (c) pollution releases and transfer register (PRTR) system; (d) pollution levy system; (e) air, water, soil and waste pollution control strategy; (f) environmental Information sharing and disclosure system; (g) revised environmental quality standards and new sectoral specific emission standards; and (h) additional new policy/law during implementation	An improved regulatory regime to control pollution releases to the environment and reduce health risks to Punjabi population.	Potential social risks are the neglect of social issues in the development Program supported strategies, policies, and standards. This risk is <i>substantial</i> as social issues are yet to be highlighted in the existing environmental regulations and policies even though public consultation is mandatory for regulatory development.

¹³ For the Program, E&S risks are rated with the World Bank SORT methodology based on scopes and potential E&S impacts of Program activities the Program.

Activity Types	Details of Activities	Environmental & Social Issues	
		Benefits	Risks ¹³
Capacity Building and Technical Assistance	(a) Capacity building and technical assistance to the EPD and related departments (Health; Transport; Energy; Housing, Urban Development and Public Health Engineering Department [HUD&PHED]; Industries, Commerce and Investment Department [ICID]; Mining; Local Government and Community Development [LGCD]; Women Development; Labor; Agriculture; Irrigation) and industrial associations; (b) technical assistance to the EPD for program implementation; (c) technical assistance to Transport Department to expand its vehicle inspection and certification system (VICS) to cover all vehicles and to develop its capacity to test engine emission	Improved capacity of key stakeholders will help Punjab better manage its environment and develop its economy in a sustainable manner.	Potential social risk is omission of capacity building and technical assistance to EPD and related departments on social concepts and safeguards. The risk is <i>substantial</i> .
Development of Sectoral Specific Green Development Strategies	(a) Green financing strategy; (b) sustainable transport strategy; (c) green industry/industrial estate (IE) strategy; and (d) energy efficiency (EE) and renewable energy strategy and action plans	Improved capacity of GoPunjab to direct public and private investments towards a sustainable path.	A potential social risk is the neglect of social issues in the development Program supported strategies. The risk is <i>substantial</i> .
Studies	(a) Pollution Impacts on Public Health study, (b) Study on how to regulate vehicle manufacturers (including rickshaws) to ensure safety and emission compliance	Improved public understanding of pollution impacts.	No significant risks.

Activity Types	Details of Activities	Environmental & Social Issues	
		Benefits	Risks ¹³
Green Investments	(a) pilot low-cost wastewater treatment, (b) pilot/demonstration of RECP investments in selected sectors; (c) replacement of energy inefficient lights and electric fans in 50 public institutions; (i) a green building to house the EPD, Environment Tribunals, EMC, EPC, ETC, EEF, and others; and (d) support to the STZ, including a grid station and sewer systems	Reduced pollution releases and thus reduced health risks to the population; improved environmental sustainability of both private and public sector investments; Better EPD capacity for performing its tasks; a competitive STZ with good jobs for local communities w/ environmental compliance; improved OHS and labor situations in the beneficiary firms.	<i>Substantial</i> environmental risks are associated with the construction of physical infrastructure; poor O&M of green investments; and safe disposal of replaced equipment and other materials. <i>Substantial social risks</i> are (a) risks associated with small-scale land acquisition for the green building and low-cost wastewater treatment pilots; and (b) risks related to the transfer of tanners into the STZ.
M&E	(a) Program implementation M&E and (b) third party verification	Proper verification of Program results for accountability.	No significant risks.
Communications and Citizen Engagement	Disclosure of environmental information, awareness raising, citizen engagement for green consumption and production	Strong social benefits of promoting transparent and accountable environmental governance.	Potential social risk of excluding the marginalized and vulnerable groups due to choice of media to disclose environmental information, warnings, mitigation measures etc. The risk is <i>substantial</i> .

Environmental and Social Benefits

- As detailed in Table 3, the Program's environmental benefits include:
 - (a) a revised regulatory regime and improved institutional structure and capacity that can better manage the province's mounting environmental challenges;
 - (b) green strategies to incorporate environmental issues into sectoral specific development plans/programs for sustainable development;
 - (c) green financing mechanisms to provide environmental financing in the long run;
 - (d) green investments for reduced pollution releases and carbon emissions: (a) air pollution from brick kilns; (b) water pollution from the leather sector, and pilot town/villages; and (c) carbon emission and air pollution associated with energy inefficient electric appliance in public institutions and energy inefficient equipment from industrial facilities;
 - (e) improved environmental compliance for all Program supported industrial firms; and
 - (f) potential environmental quality improvements from reduced pollution releases, in particular for Sialkot.
- The Program's social benefits include:
 - (a) Improved institutional capacity of the EPD and related departments to ascertain, understand and respond to social risks and challenges associated with environmental pollution and green investments;
 - (b) reduced health risks as a result of reduced pollution releases;
 - (c) improved transparency and accountability in GoPunjab's environmental governance;
 - (d) improved information disclosure and citizen engagements in environmental management of the Province;
 - (e) improved industrial competitiveness and financial performance of beneficiary firms with RECP investments;
 - (f) improved OHS and labor conditions at beneficiary firms; and
 - (g) new employment opportunities created by Program supported investments, including those from the STZ to local communities.

Social Risks

- As detailed in Table 3, the Program's social risks are *substantial* due to the concerns of (a) inability to address social issues in the regulatory reform capacity building, EPD restructuring, strategy development and citizen engagements; (b) land acquisition for green building and pilot wastewater treatment sites and (c) transfer of tannery production to the STZ. The most significant social risks of the Program are related the Program' support to the regulatory reform and strategy development activities. In addition, two activities under the Program may involve new land acquisition at small scales – the construction of the green building and the pilot of low cost wastewater treatment technologies. The first will require about 0.3 ha of land in Lahore while the second may require 1-10 ha of land in villages/towns dependent on the final selection of the village or town and treatment technologies. Although GoPunjab has committed to acquire only public lands for such activities, there will be risks if (a) a private land still needs to be acquired during Program implementation; or (b) informal settlers exist on acquired public lands.

Finally, the transfer of STZ tanners will affect a number of firms and individuals. Improper management of such activities will cause potential social risks.

Regulatory Reform and Strategy Development

- **Issues.** The Program will support GoPunjab to reform its regulatory regime on environmental governance and develop a number of sector-specific strategies. By design, these activities will have significant and long-term impacts on the public and the private sector directly and indirectly. How social considerations are integrated in the development of the new regulatory regime and strategies will affect implementation results of such regime and strategies. Among others, the needs of vulnerable groups (women, children, the poor, elderly, disabled) should be carefully identified and considered (see the section on Vulnerable Groups for details).
- Currently, the regulatory regime has a primary focus on environmental protection but has yet to specify how social issues associated with environmental management actions should be managed. For example, the current Punjab Environmental Protection Act (PEPA, 1997, amended in 2012) requires mandatory public participation in the review of environmental impact assessment (EIA) but has not specified how social impacts of investment activities should be screened and assessed under an EIA. As such, environmental screening of new projects focuses only on environmental risks and impacts. There are no clear guidelines for screening of social risks and impacts. Without legal backing, there is often a high degree of reluctance to critically evaluate alternatives from a social point of view or to carry out any significant modifications to project location or design at early stages of project development.
- Similarly, the development of new strategies needs full consideration of social consequences of different strategic proposals. For example, the strategy for integrated waste management will require not only physical investments on waste management facilities and regulatory requirements on waste collection and disposal but more importantly on public support, in particular, to the three “Rs” – reduction, reuse and recycling – of such a strategy.
- **Risks.** Substantial risks exist in integrating social issues in the Program supported regulatory reform and strategy development. With mounting public pressure on environmental issues, failure to collect and incorporate inputs and feedbacks from affected people and entities, in particular those vulnerable groups, into new regulations and strategies may cause or elevate social conflicts and further undermine GoPunjab’s credibility on environmental protection.
- These risks are manageable as the Program will promote international best practices, support the EPD and other departments to perform true and meaningful public consultations in policy and strategy development, and enable GoPunjab to incorporate such consultation results into the newly developed regulatory regime and strategies.

Land Acquisition and Resettlement

- **Issues.** Land is a basic resource required for the establishment/expansion of any infrastructure project. During the conduct of the ESSA, it was learnt that departments like EPD will follow the Land Acquisition Act (LAA, 1894) and Punjab Land Acquisition Rules (1983) with the help of the Revenue Department to acquire lands required for the construction of the green building and the pilot of low-cost wastewater treatment technologies. Specifically, the Punjab Land Acquisition Rules of 1983 under its Rule 4 states “On receipt of the application under Rule 3 the collector of the district shall examine its feasibility taking into consideration the genuineness of the public purpose involved, the minimum requirements of the acquiring agency, and suitability of the area proposed for requisition keeping in view its alternative uses if any.”

- However, there are lapses in the implementation of the LAA, as well as gaps between this law and the provisions for land acquisition prescribed by the World Bank in the PforR core principles. Specifically, the LAA only allows payment of land and lost assets (structures, crops, trees) at market price to titleholders and has no similar provisions for non-titleholders. As such, application of the law means a loss of shelter and assets and increased vulnerability for the latter category of those affected. In certain cases, the law also enables ‘emergency’ acquisition of land (Section 17) without public consultation or payment of compensation before possession. This power leads to sudden dispossession of land and hence raises the risk of vulnerability of those affected.
- The LAA also does not consider compensation for loss of livelihood due to displacement or dislocation from the land for both titleholders and non-titleholders and as such carries the risk of enhancing vulnerability. In addition, the lack of payment for land in line with representative prevalent market rates, as prescribed by the LAA, leads to long drawn-out legal cases and financial loss.
- **Risks.** As noted, GoPunjab has committed to acquire only public lands for the construction of the EPD’s green building and the pilot of low cost wastewater treatment technologies. Given the issues identified with the existing land acquisition regulations, the Program’s land acquisition activities could pose social equity and reputational risks if such land acquisition fails to manage two situations properly: (a) a private land still needs to be acquired during Program implementation; or (b) informal settlers exist on acquired public lands. Such risks will be mitigated through the development of clear guidelines or standard operating procedures (SOPs) to address the gaps in procedures for private land acquisition and compensation, as well as the weakness in proper implementation of the law.

STZ Tanner Transfer

- **Issues.** Sialkot Tanners Association Guarantee Limited (STAGL) is the umbrella organization representing the 250 Tanners in Sialkot, Punjab, charged with the specific responsibility of developing, operating and maintaining the STZ. The Program’s support to STAGL is to transfer its tanners to the STZ to enhance the competitiveness of its tanners in the export market through compliance with acceptable Environmental, Social and OHS standards, including the Leather Working Group (LWG) Protocol and the Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (REACH) of the European Union (EU). Investments in the STZ and its tanners will help ensure the sustainability of the Leather industry to achieve poverty eradication through job creation opportunities resulting from the sector’s sustained production. STAGL confirmed that all of 250 tanners have procured lots in the STZ and plan to transfer their production to the STZ once the STZ’s infrastructure development is completed.
- **Risks.** STAGL is a relatively new organization. There are risks that it might not have sufficient institutional capacity to properly manage the transfer of its tanners to the STZ, and after the transfer to properly manage environmental and social issues of the STZ, including the proper operation of the STZ’s centralized effluent treatment plant (CETP) being financed by the United Nations Industrial Development Organization (UNIDO). However, this risk can be managed with institutional strengthening activities supported by UNIDO, which will support the STZ and individual tanners to develop and implement appropriate OHS and E&S management procedures. The Program will also provide additional support to the development of the training center in the STZ to further augment STAGL’s capacity to support STZ tanners to improve their OHS and E&S performance.

Indigenous People

- The Program area has no evidence of known indigenous peoples in Pakistan. Indigenous peoples are located in a limited area named 'Kalash Valley' in Chitral District of Khyber Pakhtunkhwa Province. Therefore, there are no risks associated with the indigenous peoples due to this Program.

Vulnerable Groups

- **Issues.** As well documented globally, the disadvantaged, marginalized groups of people often face high magnitude of pollution exposure, which amplifies their vulnerability. Poor and landless are forced to live in squatters and slums without basic infrastructure and thus exposed to high degree of air and water contamination. There are several vulnerable groups that warrant careful consideration in the Program's support to environmental governance and green investments. These include women (especially women workers), wage laborers (especially those on a contract basis), child workers, the disabled, and the elderly. Women form a particularly vulnerable group. It is imperative that the needs of vulnerable groups (women, children, the poor, elderly, disabled) to environmental quality, OHS, and other important social concerns regarding enhancing mobility and security, improving public health and livability, and so on, are integrated into the regulatory reform, strategy development and green investments.
- Laborers, particularly women workers, are especially vulnerable during implementation of green investments and face issues related to reduced wages, lack of safe transportation, lack of childcare and toilet facilities, and sexual harassment in the workplace. Contract laborers, both men and women, face issues of lower wages and harsh working conditions. There are also known uses of child labor in certain sectors. The brick kiln sector has been known for bonded labor issues.
- Exhaustive legal provisions on labor have been enacted in Pakistan and adopted by GoPunjab on, for example, working conditions and payments, including the minimum wage, social security registration, safety at work, child labor, bonded labor, contract labor, female workers, and others. However, limited information show that the implementation of these provisions remains weak and needs to be further strengthened.
- **Risks.** There are risks of further marginalization of vulnerable groups if the Program's regulatory reform, strategy development and green investments do not focus on their specific needs. A lack of focus on social concerns such as security and crime issues perpetuates reduced mobility, particularly for women, and may lead to the creation of zones of deprivation and the enhancement of inequity within cities. Finally, the trend of engaging child labor at low wages to reduce costs is also a major social risk. Working in harsh weather conditions for long hours and at unsafe locations makes child laborers particularly susceptible.
- These risks will be carefully managed during Program implementation. Through extensive stakeholder consultation, the Program will ensure the needs of vulnerable groups be carefully identified. After that, Program activities will develop specific measures to address such needs. Implementation of labor provisions will be a prerequisite for the selection of Program beneficiaries and will be strictly followed for Program supported green investment activities.

Physical Cultural Resource

- **Issues.** The main legislation on conservation of archeological heritage is the Pakistan Antiquities Act of 1975. This act was adopted by Punjab in 1985. The Antiquities Act 1975 only focused on conservation of a monument whereas the Punjab law also includes conservation of the area surrounding the monument. The site screening guidelines on the historical sites are also

provided in the sectoral guidelines for IEs issued by the EPA as a part of EIA procedures. The recommendations usually stated in EIAs on protection and management of Physical Cultural Resources (PCR) are mostly partially implemented. Most governmental agencies are not aware of the Act and ignore it during the planning process. The Archeology Department conducted a survey across Punjab in 1994-1996 to map out possible spots of archeological significance. According to this survey, Bahawalpur, Rawalpindi, and Multan Districts have a high number of unprotected and unexcavated archeological sites.

- No SOPs are available to share with construction companies/projects on chance finds. However, under the law, chance finds should be reported to the Archeology Department within 7 days. If ruins are discovered, then all construction work must be stopped. In this case, the Archeology Department conducts a site assessment and looks for signs of buildings or habitation.
- **Risks.** The Program will support the construction of green buildings and pilot of low cost wastewater treatment. Given these sites are not finalized yet, there is a possibility that the final sites may have significant archaeological values. Lack of knowledge of implementing departments on chance find procedures and the overall Antiquities Act poses a risk of not reporting and noncompliance to the legal requirements. These risks will be mitigated by the careful selection of pilot sites through broad stakeholder consultation and incorporation of chance find procedures in construction activities of the Program.
- For the STZ, its EIA confirmed that environmental conditions in the STZ area exhibit no characteristics that would suggest potential for cultural site i.e. archaeological and prehistoric value site. No significant cultural heritage was observed in the STZ area.

Stakeholder Consultations and Feedback

- **Issues.** Public consultation with relevant stakeholders, local authorities, and representatives of communities and organizations directly affected by projects is required under PEPA 2012. Guidelines for Sectoral Public Consultations have been prepared and issued by the EPA, but these are seldom followed. Although the timings and techniques of consultations are clearly stated in the Guidelines, generally in Punjab, public consultation is carried out at two stages, that is, during the socioeconomic and inventory surveys at the baseline data collection stage of the EIA and during public hearing during the processing of EIA reports. The fact that many public consultations are conducted under pressure from entities like courts and/or civil society implies that consultations conducted during the development of GoPunjab projects may have not achieve the objective of such consultations.
- Consultations which follow prior dissemination of project conceptual information has been, and are based on two-way communication, with well identifies stakeholders can help improve design of interventions such as standards, policies, strategies etc. Well-designed consultations also help aware affected people of their rights to complaints and the legal course to follow and get compensations for the damage caused by construction. It is also a motivation to push contractors to comply with environmental obligations.
- **Risks.** Consultations in the absence of a detailed and robust stakeholder analysis poses the risk of excluding technical advice on social issues when designing projects, standards, strategies policies etc. as in case of this Program, which intends to develop the same. Also, it tends to show a bias towards the polluters, and apathy towards the conditions of the general public, who are at the receiving end of such developments. This poses a high risk of injustice in the society. These risks will be carefully managed under the Program through a promotion of information disclosure of Program activities and environmental information, and proactive citizen engagements in environmental management.

Grievances Redress and Citizens Engagement

- **Issues.** The nature of this Program is such that it can benefit immensely from such a dialogue with beneficiaries and affected people. Citizens can play a proactive role in reporting high levels of pollution through visuals and other means. However, citizen engagements and stakeholder feedbacks on program design, performance and impacts are a relatively new concept in Punjab and needs further strengthening. In this regard, registering grievances and getting response on the same has high social values. Failing to do so is a cause of concern for the public at large.
- Currently, capacity of the EPD to respond to grievances is limited, which is also the case with other implementing departments – ICID, HUD&PHED, and Departments of Energy, Transport and Finance. This is especially important for pollution monitoring and reporting mechanisms. As learnt in ESSA missions to EPD, in case of responding to grievances, Planning & Coordination (P&C) Unit within the EPD is responsible to record and respond to public complaints and serves as the Grievance Redress Mechanism (GRM) for environment related complains. Complain are mainly received in the form of applications, and are recorded manually in a register with a file number. With the help of the Urban Unit, a File Tracking System has been established. The system requires the entry of file numbers and tracks the movement of such files from one desk to another (for example from the Director’s desk to Deputy Director’s) as well time spent to resolve a complaint. It keeps tracking till the issue is resolved. The System is electronic, and is currently being tested. However, the System does not collect information on the nature of complain, the action taken and status of its resolution. The System aims to improve operational efficiency of the EPD, but less on redressal and management of complaints.
- Consultations with the P&C Unit found that the unit is overburdened due to a lack of staff, technical expertise and a updated complaints management system. Average time for them to manage a complain can be anywhere between one to two years, although 20 complain categories have already been delegated to the district level for resolution. For example, between August and November 2017, a total of 1,700 complains had been received from 34 districts across Punjab. Bulk of these are still pending.
- It is worth mentioning that most government departments in Punjab maintain websites and have complains’ registers at each site. The effectiveness of complaint registry and responses varies. At the provincial level, there is an Online Complaint Cell maintained by the Chief Minister’s Office in Punjab, which registers complains against all government departments. As mentioned by various stakeholders in discussions with the ESSA team, the Cell is effective but has provided services to a limited segment of the Punjabi people as it is IT-based and in English only.
- **Risks.** Absence of effective grievance redress mechanisms often result in social risks of conflicts, suspicions and displeasure at the local level by the project affected people. This will prevent GoPunjab from understanding Project performance and grievance of the general public. Recognizing these, the Program will proactively promote citizen engagement in Program implementation, through access to environmental information, public consultation and public reporting of environmental violations. Such citizen engagement will help rebuild the EPD’s creditability and diffuse any doubts and skepticism against the Program outcomes.

Environmental Risks

- In addition, the Program’s environmental risks are also *substantial* as there are concerns over (a) construction quality of physical structures, (b) O&M of industrial investments, and (c) unsafe

disposal of replaced equipment and wastes. Risks from construction and operations of green industrial investments are related to poor track records of occupational health and safety (OHS) and E&S management practices of the country's industrial sector. Specific to this Program, there are also institutional and capacity risks of the Sialkot tanners Association Guarantee Ltd. (STAGL) to manage OHS and more general E&S issues of STZ tanners. The Program's support to STZ tanners and brick kilns will have E&S risks if environmental issues and social issues are not properly managed. Such risks, however, do provide an opportunity for the Program to achieve meaningful and systematic changes at beneficiaries' industrial facilities if the Program can help beneficiaries to improve their capacity to manage such risks and to properly implement RECP investments and achieve environmental compliance. Furthermore, in addition to the assessment of the firms financial and technical capacity to with respect to support for receiving funding for RECP technologies, to help strengthen risk management for these investments, UNIDO will continue to support the STZ Tanners to review and select RCEP technologies and for the brick kiln sector, ESMAP has done a detailed evaluation of available kiln technologies in Bangladesh, which is very relevant to the Punjab and will thus be adopted by the proposed program.

OHS and Labor Issues

- **Issues.** Three are significant OHS concerns in Pakistani industrial sectors, including the construction sector. It is reported that quality construction is often viewed as costs and consequently building codes are often ignored during construction and expansion of premises leading to increased risk of disasters.¹⁴ A recent example of a tragic incident that led to the loss of about 50 lives in an industry within the Sindh IE occurred as a result of structural instability and lack of enforcement of legislation related to working conditions (see Box 1).
- In O&M of industrial facilities, OHS issues are often ignored in the face of greater productivity and existing legislation pertaining to it is rarely enforced. In IEs, there are many issues related to non-enforcement of health and safety. For example, there is no record maintained of worker/employee numbers within IEs in case of disasters. It is unclear if training is imparted on safety evacuation procedures. The maintenance of safety equipment and enforcement of worker safety laws are often lax or neglected.
- **Risks.** The main risk posed by lack of enforcement of OHS standards is occupational injuries (fatal and non-fatal) as the one described in Box 1. Such practices are not just a denial of laws; they are also not conducive to attracting international business investors or those industries (like tanneries) which are keen to export their products.

O&M of Industrial Investments

- **Issues.** In general, there is a legacy of lack of political will to regulate industry or to do any form of compliance monitoring. Neither the industries nor the provincial EPA tested the discharged effluent from the plants and estates with any frequency. The limited data on wastewater concentrations and loading is available owing to the limited operations of the Punjab EPA laboratory. As a result, in April 2012 the courts intervened and Green Benches were established under the instruction of the Supreme Court of Pakistan. The courts are mandated to hear and rule on all cases related to environment. At present, many civil society organizations are

¹⁴ Shah, A., et al, 2014. *Study of Quality Management System in Construction Industry of Pakistan*. J. Appl. Environ. Biol. Sci., 4(7S): 179-184.

Box 1. Factory Incident in SIE

Structural instability can have serious health and safety implications as demonstrated in a recent tragic incident. A multistory plastic industry situated in the SIE with a covered area of around 0.45 hectare collapsed on Wednesday, November 4, 2015, claiming more than 50 lives and resulting in a large number of injuries.

It is reported that at the time of the incident, there were almost 200 people working on the first floor and some shift workers were sleeping on the third floor. Over 100 workers were rescued. The factory owner also died in the incident. News reports suggest that workers were 'mostly' aged between 14 and 25 years. The rescue operation continued for several days and almost 17,500 tons of wreckage was cleared from the destruction site by rescue teams and the army.

The official investigations to discover the cause of the incident are still in process; an investigation committee will officially disclose the findings. However, initial media reports state that another floor of the building was under construction and the accident seems to have occurred due to the unloading of materials and vibration of operating machinery.

Pakistan's construction sector suffers from poor oversight and developers frequently flout building codes. The violation of safety principles often results in such incidents. If construction safety measures and OHS rules are followed it would help significantly in avoiding such accidents.

approaching Green Benches against the government of Punjab and rulings have already been issued against the EPA.

- The Program will focus on two industrial sectors for RECP investments: brick kilns and the leather sector. The support to brick kilns focuses on the improvement of its energy efficiency, product quality and reduction in air pollution releases. The focus of the leather sector will be on its resource efficiency, cleaner production and reduction in wastewater discharges.
- **Risks.** There is a risk that a Program-supported industrial firm fails to properly operate its new equipment/facilities and thus continues to discharge untreated pollutants into the environment. This risk is valid in particular during initial years of Program implementation when the EPD still has limited capacity to perform proper environmental monitoring and enforcement. However, this risk is manageable under the Program as the Program has elected to support RECP technologies that will not only improve the firm's environmental performance but more importantly its financial performance. In this regard, the Program's M&E efforts will ensure that the firm can achieve environmental compliance. With full disclosure of Program implementation results, the Program will promote citizen engagements to help the EPD oversee environmental performance of Program supported firms.

Wastewater Issues of Industrial Investments

- **Issues.** For the brick kilns, there is no significant wastewater issues associated with its production. For the leather sector, it is well recognized that the discharge of untreated effluent from tanners at the existing locations that do not meet the National Environmental Quality Standards (NEQS) result in considerable environmental pollution and degradation. This is one of main reasons for the creation of STAGL and the development of STZ.
- The key required compliance standards for industries, as part of the overall NEQS, are listed in the Table 4 below. These standards were gazetted on November 26, 2010 by the federal government in Islamabad and later adopted by the provincial government of Punjab under the Punjab Environmental Protection Act (PEPA), 2012, which is binding on the estates.

- After the transfer of Sialkot tanners to the STZ, it is expected that the STZ will produce large amounts of wastewater. With a grant of US\$3.33 million from the Global Environment Facility (GEF), UNIDO has been working with the Ministry of Climate Change (MOCC) to support STAGL to develop the STZ. With the support of the GEF grant, an interest free loan of US\$3.8 million from GoPunjab, and contributions of tanners, the STZ has completed its land acquisition, land-use planning, climate and social assessment, EIA, CETP design, and basic road construction. STAGL has also fully allocated STZ lots to Sialkot tanners and other interested investors through commercial purchase agreements.
- The key environmental concerns and effects associated with CETPs occur at three distinct stages: (a) Planning and Design – selection of appropriate technology and suitable land; (b) Civil Works and Construction – environmental issues, (c) Operational Requirements – large and constant energy demand and disposal of sludge residues containing hazardous pollutant loads. Careful and deliberate planning and design considerations and choices are key to achieving optimal design and operational costs. In addition to the support to CETP design, the UNIDO will support with the GEF grant the construction of the first module of the STZ CETP with a treatment capacity of 4000 m³/day, a US\$4 million grant from the Ministry of Construction will support the construction of the second module with the same capacity, and the third and final module will be developed by STAGL independently. The proposed technical design and thus has not been able to share its final decision on the selected treatment technology.¹⁵ The first phase of the CETP is expected to be completed by 2019/2020 and in compliance with NEQS standards in Table 4. Sialkot Tanners will transfer their production accordingly to the STZ to ensure that wastewater of their STZ units can route their effluent to the CETP for proper treatment. The UNIDO grant will support STAGL with the necessary training to implement and operate the CETP in a sustainable manner and in compliance with the LWG protocol and REACH requirements.

Table 4. Existing Emission Standards for Wastewater Disposal: Common Pollutants

Parameter	Into Inland Waters	Into Sewage Treatment	Into Sea Water
pH Value	6–9	6–9	6–9
BOD - mg/liter	80	250	80
Chemical Oxygen Demand (COD) - mg/liter	150	400	400
Total Suspended Solids (TSS) - mg/liter	200	400	200
Oil & Grease - mg/liter	10	10	10
Anionic Detergents (as MBAS) - mg/liter	20	20	20
Total Dissolved Solids (TDS) - mg/liter	3500	3500	3500

Source: Punjab Environmental Protection Act, 2012.

- Impacts of civil works and construction stage of CETP development are fairly modest. Civil works requirements of the selected technology are not complicated and will be on a single site. As the STZ CETP will be used by different industries in an estate, a network of drains, channels, and pipes will be constructed under the Program to receive the influent from multiple points and at the location of the approved environmental receptor for the discharged treated effluent. The

¹⁵ There are many technologies in the market, but choosing the most appropriate one is key. Some technologies require large pieces of land to site large oxidation ponds, others require land that has a natural slope or can be contoured so that the treatment process from influent to effluent points is entirely gravity-fed, yet others require significant consumption of energy, which in turn needs backup power systems that can be prohibitively expensive if cost recovery is an issue.

main environmental issues will be removal, storage, and safe disposal of large volumes of soil; dust and noise pollution; and OHS issues. There may also be erosion and sedimentation issues. Acceptable and suitable environmental receptors will need to be located nearby.

- Operational stage environmental impacts of the CETP can be severe, but will vary in complexity depending on how the plants are designed, operated, and managed overall. The main issues involve energy demand to power the plants and sludge disposal management. The plants require uninterrupted and reliable power supply. Pakistan is facing critical power shortages, resulting in considerable daily load shedding throughout the country. If power is interrupted for long spells, the plants will become inoperable and will emit untreated/partially treated effluent at levels that do not comply with the NEQS. Therefore, emergency backup generators will be required along with backup fuel storage. The other major environmental impact stems from sludge removal from the oxidation and sedimentation ponds/chambers; such sludge may contain harmful pollutants, including heavy metals, if the pre-treatment of incoming wastewater at tanners are not implemented properly. Handling, storage, and final disposal of heavy metal containing sludge will pose a significant risk to people and their environment, and detailed management plans for this will be required.
- Through the GEF grant, UNIDO will provide technical support to all tanners to help them redesign their new STZ facilities to improve energy/material efficiency and reduce water consumption and environmental footprint (for example, pre-treatment of effluents, and chromium recovery). UNIDO has organized workshops in 2017 to raise awareness about international standards for leather (for example LWG) and will support tanners to seek compliance with such standards to remain/re-enter global supply chains.
- **Risks.** The risks arise when the STZ tanners fail to pretreat their wastewater and the CETP fails to operate properly, including the improper disposal of sludge. Such risks are manageable as the STZ tanners need to maintain its environmental performance to comply with not only NEQS but also the LWG Protocol and REACH. Pretreatment of wastewater and recycling of heavy metals will be mandatory for each STZ tanners. In addition, a detailed environmental management plan for the CETP will be developed to ensure its proper monitoring of incoming wastewater and operation of the treatment facilities with sufficient capacity of backup power supply. Finally, citizen engagements to be promoted by the Program will provide further incentives for the STZ tanners and CETP to operate properly during and beyond the Program.

Unsafe Disposal of Wastes

- **Issues.** Brick kilns normally are not expected to generate hazardous wastes while the leather sector may generate wastes containing heavy metals (chromium, iron, zinc etc.) and synthetic organic chemicals. Currently, Sialkot tanners directly discharge such wastes on land and to water bodies with, if any, very limited treatment. This indiscriminate disposal of toxic waste by tanners is contaminating fresh groundwater and prime arable land. Leaching of heavy metals at dumping sites is one of the major sources of groundwater contamination. Open burning of toxic containing leather wastes at low temperatures produces carcinogenic pollutants with adverse public health implications. In addition, there are potential toxic wastes from retired energy inefficient equipment.
- Hazardous Substances Rules 2007 is the relevant environmental legislation on the issue of hazardous waste management in estates although compliance is weak or nonexistent. Hazardous waste exposure can be minimized by adopting best OHS measures. A study conducted by the Sustainable Development Policy Institute in 2012 identified 25 sites polluted

by hazardous wastes in the Province of Punjab. Detailed surveys are needed at the industrial unit level and in the STZ to quantify hazardous solid waste generation.

- **Risks.** The risks are from improper management industrial wastes and unsafe disposal of replaced equipment and wastes, including wastewater treatment sludge, of the STZ. The risks are manageable as the UNIDO support will help to STZ tanners to adopt proper RECP technologies and improve their environmental management practices, including the pretreatment of wastewater and recycling of heavy metals. In addition, UNIDO is also supporting STAGL to prepare a solid waste management plan to properly handle solid waste/sludge to generate useful byproducts and minimize the need for disposal and a plan to improve working conditions and OHS of STZ tanners.

Capacity Risks

- **Issues.** The E&S risks of the Program is also related to the fact that the EPD and other implementing departments have limited capacity to manage E&S challenges of the Program. All these departments have limited technical capacity to manage social issues associated with the Program interventions on environmental governance and green investments. Specifically, as the EPD is the core department to formulate and implement this Program, it will continue to be understaffed with limited technical capacity to even manage environmental issues before the EPD restructuring is completed. The EPD so far has basically very limited capacity to manage social issues related to its environmental management mandates.
- **Risks.** Capacity constraints may pose a serious risk of compromising the results of Program implementation. In this regard, capacity building and technical assistance to the EPD and other related departments – Health, Transport, Energy, HUD&PHED, Industries, Mining, LGCD, Agriculture, Irrigation, Women Development, and Labor – and industrial associations to improve their knowledge and capacity on E&S management will be crucial to the successful implementation of this Program. In addition, SPIU in EPD will be strengthened by assigning environmental and social specialists who will be directly responsible for managing the E&S risks of the proposed program. This requirement is included in the Program Action Plan (PAP). Furthermore, it is planned that specific topics on identifying and addressing E&S issues related to the regulatory reform and strategy development of the Program will be included in such capacity building and technical assistance activities.

Regulatory Framework for Managing the Program's E&S Impacts

Introduction

- The government of Pakistan and GoPunjab have enacted a range of laws, regulations, and procedures of relevance to the environmental and social effects of the proposed program. The applicable federal and provincial environmental and social management systems in Pakistan and the Province of Punjab from a regulatory perspective are generally appropriate and comprehensive. On paper, the scope of the applicable environmental and social legal and regulatory systems is considered to be generally adequate to address underlying environmental and social risks. Thus, no significant changes to the overall structure of the applicable legal and regulatory systems are envisioned or proposed under this Program although the Program will support the reform of the regulatory system for environmental governance to improve effectiveness and efficiency of the EPD to better manage the province's environmental challenges. The following sections describe the most relevant aspects of the existing legal and regulatory framework as they apply to the proposed program.

Social Aspects

- Several laws, regulations, procedures, and technical guidelines have been developed at the federal and state levels to address key social risks associated with the development of IEs. The legal framework includes legislation addressing land acquisition, social analysis as part of EIAs, resettlement of affected people, and labor protections among many others. The most important of these overarching laws and regulations related to the social aspects of the program are the following. The scope, coverage and relevance of these laws and regulations are briefly summarized in the following sections.
- PEPA 1997 (Amended 2012), available at http://epd.punjab.gov.pk/rules_regulations
- Pakistan Environmental Protection Agency (Pak-EPA) Review of Initial Environmental Examination (IEE) and EIA Regulations, 2000, available at <http://environment.gov.pk/act-rules/IEE-EIA-REG.pdf>
- LAA 1894 (available at http://www.commonlii.org/pk/legis/pj/consol_act/laa1894174/) and Punjab Land Acquisition Rules, 1983 (available at <http://www.punjabcode.punjab.gov.pk/public/dr/PUNJAB%20LAND%20ACQUISITION%20RULES,%201983.doc.pdf>)
- Antiquity Act 1975 (available at <http://punjablaws.gov.pk/laws/1432a.html>) and Punjab Antiquities Amendment Act 2012 (available at <http://www.dgarch.gop.pk/wp-content/uploads/2016/07/ANTIQUITIES-AMENDMENT-ACT-2012.doc.pdf>)
- Employment of Child Act (ECA), 1991 (available at http://www.na.gov.pk/uploads/documents/1335242011_887.pdf); and Punjab Restriction on Employment of Children Ordinance (available at <http://www.punjabcode.punjab.gov.pk/public/dr/PUNJAB%20RESTRICTION%20ON%20EMPLOYMENT%20OF%20CHILDREN%20ORDINANCE%202016.doc.pdf>)
- Labor Laws
- The Factories Act 1934 (<http://www.ilo.org/dyn/natlex/docs/WEBTEXT/35384/64903/E97PAK01.htm>)
- The Protection Against Harassment of Women at the Workplace Act 2010 (available at http://www.na.gov.pk/uploads/documents/1399368475_218.pdf)

- Punjab Labor Policy, 2010 (available at <http://www.dgpr.punjab.gov.pk/vd/dgpr/media/policies/Punjab%20Labour%20Policy%20Final,%202015.pdf>)
- Guidelines for Preparation and Review of Environmental Reports, 1997 (available at http://environment.gov.pk/eia_pdf/D_rev_enReprt.pdf)
- Sectoral Guidelines for Industrial Estate, 1997 (available at http://environment.gov.pk/eia_pdf/k_Industrial%20October_.pdf)
- Guidelines for Public Consultation, 1997 (available at http://environment.gov.pk/eia_pdf/e_RevPublicCon.pdf)

Punjab Environmental Protection Act, 1997 (Amended 2012)

- The PEPA is the main act governing the assessment to be carried out for any intervention as a part of the EIA. It is fairly comprehensive legislation and provides the basic legal framework for protection, conservation, rehabilitation, and improvement of the environment. It contains provisions for the prevention of pollution and promotes sustainable development. The 'environment' has been defined in the act as (a) air, water, and land; (b) all layers of the atmosphere; (c) all organic and inorganic matter and living organisms; (d) the ecosystem and ecological relationships; (e) buildings, structures, roads, facilities, and works; (f) all social and economic conditions affecting community life; and (g) the interrelationships between any of the factors specified in subclauses (a) to (f).
- The salient features of the law are:
- No proponent of a project shall commence construction or operation unless he has filed an application with the provincial agency designated by the provincial EPAs an EIA, and has obtained an approval;
- Establishment and formation of the Punjab Environmental Protection Council (PEPC);
- Prohibition of specified discharges or emissions;
- Punjab Environmental Quality Standards for wastewater, air emissions and noise; and
- Empowerment of provincial government to issue notices and to enforce them for the protection of the environment.
- The act was amended in 2012 under the 18th amendment of the constitution, which grants legislative power related to environment and ecology to provincial governments from the federal government. The provinces are required to enact their own legislation for environmental protection. Other minor amendments include increasing the penalty cost for violations. The capability of regulatory institutions for environmental management is key to the success of environmental assessment that is undertaken to ensure that development projects are environmentally and socially sound and sustainable.

Pak-EPA Review of IEE and EIA Regulations, 2000

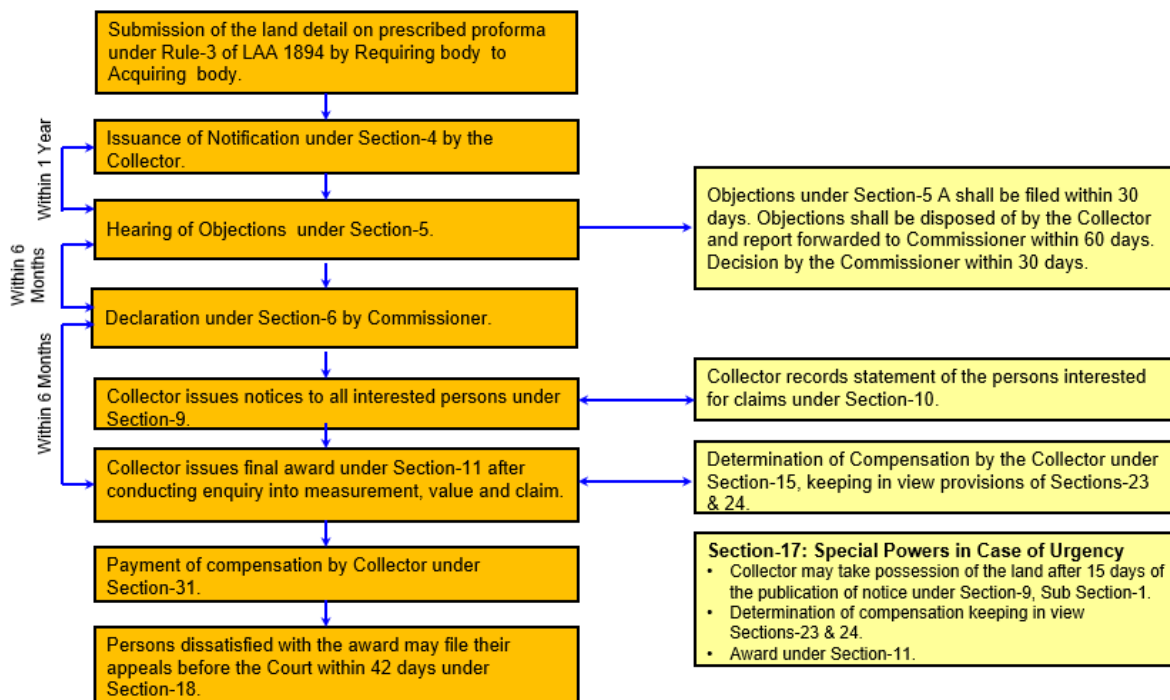
- This document sets out the key policy and procedural requirements for conducting an IEE and EIA. It contains a brief policy statement on the purpose of environmental assessment and the goal of sustainable development, and requires that environmental assessment be integrated with feasibility studies. It defines the jurisdiction of the federal and provincial EPAs and P&D

Departments. The document lists the responsibilities of proponents, and duties of responsible authorities, and provides schedules of proposals for determining whether the project requires IEE or an EIA. It also provides for environmental screening of projects under Schedules I, II, and III and lays down the procedures for Environmental Approval and for filing the case with the concerned EPA to receive the No Objection Certificate (NOC).

Land Acquisition Act, 1894 (The Act)

- LAA came into force on March 1, 1894. The act aimed to amend the then existing law for the acquisition of land for public purposes and for companies. LAA 1894, as amended from time to time, is the primary law for the purpose of land acquisition in the Province of Punjab. The act provides for acquisition of land for public purpose and for companies. Several other laws also authorize the acquisition of land for specific purposes in the Province of Punjab. The government of Punjab has also framed the Punjab Land Acquisition Rules, 1983 (1983 Rules) under Section 55 of the act. The act and the 1983 Rules are intended to be read together. There are no regulations under the act, nor is there any provision for framing regulations under it.
- While the act is a federal legislation, according to Article 142(c) of the constitution, a Provincial Assembly is competent to amend it. The act (as amended) is applicable to the Province of Punjab by virtue of West Pakistan (Amendment) Ordinance, 1969. This ordinance continues to be in force in the four provinces in view of the Adaptation of Laws Order, 1975. There is no specific provision in the act for resettlement and rehabilitation of persons displaced as a result of acquisition of their land.
- The act is broadly grouped into 8 parts comprising 55 sections. The relevant sections are shown in Figure 1 and a brief overview is presented below:

Figure 1. Land Acquisition Process under Land Acquisition Act, 1849



- In accordance with the act, the legal process is initiated by an application from the government agency that requires the land as it is the requiring body. As land is a provincial issue according to

the constitution, the next step is for the provincial government to deem it necessary to acquire the land, after which it takes the actions listed below and in Figure 1.

- Under Section 4, it causes the publication of preliminary notification that the land is needed for a public purpose. This permits entry, survey, and investigation of the land in question by an authorized government servant so that the authorities can determine whether the land intended to be acquired is suitable for the purpose for which it is needed. Compensation shall be paid for any damage caused by such entry. The process of acquisition must start with a notification under Section 4. It is a condition precedent to the exercise of any further powers under the act.
- Under Section 5, a formal notification is issued that the particular land is needed for a public purpose. This notification is published in the official gazette and the collector is required to issue a public notice of the substance of the notification. Issuance of Section 5 has to take place not later than one year after notification of Section 4.
- Any person interested in any land, which has been notified under Section 5 may, within thirty days after the issuance of the notification, object to the acquisition of the land under Section 5A. The collector shall hear the objection, make necessary enquiries, and submit a report within 90 days to the appropriate government authority. This authority must announce its decision, which shall be final, within 90 days, otherwise the objection shall be deemed to have been admitted and the acquisition proceedings will come to an end.
- When the provincial government is satisfied, after considering the report, if any, made under Section 5A that any particular land is required for public purpose, a declaration to that effect shall be made by an authorized officer of the provincial government under Section 6. This should follow within six months of the publication of the Section 5 notification.
- After the declaration under Section 6, the commissioner of land acquisition collection shall “direct the collector to take order for the acquisition of land” under Section 7. The collector then notifies under Section 8 to cause the land to be marked out, measured and planned (if this was not done after Section 4).
- Under Section 9, the collector gives notice to all interested people that the government intends to take possession of the land and if they have any claims for compensation that they be made to him at an appointed time. Section 10 delegates powers to the collector to record statements of persons possessing any interest in the land or any part thereof as coproprietor, subpropriator, mortgage and tenant, or otherwise. Section 11 enables the collector to make enquiry into “measurements, value and claim and issue the final award.” Included in the award is the land’s true area, the collector’s view of what compensation is warranted, and the apportionment of that compensation to all interested people.
- Though this section is the one that contains the final award, there are two other sections, that is, Section 23 and Section 24, which actually take place before Section 11. This is because these two sections pertain to compensation and the criteria to be followed (Section 23) or not to be followed (Section 24) in arriving at appropriate compensation.
- Under Section 23 are included such items as the market value of the land at the time of notification of Section 6, and various damages that have been sustained at the time possession was taken.
- Matters not considered in awarding compensation, that is, Section 24, include such items as the degree of urgency, which led to the acquisition, any disinclination of the person interested in the land to part with it, any expected increase in value of the land from its future use, and so on.

- When the collector has made an award under Section 11, he will then take possession under Section 16 and the land shall thereupon vest absolutely with the government, free from all encumbrances.
- Section 18 pertains to persons still dissatisfied with the award, who may request the collector to refer the case to the court for determination and decision. This does not affect the taking possession of the land.
- In cases of emergency, where the Board of Revenue considers it expedient to take possession of any land at any time before an award under Section 11 has been made, it shall notify this act in writing to the collector intimating in addition the date by which the land is required. Under Section 17, the collector can, after causing a notice to this effect to be served on the person or persons interested in the land, take possession of the land subject to the liability to pay any amount, which may be incurred on account of acquisition. This specific section will not be applicable in the proposed program, as the acquisition of land is being done through normal procedures.

Punjab Land Acquisition Rules, 1983

- The Punjab Land Acquisition Rules, 1983, describe the land acquisition procedure for public purposes or for a company. The Punjab Land Acquisition Rules comprises 16 rules pertaining to area notification and surveys, inquiry and award, compensation and apportionment, awards and dispute resolution, and exceptions. Important rules for acquiring land are described below:
- Rule 4. This rule states that the acquiring agency shall submit an application under Rule 3 to the collector of the district concerned on a prescribed form for the acquisition of land. Then, the collector of the district shall examine feasibility of the land acquisition, taking into consideration the genuineness of the public purpose involved.
- Rule 5. According to Rule 5, the collector of the district, after the examination of feasibility, issues a notification under Section 4 stating clearly the details of the area to be acquired.
- Rule 6. In accordance with Rule 6, after the issuance of the notification under Section 4, the collector shall take immediate steps to have the land surveyed and submit a report to the commissioner not later than sixty days from the date of the publication.
- Rule 7. The rule describes the procedure for the issuance of notification under Section 5 by the commissioner, where the land is to be acquired for a public purpose, and the reporting procedure to the BoR in case any delay occurs in the issuance of notification.
- Rule 8. This rule states that where the land is to be acquired for a company, the commissioner, on receipt of the survey report of the collector under Rule 4, forwards the same to the BoR for issuance of notification under Section 5.
- Rule 9. According to Rule 9, objections received under Section 5A by the collector shall be disposed of with least possible delay and along with the recommendations shall be forwarded to the commissioner within a prescribed time limit for decision.
- Rules 10 (1), (2), and (3). This rule states that the commissioner of the division, when issuing a notification under Sections 5 or 17, shall ensure required details for the acquisition of land.
- The rules also describe the procedure for land acquisition where a company makes an urgent request for invoking the provision of Section 17 of the act. It is also mentioned that no land lying near a town, meant for fodder cultivation or for orchards or otherwise cultivable shall be notified for acquisition for the establishment of any industry except if it is declared by the

agriculture, health, and industry departments that no risk would be involved due to such land acquisition.

- Rule 11. The rule states that the collector, while forwarding draft notifications under Sections 5 and 17 to the commissioner, shall ensure that the certificates, documents, and information mentioned in the act are appended.
- Rule 12. The rule states that the estimated cost of the land worked out under Rule 10(2) is approved by the collector/commissioner/BoR.
- Rule 13. According to Rule 13, the collector or the commissioner may not deliver possession of land sought to be acquired by the department or agency concerned unless sufficient funds for the payment of compensation are placed at the disposal of the collector in advance.
- Rule 14. The rule states that if any land acquired by the department or local authority for public purpose is not used as proposed, that land should be handed over to the collector for disposal by the order of the government.
- Rule 15. Where land has been acquired by a company it shall not be sold or disposed of before the approval of government.
- Rule 16. This rule deals with penalties and states that where land is used for a purpose other than that for which it was acquired by the acquiring agency, it shall be repossessed immediately and the acquiring agency shall be liable to penalty.

Employment of Child Act, 1991

- Article 11(3) of the constitution of Pakistan prohibits employment of children below the age of 14 years in any factory, mine, or any other hazardous employment. In accordance with this article, the ECA 1991 disallows such child labor in the country. The ECA defines a child to mean a person who has not completed his/her fourteenth year of age. The ECA states that no child shall be employed or permitted to work in any of the occupations set forth in the ECA (such as transport sector, railways, construction, and ports) or in any workshop wherein any of the processes defined in the act is carried out.
- Presently the government of Punjab has drafted a new act titled 'Punjab Restriction of Employment of Children Act 2015' dealing with child labor in the commercial and industrial sectors of Punjab. The act aims at banning children up to 14 years from all types of employment. The approval of the act is ongoing and expected to be approved by the Punjab Assembly in a short span of time.

Labor Laws

- The constitution of Pakistan contains a range of provisions with regard to labor rights found in Part II: Fundamental Rights and Principles of Policy:
- Article 11 of the constitution prohibits all forms of slavery, forced labor, and child labor.
- Article 17 provides for a fundamental right to exercise the freedom of association and the right to form unions.
- Article 18 prescribes the right of its citizens to enter upon any lawful profession or occupation and to conduct any lawful trade or business.
- Article 25 lays down the right to equality before the law and prohibition of discrimination on the grounds of sex alone.

- Article 37(e) makes provision for securing just and humane conditions of work, ensuring that children and women are not employed in vocations unsuited to their age or sex, and for maternity benefits for women in employment.
- Pakistan's labor laws trace their origins to legislation inherited at the time of partition. The laws have evolved in response to socioeconomic conditions, shifts in governance, state of industrial development, population and labor force expansion, growth of trade unions, level of literacy, and the government's commitment to development and social welfare.
- Under the constitution, labor is regarded as a 'concurrent subject,' which means that it is the responsibility of both the federal and provincial governments. However, for the sake of uniformity, laws are enacted by the federal government, stipulating that provincial governments may make rules and regulations of their own according to the conditions prevailing in or for the specific requirements of the provinces.
- The labor laws are a comprehensive set of laws in Pakistan dealing with the following aspects: contract of employment; termination of contract; working time and rest time; working hours, paid leave, maternity leave and maternity protection, and other leave entitlements; minimum age and protection of young workers; equality; pay issues; workers' representation in the enterprise; trade union and employers association regulation; and other laws.

Pakistan Labor Policy, 2010

- Pakistan's Labor Policy aims at attaining its objectives in a manner best suited to the resources of the country and the present state of economy. There is an urgent need to revitalize the economy to increase the level of productivity, promotion of investment, and maximization of employment. There is an equally genuine requirement to create, among workers and employers, a better awareness of their obligations to the national objectives stated above. At the same time, the government recognizes that workers and employers must enjoy reasonable benefits. With these priorities in view, the government considers that a balanced labor policy should be based on the following objectives:
- Workers' rights to form unions and unions should be protected and an institutional framework be made available to foster close cooperation between workers and employers at the establishment level.
- Equitable adjustment of rights between workers and employers should be ensured in an atmosphere of harmony, mutually beneficial to workers and the management.
- Consultations between workers and employers on matters of interest to the establishment and welfare of workers should be made more effective.
- Adequate security of jobs should be available to workers and there should be expeditious redressal of their grievances.
- Conditions should be created such that workers and employers are committed to enhancing productivity.
- Promotion to higher jobs should be ensured at all levels based on suitability and merit and for this purpose, arrangements should be made for in-service training facilities.
- Facilities for proper matching of job opportunities and job seekers should be strengthened and standard procedures streamlined.
- Social insurance schemes should be further strengthened.

- Just and humane conditions of work should be guaranteed to all workers.
- Forced labor in all its forms is to be eliminated.
- Provisions relating to the employment of children are to be strictly adhered to and enforced.
- To address these concerns, the Labor Policy is divided into four parts: the Legal Frame Work; Advocacy: Rights of Workers and Employers; Skill Development and Employment; and Manpower Export.

Compliance Requirements under Generalized Systems of Preferences (GSP+)

- Pakistan acquired the status of EU's GSP+, which allows increased access of some categories of Pakistani products by allowing duty-free exports to EU markets from January 1, 2014. GSP+ requires ratification and compliance of twenty-seven International Conventions including eight core labor standards of the ILO. These eight core labor-related conventions include the following:
 - Convention concerning Forced or Compulsory Labor, No.29 (1930)
 - Convention concerning the Abolition of Forced Labor, No.105 (1957)
 - Convention concerning the Application of the Freedom of Association and Right to Organize, No.87
 - Convention concerning the Application of the Principles of the Right to Organize and to Bargain Collectively, No.98 (1949)
 - Convention concerning Equal Remuneration of Men and Women Workers for Work of Equal Value, No.100 (1951)
 - Convention regarding discrimination in Respect of Employment and Occupation, No.111 (1958)
 - Convention concerning Minimum Age for Admission to Employment, No.138 (1973)
 - Convention concerning the Prohibition and Immediate Action for the Elimination for the Worst Forms of Child Labor, No.182 (1999)
- The following labor laws (out of 24) relate directly to the implementation of the eight Labor Conventions:
 - Bonded Labor System (Abolition) Act, 1992
 - Employment of Child Act, 1991
 - Minimum Wages Ordinance, 1961
 - Industrial Relations Act, 2010
 - West Pakistan Minimum Wages for Unskilled Workers' Ordinance, 1969
- Two of the important labor-related aspects, which are required to be strengthened include the equal remuneration of men and women workers for work of equal value and removal of discrimination with regard to employment and occupation. Special institutional arrangements have been proposed in the above five laws for ensuring implementation, as follows:
 - Setting up of Vigilance Committees in the Bonded Labor (Abolition) Act
 - Setting up of a cadre of inspectors for enforcement of the ECA Act.
 - Establishment of Minimum Wage Boards in the Minimum Wages Ordinance

- Appointment of registrars of trade unions and establishment of labor courts under the Industrial Relations Act.

The Protection Against Harassment of Women at the Workplace Act, 2010

- The act protects women against sexual harassment at the workplace. The act is composed of 13 sections elaborating definitions, composition of the inquiry committee, procedure for holding inquiry, penalties (minor and major), powers of inquiry committee, role of the employer, the process for appeal against minor and major penalties, ombudsmen and powers of the ombudsmen.

Pakistan Antiquities Act 1975 and Punjab Antiquities Amendment Act 2012

- The current Antiquities Act 1975 (amended in 1990), redefined as ‘ancient’ any object that is at least 75 years old. It requires that all accidental discoveries are reported to the federal Department of Archeology. It also makes the federal government the owner of all buried antiquities discovered from any site, whether protected or otherwise. It bans all new construction within a distance of 200 feet from protected antiquities. The cultural heritage laws of Pakistan are uniformly applicable to all categories of sites regardless of their state of preservation and classification as monuments of national or world heritage. The Antiquities Act guarantees that no changes or repairs can be made to a protected monument even if it is owned privately without approval of the official agencies concerned with it. The Punjab Antiquities Amendment Act 2012 adopts the Act of 1975 with a few minor changes.

Sectoral Guidelines for Industrial Estates, 1997

- These guidelines deal with IEs and identify the key environmental issues that need to be assessed as well as mitigation measures and project alternatives to be considered in the actual EIA. The guidelines include specific references to the following:
- A sector overview of the industry and the processes;
- Site evaluation aspects during site selection;
- Potential impacts on the environment and social aspects;
- Mitigation measures (abatement technologies);
- Monitoring and reporting;
- Management and training; and
- Checklist of likely social and environmental impacts and mitigation measures.

Guidelines for Public Consultation, 1997

- These guidelines address possible approaches to public consultation and techniques for designing an effective program of consultation that reaches all major stakeholders and ensures the incorporation of their concerns in any impact assessment study. The guidelines cover consultation, involvement and participation of stakeholders; effective public consultation (planning, stages of an EIA where consultation is appropriate); and facilitation of involvement (including the poor, women, and NGOs).

Environmental Aspects

- This section provides a description of relevant laws and regulations, which pertain to the environmental aspects of the proposed program. The following legislation is relevant for the creation and operations of IEs, and installation and operations of CETPs in the Province of Punjab:
- PEPA 1997 and amended PEPA 2012
- The Factories Act 1934
- The Canal and Drainage Act 1873 (available at <http://punjablaws.gov.pk/laws/5.html>)
- The Punjab Wildlife (Protection, Preservation, Conservation and Management) Act, 1974 (available at <http://punjablaws.gov.pk/laws/290.html>)
- The Punjab Local Government Ordinance 2001 (available at <http://tariq.pap.gov.pk/laws/2117.html>)
- LAA 1894
- Pakistan Environmental Assessment Procedures

PEPA 1997, Amended 2012

- PEPA 2012 is the overriding environmental legislation in the Province of Punjab. Geographical areas lying outside the provinces but within the administrative boundaries of Pakistan are covered by PEPA 1997. PEPA 2012, Section 30 states that the provisions of this act shall have an effect notwithstanding anything inconsistent therewith contained, in any other law for the time being in force.
- Pakistan's environmental management framework is relatively mature but there are institutional obstacles to its effective application. The basics of a command and control regulatory program are not in place nor is there any significant use of complementary measures, such as economic instruments, voluntary programs, and transparency, and disclosure. The vast majority of industrial establishments, with some notable and limited exceptions, and the government to some extent, have yet to accept the polluter-pays-principle. Its rules and regulations lack the specificities for effective implementation; for example, the NEQS for wastewater are not subsector-specific and area-specific nor do they have any relationship with the ambient conditions. In addition, PEPA 1997 did not establish a complete inspection and monitoring system.
- PEPA 2012 under Section 6 instructs the Punjab EPA to revise the NEQS in consultation with stakeholders, establish ambient quality standards for air, water, and land, establish a system of surveillance and monitoring, and conduct research and development. PEPA 2012 states that noncompliance with the NEQS and not paying pollution charges will invoke implementation of punitive sections of the Environmental Protection Order (EPO), and penalties to every noncomplying person, corporate body, government agency, local authority, or local councils. Cases challenged by the parties will be settled by the environmental magistrates and tribunals, and if required the cases can also be appealed in the higher courts.
- PEPA 2012 under Section 11(2) for the levy of pollution charges states that, "The provincial government may levy a pollution charge on any person who contravenes or fails to comply with the provisions of subsection (1), to be calculated at such rate, and collected in accordance with such procedure as may be prescribed." Further to this, Section 11(3) states that "Any person

who pays the pollution charge levied under subsection (2) shall not be charged with an offence with respect to that contravention or failure.”

- Comprehensive rules concerning “Pollution Charge for Industry (Calculation and Collection) Rule 2001 under PEPA 1997” were prepared in consultation with stakeholders but are awaiting implementation. The following considerations and guidelines were adopted under the rules in 2001:
- The need for an equitable, simple, and workable approach toward establishment of pollution charge

Box 2. Punjab Social Development Fund

Section 9 of PEPA 2012 instructs the establishment of the PSDF. It is mentioned that the PSDF can generate funds from multiple government, private sector, and international sources. PEPA 2012 further states that these funds can be utilized for projects designed for the protection, conservation, rehabilitation, and improvement of the environment; the prevention and control of pollution; the sustainable development of resources; research in any aspect of environment; and any other project with environmental objectives in line with the purposes of PEPA 2012. The Board of the PSDF is proposed to be chaired by the chairman-P&D Board/Department, and comprised of maximum six provincial government secretaries, maximum ten representatives of private sector, NGOs and donors, and DG of the provincial EPA. Major functions of the board are financial sanctions for projects, investment of funds for profit, and monitoring of projects financed by the PSDF.

The Ministry of Environment (at present Ministry of Climate Change) notified PSDF Board (Procedure) Rules in 2001. These rules state the operational procedures for the PSDF Board. The Ministry of Environment notified the PSDF (Utilization) Rules in 2003, which cover procedures for preparation and appraisal of project proposals seeking PSDF funding. Comprehensive criteria for sanction of financial assistance, procedures for financial assistance, post sanction formalities, monitoring and financial audits have been stipulated in the rules. The board is also instructed to publish an annual report.

- The need for real progress toward making the industry environmentally friendly without jeopardizing economic growth in the country
- The need for industry to be allowed a period in which it can prepare for compliance with the NEQS
- The level of pollution charge shall be established through a process of negotiation
- The level of pollution charge should be initially such that the industry should feel the impact, but should not be excessive such that the financial health of the concern is jeopardized
- The system should be applied uniformly across all the industrial sectors
- In the light of these considerations and guidelines a comprehensive system was developed comprising schedule of payment, escalation, parameters applicable for pollution charge, definition of pollution unit, exemption of pollution units, method of determination and so on. In addition, provisions of Section 11 establish that the law is universal and it is applied to all sources of pollution including municipal sources.

- An ESSA at the program level is beyond the scope of PEPA 2012. It includes provisions for environmental assessment at the component level of the program and it instructs the proponents of projects to conduct an EIA or IEE according to the size and impacts of the projects.
- Most of the IEs, CETPs, and real estate development under spatial P&D are subject to an EIA. Section 12 of PEPA 2012 establishes that “no proponent of a project shall commence construction or operation unless he has filed with the provincial agency an IEE or where the project is likely to cause an adverse environmental effect, an EIA, and has obtained from the provincial agency approval in respect thereof.” Under PEPA 2012, public participation through public hearing is essential as part of the IEE and EIA reports approval. ‘Pakistan Environmental Protection Agency Review of Initial Environmental Examination and Environmental Impact Assessment Regulations, 2000’ prepared by Pak-EPA stipulate the complete approval system for IEEs and EIAs.

Canal & Drainage Act (CDA), 1873

- CDA 1873 focuses on construction and maintenance of drainage channels and defines powers to prohibit obstruction or order their removal. It also covers issues related to canal navigation. It briefly addresses issues relating to environmental pollution. Section 70(5) of the CDA clearly states that no one is allowed to “corrupt or foul the water of any canal so as to render it less fit for the purposes for which it is ordinarily used.” In addition, Section 73 of the CDA gives power to arrest without warrant or to be taken before the magistrate a person who has willfully damaged or obstructed the canal or “rendered it less useful.”

The Factories Act, 1934

- The Factories Act, 1934 concerns regulation of labor in factories and addresses issues regarding labor, wages, working hours and health and safety. The Factories Act also briefly refers to environmental issues. Section 14 deals with the disposal of industrial wastewater and states that “effective arrangements shall be made in every factory for the disposal of wastes and effluents due to the manufacturing process carried on therein.” The Factories Act states that “the provincial government may make rules prescribing the arrangements to be made under subsection (1) or requiring that the arrangements made in accordance with that subsection shall be subject to the approval of such authority as may be prescribed.” The Factories Act does not specifically deal with the issue of air pollution but it has clauses under which the issue of air pollution has been addressed. Section 33-Q allows provincial governments to establish rules for factories, whose operation exposes persons to “serious risk of bodily injury, poisoning, or disease.”

Punjab Wildlife Protection, Conservation and Management Act, 1974

- The act requires the protection of wildlife species declared as endangered/threatened and rare. It gives protection to these species by declaring their natural living environment as protected and reserved, which includes areas such as national parks, wildlife sanctuaries, and game reserves.
- The Penal Code discusses offences where public or private properties and/or human lives are affected due to intentional or accidental misconduct of an individual or body of people. The code defines the penalties for violations concerning pollution of air, water bodies and land. Noise pollution is covered in Section 268. In the context of this program, the Penal Code can provide a basis for the IEs to coordinate activities with the local authorities to ensure that

construction and operation activities do not become a cause of public nuisance or inconvenience.

Mandatory Environmental Compliance

- The NEQS adopted by PEPA 2012 for wastewaters are discharge standards rather than ambient standards, whereas ambient standards for air pollution and noise have been recently promulgated. The NEQS for wastewater can be classified in two broad categories, that is, (a) common pollutants - pH value, BOD, COD, TSS, oil & grease, surfactants, TDS, total coliform and fecal coliform; and (b) industry specific pollutants - all inorganic toxic metals and compounds, organic toxic substances such as pesticides, toxic radioactive substances, and excessively hot discharges. Each set needs different treatment; BOD, COD, and TDS are generally treated through biological treatment technologies, and toxic metals are treated or recovered by toxic metal reuse or recovery technologies.
- Table 4 presents the existing emission standards for wastewater disposal for common pollutants. Generally, wastewater discharges from IEs have higher values for all other parameters except pH and TDS as compared to the NEQS. Studies have also reported that wastewater characteristics from small IEs tend to be similar to the characteristics of municipal wastewater.
- In order to meet the NEQS, wastewater discharges from IEs need pollution removal efficiency in the range of 60 to 99 percent. These levels of efficiencies are mostly achieved through energy-based mechanized biological treatment systems such as activated sludge process. These systems are relatively capital and energy intensive with high O&M costs. Table 5 presents the qualitative assessment of alternative treatment processes. It is important to note that these treatment processes only treat the common pollutants mentioned in Table 4 above.

Table 5. A Qualitative Comparison of Alternative Biological Treatment Processes

Parameter	Activated Sludge	Trickling Filters	UASB Reactors	OP a CW
Typical BOD Removal Efficiencies (%)	>90	70–80	60–75	70–80
Plant Area Requirement	Minimum: of the same order			High
Operation and Maintenance Cost	High	Moderate	Low	Minimum
Process Energy Requirement	High	Moderate	Low	Nil
Operational Supervision & Control	High	Moderate	Moderate	Minimum
Construction Cost	High: of the same order			Moderate
Capital Cost	High: of the same order			High ^[1]
Process Mechanical Equipment	Yes	Yes	No	No
Quantities of Sludge Produced	High	High	Low	Minimum

Note: [1] = Largely depends upon the cost of land; OP = Oxidation Ponds; CW = Constructed Wetlands.

The STZ

- According to the Climate and Social Assessment Report for the STZ, the STZ's EIA (including an EMP) received a No-Objection Certificate (NPC) from the Punjab EIA in December 2011. The Supreme Court of Pakistan issued a special order in March 2012, requesting STAGL to ensure, among others, the following:
 - (a) The STZ's compliance of National Environmental Quality Standards (NEQS);
 - (b) Mitigation measures suggested in the EIA Report and Environmental Management Plan (EMP) shall be strictly adhered to minimize any negative impacts on soil, ground water, air and biological resources of the project area.
 - (c) Monitoring shall be carried out during the entire period of the project activities. Monitoring reports of the whole operation shall be submitted to EPA Punjab on monthly basis.
 - (d) Separate environmental approval from EPA before establishment of any tannery in the tannery zone;
 - (e) Separate Environmental approval for the construction/ installation of combined wastewater treatment plant and sanitary landfill site;
 - (f) The proponent shall care about noise issues during construction and operational phases; and
 - (g) At least 90% unskilled and to the extent possible skilled jobs shall be given to locals after providing them proper training.
- Under the UNIDO project, STAGL reaffirmed that the recommendations of EIA and Supreme Court order be implemented and adhered.

Voluntary Actions

RECP

- RECP are considered as voluntary actions by industries. Although these functions are considered as essential to PEPA 2012 compliance, the act does not cover cleaner production. As noted above, the STZ CETP will only treat common tannery pollutants. More specific pollutants will be treated and managed through the implementation of RECP technologies and measures supported by the Program, as well as pre-treatment and recycling measures supported by the GEF grant managed by UNIDO.
- Pakistan has unique experience in the promotion and implementation of cleaner production and energy efficiency technologies and measures over the last 25 years. At present, three cleaner production centers (CPC) are working in the country: Cleaner Production Institute (CPI), Lahore; National Cleaner Production Center for fuels at Attock; and CPC for Sialkot Tanners. These centers promote cleaner production techniques and practices in the selected industrial sectors. The CPI is implementing cleaner production in all the industrial sectors of Pakistan. In addition, the National Cleaner Production Center is working with the oil and gas sector. In most cases, cleaner production techniques and practices offer complete compliance for industry specific pollutants.
- The following cleaner production and energy efficiency projects were implemented in Pakistan:
- Water Stewardship Program (2013–2015)
- Program for Industrial Sustainable Development (PISD) (2007–2013)
- Sustainable and Cleaner Production in the Manufacturing Industries of Pakistan (2009–2012)
- Introduction of Cleaner Technologies in Punjab Tanneries (1998–2008)
- Introduction of Cleaner Production Technologies in Textile Sector (2004–2007)
- Environmental Management Program of Pakistan Tanners Association (2000–2007)
- Cleaner Production Program (2001–2004)
- Environmental Technology Program for Industry (1996–2001)
- Technology Transfer for Sustainable Industrial Development (2000)
- Knowledge and experience generated by these projects are highly relevant to the ESSA and other pillars of the proposed program. In addition, under the PISD, specific and generic Sustainable Frameworks (SF) were prepared for a number of IEs. These provide environmental management frameworks for IEs in Pakistan and can be used as a reference documents while preparing environmental management plans for other IEs.

LWG and REACH

- Furthermore, tanners moving to the STZ are expected to sign up for certification through LWG and REACH compliance. The objective of the LWG (www.leatherworkinggroup.com) is to develop and maintain a protocol that assesses the environmental compliance and performance capabilities of leather manufacturers and promotes sustainable and appropriate environmental business practices within the leather industry. The LGW is made up of representative parties from different areas of the product supply chain including major brands, tanners, technical experts and other industry representatives. The LGW operate using an Environmental Audit protocol with the following features.

- The scope and purpose of this tannery auditing protocol is to evaluate the environmental performance of tannery operations. The audit applies to all operations undertaken in any given site, with the following conditions:
- It includes the full range of operations referred to by any and all applicable operating licenses unless these are demonstrably unrelated to leather making. Example: a tannery produces automotive leather to a finished condition and undertakes cutting operations. The cutting operations do not form part of typical tannery operations. Energy usage, water usage etc. associated with cutting operations can be excluded from the calculation of energy usage per square meter of leather, water usage per square meter of leather etc.
- it includes effluent treatment operations even if these are performed in a different location and/or in other companies.
- it includes technical, maintenance and administrative activities even if these are being undertaken on behalf of other companies within a group.
- it excludes residential aspects (dormitories, canteens etc.) even if within the site boundary, but only if these can be reliably separated from production aspects i.e. energy and water are on separate meters.
- it will be undertaken on the basis of 12 month's operations. These should be the most recent 12 months for which data is available, the last of which must not be more than three months prior to the audit (i.e. an audit undertaken in June would use data from no earlier than the preceding period April to March).
- in the energy sections, the value can be calculated on the basis of nine months' worth of data provided month by month data for production and each type of energy for a full year has been supplied. The excluded three months must be consecutive.
- in the event that demonstrable, quantifiable changes have been introduced that provide evidence of savings (supported by at least 6 months data of on-going long-term energy or water savings) the value based on those 6 months will be used.
- in the event that less than 12 but more than 6 months' worth of data are available (for example a new build tannery) an audit may be undertaken but the result will be given as a provisional result. Within this period data must be presented such that the performance of the tannery, with respect to energy and water consumption, may be given for the first three months, second three months, third three months and full year period. Award of a provisional result is further dependent upon a commitment to a full re-audit within 12 months.
- in those instances where insufficient industry benchmarking data was available to record a score for a particular section (i.e. the energy requirement for the production of exotic leathers) the section will be reported as "not applicable". These are expected to be exceptional circumstances and will not be decided at the time of the audit; each case being individually submitted to the LWG Technical Sub Group and/or the LWG Executive Committee for approval (or pre-approval if data is available in advance of the audit).
- Although the LWG audit is primarily an environmental audit, certified tanners are expected to demonstrate reputable practices in all areas of business. If an auditor witnesses' practices globally recognized as being unacceptable (failure to safeguard the health of workers, worker exploitation, child labor etc.) or practices likely to lead to detriment of the reputation of LWG should the tanner be otherwise awarded certification, that auditor is required by LWG to refer the issue to the LWG facilitator. The LWG facilitator will consult with its Technical Sub-group

(approved by European Commission) as appropriate to determine whether downgrading (including possible Failure) should be implemented in the light of the auditor evidence presented.

- The tannery being audited is required to provide the auditor with full and accurate data during the audit in order to support the audit findings. The tannery is required not to withhold information nor to mislead or attempt to mislead the auditor. The tannery is required to present all operating permits, plus all additional data or documentation that may be required and to confirm that the tannery is operating in accordance with all operating permits. The auditor will be required to assess whether the tannery is in compliance with its operating permits, however the audit process is a not a full legal compliance investigation and is not expected to prove that the tannery is fully compliant; that is the responsibility of the tannery.

Capacity Assessment for Managing the Program's E&S Effects

Introduction

- This section summarizes the evaluation of the capacity of program institutions to implement the program environmental and social management system. It focuses on the institutions linked directly and indirectly to the implementation of these systems. It briefly describes the background of the institutions and their mandates; hierarchical organization and its adequacy; institutional capacity with regard to staff, budget allocations, training and so on; effectiveness of inter-agency coordination arrangements and performance of the implementing agency in ensuring that the rules and procedures are being followed.
- In an overall context, institutions exist at the provincial level to deal with environmental and social issues. However, their capacity should be increased with regard to human resources and/or financial capacity to operate the system as designed. To begin to address these capacity constraints and to close important implementation gaps, an incremental step-by-step, risk-based approach is recommended throughout the life of the proposed program, particularly as part of the wholesale restructuring of the EPD/EPA.

Social Aspects

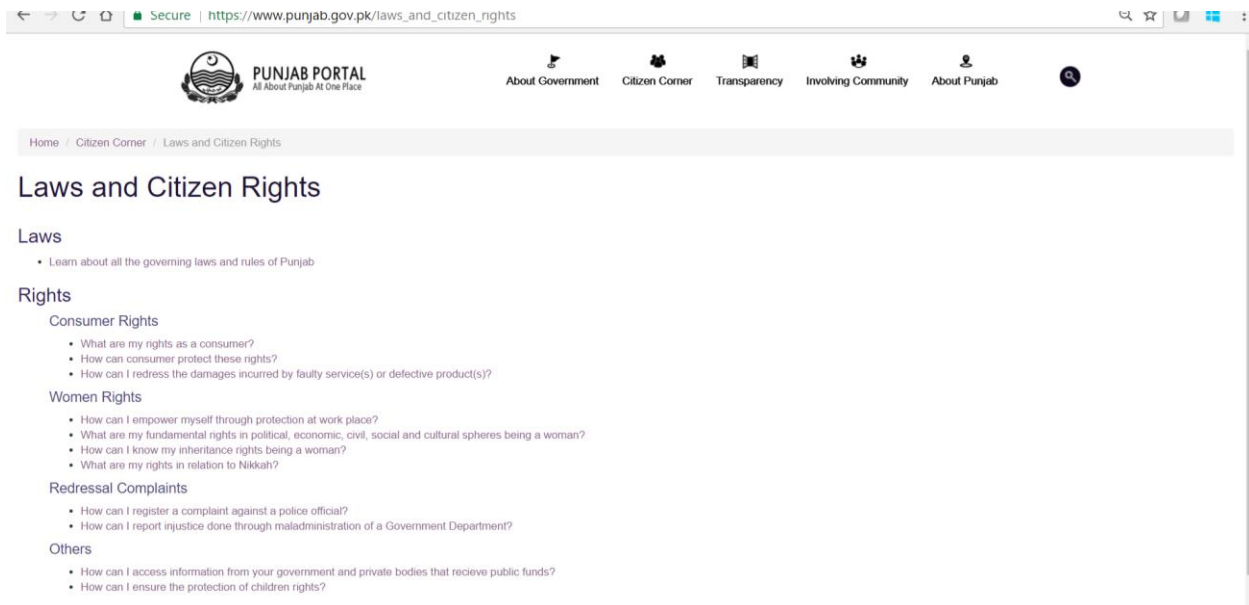
- The main institutions involved in the management of social aspects as per planned interventions of the Program are EPD, ICID, and Departments of Finance, Labor, Women Development, Energy, and Transport. In addition to the above, there are certain departments whose remit is such that they cover and respond to social issues across the province. Following sections start with an overview of the same, honing subsequently down to the list of institutions mentioned above.

Government of Punjab Portal

- GoPunjab hosts a web portal which serves as one stop shop for all information on Punjab, ranging from all government websites, recent survey reports, history, geography and tourism in the province. While it is overall a good initiative, it targets educated, middle class and upward citizenry. Amongst these, most promising initiatives/information provided are its Citizen Corner, Transparency and Involving Community pages. In addition, there is the Chief Minister's Complaint Cell. Figure 2 shows a screen shot of the Punjab Portal.
- Citizens Corner. This site is to assist citizens to get services through online facilities such as real time data about school education, college applications, reporting missing children, documents such as birth certificates, etc. The Corner also has list of helplines and emergency services, for all sorts of service delivery oriented departments, from agriculture to health to waste management. Most important is the link for Laws and Citizens Rights. Not only does it describe the rights of the consumers, it particularly stresses upon women rights, their empowerment through protection at workplace, their fundamental rights in political, economic, civil, social and cultural spheres, and their inheritance rights. On the same page, under Redressal Complaints, there is a link to lodge a complain against any government department through the Office of the Ombudsman Punjab website. This website describes the mandate of the Office, and has a comprehensive description on
 - Who can lodge a complain
 - Complaint Management Process

- Complaint Status

Figure 2: Punjab Portal



- **Transparency.** This webpage has links on Punjab's Annual Budget, Citizens Budget, government expenditure details, tenders published by Punjab Procurement Regulatory Authority, balloting results on Punjab government schemes on housing, employment and other similar schemes. Also, reports on various enquiries being conducted by judicial commissions, and otherwise are available on the website. A link to Transparency International Report is also placed.
- **Involving Community.** This link introduces the initiatives the government has on issues such as child protection, fight against dengue fever, and large-scale assistance for Internally Displaced People. The website calls for citizen support in terms of volunteers, information sharing and donations.
- **Chief Minister's Complaint Cell.** In addition to the Redressal Complaints section under the Citizen Corner, there is also a web based CM Complaint Cell. This effectively serves as the provincial level GRM for citizens against any type of grievance with any government department across Punjab. Each government department, including the ones that are part of this Program, has a focal point to respond to complains lodged at this Cell. In most cases, it is the Additional Secretary of the Department concerned, which is a senior civil servant. Once a complaint is lodged, a timeline is issued for resolution and concerned department asked to follow procedure.
- As per consultations with the government departments, both Office of Ombudsman Complaint Management System and the CM's Cell have proved to be effective grievance redressal mechanisms for general public. The only constraint and limitation in both cases is of the systems being literate and computer friendly and excluding general masses.

EPD

- The EPD was established to combat environmental degradation. The EPD, Punjab created the EPA which is responsible for the protection, conservation, rehabilitation and improvement of the environment; the prevention and control of pollution; and promotion of sustainable

development in the province. In this context, the EPA is also responsible for the management of social aspects as they pertain to environment.

- The EPA performs its functions through various sections of the agency working together to meet its collective goals. These include: Administration Section, Complaint Section, Environmental Approval Section, Environmental Laboratories Section, Implementation Section, Legal Section, Research and Investigation Section, Technology Transfer Section, and Directorate Environmental Health, Dengue Control & Hazardous Waste. Among the above, the Environmental Approval and Complaint Sections are important from the social perspective of the program and have the functions discussed below.
- Environmental Approval Section. The main functions of this section are to review the IEE/EIA reports of the project, conduct the public hearing in EIA cases, issue Environmental Approvals, monitor the conditions of the Environmental Approvals, initiate the required actions against the proponents in case of noncompliance of conditions of the Environmental Approvals.
- Complaint Cell, Planning and Coordination Section. A complaint cell is established under the Planning and Coordination Section for addressing public complaints regarding environmental pollution. This section of the EPA is responsible for maintaining a record of public complaints received by the Office of the DG, EPA Punjab and subsequent actions taken to find solutions to these issues and processing all grievances regarding environment received at the online petition cell of the Chief Secretary, Punjab.
- EPD Capacity. EPD has limited capacity to respond to social issues related to land acquisition, labor issues, GRM and inclusion is limited. Currently there is no professional dedicated to respond or review the social sections of the EIA/IEE submitted for approval, no one deputed to review gender and/or labor aspects, and nor for land related queries.

Finance Department

- The Finance Department is responsible for supervision and control of provincial finances; preparation of provincial budget; formulation of Financial Rules and Civil Services Rules relating to pay, perquisite, and pension of civil servants; and management of public debt and administration of Local Fund Audit Department and the Treasuries. Administrative departments are required to consult the Finance Department in all matters which directly or indirectly affect the finances of the province. All important functions of the Finance Department, including budgeting, are performed at the Secretariat. The major functions of the department are: management of public funds; framing of financial rules for guidance of departments; supervision of accounts of provincial departments; framing of Civil Service Rules applicable to all Government servants and interpretations thereof; floatation and administration of provincial loans; examination and advice on matters affecting directly or indirectly the finances of the province; administration of emoluments, pensions, and allowances; administration of public revenue; communication of financial sanctions; examination of all proposals for the increase or reduction of taxation; audit matters of provincial receipts and expenditure.
- Social development is not included in the mandate of the Finance Department. However, it will be useful to train and sensitize the staff of the Finance Department while undertaking capacity development trainings and activities.

ICID

- ICID is one of the major Government Institutions striving to promote industrial development, trade and investment in the province. The main focus of activity is promotion of trade and investment in the province. The Government of the Punjab is keen on creating a business-

friendly investment climate in line with the Federal Government Policies and present the Province of Punjab as an attractive investment destination for the entrepreneurs / investors.

- The mandates of the Department include: promotion of Industry and Investments; advocacy and Implementation of trade and investment Policies of the Federal/Provincial Governments; liaison with Private Sector, Trade Bodies and Trade Associations; creation of awareness about WTO related trade laws and standards; improvement of product competitiveness and export supply chains; research and technical support to the private sector. As per Rules of Business, the following are the key functions of the IC&I Department:
- Legislation, policy formulation, and sectoral planning related to Industries, Commerce and Trade
- Advocacy vis-à-vis federal government policies that impact provincial economy/ commerce and industry
- Coordination and facilitation of Chambers of Commerce and Industries and Trade Organizations
- Liaison with respective federal government agencies in matters pertaining to Intellectual Property Rights (IPR)
- Facilitation of foreign business delegations and investment
- Land acquisition for industries and IEs
- Regulation of Industrial location policy
- Matters relating to boilers and pressure vessels
- Registration and regulation of companies, firms, societies and Deeni Madaris
- Matters relating to Printing and Stationery
- Matters relating to Technical Education and Vocational Training Authority (TEVTA)
- Policy formulation and administrative matters related to Attached Departments, Autonomous Bodies and Special Institutions
- Consumer's rights protection
- Monitoring of prices of Essential Commodities
- Budget, accounts and audit matters
- Purchase of stores and capital goods for the department
- Service matters except those entrusted to S&GAD
- Administration of the concerned laws and rules framed therein

- ICID has involved in the Bank's J&C Program. In addition, it has been working closely with UNIDO on the STZ. Under this Project, the Department has jointly made environmental and social assessments, whose quality is acceptable. There is no institutional setup within the Department to respond to social issues.
- Directorate of Consumer Protection Council. To provide for protection and promotion of the rights and interests of the consumers and in order to raise the standard of goods and services in the province by removing defective products and faulty services from trade and commerce, GoPunjab enacted the Punjab Consumer Protection Act (PCPA) in 2005. Upon such legislation, District Consumer Courts and District Consumer Protection Councils in eleven districts namely

Lahore, Gujranwala, Sahiwal, D.G. Khan, Sargodha, Gujrat, Sialkot, Multan, Bahawalpur, Faisalabad and Rawalpindi have been established, which cover throughout the province, while Directorate of Consumer Protection Council, Lahore serves as Headquarters of said institutions. This Directorate serves as another grievance redressal for complaints against the Industries Department. The link for this Directorate is present on the Industries Department webpage.

- Consumers may file case / claim before Consumer Court which is headed by the District & Session Judge / Additional District & Session Judge. The violator may be punished by the Court, with imprisonment which may extend to two years or with fine which may extend to Rs.100,000/- (Rupees one lac only) or with both in addition to damages or compensation as may be determined by the Court. The Consumer may also file a complaint for violation of provision of following Sections of said Act before the Authority (DCO) who, on being satisfied that such is the case, fine the violator that may extend to Rs. 50,000/- (Rupees fifty thousand only):
- Section- 11: Duty of disclosure regarding Products,
- Section- 16: Duty of disclosure regarding Services,
- Section- 18: Prices to be exhibited at the business place! And
- Section- 19: Receipt to be issued to the purchaser.
- One important thing which separates this welfare oriented legislation from others is that justice is available free of cost and within limited/short time period to general masses for resolving their grievances against defective products and faulty services.

Labor Department

- The Labor Department was established with the mission of “Promoting the Welfare and Protecting the Rights of Labor Force and Workmen.” The Punjab Labor and Human Resource Department consists of the following wings: Secretariat, Directorate General of Labor Welfare, Punjab Employees Social Security Institution, Punjab Workers Welfare Board, Minimum Wages Board and Labor Courts. It is concerned with the following tasks:
- Promoting healthy labor management and industrial relations for greater socioeconomic progress and development
- Protecting the rights of workmen and labor force
- Laying equal stress on their housing, health, safety, and protection to make them more committed to their work
- Preventing child and bonded labor, keeping in view national and international standards
- Exercising effective control over weights and measures
- Although a comprehensive set of labor laws exists, there is a dire need to improve enforcement, especially in the case of minimum wages, child labor, and registration of labor, social security, and control of bonded and contract labor. The Department has about 36 District Labor Officers in Punjab with designated roles and responsibilities. The Department requires strengthening with regard to human resources and logistics required by the professionals to improve compliance like provision of adequate transport facilities. The Department is presently conducting and computerizing the results of labor survey using android platform. The results of the labor survey are expected to be regularly updated on the website of the Labor Department.

Energy Department

- The Energy Department was established in July 2011 as a response to the energy crisis and to spearhead Punjab Government's efforts to exploit its energy sources and initiate power projects in the public and private sector. The purview of the department is constantly expanding, with more responsibilities and powers being devolved to the provinces in the wake of the 18th Amendment to the Constitution of Pakistan. The Energy Department has a vision of fully tapping Punjab's indigenous energy potential, which is hydropower, solar, biomass and coal. The Department and its attached bodies are fully engaged with the Federal and international entities, and also encouraging the private sector to invest in the power sector. The Function of Energy Department include:
- Legislation, policy formulation and sector planning
- Administrative control and check on the work of Electric Inspectors Lahore and Multan. All technical matters including court cases relating to the offices of Electric Inspectors
- Electrical accidents in connection with generation, transmission, distribution and use of electric energy
- Standardization of Specifications in respect of electric appliances, machinery and installations
- Matters connected with distribution of Power and Area Electricity Boards
- Acquisition, revocation of amendment of Licenses of Electric Supply Undertaking and approval of loads
- Regulation controlling and granting Electrical Contractor Licenses and Supervisors Competency Certificate and other matters connected with Licensing Board Lahore and Multan
- Matters connected with village electrification including formulation and devising criterion for selection of villages
- Matters connected with Tube-well electrification
- Matters relating to the Punjab Power Development Board (PPDB) and Punjab Power Development Company Limited (PPDCL)
- All relevant matters under Articles 157, 158 and 161 of the Constitution and policy making for the Province in respect thereof
- Development of power generation by exploiting hydel, thermal and renewable energy resources
- Monitoring of electricity tariff in Punjab
- All matters pertaining and auxiliary to hydel power stations of WAPDA or any other public / private sector agency located in Punjab
- Close coordination with the federal government in respect of grant of licenses for oil and gas exploration in Punjab and cooperation with such companies and organizations under-taking such ventures in Punjab
- Conservation of energy
- Market segmentation based on purchasing power and electricity consumption
- Off-grid distributed power generation

- Promotion of energy efficiency through appliance regulation, building codes, urban design and other means
- Energy innovations
- Public private partnerships for energy production, conservation, efficiency and audit
- Coordination and reconciliation with Federal Government on electricity charges
- Distribution network authorization for new housing societies
- Development of a power policy for Punjab
- Award of power projects in Punjab to Pakistani and Foreign Private sector companies
- Review and updating of regulatory framework to promote fast-track investment in energy projects
- Budget, accounts and audit matters
- Purchase of stores and capital goods for the department
- Service matters except those entrusted to Services and General Administration Department
- Administration under the Laws & Policies
- The Department has worked with the likes of ADB, and is currently working on one such particular project. They have a PMU established to strengthen capacity in safeguards. Compared to other departments within this Program, Energy Department is the only one which has institutional openings to respond to social challenges.

Transport Department

- The Transport Department was created in 1987. Earlier there was a transport cell in the Services and General Administration Department with transport authorities existed at the regional and provincial levels. The current set-up of the transport department includes the secretariat, affiliated agencies (Punjab Provincial Transport Authority and District Regional Transport Authority), the Transport Planning Unit and Lahore Transport Company. Functions of the Department include: implementation of government policies for provision of affordable, comfortable and efficient transport services across the province; preparation and implementation of Development Plans; initiation of special public transport initiatives like subsidies, environment friendly transport etc; and fixation and Regulation of Public Transport Fares.
- The Department has pioneered compensations in case of metro bus projects in Lahore, Rawalpindi and Multan. This is now a recommended practice for all mega scale public infrastructure projects in Punjab. Other than this, the Department has limited capacity to respond to social issues mentioned in Chapter 2.

Board of Revenue

- The BoR consists of the following main departments: Department of Revenue; Colonies; Consolidation; and Relief; and the following functional units: Administration Wing, Research & Gazetteer Cell, Directorate of Land Records (an attached department of the Revenue Department), Settlement & Rehabilitation Wing, Punjab Land Commission (Statutory Agency), and Chief Inspectorate of Stamps. Three members of the BoR are ex-officio secretaries to the government. These secretaries are the secretary to government for the Revenue Department, secretary to the government for the Colonies Department and secretary to the government for

the Consolidation of Holdings Department. The relevant members in charge of these departments are assisted by BoR secretaries who are ex-officio additional secretaries to government.

- The BoR is the controlling authority in all matters connected with the administration of land, collection of government dues including land taxes, land revenue, preparation of land records and other matters relating thereto. The BoR is the custodian of the rights of the land holders and is the highest Revenue Court in the province with appellate/revisorial jurisdiction against orders of subordinate revenue officers/courts including commissioners and collectors. All revenue officers and Revenue Courts are subject to the general superintendence and control of the BoR.
- The system in Pakistan for the recording of rights and interests in land was originally established for the fiscal purposes of the government. The system is very old and has, with few modifications, maintained a record of rights and interests to assess land revenue and other levies.
- The Punjab Local Government Ordinance 2001 made some fundamental changes to the role and responsibility of the BoR and its key staff. This ordinance devolved the staff working for the BoR Departments in the districts to the district administrations. The traditionally wide roles for key staff in BoR Departments in the districts were significantly narrowed and largely confined to the maintenance of the record of rights.
- Related to the Program, the Department of Revenue is in charge of the acquisition of private land including all compulsory land acquisition proceedings for public purposes conducted by functionaries of the department. The other functions of the Revenue Department broadly cover the maintenance of records of rights; collection of agricultural income tax, water rate; facilitation of agricultural loans; registration of deeds; and resolution of record and tenancy related disputes.
- The Colonies Department deals mainly with the administration and management of state land, including disposal, through sale, lease and exchange; transfer to provincial government departments free of cost for public purposes; and transfer to the federal government and autonomous bodies at market price plus 10 percent surcharge.
- Similarly the Consolidation Department consolidates scattered holdings of landowners in compact blocks to make land-use more productive and meaningful; reduces the number of plots of land for the right holders of a revenue estate by consolidating scattered chunks of their land into minimum number of compact blocks; prepares an updated record of right holders for use by the Revenue Department/right holders; ejects illegal/unauthorized occupants of government state land and carves out new paths besides retaining old ones where necessary to improve communication between villages and also to earmark/reserve/provide tracts of land for general utility purpose/welfare such as graveyards, playgrounds, schools, health centers and new waterways for better irrigation with a view to achieve a maximum increase of productivity/cultivation.

Women Development Department

- Women Development Department was established in April 2012, under 'Punjab Women Empowerment Package 2012'. This policy document comprises multiple reforms in legal, administrative and institutional spheres while providing new initiatives to safeguard women's rights and is expected to transform the socioeconomic status of women by expanding opportunities available to them. Following the Punjab Women Empowerment Package, the

Women Development Department is mandated to lead the province toward women's empowerment and gender equity. Specific functions and responsibilities have been assigned to the department through amendments to the government of Punjab Rules of Business, 2011.

- According to the government of Punjab Rules of Business 2011, the policy related to women development includes the following:
- **Safeguarding women's rights.** Provision of ways and means to effectively safeguard women's rights within the constitutional and legal framework to improve these guarantees not only in letter and spirit but also to introduce new legislative framework where and when required.
- **Expanding opportunities.** Expansion of opportunities to improve the socio-politico-economic status of women with a special focus on rural areas.
- The function of the department under the government of Punjab Rules of Business, 2011 are the following:
 - Legislation, policy formulation and sectoral planning for women's development.
 - Transformation of the government into an organization that actively practices and promotes gender equality and women's empowerment.
 - Implementation of administrative and institutional reforms and departmental restructuring for promoting gender equality.
 - Mainstreaming a gender equality perspective across public policies, laws, programs, and projects by departments and agencies of the government with a focus on women's empowerment.
 - Promotion, coordination and monitoring of execution of federal and provincial policies and commitments on gender reforms and women development.
 - Provision of technical support and expertise for gender mainstreaming in all departments of the government and its agencies.
 - Expansion of investment in women's sociopolitical and economic development to achieve the goal of gender equity.
 - Collection of quantitative and qualitative data and research on the status of women in Punjab to highlight issues in appropriate fora.
 - Building of partnerships with line departments, civil society organizations and NGOs to deliver on the rights and entitlement of women.
 - Pursuance of means and measures to increase participation of women in the political process and encouragement of effective representation of women in political and administrative spheres.
 - Collaboration with legal, judicial, law enforcement and other relevant governmental agencies and NGOs to facilitate women's access to formal legal and justice system.
- The department is headed by a secretary, assisted by a deputy secretary who, in turn, is assisted by the section officers for program, budget and finance, and law. The department is actively working on several projects related to welfare of women, including the establishment of child care centers through Punjab Day Care Fund. Other programs are related to working women's hostels, scooters for women and so on. The department has expressed willingness to collaborate with the Bank to facilitate the establishment of child care centers for industrial estates.

Archeology Department

- The Youth Affairs, Sports, Archeology and Tourism Department was created in October 2011 as a new department to be responsible for youth affairs, sports, tourism and archeology. The department was created with a vision of helping to build healthy and tolerant society through promotion of sports, conserving/preserving the cultural heritage of Punjab and developing it to have a healthy share in the economic growth of Punjab and Pakistan, and developing and promoting tourism in Pakistan to attract tourists to its historical and cultural heritage, provide entertainment and recreation facilities to the people, and spread benefits of tourism among the public for employment creation and poverty reduction with the ultimate aim of contributing to national economic growth. The department has a total of 611 staff. The main office of the department is in Lahore with a satellite office located at Lahore Fort. Subdivisional offices are located in Jhelum and Bahawalpur. Subregional offices are in Taxila and Multan and a site office is located at Harappa (Sahiwal).
- The Archeology Department conducted a survey across Punjab from 1994 to 1996 to map out possible sites of archaeological significance. According to this survey, Bahawalpur, Rawalpindi and Multan districts have a high number of unprotected and unexcavated archaeological sites.
- No procedures are available to share information on important or sensitive cultural heritage sites with construction companies/projects. However, under the law, chance finds should be reported to the Archeology Department within seven days. If ruins are discovered, then all construction work must be stopped. In this case, the Archeology Department conducts a site assessment and looks for signs of buildings or habitation.

Environmental Aspects

Environmental Governance, Institutional Hierarchy, and Monitoring and Reporting System

- **Environmental tribunals (ET).** The federal government established four ETs, one in each provincial capital, under the authority established by Section 20 of PEPA 1997. The government of Punjab maintained the ETs under PEPA 2012. Under PEPA 2012, the ETs have comprehensive powers to take decisions. Each ET includes a chairman, with a credential of qualified high court judge, one technical person with suitable professional qualifications and experience in the environment field, and one person with qualifications and experience in the discipline of law. For every sitting of the ET, the presence of the chairperson and not less than one member shall be necessary.
- In a study sponsored by the Bank in 2010,¹⁶ the ETs of four provinces were interviewed. The study reported that the ETs were not satisfied with the legal powers available to them. They stated that the ETs can only order punishment, but from then onward it is the responsibility of the EPA to implement it. In most cases, the EPA does take any action. The ETs have no powers to do field monitoring, which is also the responsibility of the EPA. In most cases, if any government agency is involved, then the EPA does not bring the case to the ET. Representatives of the ETs proposed that they should get *suo-motu* powers because ETs cannot take any action on their own, and are dependent on the EPA. In addition, respondents stated that they can only fine, whereas they believed ETs should also have power to imprison, to declare contempt of court, and to implement their orders. They added that PEPA 1997 does not provide an efficient implementation framework for implementation of ET orders. It was reported in the study that EPOs submitted by the EPA are mostly defective.

¹⁶ Ministry of Industry, 2010. *Evaluation of Industrial Environmental Management-Pakistan*.

- Green Benches.** As noted earlier, the Supreme Court of Pakistan has recently established Green Benches in the High Courts, which, following the complaints of civil society organizations, are putting pressure on the EPAs to ensure that all public sector projects go through the process of EIA preparation and approvals. On April 7, 2012, the Lahore High Court (LHC) under the instruction of the Supreme Court of Pakistan established Green Benches at Lahore and Rawalpindi. Under this order, LHC judges, district and session judges, and senior civil judges serve as Green Benches. These benches are mandated to hear all cases related to environmental issues. The Chief Justice of LHC nominated a senior judge of Lahore High Court to grace the single Green Bench at LHC principal seat and a division bench, comprising two senior judges has been constituted as Green Bench for environmental cases. Further to this, LHC Chief Justice also instructed the senior judges of Multan, Bahawalpur, and Rawalpindi benches to hold the court as a single bench and two senior most available judges to hold court as Division Green Bench. According to another notification, all the courts of senior civil judges and all the courts of civil judges cum judicial magistrates at subdivision level have been declared by Chief Justice as green courts so as to hear all the cases under PEPA 2012 as well as under ordinary jurisdiction that involve environmental issues or relate to environment interest litigation. At the district level, district and session judges in Punjab have been declared as green courts so as to hear all the cases, appeals and so on under the PEPA 2012. The Chief Justice has ordered the transfer of all environment related cases to the Green Benches of the LHC and green courts at district and tehsil level from the courts where they are pending at the moment for further proceedings.
- GoPunjab has been operating in a fast track mode for the execution of development projects. Compliance with PEPA 2012 has been mostly treated at a cursory level. Therefore, many civil society organizations are approaching Green Benches against the government of Punjab projects in lieu of quality and preparation of EIAs of the projects. As a result, many GoPunjab projects have been involved in litigation in the courts, following complaints from civil society organizations. A recent example is the signal free project for Jail Road and Main Boulevard Gulberg, which was delayed for more than eight months for not conducting an appropriate EIA. The LHC stopped the execution of the project, and instructed the Lahore Development Authority to conduct the EIA. Another example is that the Green Bench instructed the EPA to hold a PEPC meeting.¹⁷
- PEPC.** The PEPC is the apex decision-making body on environmental issues in the province. It is headed by the chief minister of Punjab, and the minister of environment serves as the vice-chairman. Members of the council comprise multiple stakeholders, that is, provincial environmental ministers, 35 ex-officio representatives (industry, technical professional, trade unions, and NGOs), and the secretary of the EPD. The PEPC is required to hold meetings twice a year. The PEPC has the power to establish subject- or issue-specific committees and invite any technical expert, government representative or NGO to support the implementation of its functions. The EPD serves as the secretariat for the PEPC.
- Major functions of the PEPC are to supervise the implementation of PEPA 2012, approve and supervise the implementation of provincial environmental policies, approve Environmental Quality Standards, provide guidelines for the protection and conservation of natural resource and habitats, integrate sustainable development in provincial development plans and policies, and instruct relevant institutions to execute sustainable development and research projects. It is important to note that in the last three years not a single meeting of the PEPC was held. The Lahore High Court recently instructed the EPD to call the first meeting of the PEPC.

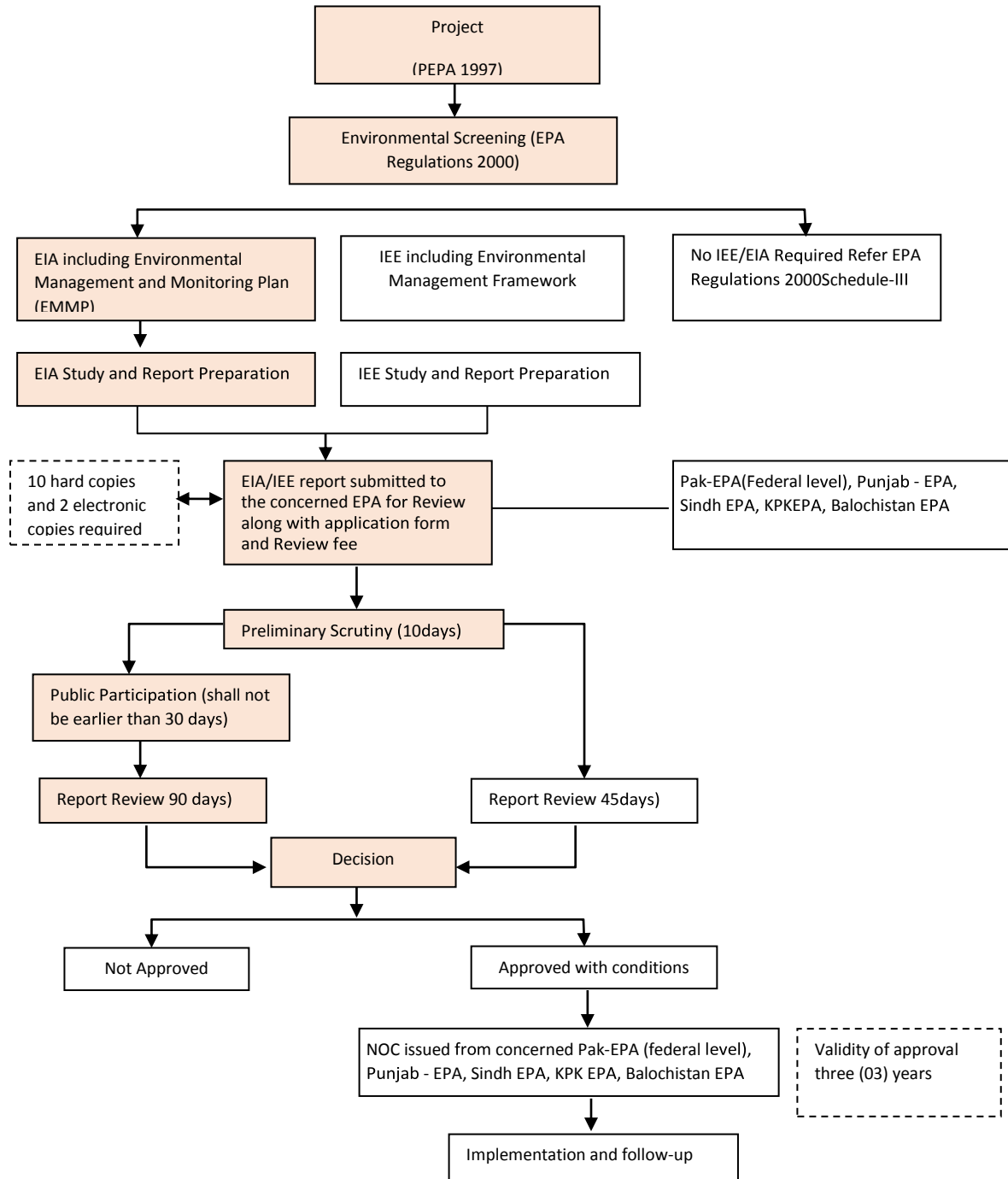
¹⁷ Associated Press of Pakistan, April 7, 2012.

- **EPD.** The mandate of the Punjab EPD, according to the Punjab Government Rules of Business 2011, is summarized as follows:
 - Planning and policymaking in the disciplines of environment and ecology
 - Administration of EPA Punjab
 - Budget, accounts and audit matters
 - Purchase of stores, laboratory instruments, capital goods for the department and their maintenance
 - Service matters except those entrusted to the Services and General Administration Department
 - Administration of the following laws and the rules framed there-under:
 - PEPA 2012
 - Punjab Prohibition on Manufacturing, Sale, Use and Import of Polythene Bags
 - Matters incidental and ancillary to the above subjects
- **EPA.** The EPD has established the EPA under PEPA 2012. Major functions of the EPA under PEPA 2012 are summarized below:
 - To implement rules and regulations prepared under PEPA 2012 and prepare additional legislation according to the needs of the province
 - Prepare and implement provincial environmental standards, development of provincial systems for the implementation of pollution charges
 - Conduct research and development to develop the most viable environmental technologies, and certify laboratories
 - Engage local governments in the implementation of PEPA 2012, environmental awareness and incorporation of environmental issues in the educational curriculums
 - Prepare provincial level Environmental Disaster Management Plans
 - Collaborate and coordinate with stakeholders for the effective implementation of environmental policies and PEPA 2012
 - Entertain inquiries and complaints raised by stakeholders
 - Mobilize national and international financial resources for environmental projects
 - Develop provincial level fiscal programs and financial incentives for environmental compliance
 - Fix pollution charges, and conduct investigations against polluters
 - Assist courts by generating field level environmental data about polluters
 - Establish environmental laboratories, implement IEE/EIA Rules and Regulations and Guidelines, hazardous waste management under the HS Rules
 - Monitor vehicles for controlling air pollution
 - According to Punjab EPA officials, the legislative framework is not complete. At present, EPA has adopted and notified only 17 rules or regulations, these regulations were prepared by Pakistan EPA, and Punjab EPD adopted them as is. The Punjab EPD is planning to establish a Directorate of Environmental Law, Policy, and Regulation. The directorate will be mandated to review the

existing legislative framework, develop a list of new rules, regulations and guidelines to be developed, will draft them and plan for enacting them. The program will support these efforts.

- The EPA is headed by a director general (DG). Four directors, that is, Director Monitoring, Investigation, and Implementation, Director EIA, Director Laboratories, and Director Planning & Coordination, are under the DG. The Punjab EPA has already established district environment offices in all districts of Punjab. At an operational level, the delegation of functions and powers to respective sections in the EPA is satisfactory. Directors of respective sections maintain an acceptable level of independence for executing their tasks. The coordination of the EPA with other departments on environmental issues is good. The EPA is represented in all the decision-making forums of the province. The EPA has implemented many projects in the past. The quality of project implementation and impact on pollution reduction is moderate. The major past projects of the EPA are:
 - Feasibility study for control of dust pollution generated from stone crushing units in Sargodha District
 - Monitoring of industrial gaseous emissions in Punjab
 - Installation of Suspended Particulate Matter Display System in Lahore
 - Development of standards and guidelines for ecolabeling of industrial products.
 - Design and fabrication of pollution control units in selected industries (cotton ginning, poultry protein feed, pulp and paper and re-rolling mills)
 - Feasibility study for introducing ecofriendly technologies in existing and new bricks kilns in Punjab
 - EPA officials reported in a meeting that the EPA at present is predominantly involved in the Dengue Prevention Program, handling the complaints and linked court cases, processing of the EIAs, and routine organizational works.
- The EPA's Monitoring, Laboratories and Implementation (ML&I) Section is responsible for industrial monitoring for environmental compliance. Monitoring of CETPs in the province is the mandate of the EPA. The ML&I Section at present comprises a director, four deputy directors (Environmental Engineering and Technology Transfer, Research and Investigation, Laboratory-Lahore, and Laboratory-Multan), with three research officers for air, water, and solid waste. Research officers are amply supported by chemists and research assistants and other support staff. The qualifications and competence of ML&I Section staff are based on the requirements of the job. If the correct approach for NEQS compliance is adopted, monitoring of industrial units is strategically designed, and monitoring is conducted with the assistance of the EPA district offices, then the existing capacity is sufficient for effective industrial monitoring at the provincial level.
- The EPA's EIA Section is responsible for the processing of IEE/EIA applications and monitoring of IEE/EIA implementation. The EIA Section receives a large number of EIA applications, as well as environmental complaints. There is only one director, one deputy director, three inspectors, and one engineer to handle this workload. Considering the scope of work linked to IEE/EIA, from application processing to project completion certificate established under Pakistan EPA (Review of IEE/EIA) Regulations 2000 and IEE/EIA Guidelines, the existing team is assessed as small. A large number of applications could only be processed because the section officials did not make field visits before and after project implementation. The quality of public hearings organized by the EIA Section can be assessed as good. Figure 3 presents the schematic diagram of the typical EIA process in practice by the Section for the evaluation of EIA reports.

Figure 3. EIA Evaluation Process in Practice by the EIA Section



- The EPA's Laboratory Section is properly staffed but the existing laboratory is partially functioning with limited analytical capacity. This section needs capacity development for effective management and implementation of the heavy mandate linked to its operations. It also needs to coordinate and certify other laboratories in research and academic institutes and the private sector to increase overall environmental testing capacity. Under the Program, EPD will establish an independent EMC with a focus on gathering environmental monitoring data and

serving as the central body for analyzing environmental samples gathered by the division and district offices.

- The EPA's Planning and Coordination Section is properly staffed. The planning and coordination mandate is comprised of effective coordination with the provincial departments, Pakistan EPA, National Environmental Coordination Committee, and stakeholders. The Planning & Coordination section is responsible for issuing EPOs. EPOs issued by this section frequently were not adequate and ended up at the Environmental Tribunal (ET). In a large number of such cases, the ET ruled against the EPD due to trivial mistakes in the EPOs. The section's capabilities need to be improved through training on the subjects of planning, management, and coordination.
- **NEQS.** The federal government issued the NEQS (Self-monitoring and Reporting by Industry) Rule in 2001. Under the rules, all industrial units are instructed to submit the Self-monitoring and Reporting Tool (SMART) reports according to the requirements of industry categories in which their unit is placed. User-friendly software was developed for reporting the data in electronic form. The data so entered could be sent to the respective EPA through email or disk.¹⁸ The federal EPA was given the mandate of compiling, analyzing, and managing the data contained in the SMART reports with the objectives to enforce the NEQS and develop an environmental database.
- The response from industry is not encouraging. Out of 8,000–10,000 industrial units, less than 150 are registered and reporting under the SMART program at the country level. Most of the SMART reports were submitted by industries belonging to four sectors, that is, oil and gas, chemical, pharmaceutical, and power generation. Pakistan's major industrial sectors, such as textile, sugar, and leather are weakly represented. The proposed program will monitor the SMART registration program.
- The major reasons behind the low level of participation from industry in the SMART program was the lack of trust between industry and the environmental agencies, lack of capability and capacity of the EPA, limited allocation of resources, and generally low level of enforcement of environmental legislation in the country. EPA officials are of the opinion that the effectiveness of the SMART program can be enhanced by taking following steps:
 - Fix realistic annual and long term targets
 - Intensify consultation with the industry associations
 - Disseminate success stories
 - Increase the user-friendliness of SMART software
 - Strengthen SMART cells in the EPAs
 - Increase financial allocation by the provincial government
- It is assessed on the basis of prevailing low level of PEPA 2012 enforcement, and unwillingness of stakeholders to implement SMART that the prospects for program implementation are low. It seems that the idea came before its time. The SMART program can become more meaningful if PEPA 2012 is effectively enforced, and stakeholders' implementation of environment and energy solutions improves.

¹⁸ Pakistan Environmental Protection Agency. "SMART: Self Monitoring and Reporting Tool Information Package." Ministry of Environment. Government of Pakistan.

- **Draft Punjab Environmental Policy (PEP, 2015).**¹⁹ PEP was prepared by the EPD with an expectation that it would provide “broad guidelines to Provincial Governments and Local Governments for addressing environmental concerns related to them and ensuring effective management, restoration, enhancement of environmental resources and ensuring their sustainable use.” Measures contained in the PEP for industrial environmental management are in line with the overall strategy for the province and include the following:
 - Wastewater discharge into any water surface body should be treated in accordance with the prescribed standards by the EPA.
 - Proper treatment facilities should be developed to dispose of toxic and hazardous wastes on payments by users.
 - Hazardous industries should be shifted from residential areas to IEs.
 - IEs should be developed and future expansion of industrial activity should be located in IEs.
 - IEs need to have CETPs properly designed and operated.
 - All industrial units must install in house wastewater Treatment Plants and air pollution control system.
- **Directorate of Land Reclamation - Punjab (DLR).** DLR works under Irrigation Department of Punjab. DLR publishes the annual ‘Surface Water Quality Monitoring in Punjab Report’. The report is based on annual testing of surface water at strategic locations and establishes the suitability of surface water for different uses. DLR also published the ‘Atlas of Surface Water Industrial and Municipal Pollution in Punjab’ in 2008. The atlas categorized industrial effluent into fit and unfit to discharge categories on the basis of pollution loadings. It also provided a roughly estimated quantity of effluent discharged at the industrial unit level. DLR has well established infrastructure for surface water monitoring. Engaging DLR in the program will provide access to a large set of data on the ambient quality of surface waters in Punjab. This will be highly useful for establishing hot spots of industrial pollution and ambient environmental standards for Punjab.
- **ICID.** ICID has not established an Environment Section. Functions of the Industry Department include the management of IEs. In this regard, existing and future CETP projects come under its mandate. Future environmental compliance and improved environmental health of water bodies predominantly depends on the construction of CETPs in the IEs and other informal industrial clusters. It is proposed that the Industry Department collaborates with the EPA for periodic environmental monitoring, and preparation, development, and implementation of proposed SFs for IEs. In addition, the key officials of the Industry Department need to be trained on environmental issues.
- **Local governments and WASAs.** The local government can play a very important role in managing local environmental issues of SMEs. At city level, water and sanitation agencies are natural candidates for the implementation, and operations of CETPs for municipal wastewater treatment. Such agencies have not implemented any CETP in any Punjab city. A substantial amount of pollution is contributed by municipal sources. Municipal water also provides opportunities for dilution of industrial wastewater, which can help to decrease the cost of treating the industrial wastewater. The dilution potential as a function of treatment can be best achieved by promulgating ambient standards.

¹⁹ Available at <http://epd.punjab.gov.pk/system/files/Draft%20Punjab%20Environment%20Policy%202015.pdf>.

Industry Development and Management Companies

- GoPunjab has also established three IE management companies, that is, the Punjab Industrial Estates Development & Management Company (IEDMC), Faisalabad IEDMC, and Punjab Small Industries Corporation (PSIC). Boards of these companies are chaired by industrialists and membership is distributed among public and private sector representatives. In addition, voluntarily industrial firms have formed associations to support their members on a number of issues. Related to this Program, three such associations – the Chamber of Commerce and Industry (CCI), STAGL, and the Brick Kilns Owners Association of Pakistan – have actively participated in Program preparation and will also be actively participated in Program implementation. A brief introduction of the PSIC and these three associations is provided in the following sections.
- **PSIC.** The PSIC was established in 1972 with the mission “to promote, sustained industrial development through provision of market driven credit, infrastructure and technological support contributing to employment generation, poverty alleviation and socio-economic uplift of the province.”²⁰ GoPunjab has used the PSIC promote the development of small and medium enterprises (SMEs) in the province through its various schemes. PSIC has been proactively promoting modernization, technology upgrades, quality improvement, and exports for SMEs. Under the Program, PSIC will help the ICID to work with the EPD to promote green investments in SMEs.
- **CCI.**²¹ CCI has been serving as a bridge between the private sector and the Government on concerns of the private sector. At the federal level, there is a Federation of Pakistan CCI (FPCCI), playing “an active role in presenting problems of trade, industry and environment and safeguarding the interests of the private sector through constant dialogue with the Government.” It has “voiced the collective opinion, concern and aspiration of the private sector and offered helpful advice and solid assistance to the Government in its efforts to promote exports, encourage foreign investment and stimulate economic activity in the country.” FPCCI has a head office in Karachi, a capital office in Islamabad, and three regional offices in Lahore, Peshawar and Quetta. FPCCI has under its umbrella, 220 Trade Bodies (59 CCIs, 14 Women’s CCIs, 8 Chambers of Small Traders, 2 Associations of Small Traders, 5 Joint Chambers of Commerce & Industry, 132 all Pakistan Associations, representing Industry, Trade and Service sectors).
- In Punjab, there are twenty CCIs at its major cities and one Women Chamber in Lahore. With similar missions, these CCIs provide their members opportunities of interacting with government officials and other business owners, articulate their members’ interests and concerns to the government, and perform analytical and business promotion services to its members. During preparation, the Lahore and Sialkot CCIs and the Regional Office of the FPCCI have been consulted on the proposed Program design and implementation arrangements. These associations also expressed their strong support to the Program’s efforts to strengthen environmental governance and promote green investments, as well as their willingness to help their industrial members to pilot, demonstrate and adopt RECP technologies and improve their environmental performance.
- **Sialkot Tanners Association Guarantee Limited (STAGL).** As noted, STAGL is the umbrella organization representing the 250 Tanners in Sialkot, Punjab, charged with the specific

²⁰ <http://www.psic.gop.pk/index.php/about>.

²¹ <http://fpcci.org.pk/profile.php>.

responsibility of developing, operating and maintaining the STZ. STAGL was established as a special initiative of the Sialkot Tannery Association and Government of Punjab. It was established under the Company's Act 1984, on 24/06/2004, as a nonprofit organization to develop the STZ through a PPP arrangement with GoPunjab. It has received support from the GEF grant of US\$3.33 million for the design and construction of the STZ (including environmental, social and climate assessment, land-use planning, waste management plan, CETP design, the construction of the first phase of CETP, waste management plan, RECP training etc.), an interest free loan of US\$3.8 million from GoPunjab (for land acquisition), and a US\$4 million grant from the Ministry of Construction (for the construction of the second phase of CETP) and contributions of tanners (road/water infrastructure, on-site sanitary landfill etc.) to construct the STZ.

- STAGL developed the STZ as meeting environmental compliance standards has been very challenging for its member tanners. Individual tanners are incapable of setting up the appropriate effluent treatment and other waste management systems and to develop the necessary infrastructure related to pollution control. Due to limitations of space, even Sialkot tanners able and wanting to modernize and become more efficient in terms of cleaner production and environmental management, are unable to implement the necessary measures. The present situation where tanners are spread throughout the city of Sialkot has therefore become a serious constraint for the growth of the industry.
- STAGL reported that leather export of Pakistan's regional competitors like **China, India and Bangladesh** has jumped considerably in recent years while that of Pakistan has continued declining. For instance Bangladesh, China and India all have witnessed a growth of 102%, 47 % and 40 % respectively over the last 5 years, according to Pakistan Tanners Associations (source: Pakistan Leather Competitiveness Improvement Programme funded by European Union). In addition, India's leather export amounted to U.\$5.6 Billion in the year 2014, compared to 2.6 Billion in the year 2005. On the other side, according to representatives of the Pakistan Tanners Association, Pakistan's export peaked in 2014-2015 to about \$1.28 billion but has since been decreasing mainly associated with importing countries and buyers' concerns over environmental performance of Pakistani tanners.
- This decline of Pakistani export is linked to the trend of continuous tightening of environmental compliance in international markets. For EU imports, Pakistan received its GSP+ status in January 2013. This GSP+ grants Pakistani exports full removal of tariffs of EU tariff. To benefit from the GSP plus, Pakistan must ratify and implement 27 international conventions (15 relating to Human rights and labor rights, 8 relating to environmental and 4 relating to governance compliance). Meanwhile, most EU makers of leather products with a global brand, inter alia, gradually insisted on buying their leather from sources that comply with the LWG Protocol and REACH requirements, and are willing to pay a premium for it. The LWG philosophy for the leather manufacturers are required to be accessed via the LWG Auditors and the suppliers must meet environmental, energy, OHS standards, chemical consumption, zero liquid discharge (ZLD) protocols and to achieve a rating of Gold, Silver, Bronze or Audited.
- As of January 2018, the STZ is partially completed, with the following items completed: land acquisition, land-use planning, climate and social assessment, EIA, CETP design (being internally reviewed by UNIDO), basic road construction, and full allocation of STZ lots. The procurement of the CETP is expected to start after the review. STAGL will receive the following support from the Program: (a) the construction of a grid connection station in STZ, (b) the construction of STZ's wastewater collection system, (c) the construction of the training center with a focus on RECP

technologies and OHS for the leather sector, and (d) financial incentives for tanners to transfer their production to STZ according to agreed schedules.

- **Brick Kiln Owners' Association of Pakistan.**²² "The Brick Kilns Owners Association of Pakistan started working since the creation of Pakistan. Association exists in all four provinces. Governing body of the association comprised of President, Vice President, General Secretary, Finance Secretary, Core Committee and other members. Regional Offices comprised of Regional Office Central Punjab, South Punjab and North Punjab and one regional office in each province." Its main objectives are to (a) protect rights of Employers and workers; (b) promote legislation as per the ground realities of Brick Kilns sector; (c) eliminate Bonded Labor from the Sector; (d) promote model kilns; (e) promote model Contract between employee and employer; and (f) provide of better environment for men, women and children. Currently its efforts focus on (a) the elimination of Bonded Labour stigma from the sector and support anti-slavery measures with the help of the government and international organizations; (b) amendments in legislation of Bonded Labour Act and Factory Act 1934 according to ground realities; (c) strengthening "RIGHT AID" to address key issues regarding Brick Kiln Sector; and (d) modernization of the sector. The association has been very actively in supporting the pilot of the new kiln technology in Punjab and is looking for the EPD's support to promote further pilot and demonstration of new kiln technologies

Performance Assessment of Environmental Institutions

- Environmental governance in Punjab has so far gone only marginally beyond preparation of legislation and policies and establishing environmental institutions. Generally, the reasons are: overall poor governance in the province, fluctuating business performance of its industries, still low level of societal demands for better environmental quality, and low level of capacity of environmental agencies for the enforcement of environmental laws. More precisely for NEQS compliance, reasons for poor enforcement of PEPA 2012 are no enforcement of pollution charge rules and Punjab Social Development Fund (PSDF), and PEPA 2012 does not provide legal cover to RECP, which is the mainstay for compliance with the NEQS for toxic metals, air pollutants, hazardous waste and occupational health and safety.
- Regarding an EIA/IEE, the EPA is relatively successful in the enforcement of applicable rules. At present, most of the proponents of new projects prepare the EIA/IEE reports to secure NOCs from the EPA. However, absence of follow-up monitoring is one of the most important reasons behind the low level of implementation of the EIA/IEE reports. Multilateral and bilateral institutions such as the Bank, Asian Development Bank, U.S. Agency for International Development (USAID), and United Nations Development Programme have contributed positively in promoting the culture of an EIA/IEE in the country.
- Although a lot of effort has gone into the dissemination of environmental information and training of government institutions in the last ten years, gaps still exist. Under this Program, **DLI 2: Disclosure of Environmental Information** is introduced to help address this gap.
- **EPD Restructuring.** The following activities are to be included in Project Concept-2 for the wholesale re-structuring of the EPD. As part of the Program, these activities are expected to be completed by the first three years of Program implementation.

²² <http://www.bkoa.com.pk/>.

- Creation of an Environmental Monitoring Center (EMC) to be in charge of environmental quality monitoring and analysis tasks. EMC will be also responsible for process environmental quality data, and environmental quality modeling.
- Creation of an Environmental Technology Center (ETC) to support the identification and pilot of RECP and pollution control technologies that have the potential of being adopted in Punjab. Based on pilot results, ETC will provide technical support to help industrial sectors adopt proven technologies at a large scale.
- Creation of an Environmental Policy Center (EPC) to study environmental policy and strategic issues and support support the EPD and GoPunjab to make sound decisions.

Creation of the Environmental Endowment Fund (EEF) to provide long-term financing for environmental protection initiatives such as technology pilots, policy study, citizen engagements etc.

- Strengthening the Strategic Planning and Implementation Unit (SPIU) from currently two to three staff to a total of 24 project management staff members to support EPD to design and implement projects financed by donors, including this proposed Program.
- Adjust EPD internal units based on findings of the Restructuring Study sponsored by the Bank's Job and Competitiveness Program (P155963).

Compliance with Other Standards: Specific Pollutants, Air, and Solid & Hazardous Wastes

- In addition to treating common pollutants of wastewater, industrial firms and IEs will have to comply with standards for specific wastewater pollutants (toxic metals), air, solid waste, and noise.
- **Specific Wastewater Pollutants.** CETPs only treat common pollutants. Industry-specific pollutants will be treated and managed through the implementation of RECP technologies, pre-treatment and recycling measures. The most popular and successful method of compliance on a specific pollutant is the installation of chrome recovery plants (CRP) in tanners. CRP recovers up to 98 percent of the chrome from chrome liquor. The capital cost of CRP per plant is in the range of US\$15,000–US\$20,000. The payback period is in the range of 8–12 months. Similar technologies for recovery, treatment, and NEQS compliance of specific pollutants have been implemented by few industries. The Program will promote RECP technologies, pre-treatment and recycling practices at all STZ tanners in the IEs through implementation of the SFs. Details of the SFs are presented in the section on voluntary actions.
- **Air pollution.** RECP solutions will be promoted further under the Program for the targeted sector and the STZ. STAGL will be supported to make internal monitoring arrangements for the compliance of ambient environmental standards promulgated under PEPA 2012.
- **Solid and hazardous waste.** Provincial and city governments in Punjab have yet to establish well-functioning sanitary landfills at the city level. At present, not a single international standard facility is available in Pakistan for safely managing hazardous waste and e-waste. The following actions for the proper management of industrial solid and hazardous waste:
- Promote and implement technologies for reuse and recycling of hazardous waste within the industry
- Promote better occupation health and safety practices for handling hazardous chemicals and wastes
- Establish sanitary landfills for the STZ per its EIA requirements

- Establish hazardous waste and e-waste management facilities for Lahore and Faisalabad cities.
- The following capacity-building activities have been agreed to be supported under the Program:
- Preparation of studies for industrial hazardous waste management and safe disposal facilities for the major cities as an integral part of the Integrated Waste Management Strategy. Safe disposal of industrial hazardous waste and e-waste needs special facilities, which do not exist at present in the province. This proposed study will examine sustainable and viable options for management, including options for safe disposal of industrial hazardous waste for the major cities of Punjab.

Comparative Analysis of Borrower System and Bank Core Principles

Introduction

- This section provides an assessment of the extent to which the applicable systems are consistent with the core principles and key planning elements expressed in the Bank policy on PforR (OP 9.0). It also provides a review of aspects where gaps exist between the two.
- Generally, the applicable environmental and social management systems at the federal and provincial levels are considered to be appropriate and comprehensive with only a few gaps in relation to the principles of the ESSA. The scope of the legal and regulatory systems is adequate to address underlying environmental and social risks, therefore, no significant changes to the overall structure of these management systems are required or proposed. The results of the comparative analysis are presented below and details of the analysis are presented in Annex 1.

Core Principle 1

- Environmental and social management procedures and processes are designed to (a) avoid, minimize, or mitigate against adverse impacts; (b) promote environmental and social sustainability in program design; and (c) promote informed decision making relating to a program's environmental and social effects.

1.1 Bank program procedures are backed by an adequate legal framework and regulatory authority to guide environmental and social impact assessments at the programmatic level

- The current environmental and social legal system of Punjab and Pakistan supports the environmental and social assessments of projects under the mandatory requirement of conducting the EIA of the proposed project. The main act related to the EIA in Punjab is PEPA 1997 (amended 2012) which is a fairly comprehensive legislation and provides a legislative framework for protection, conservation, rehabilitation, and improvement of the environment. However, the capability of regulatory institutions for environmental and social monitoring is considered to be low which results in low integration of environmental and social assessment during implementation of projects.

1.2. Incorporate recognized elements of environmental and social assessment good practice, including the following:

1.2a Early screening of potential effects

- A screening process is in place based on provisions in Schedules I and II of Review of IEE and EIA Regulations, 2000. The guidelines for preparation and review of the EIA report specify the scoping of important issues at an early stage.
- For early screening of projects, focused is limited towards social risks and impacts. Although the list of subprojects allows for environmental screening of projects that can be key national works, there are no clear guidelines for screening with reference to the social aspects.

1.2b Consideration of strategic, technical, and site alternatives (including the 'no action' alternative)

- The guidelines for preparation and review of environmental reports under section 2.6 mandates the analysis of different alternatives including the 'no build' option. There is often a high degree of reluctance to critically evaluate alternatives from an environmental and social point of view

or to carry out any significant modifications to project location or design at this stage. Although the site alternatives are required to be assessed before finalizing site selection, it has been observed that this analysis is mostly done in retrospect to justify the site already selected, without actual consideration of the environmental and social aspects.

1.2c Explicit assessment of potential induced, cumulative, and transboundary impacts

- Most IEEs/EIAs are conducted for site-specific spot analyses. Determination of cumulative environmental impacts is not covered by the scope of IEE/EIA. Data on ambient conditions such as status of air pollution and pollution levels of receiving water bodies are collected under the IEE/EIA, and impacts are determined for immediate surroundings. However, occurrence of cumulative impacts using air and water pollution dispersion modeling is not determined. The determination of Cumulative impacts is important for the activities proposed under the program.

1.2d Identification of measures to mitigate adverse environmental or social impacts that cannot be otherwise avoided or minimized

- The guidelines for the preparation and review of environmental reports include the assessment of environment, social, health, economic, and fiscal impacts under sections 3.7 to 3.9. Similarly, the sectoral guidelines for IEs issued by the EPA also specify the mitigation of environmental and social impacts, including compliance with the NEQS and addressing social inequities. Procedures for assessment of environment and social impacts are in place for development projects, however, actual implementation is usually only partial. Recommendations are provided in the reports but their implementation is limited to projects financed by multilateral and bilateral institutions only.

1.2e Clear articulation of institutional responsibilities and resources to support implementation of plans

- Institutional responsibilities and resources for preparation, implementation monitoring, and inspection are clearly spelled out by relevant regulations (PEPA 1997 and PEPA 2012, Review of IEE/EIA Regulations, 2000). The mandate for monitoring implementation of IEE/EIA lies with EPA Punjab. The mandates for land acquisition and PCR have been vested with the BoR and Archeology Department, respectively. The mandate for implementation of labor laws is delegated to the Labor Department. The EPD's capability for post-NOC monitoring is limited.

1.2f Responsiveness and accountability through stakeholder consultation, timely dissemination of program information, and through responsive grievance redress measures

- Public consultation with relevant stakeholders, local authorities, representatives of communities and organizations directly affected by projects is required (Guidelines for Public Consultation). Public consultation generally is better in projects financed by multilateral and bilateral institutions. A complaint cell is active at EPA Punjab to address complaints by communities related to environmental and social aspects. GRMs are absent at program and policy level, where the only recourse is through the courts. GRMs are only implemented at the project level.
- Although the timing and techniques for consultations are clearly stated in the guidelines, generally public consultation is carried out at two stages—during the socioeconomic and inventory surveys at the baseline data collection stage of the EIA and at the public hearing for the processing of EIA reports. GRMs need to be established at the program level as well as in the project areas, including IE's.

Core Principle 2

- Environmental and social management procedures and processes are designed to avoid, minimize, and mitigate against adverse effects on natural habitats and physical cultural resources resulting from the program.

2.1 Takes into account potential adverse impacts on physical cultural property and, as warranted, provides adequate measures to avoid, minimize, or mitigate such effects.

- The Pakistan Antiquities Act of 1975 was adopted by Punjab in 1985. The Antiquities Act 1975 only focused on conservation of monuments, whereas the Punjab law also includes conservation of the area surrounding it. The site screening guidelines with respect to historical sites are provided in the sectoral guidelines for IEs issued by the EPA as a part of EIA procedures.
- Most governmental agencies are not aware of the act and ignore it during the planning process. A recent example of its use is the Orange Line Metro project currently being planned in Lahore in close proximity to the historic Shalimar Gardens. Such a design was challenged all the way to the Supreme Court, which allowed GoPunjab to continue the project but with 31 conditions to ensure the project's transparency and mitigate its potential environmental impacts.
- As noted above, no procedures are available to share with construction companies/projects. However, under the law, chance finds should be reported to the Archeology Department within seven days. If ruins are discovered, then all construction work must be stopped. The department then conducts a site assessment.

Core Principle 3

- Program procedures ensure adequate measures to protect public and worker safety against the potential risks associated with (a) construction and/or operations of facilities or other operational practices developed or promoted under the program and (b) exposure to toxic chemicals, hazardous wastes, and otherwise dangerous materials.

3.1 Supports and promotes the conservation, maintenance, and rehabilitation of natural habitats; avoids the significant conversion or degradation of critical natural habitats, and if avoiding the significant conversion of natural habitats is not technically feasible, includes measures to mitigate or offset impacts or program activities

- The protection of natural habitats and sensitive biodiversity areas is covered under IEE/EIA guidelines in line with the best international practices and protocols. The IEE/EIA covers the profiling of natural habitats, flora and fauna species, national parks, important ecological areas, and impacts on downstream fresh water bodies. An impacts matrix of project components and activities during construction and operational phases of projects, including mitigation measures, is an essential part of an IEE/EIA. The EIA conducted for STZ proposed by STAGL cover these aspects in detail, with recommendations partially implemented.
- Under PEPA 2012, the Green Building and other green investments proposed in the program by the EPD, the required IEEs/EIAs will be prepared.

3.2 Promotes community, individual, and worker safety through the safe design, construction, operation, and maintenance of physical infrastructure, or in carrying out activities that may be dependent on such infrastructure with safety measures, inspections, or remedial works incorporated as needed.

- This is addressed in the EMP, which is an essential part of an IEE/EIA. The IEE/EIA for an IE covers safe design, construction, and O&M for the whole project, including infrastructure, layout, land acquisition, community safety, and so on. Independent assessments are required for each industrial unit and building. Industry- and building-specific IEEs/EIAs cover community, individual, and worker safety in detail at each stage of project implementation. That said, implementation of the EMPs for IEs and specific industry units and buildings is generally limited.

3.3 Promotes the use of recognized good practice in the production, management, storage, transport, and disposal of hazardous materials generated through program construction or operations; promotes the use of integrated pest management practices to manage or reduce pests or disease vectors; and provides training for workers involved in the production, procurement, storage, transport, use, and disposal of hazardous chemicals in accordance with international guidelines and conventions.

- The federal government promulgated the Hazardous Substances Rules 2003. These rules instruct the proponent of a project to adopt good production practices, management, storage, transport, and disposal of hazardous materials generated through program construction or operations and provide training for workers involved in the production, procurement, storage, transport, use, and disposal of hazardous chemicals in accordance with international guidelines and conventions. The DG of the EPA indicated that they are planning to review the rules based on the conditions in Punjab. In this regard, a diagnostic has been proposed by this program to be conducted by the EPA. Implementation is limited and the proposed program is designed to increase the capability of the EPA in this regard. The EIA conducted by STAGL for the STZ covers these issues in detail.

3.4 Includes measures to avoid, minimize, or mitigate community, individual, and worker risks when program activities are located within areas prone to natural hazards such as floods, hurricanes, earthquakes, or other severe weather or climate events.

- STAGL has prepared with UNIDO support a Climate and Social Assessment Report with these aspects fully covered satisfactorily. The Report has detailed proposals on hazards management, land use management, industrial adaptation, environmental management, and social adaptation. In addition to actions that will be implemented by the STZ and its tanners, STAGL is working closely with the District Disaster Management Authority on a number of actions that will need government support, such as the development a safe flood shelter in the vicinity of the STZ and a flood warning system.

Core Principle 4

- Land acquisition and loss of access to natural resources are managed in a way that avoids or minimizes displacement, and affected people are assisted in improving, or at least restoring, their livelihoods and living standards.

4.1 Avoids or minimizes land acquisition and related adverse impacts

- The main legal tool used for land acquisition in Punjab is LAA 1894 and Punjab Land Acquisition Rules of 1983. Rule 4 states, "On receipt of the application under Rule 3 the collector of the district shall examine its feasibility taking into consideration the genuineness of the public purpose involved, the minimum requirements of the acquiring agency, and suitability of the area proposed for requisition keeping in view its alternative uses if any." However, performance in this regard varies and needs significant improvement.

4.2 Identifies and addresses economic and social impacts caused by land acquisition or loss of access to natural resources, including those affecting people who may lack full legal rights to assets or resources they use or occupy

- LAA 1894 has clear provisions and procedures for compensation in this regard when it comes to land titleholders under its Sections 23 and 24. However, it does not cover non-titleholders. Social and legal issues have been reported in IEs related to land acquisition by the PIEDMC (Apparel Park), M3 (FIEDMC), and PSIC (Gujrat). Most cases are related to the determination of compensation rates. The use of Section 17 under LAA leads to further issues due to emergency acquisition of land without prior public consultation.
- Compensation to non-titleholders apparently has been made though special provisions created for the Metro Bus Projects in Lahore and Rawalpindi. This has set a good precedent for future interventions. Similarly, the PIEDMC has also reported that in some cases payment to non-titleholders was made to remove project implementation bottlenecks.

4.3 Provides compensation sufficient to purchase replacement assets of equivalent value and to meet any necessary transitional expenses, paid prior to taking of land or restricting access

- According to LAA 1894, compensation is paid for all assets at market value rather than replacement cost. The market value is determined by the DPAC. The process for the determination of market price relies on recent land sale transactions of similar nature in the nearby area. The market rates are also notified by the relevant deputy commissioner on an annual basis. Most of the legacy issues of the IEs are related to the market value determination of affected assets and lands.

4.4 Provides supplemental livelihood improvement or restoration measures if taking of land causes loss of income-generating opportunity (for example, loss of crop production or employment)

- Livelihood restoration is not emphasized in LAA 1894 or Rules of 1983, which is a major gap.
- The land acquisition process for Metro Bus Projects in Lahore and Rawalpindi included additional provisions for loss of business and project-affected people were provided a loss of business allowance. This practice needs to be adopted on a formal level.

4.5 Restores or replaces public infrastructure and community services that may be adversely affected

- Public infrastructure is normally relocated by the relevant department.

Core Principle 5

- Due consideration is given to cultural appropriateness of, and equitable access to, program benefits, giving special attention to rights and interests of indigenous peoples and to the needs or concerns of vulnerable groups.

5.1 Gives attention to groups vulnerable to hardship or disadvantage, including as relevant the poor, the disabled, women and children, the elderly, or marginalized ethnic groups. If necessary, special measures are taken to promote equitable access to program benefits.

Indigenous Peoples/Ethnic Minorities

- Indigenous peoples are not found in Punjab; therefore, this aspect is not applicable to the program.

- There is no clear reference to vulnerable people in LAA 1894 or Rules of 1983 and hence no specific provisions exist.
- Exhaustive legal provisions on labor have been enacted in Pakistan and adopted by the government of Punjab as discussed elsewhere in this report. There is a need to enhance the participation of women as workers in IEs, which is only possible if positive measures are taken to provide a secure environment and safe transport. Pakistan acquired the status of EU's GSP+ which allows increased access for some categories of Pakistani products by allowing duty-free exports to EU markets from January 1, 2014. GSP+ requires ratification and compliance of 27 international conventions including 8 core labor standards of the ILO. The process of implementation of these Labor Conventions under GSP+ is currently slow and needs to be expedited.

Core Principle 6

- Avoid exacerbating social conflict, especially in fragile states, post-conflict areas, or areas subject to territorial disputes.

6.1 Considers conflict risks, including distributional equity and cultural sensitivities

- Local cultural and sensitivity issues are covered under requirements of environmental assessments, especially in projects financed by the Bank and other multilateral and bilateral institutions. There are currently no formal GRMs in IEs. There is a complaint cell in the EPA and informal systems exist. There is no formal system of public information sharing with local communities in existing estates.

Stakeholder Consultation

Introduction

- This section of the ESSA highlights the ESSA consultation process, elaborating on the participatory approach, stakeholders consulted, and major inputs and recommendations from the key stakeholders.
- Stakeholder consultations were an integral part of the Program preparation process, including the preparation of the ESSA, and were carried out keeping in view similar principles and objectives of other Bank operations. On Program design, such efforts include (a) a Solutions Workshop on September 14 and 15 to enable stakeholders to review the province's key environmental challenges and their negative impacts, identify Program priorities and actions needed, and design a Program concept, including its development objective and scope; (b) multiple rounds of discussions with relevant stakeholders between September 2017 and February 2018 to refine program design and implementation arrangements; and (c) a consultation on February 9, 2018 to seek stakeholders' comments on the final Program design and implementation arrangements.
- On ESSA consultation, the Bank team engaged with various stakeholders, including meetings with implementing departments, civil society, consultants involved in similar exercise and otherwise. The tools included one-on-one meetings, video conferences and email exchanges. **The Bank also sponsored a multi-stakeholder workshop in Lahore on February 16, 2018 to review the draft of this ESSA and overall Program design.** Participants included a range of stakeholders from the government, international organizations, academia, private sector, industry representatives, local government, and civil society. Details in the following section.

Summary of ESSA Consultation Workshop

- Participants included 40 professionals from a range of stakeholders: government, international organizations, academia, private sector, local government, and civil society. Participants expressed their overall support to the proposed Program and presented their concerns/recommendations mostly on the implementation arrangements of the Program. In addition, they concerns over many aspects of the program. They showed confidence that if the program is implemented as designed and stakeholders are kept in the loop, then the program will make substantial contributions to the achievement of effective pollution reducing strategies and reduction of pollution in the Punjab.
- Key concerns raised by the participants are summarized below. Annex 2 contains a summary of stakeholder comments and Bank team responses, and Annex 3 provides a list of participants.
- Participants sought clarifications on a clear overarching strategy and rationale for the selection of industries/sectors and investments to be supported by the program. For example, participants wondered why the biggest polluting industries such as the steel industries and large agricultural farms were not selected in the program.
- Participants sought clarifications on the scope and design of the various funds that would finance various investment types, such as the Environment Endowment Fund, the Energy

Efficiency and Conservation Program and the RECP Pilot technologies fund as there are not yet defined. They are looking forward to more information on these funds during implementation.

- Participants stressed that sectors not included in the program, should not be excluded from the funds piloting new technologies.
- Punjab already has an existing complaints hotline, and advised that the program should build its grievance redress mechanisms on the backbone of the existing system.
- The issue of substandard fuels with respect to vehicle emissions was another issue the participant's wanted the program to address.
- Program steering committee should have representation from civil society.
- Gender issues were found to be absent in the current design, and needed to be better mainstreamed into the overall program design.
- The Bank responded to the concerns raised during the consultations by informing the participants that the proposed program is the Bank's first direct investment operation in the environment sector in the Punjab. Recognizing the sheer size, scale and complexity of the root causes of pollution and the realities of the political economy, there was need for the Bank's support in this sector to be based on incremental, step by step and probably sequential approach over the medium to long term and proportional to the Government's ability to manage the program's risks satisfactorily. Also, restructuring of the EPA/EPD which is being supported by the proposed program, is a necessary first step which the government supports.
- The ESSA has reflected concerns raised and incorporated suggestions both in the ESSA itself as well as in the more substantive recommendations and proposed actions in the overall Program document.

Recommendations and Proposed Actions

Introduction

- This section includes a summary of the key measures that need to be taken during implementation for social as well as environmental aspects. In a broader context, measures are recommended to help the proponents improve their system performance and recommendations and to address important gaps between the proponent's systems and the PforR core principles and key elements.
- These recommendations and proposed actions are focused on institutional strengthening with regard to capacity and human resources, development of SOPs and improved enforcement of the regulatory framework and guidelines, undertaking of technical studies. The recommendations and proposed actions are described in detail in the following paragraphs.
- As an integral of preparation efforts, several recommendations of the ESSA have been incorporated into the Program design and implementation arrangements. Additional ESSA recommendations are included in the PAP of the PforR. The recommendations are summarized in the following sections under two categories, that is, (a) the recommendations which are mainstreamed as a part of the Program design and (b) recommendations which are included in the PAP.

ESSA Recommendations Mainstreamed in the Program Design

- The Program is being designed to reform the regulatory regime, restructure the EPD and strengthen the capacity of EPD and other departments. Measures to address potential social risks have been integrated into such activities. Especially the Program will support EPD to restructure its organizations, increase in staffing, improve its policy instruments, and administrative procedures based on recommendations of the Restructuring Study supported by the Bank's Job and Competitiveness Program. On the policy side, the Program will assist EPD to design newer and improved environmental regulations and standards.
- Based on the ESSA, the restructured EPD is required to provide adequate human resources to manage social issues of the Program activities. EPD has agreed to establish the Unit under SPIU with a gender specialist, a social safeguards specialist, and a labor specialist.
- A capacity-building program is required for the EPD and other departments (including Energy, Finance and Transport Departments) on the government regulations on environmental laws and social management principles (including labor, OHS, compensations, gender, inclusion, citizens engagement, etc.). Based on the training, a social focal point shall be appointed in Energy, Finance and Transport Departments and be mandated to (a) coordinate and assist with land-related aspects; (b) labor- and gender-related issues and maintain an effective liaison with the DVCs and the Women Development Department; (c) ensure community consultation and implement safeguards related to vulnerable people; (d) operationalize the GRM setup; (e) implement the public communication strategy; and (f) liaise with the EPD on social issues. To help identify social issues, the Program will develop a simple social screening criteria and screen investment activities under the Program for social issues at early preparation stages of such activities.
- As EPD's capability for post-NOC monitoring is limited, the Program shall support the EPD to improve its capacity on post-NOC environmental and social monitoring. Particularly, the P&C

Unit of EPD will be strengthened to oversee effective complains registry, response and resolution.

- The implementation of social screening at early stages of investment planning and the assessment of alternatives with respect to E&S aspects needs to be strengthened at the project concept stage (maybe as part of PC-1). Although the site alternatives are required to be assessed before finalizing the site selection, it has been observed that this analysis is mostly done in retrospect to justify the site already selected without actual consideration of the environmental and social aspects.
- For the purposes of this Program, the EPD will develop a comprehensive stakeholder consultation and engagement strategy, focusing on:
 - Citizens engagement for responsiveness, accountability and quality assurance; beneficiaries feedback and participatory audits to be piloted in partnership with Finance Department
 - Timely dissemination of program and sub-project information
 - Effective, relevant and practical GRM for the entire Program
- Full consultation of stakeholders as part of policy/standard development process, to be required to analyze and agree upon best available techniques and best environmental practices in Punjab, the country and the region.
- SOPs, including chance finds, need to be developed and implemented. Site survey needs to be done at selected green building and low-cost wastewater treatment sites. Contractors for industrial units and other infrastructure need to be trained on the implementation of the EMPs. Procedures for chance finds should be followed. In this regard, the EPD needs to develop and implement partnership with the Archeology Department for screening of extension.
- STAGL has provided a signed guarantee and affirmation from all tanners that they agree with this relocation project, and are willingly to move voluntarily without any grievance and duress, with full consent.
- In case of information disclosure, the Program will support the EPD to develop information disclosure and citizen engagement platforms. The EPD will need to ensure these platforms are accessible to the most vulnerable and marginalized groups and communities. Similarly in case of pilots on RECP and wastewater treatment technologies, preference will be given to areas with lower human development indices, slums and areas housing marginalized groups. The EPD and ICID will ensure that distributional equity is scored for in these investments.
- In the enforcement of labor laws, the Department of Labor and all implementing partner departments/private sector entities (STAGL) will work in close collaboration. The EPD will liaise closely with the existing DVCs on bonded labor focusing on the brick kiln industry, and the district labor officer to monitor and help create the conditions for the enforcement of existing labor laws. In particular, the implementing partners will ensure that laws related to women's working conditions are carefully enforced. Each partner will also undertake initiatives to ensure a greater participation of women in the labor force. This will include provision of safe and reliable transport facilities for women workers and establishment of childcare facilities. Workable models of childcare such as those recently introduced by the Punjab Women Development Department will be assessed for technical, economic, and social viability and implemented at each premises. Such measures will ensure that partners support an employment environment that is in line with labor laws and, especially, conducive to

encouraging the employment of women. Working conditions will be monitored by the labor cell, EPD, in collaboration with the Departments of Labor and Industries.

- EPD will develop and implement a communication strategy focusing on all of the above recommendations under the Program. Communications needs to be carried out through multiple channels in both English and Urdu to ensure that all segments of the population, in particular vulnerable groups, will receive proper Program information in a timely manner.
- Whenever applicable, all public and private entities will be required to either buy land through a willing buyer-willing seller arrangement or develop SOPs for acquisition of land in line with the principles of the ESSA. If private land acquisition is needed, the PforR will support the development of land acquisition and compensation procedures for related Program activities such as the low cost water treatment pilot. This will include the process for assessing land prices in line with market rates, compensation for assets and livelihoods for landowners, tenants, and non-titleholders. The key partners in this activity will be BoRs. However, they will be assisted by a social unit formed in the EPD, Industries, and Finance Departments. The Units will spearhead the development of SOPs in close collaboration with the BoR and assist in the application of procedures in case of land acquisition for public infrastructure/industrial development projects. Moreover, the Program will achieve this in close coordination with another WB Project on Jobs and Competitiveness in Punjab.

ESSA Recommendations for Program Action Plan

- During the preparation and appraisal process for the PforR, specific agreements will be made with program counterparts on including these recommendations as core elements of the Program Action Plan (PAP). The recommendations and proposed actions are described in Table 6 below.

Table 6: Program Action Plan to Manage E&S Effects and Risks

Scope	Proposed Activity	Management Action	Responsible Institutions	Costs (\$m)
Improved Environmental Governance	Re-structuring and capacity building of the EPD	Completion of the EPD restructuring plan Preparation and implementation of a capacity assessment and strengthening plan including that for responding and managing social issues.	EPD/P &D	87
Enhancing the Environmental Legislative Framework	Review of the existing legislative framework and preparation of a list and drafting of new rules, regulations and guidelines and plan for enacting them.		Directorate of Environmental Law, Policy and Regulation/ EPD	6

Scope	Proposed Activity	Management Action	Responsible Institutions	Costs (\$m)
Land acquisition	Green building and low cost wastewater treatment pilots	SOP, as explained in para 317 of this document, will be designed, which will include procedures for chance finds	EPD	*
Labor issues	Green investments focusing on safeguarding labor health and safety	Monitoring and enforcement	EPD and the Labor Department	*
Closed tanner sites	Site rehabilitation and environmental clean up	Environmental Management Plan	Tanners/ EPD	*
STZ	CETP, on-site sanitary landfill, adoption of RECP technologies	Environmental Management Plan; LGW and REACH compliance	STAGL/EPD	*
Energy efficiency investments in public institutions	Replacing energy inefficient light bulbs and electric fans from public institutions	Environmental management Plan; To use licensed hazardous waste operators to safely handle, transport and dispose of identified hazardous wastes.	EPD	
SPIU in EPD will lead coordination and will management of the E and S risks	Set up a social unit; Organize a training program on social issues for concerned line departments	Dedicated Environmental and Social Specialists to be assigned to manage program risks	EPD	*
Environment Endowment Fund (EEF) Pilot/demonstration of RECP Technology Investments	Small scale investments to support R &D, pilot RECP demonstration technologies and environmental awareness programs.	Investments with significant adverse environmental and social impacts will not be eligible for funding. Activities will be implemented incrementally to allow RECP technologies be fully tested in the first two years before scaling up. This will also allow EPD to have time to implement its restructuring and improve its capacity.	SPIU/EPD	50 for EEF; 58 for RECP investments

* Costs budgeted in respective investment activities.

Annex 1: E&S Assessment and Action Plan Summary

Core Principle 1: Environmental and social management procedures and processes are designed to (a) avoid, minimize, or mitigate against adverse impacts; (b) promote environmental and social sustainability in program design; and (c) promote informed decision making relating to a program's environmental and social effects.			
Key Elements	System Requirements	Key Findings	Recommendations
1.1 Bank program procedures are backed by an adequate legal framework and regulatory authority to guide environmental and social impact assessments at the .	<p>The current legal system of Pakistan supports the environment and social assessments of projects as a component of the EIA. The main act related to the environmental and social assessment in Punjab is PEPA 1997 (amended 2012) which is a fairly comprehensive legislation and provides a legislative framework for protection, conservation, rehabilitation and improvement of the environment.</p> <p>The 'environment' has been defined in the act as (a) air, water, and land; (b) all layers of the atmosphere; (c) all organic and inorganic matter and living organisms; (d) the ecosystem and ecological relationships; (e) buildings, structures, roads, facilities, and works; (f) all social and economic conditions affecting community life; and (g) the interrelationships between any of the factors specified in subclauses (a) to (f).</p> <p>The salient features of the law are:</p> <ul style="list-style-type: none"> • no proponent of a project shall commence construction or operation unless he has filed with the provincial agency designated by the provincial EPAs an EIA, and has obtained an approval; • establishment and formation of the PEPC; • prohibition of certain discharges or emissions; • NEQS for wastewater, air emissions, and noise; and • law also empowers the provincial government to 	<p>The capability of regulatory institutions for environment and social monitoring in Punjab is low which results in low integration of environment and social assessment at the implementation stage of projects.</p> <p>Specifically, EPD Punjab is low on staff to review EIA/IEE reports, and also lacks technical expertise for various sectors.</p>	<p>Given that this Program is being designed to restructure and invest into the capacity building of EPD, these limitations will be taken care of as part of the DLI's. Especially the Program will support EPD to restructure its organizations, increase in staffing, improve its policy instruments, and administrative procedures based on recommendations of the Restructuring Study supported by the J&C Program. On the policy side, the Program will assist EPD to design newer and improved environmental regulations and standards.</p> <p>However, there is a need to establish social and labor unit within EPD to work on social aspects with adequate human resources. A capacity-building program is required for the implementing agencies on the government regulations on social management principles (including labor, occupational health and safety, compensations, gender, inclusion, citizens engagement, etc.). Further SOPs are required on management of social issues.</p> <p>The agencies which for the least be targeted capacity-building program include:</p> <ul style="list-style-type: none"> • Finance Department

	<p>issue notices and to enforce them for the protection of the environment.</p> <p>The act was amended in 2012 under the 18th amendment which gives legislative power related to environment and ecology to the provincial governments from the federal government. The provinces are required to enact their own legislation for environmental protection. Other minor amendments include increasing the penalty cost for violations.</p> <p>Other legal instruments related to the environment and social assessment are as listed below:</p> <ul style="list-style-type: none"> • Pak-EPA Review of IEE and EIA Regulations, 2000 • EIA procedures by EPA including: <ul style="list-style-type: none"> ○ Guidelines for preparation and review of environmental reports ○ Guidelines for public consultation ○ Sectoral guidelines for IEs 		<ul style="list-style-type: none"> • Industries Department • HUD & PHED • Energy Department • Transport Department <p>A social focal point shall be based in each of these Departments and be mandated to (a) coordinate and assist with land-related aspects; (b) labor- and gender-related issues and maintain an effective liaison with the DVCs and the Women Development Department; (c) ensure community consultation and implement safeguards related to vulnerable people; (d) operationalize the GRM setup; (e) implement the public communication strategy; and (f) liaise with the EPD</p>
<p>1.2. Incorporate recognized elements of environmental and social assessment good practice, including the following:</p> <p>1.2a Early screening of potential effects</p>	<p>A screening process is in place based on provisions in Schedule I and II of Review of IEE and EIA Regulations, 2000. Schedule I lists the projects requiring the IEE and Schedule II lists the projects requiring the EIA based on thresholds specified in terms of type of project, cost, capacity, location, and so on.</p> <p>The guidelines for preparation and review of the EIA report specifies the scoping of important issues at an early stage. The guidelines specify scoping as “Scoping is a vital early step, which identifies the issues that are likely to be important during the environmental assessment and eliminates those that are not.” The identification of important issues</p>	<p>For early screening of projects, focused is limited towards social risks and impacts. Although the list of subprojects allows for environmental screening of projects that can be key national works, there are no clear guidelines for screening with reference to the social aspects.</p>	<p>The program should include a simple social screening criteria for the projects under the program. All projects will need to be screened at an early stage of project preparation. This will be made a part of this Program, as well as of EPD restructuring and capacity building so that the social screening becomes mainstreamed in all project concept stage screenings.</p>

	includes the social and economic aspects based on the definition of the environment.		
1.2b Consideration of strategic, technical, and site alternatives (including the 'no action' alternative)	<p>The guidelines for preparation and review of environmental reports under its section 2.6 mandates the analysis of different alternatives including the 'no build' option.</p> <p>Among different alternatives, locational alternatives often include an assessment of the present land use, social setting of the area, people to be displaced, number of structures affected, and distance of the IE from project population boundary. These social elements are specified in the sectoral guidelines for the IE.</p>	<p>There is often a high degree of reluctance to critically evaluate alternatives from an environmental and/or social point of view or carry out any significant modifications to project location or design at this stage.</p> <p>Although the site alternatives are required to be assessed before finalizing the site selection, it has been observed that this analysis is mostly done in retrospect to justify the site already selected without actual consideration of the environmental and social aspects.</p>	The implementation of the assessment of alternatives with respect to the environmental and social aspects needs to be strengthened at the project concept stage (maybe as part of PC-1).
1.2c Explicit assessment of potential induced, cumulative, and transboundary impacts	<p>Most of the IEE/EIA are conducted under spot analyses. Determination of cumulative environmental impacts is not covered by the scope of the IEE/EIA.</p> <p>International transboundary impacts are relevant to the project. However, international and interprovincial transboundary impacts of pollution are not yet identified by any of the provinces. Probability of such impacts is not known.</p>	<p>Data on ambient conditions such as status of air pollution and pollution levels of receiving bodies are collected under the IEE/EIA and impacts are determined for immediate surroundings. However, regular monitoring for occurrence of cumulative impacts under air and water pollution are not done. Also, information on transboundary impact is not known, although the conditions are the same across.</p>	Under this Program, Environmental Monitoring Center is being setup. However, provisions of cumulative impacts of air and water pollution should be made part of the project IEE/EIA scope. Also information exchange with neighboring states should be explored and a pilot conducted under this Program between the Pakistani Punjab and Indian Punjab.

1.2d Identification of measures to mitigate adverse environmental or social impacts that cannot be otherwise avoided or minimized	<p>The guidelines for the preparation and review of environmental reports include the assessment of environmental, social, health, economic, and fiscal impacts under sections 3.7 to 3.9. Similarly, the sectoral guidelines for IEs by the EPA also specify the mitigation for the environmental and social impacts such as social inequities.</p> <p>The assessment mandates to focus on the demographic, cultural, and sociocultural impacts under the section related to social impacts. Other sections relate to the health, economic, and fiscal impacts.</p>	Procedures for the assessment of environment and social impacts are in place for the development projects; however, its actual implementation is not done. Mostly the recommendations are provided in the environmental assessment report in the shape of ESMP but their implementation is limited to the projects financed by the multilateral and bilateral institutions only.	The implementation should be strengthened by enhancing institutional capacities of the relevant institutions through establishing social focal points within each partner institution, mentioned above.
1.2e Clear articulation of institutional responsibilities and resources to support implementation of plans	Institutional responsibilities and resources for preparation, implementation monitoring, and inspection are clearly spelled out by relevant regulations (PEPA 1997 [2012], Review of IEE/EIA Regulations, 2000). The mandate for monitoring the implementation of the IEE/EIA lies with EPA Punjab.	The IEE/EIA section of the EPA reviews the IEE/EIA and accordingly issues the NOC. EPA Punjab's capability for post-NOC monitoring is limited.	Capability strengthening needs to be done. Key Result Area 1 will respond to this requirement.
1.2f Responsiveness and accountability through stakeholder consultation, timely dissemination of program information, and through responsive grievance redress measures	<p>Public consultation with relevant stakeholders, local authorities, and representatives of communities and organizations directly affected by projects is required (guidelines for public consultation).</p> <p>Aspects of the public consultation are better in projects financed by Banks, and other multilateral and bilateral institutions.</p> <p>GRM is absent at the program and policy level except the legal course through courts. GRM is only implemented at the project level.</p>	<p>Although the timings and techniques of consultations are clearly stated in the guidelines, generally public consultation is carried out at two stages, that is, during the socioeconomic and inventory surveys at the baseline data collection stage of the EIA and during public hearing during the processing of EIA reports.</p> <p>In consultations conducted during the government of Punjab projects, the objective outcomes of consultation are not met because in most cases these are conducted</p>	<p>For the purposes of this Program, a comprehensive stakeholder consultation and engagement strategy will be developed focusing on:</p> <ul style="list-style-type: none"> - Citizens engagement for responsiveness, accountability and quality assurance; beneficiaries feedback and participatory audits to be piloted in partnership with Finance Department - Timely dissemination of program

		<p>under pressure from entities like courts and/or civil society.</p> <p>Consultation do help aware affected people of their rights to complaints and the legal course to follow and get compensations for the damage caused by construction. It is also a motivation to push contractors to comply with environmental obligations.</p> <p>In case of responding to grievances, Planning & Coordination Unit within the EPD is responsible to record and respond to public complaints. As such, this Unit serves as the GRM for environment related complains. In consultations with them to prepare this ESSA, it was noted that they are overburdened due to lack of staff, technical expertise and antiquated complaints' management system. Average time for them to manage a complain can be anywhere between one to two years, given that 20 complain categories have already been delegated to the district level for resolution.</p>	<p>and sub-project information</p> <ul style="list-style-type: none"> - Effective, relevant and practical GRM for the entire Program <p>Particularly, P&C Unit of EPD will be strengthened to oversee effective complains registry, response and resolution.</p>
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Core Principle 2: Environmental and social management procedures and processes are designed to avoid, minimize, and mitigate against adverse effects on natural

habitats and physical cultural resources resulting from the program.			
Key Elements	System Requirements	Key Findings	Recommendations
Includes appropriate measures for early identification and screening of potentially important biodiversity and cultural resource areas	<p>The scope of the IEE/EIA covers the profiling of natural habitats, flora and fauna species, national parks, important ecological areas, and impacts on downstream fresh water bodies. An impacts matrix of project components and activities during construction and operational phases of the projects is an essential part of an IEE/EIA. Accordingly, the EIA requires that the project should include mitigations to avoid such impacts.</p> <p>The main legislation on conservation of archeological heritage is the Pakistan Antiquities Act of 1975. This act was adopted by Punjab in 1985. The Antiquities Act 1975 only focused on conservation of a monument whereas the Punjab law also includes conservation of the area surrounding the monument. The site screening guidelines on the historical sites are also provided in the sectoral guidelines for IEs issued by the EPA as a part of EIA procedures.</p>	<p>The recommendations stated in the EIAs are mostly partially implemented. Under PEPA 2012, all proposed projects falling under relevant Schedules of the Law, should prepare IEE/EIAs.</p> <p>Most governmental agencies are not aware of the act and ignore it during the planning process. For example, in case of Sialkot Tanneries relocation project (a part of this Program), EIA was conducted under specific orders of the Supreme Court of Pakistan.</p> <p>The Archeology Department conducted a survey across Punjab in 1994-1996 to map out possible spots of archeological significance. According to this survey, Bahawalpur, Rawalpindi, and Multan Districts have a high number of unprotected and unexcavated archeological sites.</p> <p>No SOPs are available to share with construction companies/projects. However, under the law, chance finds should be reported to the Archeology Department within 7 days. If ruins are discovered, then all construction work must be</p>	<p>All subprojects under this Program will undergo early environmental and social screenings, and as required relevant assessments will be carried out.</p> <p>The EPA will be strengthened for post-NOC environmental and social monitoring. The government of Punjab line departments need to be trained on environmental law and issues.</p> <p>Inventory of archeologically significant sites needs to be prepared for the Province of Punjab by the Archeological Department.</p> <p>SOPs should be prepared by the EPD, for project execution parties regarding chance find of archeologically significant sites not mentioned in the inventory of archeologically significant sites.</p>

		stopped. In this case, the Archeology Department conducts a site assessment and looks for signs of buildings or habitation.	
Supports and promotes the conservation, maintenance, and rehabilitation of natural habitats; avoids the significant conversion or degradation of critical natural habitats and if avoiding the significant conversion of natural habitats is not technically feasible, includes measures to mitigate or offset impacts or program activities.	This aspect is covered under IEE/EIA guidelines in line with the best international practices and protocols.	In EIAs of most of the large projects in the environmentally sensitive areas of Pakistan, this aspect is taken care of. However, this may not be relevant in this Program, as none of the Program activities are to be carried out in or near any critical natural habitat.	Environmental standards being proposed under this Program will remain cognizant of this requirement.
Takes into account potential adverse impacts on physical cultural property and, as warranted, provides adequate measures to avoid, minimize, or mitigate such effects.	The main legislation on conservation of archeological heritage is the Pakistan Antiquities Act of 1975. This act was adopted by Punjab in 1985. The Antiquities Act 1975 only focused on conservation of a monument whereas the Punjab law also includes conservation of the area surrounding the monument	<p>Most governmental agencies are not aware of the act and ignore it during the planning process.</p> <p>The Archeology Department conducted a survey across Punjab in 1994–1996 to map out possible spots of archeological significance. According to this survey, Bahawalpur, Rawalpindi, and Multan Districts have a high number of unprotected and unexcavated archeological sites.</p> <p>No SOPs are available to share with construction companies/projects. However, under the law, chance finds should be reported to the</p>	<p>Any proposed site for a new development should be screened for possible impact on sites of archeological significance. Without proper screening damage can be caused during construction.</p> <p>Increase awareness about the Antiquities Act of 1975 among stakeholders and improve its implementation.</p> <p>Develop and implement SOPs related to the project screening with respect to its impacts on PCR. Use archeological considerations for siting of new IEs. Conduct site survey at selected site and implement procedure for chance finds.</p> <p>Develop and implement partnership with the</p>

		Archeology Department within 7 days. If ruins are discovered, then all construction work must be stopped. In this case, the Archeology Department conducts a site assessment and looks for signs of buildings or habitation.	Archeology Department for screening of extension. Implement SoPs for chance finds procedures. All the above to be spearheaded by the social focal point of the EPD.
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Core Principle 3: Program procedures ensure adequate measures to protect public and worker safety against the potential risks associated with (a) construction and/or operations of facilities or other operational practices developed or promoted under the program and (b) exposure to toxic chemicals, hazardous wastes, and otherwise dangerous materials.

Key Elements	System Requirements	Key Findings	Recommendations
Promotes community, individual, and worker safety through the safe design, construction, operation, and maintenance of physical infrastructure, or in carrying out activities that may be dependent on such infrastructure with safety measures, inspections, or remedial works incorporated as needed.	This aspect is addressed in the EMP, an essential part of the IEE/EIA. The IEE/EIA for any construction/infrastructure project covers safe design, construction, and O&M for the whole project including infrastructure, layout, land acquisition, community safety, and so on. Independent IEE/EIA are required for each industrial unit and buildings. Industry- and building-specific IEEs/EIAs cover community, individual, and worker safety in detail at each stage of the project implementation.	Implementation of the EMPs for construction/infrastructure and specific industry unit and buildings is predominantly limited	Punjab EPA capability for post-NOC monitoring of IEE/EIA implementation needs to be enhanced as part of the planned restructuring and capacity building Program. Capabilities of concerned departments (such as Industries, Energy, HUD & PHED etc.) for local-level monitoring need to be enhanced. Training of prequalified contractors for industrial units and other infrastructure on the implementation of the EMPs.
Promotes the use of recognized good practice in the production, management, storage, transport, and disposal of	The federal government promulgated the Hazardous Substances Rules 2003. These rules instruct the proponent of the projects to adopt good production practices, management, storage, transport, and disposal of hazardous materials generated through	Implementation of these rules is limited.	The Program will support EPD to review and revise existing, as well as propose new, environmental policies and standards. The focus will be on priority

hazardous materials generated through program construction or operations; promotes the use of integrated pest management practices to manage or reduce pests or disease vectors; and provides training for workers involved in the production, procurement, storage, transport, use, and disposal of hazardous chemicals in accordance with international guidelines and conventions.	program construction or operations and provide training for workers involved in the production, procurement, storage, transport, use, and disposal of hazardous chemicals in accordance with international guidelines and conventions. After the 18th amendment, implementation of these rules have been delegated to EPA Punjab.		<p>pollution issues of public concerns.</p> <p>As part of policy/standard development process, best available techniques and best environmental practices in Punjab, the country, and the region will be analyzed with full consultation of stakeholders.</p> <p>Key policy initiatives to be developed include: a pollution releases and transfer register; a pollution levy system; management strategies for air quality, water quality, solid wastes, hazardous and medical wastes; and an information disclosure and public participation scheme</p>
Includes measures to avoid, minimize, or mitigate community, individual, and worker risks when program activities are located within areas prone to natural hazards such as floods, hurricanes, earthquakes, or other severe weather or climate events.	These aspects of the proposed projects are fully covered by the scope of the Climate and Social Assessment, which has detailed proposals on hazards management, land use management, industrial adaptation, environmental management, and social adaptation. In addition to actions that will be implemented by the STZ and its tanners, STAGL is working closely with the District Disaster Management Authority on a number of actions that will need government support.	<p>Implementation of the DMPs is mostly partial.</p> <p>In case of the Sialkot Tanneries relocation subproject, disaster management is covered under the Climate and Social Assessment Study conducted jointly by UNIDO and Sialkot Tannery Zone</p>	Increase the capability of EPD and EPA to monitor the implementation of DMPs, in partnership with PDMA. Punjab EPA's enhanced capability for post monitoring of EIA implementation will also support in improving the opportunities for DMP implementation.

Core Principle 4: Land acquisition and loss of access to natural resources are managed in a way that avoids or minimizes displacement, and affected people are assisted in improving, or at least restoring, their livelihoods and living standards.

Key Elements	System Requirements	Key Findings	Recommendations
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<p>Avoids or minimizes land acquisition and related adverse impacts</p>	<p>The main legal tool used for land acquisition in Punjab is LAA 1894 and Punjab Land Acquisition Rules of 1983.</p> <p>The Punjab Land Acquisition Rules of 1983 under its Rule 4 states “On receipt of the application under Rule 3 the collector of the district shall examine its feasibility taking into consideration the genuineness of the public purpose involved, the minimum requirements of the acquiring agency, and suitability of the area proposed for requisition keeping in view its alternative uses if any.”</p>	<p>This all is followed up through the Punjab Land Acquisition Rules.</p> <p>In case of Sialkot Tanneries relocation subproject, all land was acquired under this Act. Grievances were filed by some landowners, which were settled by the Senior Member, Board of Revenue, Punjab. Furthermore, Supreme Court’s decision also resolved all remaining issues.</p> <p>However, the performance in this regard varies across the program and needs significant improvement.</p>	<p>STAGL needs to guarantee that there is no issue pending with respect to land acquisition for the STZ, validated by the Board of Revenue, Punjab.</p> <p>It also needs to provide a signed guarantee and affirmation from all 44 tanners that they agree with this relocation project, and are willingly to move voluntarily without any grievance and duress, with full consent.</p>
<p>Identifies and addresses economic and social impacts caused by land acquisition or loss of access to natural resources, including those affecting people who may lack full legal rights to assets or resources they use or occupy</p>	<p>LAA 1894 has clear provisions and procedures in this regard when it comes to land and titleholders. However, it does not cover people without titles.</p> <ul style="list-style-type: none"> • Market value of land at the date of publication of notification under Section 4 • Damage sustained, by reason of the taking of any standing crops or trees at the time of the collector’s taking possession thereof • Damage (if any) sustained, at the time of taking possession of the land, by reason of severing such land from his other land • Damage (if any) sustained, at the time of taking possession of the land, by reason of the acquisition injuriously affecting his other property or his earnings • If in consequence of the acquisition of the land, the person interested is compelled to change his residence or place of business, the reasonable expenses (if any) incidental to such change • The damage sustained by diminution of the profits of the land between the time of the publication of the 	<p>No compensation to non-titleholders (tenants with no legal document, squatters). However, as of now, precedence exists due to special provisions made in case of Metro Bus Projects for payment to non-title landowners.</p>	<p>All entities should either buy land through a willing buyer-willing seller arrangement or develop SOPs for acquisition of land in line with the principles of the ESSA. This will include the process for assessing land prices in line with market rates, compensation for assets and livelihoods for landowners, tenants, and non-titleholders. There is precedence for such procedures under recent projects such as the Lahore and Pindi Metro Bus projects and such practices will be incorporated into SOPs for land acquisition for industrial estates. The key partners in this activity will be BoRs with support from the EPD.</p> <p>Moreover, the Program will achieve this in close coordination with another</p>

	<p>declaration under Section 6 and the time of taking possession of the land</p> <ul style="list-style-type: none"> • 15% over and above the cost of the land determined by the collector as charges for acquisition. For land acquisition for companies, 25% is paid over and above the cost of the land determined. <p>It has been reported that compensation to the non-titleholders has been made through special provisions created for Metro Bus Projects in Lahore and Rawalpindi.</p>		WB Project on Jobs and Competitiveness in Punjab.
Provides compensation sufficient to purchase replacement assets of equivalent value and to meet any necessary transitional expenses, paid before taking of land or restricting access	<p>According to LAA 1894, compensation is paid for all assets at market value instead of replacement cost.</p> <p>The market value is determined by the DPAC. The process for the determination of market price relies on recent land sale transactions of similar nature in the nearby area. The market rates are also notified by the relevant deputy commissioner on an annual basis.</p>	The compensation should be based on replacement cost. The price determination procedures need to be reviewed to ensure fair market price determination.	As above
Provides supplemental livelihood improvement or restoration measures if taking of land causes loss of income-generating opportunity (for example, loss of crop production or employment)	<p>The livelihood restoration is not emphasized in the LAA 1894 and Punjab Land Acquisition Rules of 1894.</p> <p>Land acquisition provision for Metro Bus Projects put in the following provisions for loss of business allowance:</p> <ul style="list-style-type: none"> • The loss of business allowance shall be paid only to the person who is actually doing business at the site. Where a landowner is himself doing business, he shall be entitled to loss of business allowance. Where a tenant is doing business, he (tenant) shall be entitled to loss of business allowance. • Loss of business allowance shall be equal to one year rent of shops/hotels. For this purpose, higher of the amount of actual rent of one year paid by tenant or 12% of the cost of land assessed by the DPAC and approved by the BoR (without compulsory acquisition charges), shall be paid. Where business is being conducted by the owner himself, he shall be 	The compensation for loss of livelihood is not currently allowed in LAA 1894. However, recent examples have now set precedence for the same.	As above

	<p>entitled to an amount equal to 12% of the cost of land (without compulsory acquisition charges). The amount shall be subject to the following conditions.</p> <ul style="list-style-type: none"> • No loss of business allowance shall be paid to banks and telecom companies and for any hoardings/sky signs. • Where shops are situated on a level other than ground, that is, in basement, on first floor and above, the loss of business allowance at the rate of higher of 6% of cost of land (without compulsory acquisition charges) or the actual rent being paid shall be paid. 		
Restores or replaces public infrastructure and community services that may be adversely affected.	The public infrastructure and community services are normally relocated by the relevant department.		As above

Core Principle 5: Due consideration is given to cultural appropriateness of, and equitable access to, program benefits, giving special attention to rights and interests of indigenous peoples and to the needs or concerns of vulnerable groups.

Key Elements	System Requirements	Key Findings	Recommendations
Undertakes free, prior, and informed consultations if indigenous peoples are potentially affected (positively or negatively) to determine whether there is broad community support for the program.	The Bank has provided a clear definition of indigenous peoples. According to this definition, indigenous peoples are only found in Kalasha Valley of KP province.	n.a.	n.a.
Ensures that indigenous peoples can participate in devising opportunities to benefit from exploitation of customary resources or	As above	n.a.	n.a.

indigenous knowledge, the latter (indigenous knowledge) to include the consent of the indigenous peoples.			
Gives attention to groups vulnerable to hardship or disadvantage, including, as relevant, the poor, the disabled, women and children, the elderly, or marginalized ethnic groups. If necessary, special measures are taken to promote equitable access to program benefits.	<p>There is no clear reference to the vulnerable people in LAA 1894 and Punjab Land Acquisition Rules, 1983.</p> <p>Laws related to labor, working conditions, sexual harassment at workplace, and child labor are in place.</p>	<p>As in all other cases, magnitude and exposure to environmental pollution is higher within the disadvantaged, marginalized groups of people, which amplifies their vulnerability to the same. Poor and landless are forced to live in squatters and slums, which are exposed to air and water contamination. In case of Lahore, the residential areas of Bund Road, Ferozepur Road, Shad Bagh etc. are exposed to air pollution by the surrounding factories as well as water contamination due to untreated water from municipal and industrial sources. And these residential areas are not squatters or slums, but low to lower middle class housing areas.</p> <p>Implementation of laws related to labor, working conditions, sexual harassment, etc. is limited.</p> <p>Women face problems in working conditions like non-provision of separate toilets, absence of childcare facilities, flexi-working hours and inadequate provision of transport facilities for women.</p> <p>Social protection and other legal conditions for labor need to be enforced. This includes the registration of the employees with the</p>	<p>In case of information dissemination on pollution levels and resulting exposure, due diligence will be carried out by the social unit, EPD to ensure that such information flow channels are in place, which reach the most vulnerable and marginalized groups and communities.</p> <p>Similarly in case of pilots on wastewater treatment technologies, and renewable energy solutions, preference will be given to areas with lower HDI, slums and areas housing marginalized groups.</p> <p>In the enforcement of labor laws, the Department of Labor and all implementing partner departments/private sector entities (STAGL) will work in close collaboration. A labor cell will be established within the social unit at EPD level, and within relevant departments and Companies, to liaise closely with the existing DVCs on bonded labor and the district labor officer to monitor and help create the conditions for the enforcement of existing labor laws. In particular, the implementing partners will ensure that laws related to women's working conditions are carefully enforced. Each partner will also undertake initiatives to ensure a greater participation of women in the labor force. This will include provision of safe and reliable transport facilities for women workers and establishment of childcare facilities. Workable models of childcare such as those recently</p>

		<p>Employees Old Age Benefit Institution, social security, enforcement of other labor laws for working conditions, and sexual harassment in the workplace.</p> <p>Pakistan acquired the status of GSP+ which allows increased access to some categories of Pakistani products by allowing duty-free exports to EU markets from January 1, 2014. GSP+ requires ratification and compliance of 27 international conventions, including 8 core labor standards of the ILO.</p>	<p>introduced by the Punjab Women Development Department will be assessed for technical, economic, and social viability and implemented at each premises. Such measures will ensure that partners support an employment environment that is in line with labor laws and, especially, conducive to encouraging the employment of women. Working conditions will be monitored by the labor cell, EPD, in collaboration with the Departments of Labor and Industries.</p>
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Core Principle 6: Avoid exacerbating social conflict, especially in fragile states, post-conflict areas, or areas subject to territorial disputes.

Key Elements	System Requirements	Key Findings	Recommendations
Considers conflict risks, including distributional equity and cultural sensitivities	Local-level cultural and sensitivity issues are covered under requirements of environmental assessments especially in projects financed by the Bank and other multilateral and bilateral institutions.	<p>No formal GRM exists in most of the projects, unless financed by WB or ADB. Informal systems do exist.</p> <p>No formal system of public information sharing with local communities in existing estates.</p> <p>Distributional equity is relevant in case of CETPs, RECP and low cost wastewater treatment interventions within the Program.</p>	<p>Social Focal Points within the EPD, Energy and Industries Departments, to ensure that distributional equity is scored for in case of CETPs, RECP and low cost wastewater treatment interventions within the Program.</p> <p>A GRM at each subproject level to be developed, notified, and connected to the Program level GRM</p> <p>Develop and implement a communication strategy focusing on all of the above.</p>

Annex 2: Summary of Stakeholder Engagement and Consultations

Participants	Comments	Responses
UNIDO	UNIDO's role in implementation	UNIDO is a donor partner of this Program. It is expected that GoPunjab will continue engaging UNIDO during Program implementation on STZ as well as on other RECP investment activities.
Steel firms	Demonstration of improved technologies on priority sectors, and concessionary financial support for the steel sector? Interest rates? Possibility of negligible interest rates?	The project design has included grant support for selected sectors to pilot/demo RECPs, including this sector. On financing, note that the Bank has an overall position against interest rate subsidies. Note also that because the potential E&S risks associated with heavy polluting sectors, the Program has elected to start from pilots before the program can commit to support sector-wide adoption of RECP technologies for these sectors.
Punjab Information Technology Board	EPD's priorities with industries	The Program will start from Brick and tanners while piloting in other polluting sectors.
	why are not the biggest polluters not part of the program	As noted above, the Program approach is pilot first and then scale up.
	focus on major polluters not to spread resources too thin	Agree with this. In addition to above explanations, note that the program focuses on brick and tanners first.
	carbon credits are missing. A demo should be included.	Given the latest status of carbon markets, the Program will not be able to support this.
	urban green/forest is required, should work with housing colonies.	Good suggestions. But to reduce Program complexity, it was agreed that this investment be excluded from the program.
	PPMP; receiving inbound calls and outbound calls; citizens feedback mechanism; robo calls; Punjab Health Line; Helplines for Waste Management Companies; can help in evidence based smart monitoring; can assist the inspectors; run website of EPD; 3 domains;	Good suggestions. This has been reflected in final program design.
	EMC can serve as a hub for citizens' based green activities	Good suggestions. Have requested EPD to consider this during implementation.
	sub-standard fuels not addressed	Noted in Technical Assessment, this issue is regulated at the federal level. As such, this cannot be addressed under the program.
	Restaurants inappropriate disposal of used fuels in dumpsites	This will be discussed under the Integrated Waste Management Strategy to be developed under the Program
ILO Rep	prioritize investment into polluting industries	As noted above, prioritization was also done based on E&S risks.
	enforcement of air pollution laws	Agree. It is part of the program.

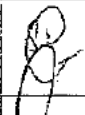
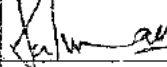
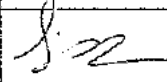
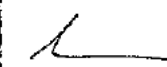
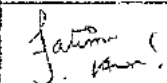
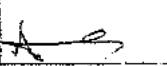
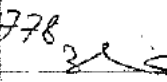

Participants	Comments	Responses
	use taxes as punitive measures	This will be studied under the regulatory reform.
	health and safety of workforce need to be addressed	This is already part of the Program per ESSA recommendations.
Women Dept.	Program is not gender responsive.	Gender specific recommendations have been proposed in the ESSA and will be incorporated in the RECP investment activities at the firm level.
	afforestation through women?	This is no longer part of the program.
	target women in green training and efficient tech	Agree. This will be incorporated in the RECP training activities with firms during implementation.
	involve women in DRM planning activities.	Note that DRM at the STZ is not part of this program. Will follow up with UNIDO to ensure that STAGL will do so under the UNIDO project.
	involve the WD Dept. in planning and impl.	Agree. Women Department has been included in the Program Steering Committee.
Working Women Org	development of parks as an opportunity for women	This is no longer part of the program.
	gender roles not defined.	Need ESSA recommendation on how to improve.
	PSC to include civil society presence and membership	The Bank has consulted EPD on this request. Based on the government's decision, the PSC arrangements will be adjusted if needed.
	public engagement is missing	To clarify, the program emphasizes heavily on public engagement through info disclosure and citizen engagement activities.
	involve labor org.	Agree. Labor Department has been included as a member of the PSC.
Housing Dept.	need R&D.	The proposed Environmental Technology Center will play this role of identifying and piloting RECP technologies.
WWF	Green investments: areas of focus, scope?	ESSA has these under Program Description Section. Also PAD and technical assessment have detailed information.

Annex 3: List of Participants

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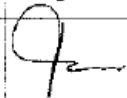


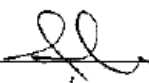

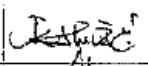

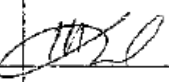
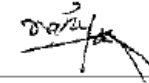

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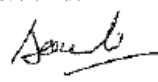
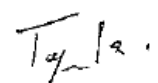
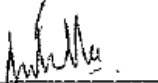
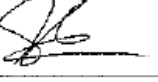
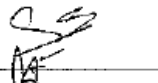

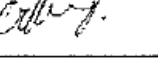
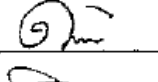
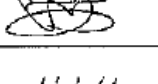
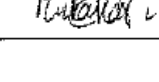
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