

GOVERNMENT OF THE PUNJAB

Punjab Education Sector Reform Program (PESRP)

**GETTING RESULTS: ACCESS AND DELIVERY OF QUALITY EDUCATION SERVICES
IN PUNJAB PROJECT (GRADES-P) Project (P176594)**

&

SYSTEMTRANSFORMATION IN PUNJAB PROJECT (P508940)



ENVIRONMENTAL & SOCIAL MANAGEMENT FRAMEWORK (ESMF)

Programme Monitoring and Implementation Unit (PMIU)

Punjab Education Sector Reforms Program (PESRP)

School Education Department, Government of the Punjab

May 2026

LIST OF ACRONYMS

AD	Assistant Director
AHH	Affected Household
AEO	Assistant Education Officer
ADEO	Assistant District Education Officer
AP	Affected Person
ARAP	Abbreviated Resettlement Action Plan
C&W	Communication and Works Department
C-EHSS	Contractor Environment Health and Safety Standards
CBO	Community-Based Organization
CE&SMP	Contractor's Environment and Social Management Plan
CEO	Chief Executive Officer
COVID-19	Corona Virus Disease of 2019
DEO	District Education Officer
EA	Executing Agency
ECE	Early Childhood Education
ECOP	Environmental Codes of Practice
EHSG	Environmental Health and Safety Guidelines
EHSS	Environment Health Safety and Security
EIA	Environmental Impact Assessment
EPD	Environment Protection Department
ESF	Environment and Social Framework
ESIA	Environment and Social Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environment and Social Management Plan
ESS	Environmental and Social Standard
FGD	Focus Group Discussion
GAP	Gender Action Plan
GBV	Gender Based Violence
GIIP	Good International Industry Practice
GoPb	Government of the Punjab
GRADES	Getting Results: Access and Delivery of Quality Education Services in Punjab
GRC	Grievance Redress Committee
GRM	Grievance Redress Mechanisms
IA	Implementing Agency
ICT	Information Communication Technology
IEE	Initial Environmental Examination
ILO	International Labor Organization
IDC	International Development Consultants
LAA	Land Acquisition Act
L&NFBED	Literacy & Non-Formal Basic Education Department
LMP	Labor Management Procedures
NGOs	Non-Governmental Organization

NSB	Non-Salary Budgets
OHS	Occupational Health and Safety
OOSC	Out of School Children
PBC	Program Based Contract
P&DD	Planning and Development Department
PD	Program Director
PDO	Project Development Objective
PEC	Punjab Examination Commission
PEF	Punjab Education Foundation
PEPA	Pakistan Environmental Protection Act
PEPRIS	Private Education Provides Registration Information System
PESRP	Punjab Education Sector Reforms Program
PF	Policy Framework
PKR	Pakistani Rupee
PMIU	Program Monitoring & Implementation Unit
PPC	Pakistan Penal Code
PPP	Public Private Partnership
PSC	Project Steering Committee
PST	Primary School Teacher
QAED	QUAID-e-Azam Academy for Education Development
RAP	Resettlement Action Plan
RPF	Resettlement Policy Framework
SEAH	Sexual Exploitation Abuse and Harassment
SED	School Education Department
SEP	Stakeholders Engagement Plan
SH	Sexual Harassment
SMS	Short Messaging Service
SMU	Strategic Management Unit
SOPs	Standard Operating Procedures
SpED	Special Education Department
SRGBV	School Related Gender Based Violence
STP	System Transformation Grant
TOR	Terms of Reference
US\$	United States Dollar
WASA	Water and Sanitation Authority
WASH	Water Sanitation and Hygiene
WB	World Bank
WHO	World Health Organization

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1. Executive Summary

The Government of Punjab (GoP) through School Education Department (SED) under Punjab School Education Reforms Program (PESRP) with the Program Monitoring and Implementation Unit (PMIU) serving as the Secretary and the Communication & Works Department (C&W), hereinafter called as Implementation / Execution agency (IA/EA), is planning for Getting Results: Access and Delivery of Quality Education Services in Punjab (GRADES-P) Project and System Transformation in Punjab (STP) province through technical assistance and financing by the World Bank (WB) and Global Partnership for Education (GPE) Grant. The PMIU is the lead planning and implementing agency for these proposed Projects whereas the (C&W) will lead the civil works component in the proposed GRADES-P Project, whereas Strategic Management Unit (SMU) will lead the civil works component in the proposed STP project. As the project exact locations are not known at this stage, a framework approach is adapted and, the PMIU has prepared this Environmental and Social Management Framework (ESMF) in compliance with national regulations, the WB's Environment and Social Framework (ESF) and its applicable Environment and Social Standards (ESSs) as well. This ESMF document is applicable on both GRADES-P & GRADES-STP project. The relevant applicable environmental and social safeguards instruments such as Resettlement Framework (RF), Stakeholder Engagement Plan (SEP) and Labor Management Procedure (LMP) are also prepared separately for the both GRADES-P and STP Projects.

The GRADES Project aims to support strategic interventions that are known to deliver for girls, while benefiting boys as well. In fact, improvements in girls' education can be achieved with a variety of interventions, including programs that do not explicitly target girls.

2. The SED requested the World Bank for assistance to support the education sector in Punjab for delivering better results for girls, while supporting the overall reform direction for education in the province benefiting both girls and boys.

Project Development Objectives

“To increase girls’ and boys’ participation rates in pre-primary and primary grades and enhance reading proficiency in primary grades.”

2.1. PDO Level Targets:

- Pre-Primary School Participation Rate, ages 4–5 (percentage) (disaggregated by gender).
- Primary School Participation Rate, ages 6–10 (percentage) (disaggregated by gender).
- Additional share of children above Minimum Proficiency for Reading by Grade 4 (percentage) (disaggregated by gender).

2.2. Project Components

The GRADES project has following three components:

2.2.1. Component 1: Getting Results Agenda

Component 1 provides results-based financing to support activities of the provincial education reform agenda on three strategic priorities and has seven performance-based conditions (PBCs) associated with it. The first PBC is an overarching condition to support yearly gender-disaggregated targets for school enrolment and learning levels across the delivery chain (from province down to district and school level) to improve the focus in the overall reform agenda. The component also supports several PBCs to expand school participation by scaling public private partnerships with an additional 500,000 students, strengthen learning outcomes, and improve the management of schools.

2.2.2. **Component 2: Building Climate-Smart Classrooms for a Sustainable Expansion of the School System**

Constructing approximately fifty-four hundred (5,400) additional classrooms (grades ECCE to 5), including: (i) prioritizing reconstruction of classrooms and WASH facilities in schools that have been damaged during the most recent floods; (ii) prioritizing girls' schools as well as schools that can enroll a large share of girls; (iii) provision of furniture that can be flexibly arranged, accessible wheelchair ramps and handrails; (iv) low-cost climate-smart features (such as, heat insulation, use of natural ventilation, use of natural lighting, raised plinths, reflective roofs); (v) climate change. The project mitigation for schools, such as water conservation fittings, rainwater harvesting in high-precipitation areas, and tree planting/afforestation on school grounds; and (vi) using an elevated school design for sites prone to flooding; as well as developing a School Infrastructure Strategy.

2.2.3. **Component 3: Technical Assistance, Evaluation and Project Implementation**

Providing technical assistance to implement the Project, including Project implementation, monitoring and communication, as follows: (i) technical support to departments implementing the PBCs; (ii) research studies and technical assistance to support third party verification of the PBCs; (iii) project staffing to support implementation; (iv) supervision and monitoring of classroom construction, including compliance with the environmental and social requirements; and (v) strengthening the GBV reporting and response systems within schools to improve standard operating procedures and referral protocols.

2.2.4. **Component 4: Contingent Emergency Response Component (CERC, US\$0 million)**

Provision of immediate response to an Eligible Crisis or Emergency, as needed.

The System Transformation Grant Project:

The GPE project aims to improve girls' and boy's participation and learning levels in pre-primary and primary levels and enhance remedial learning at elementary levels."

Project Objectives:

The project objectives are as follows:

- To bring system wide transformation for improving access, quality and governance at all levels of education
- To improve girls' and boys' participation in pre-primary education (age 4-5)
- To Increase girls' and boys' participation in primary schooling (age 6-10)
- To enhance quality of pre-primary and primary education through expansion of quality ECCE classes
- To enhance foundational literacy and numeracy skills of all students in early primary grades (1-3)
- To enhance learning through remedial learning efforts at the middle level (grades 6-8)
- Improving education governance systems by introducing verified unique identifiers at the student level
- Improvement in quality of education by strengthening the curriculum with a special focus on foundational learning
- Capacity building of teachers by expanding the Continuous Professional Development (CPD) models for teachers in SpED & L&NFBED
- To enhance the capacity of District Education Authorities (DEAs) by need based training for education managers (CEOs, DEOs, DDEOs, etc.)
- To strengthen assessment management system for improved decision making of attached departments of SED

2.3. Objective and Scope of Environmental and Social Management Framework

Environmental and Social Management Framework (ESMF) is required for the World Bank financed projects to ensure compliance of environmental and social safeguard requirements of the national laws and World Bank Environment and Social Framework (ESF) for those project activities that are not defined and/or whose locations are unknown at the time the Bank appraises the project.

This ESMF caters for both GRADES- P and GRADES-STP projects and establishes a mechanism to conduct environmental and social screening for potential risks and impacts. In addition, the ESMF provides guidance to preparation of tools in the form of ESIA's and ESMPs in accordance with the relevant ESF standards. The ESMF sets out the principles, rules, guidelines and procedures to assess the environmental and social risks and impacts. It contains generic measures and (i) plans to reduce, mitigate and/or offset adverse risks and impacts arising over the course of the projects (ii) provide provisions to estimate and budget the costs of such measures, and (iii) guides implementing agencies to address project risks and impacts, including measures for capacity building to manage environmental and social risks and impacts.

2.3.1. Potential Environmental and Social Impacts and Mitigation Measures

The environmental and social impacts associated with the GRADES-P and GRADES-STP project is screened to be in Moderate scale, which are localized and limited. However, the project is envisaged to bring positive change in terms of enhancing literacy rates in the province.

The construction and renovation activities will pose localized, temporary and reversible environmental, health and safety impacts on surroundings, communities, school children and staff. The environmental impacts may occur in the form of potential and adverse localized impacts on drainage clogging/wastewater ponding, soil and groundwater contamination, dust pollution, noise pollution and occupational health hazards due to improper management of sanitary wastewater, other construction materials, and movement of vehicles/trucks as potential risk to communities and worker health and safety at the construction sites and surrounding communities.

Under GRADES-STP, similar localized and temporary environmental impacts may arise from minor civil works, accessibility improvements including construction of ramps for children with disabilities and special education needs, small-scale repairs, and installation or replacement of ICT equipment in schools and Non-Formal Education Institutes (NFEIs). These impacts may include limited dust generation, noise, minor construction waste, electrical safety risks, and occupational health and safety hazards during construction and installation activities. Additional environmental risks are associated with the generation and handling of electronic waste (e-waste), including obsolete computers, tablets, batteries, wiring, and peripheral devices, which require environmentally sound storage, transport, and disposal to avoid soil, water, and human health impacts.

During operation stage the potential environmental and health risks (students, school staff, and community) are associated with WASH facilities if there is shortage of water supply at toilets and washbasins, inappropriate treatment and disposal of sewage from the toilets, non-potable drinking water facilities and the limited supply of hygienic products (soaps, germicidal/disinfectants) and substandard hygienic services (washing, cleaning and disposal of waste) at schools. Safe water supply is a challenge for most of the schools in Pakistan in general, and particularly schools located in the underground brackish water zones in southern Punjab. Students and teachers are facing health risks due to contaminated water supplies in schools. In context of above, due consideration will be given to such issues in addition to the risks associated with emergencies and integrity of building structures, fire, earthquake etc. and ensuring safe evacuation of those inside the building.

For GRADES-STP, operational-stage risks also include electrical and fire hazards associated with ICT equipment, unsafe wiring, overloading of circuits, improper placement of devices, and lack of

maintenance in schools and NFEIs. In addition, inadequate awareness regarding safe use of ICT equipment, improper storage of e-waste, and poor accessibility features may pose health and safety risks to students, facilitators, and community members, particularly in informal and home-based learning environments. Appropriate mitigation measures will therefore be implemented to ensure electrical safety, fire prevention, safe equipment placement, responsible e-waste management, and safe use of accessibility infrastructure including ramps.

The primary social issues are associated with the identification and management of school expansion, up-gradation and new school construction activities. For building and provision of new facilities such as additional classrooms and toilets, community health and safety will be a major concern for school children and staff (due to construction related risks, security risks and Gender Based Violence (GBV)). For new school construction and expansion, there may be additional risks related to land acquisition and land use. For so, likewise attention to the provision of needed facilities including anticipated social and environmental risks mitigation measures will be given throughout the development. However, these risks are expected to be localized and site specific. Close attention will need to be paid to ensure that the site selection process follows principles of equity and inclusion; as school infrastructure projects in Pakistan tend to be guided by local structures of patronage and power, with many competing stakeholders. There is therefore, also a risk that schools located in rural and remote areas and communities where clusters of ethnic, linguistic and religious minorities exist may be excluded from project benefits.

Under GRADES-STP, social risks are comparatively higher in Non-Formal Education Institutes (NFEIs) and community- or home-based learning settings. These include risks related to child safeguarding, Sexual Exploitation and Abuse and Sexual Harassment (SEA/SH), Violence Against Children (VAC), community safety, and labor and working conditions due to the informal nature of learning environments and closer interaction between facilitators, learners, and community members. Construction of accessibility ramps in such settings may also temporarily affect access and safety if not properly managed. These risks will be mitigated through application of Codes of Conduct, child safeguarding measures, SEA/SH risk mitigation protocols, community awareness, inclusive design standards for accessibility infrastructure, and accessible grievance redress mechanisms.

Components 1 and 3 are expected to generate positive social impact, by expanding teacher mentoring and support mechanisms, introducing technology and improving school management and student-teacher interactions. The success of these components may be hampered by varying existing degrees of technological literacy amongst teachers and administrators, which could lead to unequal project outcomes. For GRADES-STP, targeted capacity-building and training measures will therefore be implemented to support inclusive use of technology and ensure equitable access to project benefits, particularly for children with disabilities and learners in non-formal education settings.

The project is likely to result in environmental and social impacts of Moderate scale that will be short term and reversible. Risk levels are likely to vary at different stages of the project. In order to address these, several mitigation measures have been identified. Adherence to the necessary guidelines included in this document will be critical to ensure that any adverse impacts arising over the course of project implementation will be effectively managed.

2.3.2. Environmental and Social Management Framework Implementation

The implementation of the ESMF for both GRADES-P and GRADES-STP will be undertaken by the Project Monitoring and Implementation Unit (PMIU) established by the SED in addition with the Strategic Management Unit (SMU) and School Council. The PMIU will coordinate and monitor the quality of managing E&S risks including meeting the timelines in addition to providing advice and guidance as the project progresses. For GRADES-STP, PMIU will also coordinate with the ICT Unit, NFEI management, and relevant implementation partners to ensure effective management of environmental and social risks

related to minor civil works, accessibility ramp construction, ICT installation, electrical safety, e-waste management, and child safeguarding in formal and non-formal learning environments.

Monitoring of the ESMP is required at the construction and operational phases of the project components. The ESMP outlines the key E&S parameters to be monitored and key implementation measures to be evaluated at the required frequency along with the assigned responsibilities of relevant personnel. The PMIU and the C&W is responsible to implement the ESMP through their implementation partners, contractors where applicable. The SED will report to the World Bank as per the agreed frequency.

In the project, the following including & S instruments are prepared for the mitigation measures to be implemented, as per the nature of the project. PMIU will decide to use the methods and tools in consultation with the Bank.

- Environmental and Social Management Framework (ESMF)
- Resettlement Policy Framework (RPF)
- Labor Management Procedure (LMP)
- Stakeholder Engagement Plan (SEP)

2.3.3. Institutional framework

The Punjab School Education Department (SED) will be the overall responsible agency for implementation of GRADES-P and GRADES-STP. The projects will be executed through the Program Monitoring and Implementation Unit (PMIU), which will serve as the central coordinating body responsible for planning, implementation oversight, monitoring, reporting, and compliance with fiduciary as well as environmental and social requirements under the World Bank Environmental and Social Framework (ESF).

Civil works and infrastructure-related activities under GRADES-P will be implemented in accordance with the approved Provincial School Construction Strategy through implementation arrangements notified by SED. Day-to-day execution and site-level implementation will be carried out by designated implementing entities in line with approved project procedures, while ensuring full compliance with environmental and social safeguard requirements.

A Departmental Review Committee (DRC) will be established, chaired by the Secretary SED, with representation from relevant attached departments. The DRC will meet on a quarterly basis to review progress of civil works and safeguard implementation, resolve coordination issues, and address implementation challenges. Bi-annual progress updates will be presented to the Project Steering Committee (PSC).

Overall strategic oversight will be provided by the Project Steering Committee (PSC), chaired by the Chairman Punjab Planning & Development Board. The PSC will provide policy guidance, review overall project progress, and ensure alignment with provincial development priorities. The projects will be implemented within the broader framework of the Punjab Education Sector Reform Program (PESRP), which coordinates education sector reforms and reports to the same Steering Committee.

PMIU will be led by a Program Director (PD) and supported by dedicated teams covering Administration, Financial Management, Procurement, Infrastructure, and Environmental and Social Management (ESM). Environmental and Social Specialists within PMIU will be responsible for overall compliance with the ESMF for GRADES-P and GRADES-STP, coordination with the World Bank, and supervision of environmental and social safeguard implementation.

PMIU will engage an independent Environmental and Social (E&S) Consulting Firm to undertake district-wise environmental and social surveys and to prepare site-specific mitigation tools and district-wise

Environmental and Social Management Plans (ESMPs) in accordance with the approved ESMF and the World Bank ESF. The E&S Consulting Firm will be responsible for environmental and social screening, risk assessment, preparation of ESMPs and site-specific ESMP Checklists, and support in disclosure of safeguard instruments. All ESMPs will be reviewed and approved by PMIU prior to implementation and integrated into technical designs, Bills of Quantities, bidding documents, and contracts. Where required, safeguard instruments will be submitted to the World Bank for prior review and no-objection.

Implementation of ESMP measures will be the responsibility of implementing entities and contractors. PMIU, with support from the E&S Consulting Firm acting as the safeguard's supervision consultant, will carry out regular site inspections, monitor compliance, document non-compliances, and ensure timely corrective actions. To strengthen transparency and accountability, Third-Party Monitoring (TPM) arrangements may be engaged to independently assess construction quality, implementation progress, and compliance with environmental and social safeguards. Findings from supervision and third-party monitoring will be consolidated by PMIU into periodic progress and environmental and social performance reports submitted to the Project Steering Committee and the World Bank.

As per the Environmental and Social Commitment Plan (ESCP), the PMIU shall prepare and submit a Bi-Annual Environmental and Social Progress Report to the World Bank, encapsulating the implementation status of ESMP activities, functioning and caseload of the Grievance Redress Mechanism (GRM), labor and working conditions compliance, stakeholder engagement and community outreach activities, incidents or accidents reported and their resolution status, SEA/SH case management updates, status of any land acquisition or resettlement activities, and environmental and social monitoring findings. The report shall highlight any non-compliances identified during the reporting period along with corresponding corrective actions undertaken.

Similarly, As per the contractual Environmental and Social obligations, the Contractor shall prepare and submit a Monthly Environmental and Social Progress Report to the PMIU, encapsulating the implementation status of site-level ESMP and C-ESMP activities, workforce and labor management compliance, occupational health and safety incidents and near-misses, waste and effluent management measures, community disturbance complaints received and resolved, SEA/SH incidents and code of conduct compliance, site inspection findings, and status of any corrective actions from previous reporting periods.

As per the scope of engagement and at a frequency determined by the PMIU, the Supervision Consultant shall prepare and submit an Environmental and Social Monitoring Report, encapsulating findings from site-level ESMP compliance inspections, verification of Contractor's monthly reporting, occupational health and safety observations, community and stakeholder feedback, GRM functionality assessment, labor and working conditions audits, SEA/SH prevention and response mechanism status, and any environmental or social risks emerging during the reporting period. The report shall include a corrective action tracker and recommendations for improved compliance and performance going forward.

2.3.4. Stakeholders' Consultation

Stakeholders refer to individuals or groups who are affected or likely to be affected by the project (project-affected parties), as well as those who may have an interest in the project (other interested parties), in accordance with ESS10 of the World Bank Environmental and Social Framework. Separate Stakeholder Engagement Plans (SEPs) have been prepared for GRADES-P and GRADES-STP, which together guide stakeholder identification, consultation, information disclosure, and grievance management throughout the project life cycle. The SEPs will be implemented by the Social Development Specialist in PMIU and will be periodically updated during project implementation to reflect changes in project activities, schedules, and stakeholder needs.

Stakeholder consultations for both projects were conducted during preparation of the Environmental and Social Management Framework (ESMF) and SEPs at provincial, district, tehsil, and school/community levels. These consultations included meetings with School Education department Punjab, Special Education Department Punjab, Literacy and Non-Formal Based Education Department Punjab, school heads, teachers, parents, School Management Committees, local communities, and other relevant stakeholders, as well as Focus Group Discussions (FGDs) and in-depth interviews. Feedback and concerns raised during these consultations were systematically recorded and have informed project design, safeguard measures, and implementation arrangements.

Key outcomes of consultations under GRADES-P highlighted the need for expansion and rehabilitation of school infrastructure, including additional classrooms, boundary walls, toilets, and improved Water, Sanitation, and Hygiene (WASH) facilities. Stakeholders emphasized school safety, availability of clean drinking water, improved sanitation, and climate-resilient infrastructure to reduce disruptions caused by floods, heat, and other environmental hazards. Concerns related to construction-phase health and safety, waste management, and temporary disruption to teaching and learning were also raised and addressed through incorporation of mitigation measures in the ESMF and ESMPs.

For GRADES-STP, stakeholder consultations placed particular emphasis on Non-Formal Education (NFE) as a key strategy for reaching out-of-school children (OOSC) and improving equity in access to education. Communities, parents, and education officials highlighted the importance of flexible learning arrangements, proximity of learning centers to communities, and culturally appropriate, child-friendly environments, especially for girls and marginalized groups. Stakeholders also emphasized the need for safe learning spaces, trained facilitators, basic learning materials, and clear pathways for transition from non-formal to formal education.

Across both projects, consultations underscored critical social risk considerations, including child safeguarding, community health and safety, gender equity, inclusion of children with disabilities, and awareness of grievance redress mechanisms. Stakeholders stressed the importance of Codes of Conduct, safe construction practices, accessibility features, and regular engagement with communities to ensure transparency and trust.

Stakeholder engagement under both GRADES-P and GRADES-STP will continue throughout project implementation in line with the respective SEPs. The SEPs define engagement methods, disclosure procedures, consultation timelines, and grievance mechanisms applicable to both formal school settings and non-formal/community-based learning environments. Outcomes of ongoing stakeholder engagement will be used to inform adaptive management, environmental and social risk mitigation, and monitoring under both projects.

2.3.5. Community Consultation Feedback

Building more classrooms, increasing access to Water, Sanitation, and Personal Hygiene (WASH) facilities, rural community education was identified as key issues. At some school locations, boundary walls and sanitary facilities are inadequate. Spaces are not enough for accommodating more students.

3-5% permanent drop outs in 5th class due to early marriages are reported in village areas especially. Schools Information System (SIS) and IT related teacher training need more mandatory considerations.

2.3.6. Institutional Consultations Feedback

Expansion of school facilities, including new classrooms, boundary walls and toilets in existing schools is required. In case of any of hazardous situation during new development or rehabilitation works, there should be ready provisions of safe evacuation of occupants.

Renovating/refurbishing school buildings, earthen playgrounds and WASH facilities are very important to increase the participation of girls and boys in school.

Lack of planning at school level leads to environmental and social compliance issues, such as improper building shape/structure, location of toilets and septic tanks leading to water and soil pollution.

Lack of Good Housekeeping practices at school sites. The liquid and solid waste generated by students and faculty are dumped without any proper disposal procedure. There is no effective waste management and disposal system available.

Water quality has deteriorated and safe water supply is a challenge faced by most schools in Punjab, especially those located in the underground salt water area in southern Punjab. Students and teachers are facing health risks due to contaminated water supplies in schools.

During the construction phase of the school building/structure, health and safety related impacts on the community, school children, staff and the surrounding environment is envisioned.

2.4. Gender Framework

A Gender Framework is proposed under the ESMF and will apply to all investments implemented under the GRADES-P and System Transformation Project (STP). Women constitute nearly half of Pakistan's population, and enabling their equal participation is critical for national development, economic growth, and social progress. Pakistan has committed to gender equality through international and constitutional obligations, including the Universal Declaration of Human Rights, CEDAW, the Beijing Platform for Action, and the Sustainable Development Goals (SDGs). Despite these commitments, Pakistan continues to rank low on global gender indices, highlighting the need for sustained and systemic action to reduce gender disparities.

Within this context, girls' education represents one of the most effective pathways for advancing SDG 5 and accelerating progress across multiple SDGs. Improving girls' access to safe, inclusive, and quality education strengthens capabilities, expands life choices, reduces exposure to harmful practices and violence, and supports long-term economic empowerment. Evidence consistently shows that investments in girls' education generate high social and economic returns, including improved health, agency, household decision-making, and intergenerational outcomes. The Government of Pakistan has demonstrated policy-level commitment to gender mainstreaming through national reform initiatives, including the National Gender Policy Framework, which provides an enabling foundation for integrating gender equality objectives into education sector planning, implementation, and monitoring.

Building on this policy environment, the Gender Framework for GRADES-P and STP will operationalize gender equality through a risk- and results-based approach. It will

- (i) apply a gender lens to identify barriers affecting girls' enrolment, retention, transition, and foundational learning, including safety, mobility, inadequate WASH facilities, gender-insensitive learning environments, and exclusion of girls with disabilities;
- (ii) integrate SEA/SH and child safeguarding prevention and response measures through strengthened Codes of Conduct, confidential grievance redress mechanisms, referral systems, community engagement, and capacity building of implementing partners and frontline staff;
- (iii) ensure that infrastructure and service delivery investments are gender-responsive and disability-inclusive, with safe, accessible, and appropriate learning spaces; and
- (iv) embed accountability through gender-responsive indicators, regular reporting, and the use of gender- and disability-disaggregated data to track progress and inform corrective actions. A Gender Action Plan, prepared by the PMIU Gender Specialist, will guide gender analysis and implementation for both projects.

2.4.1. Grievance Redress Mechanism

A project-specific GRM will be established which will be linked to PMIU's existing system and it will receive complaints and grievances lodged through these avenues. A Grievance Redress Cell will be established in the PMIU/Safeguards Office under the supervision of Programme Director (PD) with its committees at districts level following a tiered approach. The GRM will be set up with a two- tiered structure; one at district level enabling immediate local responses to grievances and another at PMIU level for review, and addressing more difficult cases not resolved at local level. There will be a system to receive and record the complaints which will be investigated and resolved within the timeframe specified. Records of all grievances/complaints will be maintained in a database, updated on a daily basis, and separated by location as well as nature of grievance including details of actions taken to resolve the issue, and dates on which resolution was affected.

2.5. Information Disclosure

The EMSF will be reviewed and cleared by the World Bank and disclosed through PMIU-PESRP website and by the World Bank. The ESMF Executive Summary will be translated in to local language and will be disclosed through PMIU-PESRP website and will be made available to the projects affected communities and relative stakeholders.

2.6. Capacity Building of Stakeholders

Capacity building may be required for the stakeholders involved for the implementation, supervision, monitoring, evaluation, and reporting of the mitigation measures during construction and operational phases of the project's activities. Capacity building of the implementing departments is required under awareness about the environmental and social impacts of the project's activities and their mitigation as well as climate change, E-waste Management Plan, C-EHSS SOPs, environmental and social assessment and monitoring of project activities, LMP, GRM, SEP, RPF etc. As part of the project components, environmental and climate change awareness trainings will also be provided to head teachers.

Under the GRADES-Punjab and GRADES-STP, contractor staff are required to undergo structured capacity building prior to the initiation of civil works and periodically throughout project implementation. Training areas for contractors encompass ESMF and ESMP implementation, Occupational Health and Safety, monitoring and reporting, GBV and Child Protection, Disability Inclusion, Waste Management, and Community Health and Safety. In addition, broader training covering World Bank ESF requirements, national and provincial regulatory requirements, stakeholder mapping and engagement, environmental and social sensitivity of the project influence area, implementation of OHS Management Plans, gender sensitivity, and mitigation against SEA/SH is to be delivered throughout project implementation. Contractors are further required to ensure that they proposes a dedicated ESHS specialist as key site personnel, submits and implements a Code of Conduct covering SEA/SH, and prepares and implements a Contractor's Environmental and Social Management Plan (C-ESMP).

Workers and Labors are required to receive targeted training covering ESMP implementation, Labor Management Procedures, Occupational Health and Safety, Emergency Response Preparedness, Grievance Redress Mechanisms, and Code of Conduct all to be completed prior to commencement of civil works and reinforced throughout project implementation. For contractors at the community interface, training is to be provided on stakeholder engagement, environmental and socio-economic awareness, community and occupational health and safety, grievance mechanism operation, gender sensitivity, and case management of SEA/SH complaints for GRM staff. All training requirements are to be implemented in accordance with the Project Operations Manual (POM) and relevant E&S instruments, with the PMU-GRADES E&S team comprising the Environmental Specialist, Social Development Specialist, and Gender Specialist responsible for overseeing delivery and compliance.

2.7. Budget

The tentative budget for the environmental and social assessment of project activities and compliance of overall E&S impacts mitigation plan during construction and operational phases of the GRADES-P & STP project is USD 1.5 million.

حکومت پنجاب نے اسکول ایجوکیشن ڈپارٹمنٹ کے ذریعے پنجاب اسکول ایجوکیشن ریفارمز پروگرام مانٹرنگ اینڈ ایڈاپٹیشن یونٹ کو بطور سیکرٹریٹ اور اسٹریٹیجک مینجمنٹ یونٹ کو بطور عمل درآمدی ادارہ مقرر کرتے ہوئے GRADES-P اور STP منصوبوں پر عمل درآمد کی منصوبہ بندی کی ہے۔ ان منصوبوں کے لیے تکنیکی معاونت اور مالی تعاون عالمی بینک اور گلوبل پائٹرن شپ فار ایجوکیشن (GPE) گرانٹ کے ذریعے فراہم ہوگا۔ ان مجوزہ منصوبوں میں PMIU کو مرکزی منصوبہ بندی اور عمل درآمدی ادارے کی حیثیت حاصل ہوگی جبکہ GRADES-P اور STP دونوں منصوبوں کے تعمیراتی کاموں کی نگرانی SMU کے سپرد ہوگی۔ چونکہ اس مرحلے پر منصوبوں کے حتمی مقامات کا تعین نہیں کیا گیا، اس لیے فریم ورک اپروچ اختیار کی گئی ہے۔ اسی تناظر میں PMIU نے قومی قوانین، عالمی بینک کے ماحولیاتی اور سماجی فریم ورک (ESF) اور متعلقہ ماحولیاتی اور سماجی معیارات کی روشنی میں ماحولیاتی اور سماجی انتظامی فریم ورک (ESMF) تیار کیا ہے۔ یہ دستاویز GRADES اور STP دونوں منصوبوں پر یکساں طور پر لاگو ہوگی۔ مزید برآں ان منصوبوں کے لیے متعلقہ ماحولیاتی اور سماجی حفاظتی دستاویزات جیسے ری سیٹلمنٹ فریم ورک (RF)، اسٹیک ہولڈر انگیجمنٹ پلان (SEP) اور لیبر مینجمنٹ پروسیجر (LMP) دونوں منصوبوں کے لیے الگ الگ تیار کیے گئے ہیں۔

GRADES-P منصوبے کا بنیادی مقصد ایسے مؤثر عملی اقدامات کی معاونت کرنا ہے جو خاص طور پر بچیوں کی تعلیم کے لیے بہتر نتائج کو یقینی بنائے، تاہم ان اقدامات سے لڑکوں کو بھی یکساں فائدہ پہنچے گا۔ حقیقت یہ ہے کہ بچیوں کی تعلیم میں بہتری مختلف ترقیاتی حکمت عملیوں اور پروگراموں کے ذریعے حاصل کی جاسکتی ہے، خواہ وہ براہ راست صرف لڑکیوں کے لیے نہ بھی ہوں۔ اسی مقصد کے پیش نظر محکمہ اسکول ایجوکیشن نے عالمی بینک سے تعاون کی درخواست کی تاکہ پنجاب کے تعلیمی شعبے کو اس قابل بنایا جاسکے کہ وہ نہ صرف لڑکیوں کی تعلیم میں بہتر نتائج حاصل کر سکے بلکہ صوبے میں مجموعی تعلیمی اصلاحات کے عمل کو بھی مزید بہتر بنا سکے، جس سے لڑکیوں اور لڑکوں دونوں کو یکساں فائدہ حاصل ہو۔

منصوبے کے ترقیاتی مقاصد

ابتدائی تعلیمی مراحل اور پرائمری جماعتوں میں لڑکوں اور لڑکیوں کی تعلیمی عمل میں شمولیت کی شرح میں اضافہ کرنا شامل ہے۔ نیز پرائمری جماعتوں میں فہم مطالعہ (Reading Comprehension) کی مہارت کو بہتر بنانا یا پرائمری سطح پر پڑھنے اور سمجھنے کی صلاحیت کو فروغ دینا بھی اس منصوبے کے اہم مقاصد ہیں۔

منصوبے کے ترقیاتی اہداف

- ☆ چار تا پانچ سال کی عمر کے بچوں میں پری پرائمری تعلیم میں شمولیت (داخلہ) کی شرح میں اضافہ کرنا یا چار تا پانچ سال کی عمر کے بچوں کی ابتدائی تعلیمی مراحل میں شمولیت (داخلہ) کی شرح میں اضافہ کرنا۔
 - ☆ چھ تا دس سال کی عمر کے بچوں کی پرائمری تعلیم میں شمولیت (داخلہ) کی شرح میں اضافہ کرنا۔
 - ☆ جماعت چہارم تک ایسے بچوں کی شرح میں اضافہ کرنا جو مطالعہ فہمی (Reading Comprehension) کے کم از کم مطلوبہ معیار پر پورا اترتے ہوں۔
- (ان تینوں اہداف کی تفصیلات صنفی بنیاد پر الگ الگ فراہم کی جائیں گی تاکہ لڑکوں اور لڑکیوں کی کارکردگی کو واضح طور پر مانٹر کیا جاسکے۔)

منصوبے کے اجزاء GRADES-P منصوبہ

GRADES-P منصوبہ درج ذیل تین بنیادی اجزاء پر مشتمل ہے:

جزو اول: حصول نتائج کا ایجنڈا

یہ جزو صوبائی تعلیمی اصلاحاتی ایجنڈے کی سرگرمیوں کے لیے نتائج پر مبنی مالی وسائل فراہم کرتا ہے۔ یہ جزو تین اسٹریٹجک ترجیحات پر مرکوز ہے اور اس کے ساتھ کارکردگی سے مشروط سات شرائط منسلک (PBCs) ہیں۔

ایک بنیادی شرط یہ ہے کہ صوبائی، ضلعی اور سکول سطح پر داخلوں اور تعلیمی نتائج سے متعلق سالانہ اہداف کو صنفی بنیادوں پر (لڑکوں اور لڑکیوں کے الگ الگ اعداد و شمار کے ساتھ) مقرر اور مانٹر کیا جائے، تاکہ تعلیمی اصلاحات کے مجموعی عمل میں نتائج پر زیادہ مؤثر توجہ دی جاسکے۔

یہ جزو مزید کارکردگی سے مشروط شرائط کی بھی معاونت کرتا ہے جن کا مقصد یہ ہے کہ: پبلک پرائیویٹ پارٹنرشپ کے دائرہ کار کو وسعت دے کر مزید پانچ لاکھ طلبہ کو تعلیمی نظام میں شامل کیا جائے، تدریسی اور تعلیمی نتائج کو بہتر بنایا جائے، اسکولوں کے انتظامی نظام کو مضبوط کیا جائے

جزو دوم: تعلیمی نظام کی پائیدار توسیع کے لیے ماحولیاتی لحاظ سے موزوں ترین کلاس رومز کی تعمیر (Climate Smart Classrooms)

اس جزو کے تحت تعلیمی نظام کی پائیدار توسیع کے لیے ماحول دوست (Climate Smart) کلاس رومز (ECCE سے لے کر جماعت پنجم تک) کی تعمیر شامل ہے۔ اس کے تحت تقریباً 5,400 اضافی کلاس رومز تعمیر کیے جائیں گے۔ ان تعمیرات میں درج ذیل پہلوؤں کو ترجیح دی جائے گی:

1. حالیہ سیلابوں سے متاثرہ اسکولوں میں کلاس رومز اور (WASH) پانی، صفائی و حفظان صحت کی سہولیات کی از سر نو تعمیر
2. لڑکیوں کے اسکولوں اور ان اداروں کو ترجیح دینا جہاں لڑکیوں کے لیبرٹری تعداد میں داخلوں کی گنجائش موجود ہو
3. ایسے فرنیچر کی فراہمی جو مختلف انداز میں ترتیب دیا جاسکے۔ اس کے ساتھ معذور افراد کی مکمل رسائی کے لیے ویل چیئر ریسمس، ہینڈ ریلز جیسی سہولیات کی تنصیب
4. کلاس رومز کی تعمیر میں کم لاگت مگر موسمیاتی لحاظ سے موزوں خصوصیات شامل ہوں گی، جیسے: حرارت سے بچاؤ کے لیے موصلیت، قدرتی ہوا کا نظام، قدرتی روشنی کا بہتر استعمال اور روشنی منعکس کرنے والی چھتیں
5. ماحولیاتی اثرات کو کم کرنے کے لیے سکولوں میں پانی کی بچت کے آلات کی تنصیب، زیادہ بارش والے علاقوں میں بارشی پانی کو محفوظ کرنے کے نظام کی تنصیب اور اسکول کے احاطے میں شجر کاری۔
6. ایسے علاقے جہاں سیلاب کا خطرہ زیادہ ہو وہاں بلندی والے ڈیزائن پر اسکولوں کی تعمیر اور اس کے ساتھ ساتھ اسکول انفراسٹرکچر کی جامع حکمت عملی بھی تیار کی جائے گی۔

جزو سوم: تکنیکی معاونت، جائزہ اور منصوبے پر عمل درآمد

اس جزو کے تحت منصوبے پر مؤثر عمل درآمد کو یقینی بنانے کے لیے تکنیکی معاونت فراہم کی جائے گی، جس میں منصوبے کے نفاذ، نگرانی اور ابلاغ سے متعلق اقدامات شامل ہوں گے۔ ان سرگرمیوں کی تفصیل درج ذیل ہے:

1. کارکردگی سے مشروط شرائط (PBCs) پر عمل درآمد کرنے والے حکاموں کو تکنیکی معاونت فراہم کرنا۔
2. PBCs کی تھرڈ پارٹی توثیق کے عمل کی معاونت کے لیے تحقیقی معلومات / مطالعات اور تکنیکی معاونت فراہم کرنا۔
3. منصوبے پر عمل درآمد میں معاونت کے لیے ضروری افرادی قوت اور عملے کی فراہمی۔
4. کلاس رومز کی تعمیراتی سرگرمیوں کی نگرانی اور مانٹرنگ، بشمول ماحولیاتی اور سماجی تقاضوں پر عمل درآمد کو یقینی بنانا۔

5. اسکولوں میں صنفی بنیاد پر تشدد (GBV) سے متعلق شکایات کے اندراج، معاونت اور بروقت کارروائی کے نظام کو مستحکم بنانا تاکہ معیاری عملی طریقہ کار (SOPs)، رہنمائی کے نظام اور متعلقہ معاونتی کارروائی کو مزید مؤثر بنایا جاسکے۔

جزو چہارم: ہنگامی حالات میں فوری معاونت اور ردِ عمل
کسی بھی ہنگامی صورت حال یا بحران کی صورت میں بروقت ردِ عمل اور ضروری اقدامات کو یقینی بنانا اس جزو کا بنیادی مقصد ہوگا۔

سسٹم ٹرانسفارمیشن گرانٹ (STG) منصوبہ

جی پی ای (GPE) منصوبے کا مقصد پری پرائمری اور پرائمری سطح پر لڑکوں اور لڑکیوں کی تعلیمی شمولیت (تعلیم تک رسائی) اور تعلیمی معیار کو بہتر بنانا ہے، جبکہ ایلیمنٹری سطح پر تدریسی خلا کو پُر کرنے کے لیے اصلاحی تعلیمی سرگرمیوں کو مضبوط بنانا بھی اس منصوبے کا اہم مقصد ہے۔

منصوبے کے مقاصد

منصوبے کے مقاصد درج ذیل ہیں:

- ☆ تعلیمی نظام کے تمام درجات میں تعلیم تک رسائی، معیار اور نظم و نسق میں بہتری کے لیے ہم آہنگ اصلاحات متعارف کروانا۔
- ☆ چار تا پانچ سال کی عمر کے لڑکوں اور لڑکیوں کی پری پرائمری تعلیم میں شرکت یعنی داخلوں میں اضافہ کرنا۔
- ☆ چھ تا دس سال کی عمر کے لڑکوں اور لڑکیوں کی پرائمری تعلیم میں شرکت کی شرح کو بڑھانا۔
- ☆ ابتدائی جماعتوں (جماعت اول تا سوم) کے طلبہ کی پڑھنے، لکھنے اور بنیادی حساب کی مہارتوں کو فروغ دینا۔
- ☆ مڈل یعنی ایلیمنٹری جماعتوں (چھٹی تا آٹھویں جماعت) میں اصلاحی تعلیمی سرگرمیوں کے ذریعے سیکھنے کے عمل کو بہتر بنانا۔
- ☆ طلبہ کے لیے ڈیجیٹل منفرد شناختی نظام متعارف کروا کر تعلیمی نظم و نسق کو مؤثر بنانا۔
- ☆ طلبہ کی بنیادی سیکھنے کی صلاحیتوں اور بنیادی تعلیم پر خصوصی توجہ کے ساتھ نصاب کو مزید بہتر اور مؤثر بنانا تاکہ تعلیم کے معیار میں نمایاں بہتری لائی جاسکے۔
- ☆ اپیشل ایجوکیشن ڈیپارٹمنٹ اور لٹریری اینڈ نان فارل بیسک ایجوکیشن ڈیپارٹمنٹ میں اساتذہ کے لیے مسلسل پیشہ ورانہ تربیت (CPD) کے ماڈلز کو وسعت دے کر تدریسی استعداد کو بہتر بنانا۔
- ☆ ضلعی تعلیمی اتھارٹیز کے افسران، جیسے CEOs، DOs اور ڈپٹی DOs وغیرہ کو ضرورت کے مطابق تربیت فراہم کر کے ان کی انتظامی استعداد میں اضافہ کرنا۔
- ☆ محکمہ اسکول ایجوکیشن کے ذیلی اداروں میں مؤثر فیصلہ سازی کے لیے تشخیصی اور جائزہ جاتی نظام کو مستحکم بنانا۔

ماحولیاتی و سماجی انتظامی فریم ورک کے مقاصد اور دائرہ کار

عالمی بینک کے مالی تعاون سے جاری منصوبوں کے لیے ماحولیاتی و سماجی انتظامی فریم ورک (ESMF) اس مقصد کے تحت تیار کیا جاتا ہے تاکہ اُن منصوبہ جاتی سرگرمیوں کے حوالے سے قومی قوانین اور عالمی بینک کے ماحولیاتی و سماجی فریم ورک (ESF) کے تقاضوں پر عملدرآمد کو یقینی بنایا جاسکے، جن کی نوعیت یا مقامات منصوبے کی منظوری کے وقت مکمل طور پر واضح نہ ہوں۔ یہ ESMF، GRADES-P اور GRADES-STP دونوں منصوبوں کے لیے تیار کیا گیا ہے اور ممکنہ ماحولیاتی و سماجی خطرات اور اثرات کی نشاندہی اور جانچ کے لیے ایک مؤثر طریق کار فراہم کرتا ہے۔ اس کے علاوہ، یہ فریم ورک متعلقہ ESF معیارات کے مطابق ماحولیاتی و سماجی اثراتی جائزوں (ESIAs) اور

ماحولیاتی و سماجی انتظامی منصوبوں (ESMPs) کی تیاری کے لیے رہنمائی بھی فراہم کرتا ہے۔ یہ فریم ورک ماحولیاتی و سماجی خطرات اور اثرات کے جائزے کے لیے بنیادی اصول، قواعد، رہنما خطوط اور طریقہ کار متعین کرتا ہے۔ اس میں عمومی نوعیت کے حفاظتی اقدامات اور منصوبہ جاتی رہنمائی شامل ہے تاکہ:

- (i) منصوبوں کے دوران پیدا ہونے والے ممکنہ منفی ماحولیاتی و سماجی اثرات اور خطرات کو کم، محدود یا مؤثر انداز میں ختم کیا جاسکے؛
- (ii) ایسے اقدامات کے اخراجات کا تخمینہ لگانے اور ان کے لیے بجٹ مختص کرنے کی رہنمائی فراہم کی جاسکے؛ اور
- (iii) عملدرآمد کرنے والے اداروں کو منصوبے سے وابستہ خطرات اور اثرات سے مؤثر طور پر نمٹنے میں معاونت دی جاسکے، جس میں ماحولیاتی و سماجی خطرات کے بہتر انتظام کے لیے ادارہ جاتی استعداد کار میں اضافہ بھی شامل ہے۔

ممکنہ ماحولیاتی و سماجی اثرات اور تدارکی اقدامات

GRADES-STP اور GRADES-P منصوبوں سے وابستہ ماحولیاتی اور سماجی اثرات کا جائزہ لینے کے بعد یہ اندازہ کیا گیا ہے کہ ان کی نوعیت معتدل درجے کی ہوگی اور ان کے اثرات محدود اور مخصوص مقامات تک رہیں گے۔ تاہم، یہ منصوبے صوبے میں خواندگی کی شرح اور تعلیمی معیار میں بہتری کے حوالے سے مثبت تبدیلی کا باعث بنیں گے۔ تعمیرات اور مرمتی سرگرمیوں کے دوران ارد گرد کے ماحول، مقامی آبادی، طلبہ اور اسکول عملے پر عارضی، محدود اور قابل تلافی ماحولیاتی، صحت اور حفاظتی اثرات مرتب ہو سکتے ہیں۔ یہ اثرات نکاسی آب میں رکاوٹ، گندے پانی کے جمع ہونے، مٹی اور زیر زمین پانی کی آلودگی، گرد و غبار، شور اور تعمیراتی سرگرمیوں سے وابستہ پیشہ ورانہ صحت و سلامتی کے خطرات کی صورت میں سامنے آ سکتے ہیں۔ اس کے علاوہ تعمیراتی سامان کے غیر مناسب استعمال، سیوریج کے ناقص انتظام اور گاڑیوں و ٹرکوں کی آمد و رفت بھی تعمیراتی مقامات اور ملحقہ آبادی کے لیے خطرات کا باعث بن سکتی ہے۔

GRADES-STP کے تحت بھی محدود نوعیت کے تعمیراتی کام، خصوصی ضروریات اور معذوری کے حامل بچوں کے لیے ریہیس کی تعمیر، چھوٹے پیمانے پر مرمت، اور اسکولوں و غیر رسمی تعلیمی اداروں (NFEIs) میں آئی سی ٹی آلات کی تنصیب یا تبدیلی کے باعث عارضی اور مقامی نوعیت کے ماحولیاتی اثرات پیدا ہو سکتے ہیں۔ ان میں گرد و غبار، شور، محدود تعمیراتی فضلہ، برقی حفاظتی خطرات اور تعمیر و تنصیب کے دوران صحت و سلامتی سے متعلق مسائل شامل ہو سکتے ہیں۔ مزید برآں، پرانے کمپیوٹرز، ٹیلیفون، بیٹریوں، وائرنگ اور دیگر الیکٹرانک آلات کے ضائع ہونے سے الیکٹرانک فضلہ (E-waste) پیدا ہوگا، جس کے محفوظ ذخیرہ، ترسیل اور تلافی کو یقینی بنانا ضروری ہوگا تاکہ مٹی، پانی اور انسانی صحت پر منفی اثرات سے بچا جاسکے۔

منصوبے کے عملی مرحلے میں طلبہ، اساتذہ، اسکول عملے اور مقامی آبادی کو صحت اور ماحولیات سے متعلق خطرات کا سامنا ہو سکتا ہے، خاص طور پر اگر واش رومز اور ہاتھ دھونے کی سہولیات میں پانی کی قلت ہو، سیوریج کا مناسب انتظام نہ ہو، پینے کے صاف پانی کی فراہمی نا کافی ہو، یا صفائی ستھرائی سے متعلق سہولیات اور جراثیم کش اشیاء کی فراہمی معیاری نہ ہو۔ پاکستان میں عمومی طور پر، اور خصوصاً جنوبی پنجاب کے اُن علاقوں میں جہاں زیر زمین پانی کھارا ہے، اسکولوں میں محفوظ پینے کے پانی کی فراہمی ایک بڑا مسئلہ ہے۔ آلودہ پانی کے باعث طلبہ اور اساتذہ صحت کے مختلف خطرات سے دوچار ہو سکتے ہیں۔ اس تناظر میں ہنگامی صورتحال، عمارتوں کی مضبوطی، آگ، زلزلے اور محفوظ انخلا جیسے معاملات کو بھی خصوصی اہمیت دی جائے گی۔

GRADES-STP کے تحت عملی مرحلے میں آئی سی ٹی آلات سے متعلق برقی اور آتشزدگی کے خطرات بھی موجود ہو سکتے ہیں، جن میں ناقص وائرنگ، برقی نظام پر اضافی بوجھ، آلات کی غیر محفوظ تنصیب اور مناسب دیکھ بھال کا فقدان شامل ہے۔ مزید یہ کہ آئی سی ٹی آلات کے محفوظ استعمال سے متعلق آگاہی کی کمی، الیکٹرانک فضلہ کا غیر مناسب ذخیرہ، اور رسائی سے متعلق سہولیات کا ناقص انتظام طلبہ، سہولت کاروں اور مقامی افراد کے لیے خطرات پیدا کر سکتا ہے، خصوصاً غیر رسمی اور گھریلو تعلیمی ماحول میں۔ ان خطرات کے تدارک کے لیے برقی تحفظ، آتشزدگی سے بچاؤ، آلات کی محفوظ تنصیب، الیکٹرانک فضلے کے ذمہ دارانہ انتظام اور ریہیس سمیت رسائی کی سہولیات کے محفوظ استعمال کو یقینی بنایا جائے گا۔

اہم سماجی مسائل کا تعلق اسکولوں کی توسیع، اپ گریڈیشن اور نئے اسکولوں کی تعمیر کے منصوبوں سے ہے۔ اضافی کلاس رومز اور واش رومز جیسی سہولیات کی تعمیر کے دوران طلبہ اور

عملی کی صحت و سلامتی، تعمیراتی سرگرمیوں سے وابستہ خطرات، سکیورٹی مسائل اور صنفی بنیاد پر تشدد (GBV) جیسے امور اہم خدشات ہوں گے۔ نئے اسکولوں کی تعمیر اور توسیع کے دوران زمین کے حصول اور استعمال سے متعلق مسائل بھی سامنے آسکتے ہیں۔ لہذا، ترقیاتی عمل کے دوران ضروری سہولیات کی فراہمی کے ساتھ ساتھ متوقع ماحولیاتی و سماجی خطرات کے تدارکی اقدامات کو بھی یقینی بنایا جائے گا۔ تاہم، یہ خطرات زیادہ تر محدود اور مخصوص مقامات تک رہنے کی توقع ہے۔

اس امر پر خصوصی توجہ دی جائے گی کہ اسکولوں کے انتخاب اور تعمیر کا عمل مساوات اور شمولیت کے اصولوں کے مطابق ہو، کیونکہ پاکستان میں تعلیمی انفراسٹرکچر کے کئی منصوبے مقامی اثر و رسوخ اور طاقت کے ڈھانچوں سے متاثر ہوتے ہیں، جہاں مختلف فریقین کے مفادات شامل ہوتے ہیں۔ اس بات کا بھی خدشہ موجود ہے کہ دیہی اور دور دراز علاقوں یا نسلی، لسانی اور مذہبی اقلیتوں پر مشتمل آبادیوں میں موجود اسکول منصوبے کے فوائد سے محروم رہ جائیں۔

GRADES-STP کے تحت غیر رسمی تعلیمی اداروں (NFEIs) اور کمیونٹی یا گھریلو تعلیمی ماحول میں سماجی خطرات نسبتاً زیادہ ہو سکتے ہیں۔ ان میں بچوں کے تحفظ، جنسی استحصال و ہراسانی (SEA/SH)، بچوں پر تشدد (VAC)، کمیونٹی کی سلامتی، اور غیر رسمی ماحول کی وجہ سے لیبر اور کام کے حالات سے متعلق مسائل شامل ہیں۔ اسی طرح رسائی کے لیے ریہیس کی تعمیر بھی اگر مناسب انداز میں نہ کی جائے تو عارضی طور پر نقل و حرکت اور سلامتی کے مسائل پیدا کر سکتی ہے۔ ان خطرات کے تدارک کے لیے ضابطہ اخلاق، بچوں کے تحفظ کے اقدامات، SEA/SH سے متعلق حفاظتی طریقہ کار، کمیونٹی آگاہی، رسائی سے متعلق جامع ڈیزائن اور مؤثر شیکائی نظام متعارف کروائے جائیں گے۔

منصوبے کے جزیو 1 اور 3 سے مثبت سماجی اثرات کی توقع ہے، کیونکہ ان کے ذریعے اساتذہ کی رہنمائی اور معاونت کے نظام کو وسعت دی جائے گی، ٹیکنالوجی کے استعمال کو فروغ ملے گا، اور اسکول مینجمنٹ اور استاد و طالب علم کے تعلقات میں بہتری آئے گی۔ تاہم، اساتذہ اور منتظمین میں تکنیکی مہارت کے مختلف درجات منصوبے کے نتائج میں تفاوت کا باعث بن سکتے ہیں۔ اسی لیے GRADES-STP کے تحت خصوصی تربیت اور استعداد کار میں اضافے کے اقدامات کیے جائیں گے تاکہ ٹیکنالوجی کا مؤثر اور مساوی استعمال یقینی بنایا جاسکے، خصوصاً معذور بچوں اور غیر رسمی تعلیمی اداروں کے طلبہ کے لیے۔

مجموعی طور پر منصوبے سے وابستہ ماحولیاتی و سماجی اثرات معتدل نوعیت کے، عارضی اور قابل تلافی ہوں گے۔ منصوبے کے مختلف مراحل میں خطرات کی شدت مختلف ہو سکتی ہے۔ ان خطرات سے نمٹنے کے لیے متعدد تدارکی اقدامات تجویز کیے گئے ہیں۔ اس دستاویز میں شامل رہنما اصولوں اور ہدایات پر مؤثر عملدرآمد اس امر کو یقینی بنائے گا کہ منصوبے کے دوران پیدا ہونے والے ممکنہ منفی اثرات کو مناسب انداز میں قابو کیا جاسکے۔

ماحولیاتی و سماجی انتظامی فریم ورک کا نفاذ

GRADES-STP اور GRADES-P دونوں منصوبوں کے لیے ماحولیاتی و سماجی انتظامی فریم ورک (ESMF) پر عملدرآمد محکمہ اسکول ایجوکیشن (SED) کے تحت قائم پروگرام مانیٹرنگ اینڈ امپلمینٹیشن یونٹ (PMIU) اور اسٹریٹیجک مینجمنٹ یونٹ (SMU) کے ساتھ ساتھ اسکول کونسلز کے ذریعے کیا جائے گا۔ PMIU ماحولیاتی و سماجی خطرات کے مؤثر انتظام، معیار کی نگرانی اور مقررہ ٹائم لائنز کی پابندی کو یقینی بنانے کے لیے رابطہ کاری کرے گا، اور منصوبے کی پیش رفت کے دوران رہنمائی اور معاونت بھی فراہم کرے گا۔

GRADES-STP کے لیے PMIU، آئی سی ٹی یونٹ، غیر رسمی تعلیمی اداروں (NFEIs) کی انتظامیہ اور متعلقہ عملدرآمدی شراکت داروں کے ساتھ مل کر کام کرے گا تاکہ ماحولیاتی و سماجی خطرات کا مؤثر انتظام یقینی بنایا جاسکے۔ ان میں چھوٹے پیمانے کے تعمیراتی کام، معذور بچوں کے لیے رسائی ریہیس کی تعمیر، آئی سی ٹی آلات کی تنصیب، برقی تحفظ، الیکٹرانک فضلے (E-waste) کا انتظام، اور رسمی و غیر رسمی تعلیمی ماحول میں بچوں کے تحفظ سے متعلق امور شامل ہیں۔

ESMP کی نگرانی منصوبے کے تعمیراتی اور عملی دونوں مراحل میں ضروری ہوگی۔ ESMP میں ماحولیاتی و سماجی پہلوؤں کے اہم اشاریے، نگرانی کے طریقہ کار، عملدرآمد کی تفصیل، ان کی جانچ کی فریکوئنسی، اور متعلقہ ذمہ داران کی نشاندہی کی گئی ہے۔ PMIU اور SMU اپنے عملدرآمدی شراکت داروں اور کنٹریکٹرز (جہاں قابل اطلاق ہو) کے ذریعے ESMP پر عملدرآمد کے ذمہ دار ہوں گے۔ محکمہ اسکول ایجوکیشن (SED) طے شدہ طریقہ کار کے مطابق عالمی بینک کو پیش رفت کی رپورٹس فراہم کرے گا۔

منصوبے کے تحت درج ذیل ماحولیاتی و سماجی آلات (E&S Instruments) تیار کیے گئے ہیں، جنہیں منصوبے کی نوعیت اور ضروریات کے مطابق تدارکی اقدامات کے لیے استعمال کیا جائے گا۔ PMIU عالمی بینک کے ساتھ مشاورت کے بعد ان کے استعمال کے طریقہ کار اور ٹولز کا تعین کرے گا:

☆ ماحولیاتی و سماجی انتظامی فریم ورک (ESMF)

☆ ری سیٹلمنٹ پالیسی فریم ورک (RPF)

☆ لیبر مینجمنٹ پروسیجر (LMP)

☆ اسٹیک ہولڈر انگیجمنٹ پلان (SEP)

ادارہ جاتی فریم ورک

پنجاب اسکول ایجوکیشن ڈیپارٹمنٹ (SED)، GRADES-P اور GRADES-STP دونوں منصوبوں کے مجموعی نفاذ کا ذمہ دار ادارہ ہوگا۔ ان منصوبوں پر عملدرآمد پروگرام مانیٹرنگ اینڈ ایملیمنٹیشن یونٹ (PMIU) کے ذریعے کیا جائے گا، جو منصوبہ بندی، عملدرآمد کی نگرانی، مانیٹرنگ، رپورٹنگ اور عالمی بینک کے ماحولیاتی و سماجی فریم ورک (ESF) کے تحت مالیاتی و ماحولیاتی و سماجی تقاضوں کی تکمیل سمیت تمام امور کے لیے مرکزی رابطہ کار ادارے کے طور پر کام کرے گا۔

GRADES-P کے تحت سول ورکس اور انفراسٹرکچر سے متعلق سرگرمیاں منظور شدہ صوبائی اسکول کنسٹرکشن اسٹریٹیجی کے مطابق، محکمہ اسکول ایجوکیشن کی نوٹیفائی کردہ انتظامی ترتیبات کے تحت انجام دی جائیں گی۔ روزمرہ عملدرآمد اور سائٹ لیول پر سرگرمیاں نامزد عملدرآمدی اداروں کے ذریعے کی جائیں گی، تاہم اس دوران ماحولیاتی و سماجی تحفظات سے متعلق تمام تقاضوں کی مکمل پابندی کو یقینی بنایا جائے گا۔

ایک ڈیپارٹمنٹل ریویو کمیٹی (DRC) قائم کی جائے گی جس کی صدارت سیکریٹری SED کریں گے اور اس میں متعلقہ ذیلی اداروں کی نمائندگی شامل ہوگی۔ یہ کمیٹی ہر سہ ماہی بنیاد پر اجلاس منعقد کرے گی تاکہ سول ورکس اور ماحولیاتی و سماجی تحفظات پر عملدرآمد کا جائزہ لیا جاسکے، رابطہ کاری کے مسائل حل کیے جائیں، اور عملدرآمدی چیلنجز کو دور کیا جاسکے۔ منصوبے کی پیش رفت سے متعلق ششماہی رپورٹس پر وجیکٹ اسٹیرنگ کمیٹی (PSC) میں پیش کی جائیں گی۔

مجموعی اسٹریٹیجک نگرانی پر وجیکٹ اسٹیرنگ کمیٹی (PSC) کے ذمہ ہوگی، جس کی صدارت چیئرمین پنجاب پلاننگ اینڈ ڈیولپمنٹ بورڈ کریں گے۔ یہ کمیٹی پالیسی رہنمائی فراہم کرے گی، مجموعی پیش رفت کا جائزہ لے گی، اور منصوبوں کو صوبائی ترقیاتی ترجیحات سے ہم آہنگ بنانے کو یقینی بنائے گی۔ یہ منصوبے پنجاب ایجوکیشن سیکٹر ریفارم پروگرام (PESRP) کے وسیع فریم ورک کے تحت نافذ کیے جائیں گے، جو تعلیمی اصلاحات کو مربوط کرتا ہے اور اسی اسٹیرنگ کمیٹی کو رپورٹ کرتا ہے۔

PMIU کی قیادت ایک پروگرام ڈائریکٹر (PD) کرے گا، جسے انتظامیہ، مالیاتی نظم و نسق، خریداری (Procurement)، انفراسٹرکچر، اور ماحولیاتی و سماجی انتظام (ESM) کے شعبوں پر مشتمل خصوصی ٹیموں کی معاونت حاصل ہوگی۔ PMIU کے اندر موجود ماحولیاتی و سماجی ماہرین (E&S Specialists) GRADES-P اور GRADES-STP کے ESMF کی مجموعی تعمیل، عالمی بینک سے رابطہ کاری، اور ماحولیاتی و سماجی تحفظات پر عملدرآمد کی نگرانی کے ذمہ دار ہوں گے۔

PMIU ایک آزاد ماحولیاتی و سماجی کنسلٹنسی فرم کو تعینات کرے گا جو ضلعی سطح پر ماحولیاتی و سماجی سرویز کرے گی اور منظور شدہ ESMF اور عالمی بینک ESF کے مطابق سائٹ اسپیکفک تدارکی اقدامات اور ضلعی ESMPs تیار کرے گی۔ یہ فرم اسکریننگ، رسک ایسیسمنٹ، ESMPs اور ESMP چیک لسٹس کی تیاری، اور سیف گارڈ دستاویزات کی اشاعت میں معاونت کی ذمہ دار ہوگی۔ تمام ESMPs پر عملدرآمد سے قبل PMIU کی منظوری لازمی ہوگی، اور انہیں ٹیکنیکل ڈیزائنز، بلز آف کوآنڈیٹر (BoQs)، بولی کے دستاویزات اور کنٹریکٹس میں شامل کیا جائے گا۔ جہاں ضرورت ہو، سیف گارڈ دستاویزات عالمی بینک کو نظر ثانی اور عدم اعتراض (No Objection) کے لیے پیش کی جائیں گی۔

ESMP اقدامات پر عملدرآمد کی ذمہ داری عملدرآمدی اداروں اور کنٹریکٹرز پر ہوگی۔ E&S، PMIU کنسلٹنسی فرم کی معاونت سے، باقاعدہ سائٹ معائنہ کرے گا، تعمیل کی نگرانی کرے گا، خلاف ورزیوں کو ریکارڈ کرے گا، اور بروقت اصلاحی اقدامات کو یقینی بنائے گا۔ شفافیت اور احتساب کو مزید مضبوط بنانے کے لیے تھرڈ پارٹی مانیٹرنگ (TPM) کا نظام بھی اختیار کیا جاسکتا ہے تاکہ تعمیریاتی معیار، پیش رفت اور ماحولیاتی و سماجی تقاضوں کی آزادانہ جانچ کی جاسکے۔ نگرانی اور تھرڈ پارٹی مانیٹرنگ کے نتائج PMIU کے ذریعے مرتب کر کے اسٹیرنگ کمیٹی اور عالمی بینک کو پیش کیے جائیں گے۔

PMIU Environmental and Social Commitment Plan (ESCP) کے مطابق ہر ششماہی بنیاد پر عالمی بینک کو ماحولیاتی و سماجی پیش رفت رپورٹ پیش کرے گا، جس میں ESMP پر عملدرآمد کی صورتحال، گریوینس ریڈریسل میکانزم (GRM) کی کارکردگی اور کیس لوڈ، لیبر اور ورکنگ کنڈیشنز کی تعمیل، اسٹیک ہولڈر انگیجمنٹ سرگرمیاں، رپورٹ ہونے والے واقعات اور ان کے حل کی صورتحال، SH/SEA کیس مینجمنٹ، زمین کے حصول یاری سیٹلمنٹ کی صورتحال، اور ماحولیاتی و سماجی نگرانی کے نتائج شامل ہوں گے۔ اس رپورٹ میں دوران مدت سامنے آنے والی کسی بھی عدم تعمیل اور اس کے تدارک کی اقدامات کو بھی نمایاں کیا جائے گا۔

اسی طرح، معاہداتی ماحولیاتی و سماجی ذمہ داریوں کے تحت کنٹریکٹر ہر ماہ PMIU کو ماحولیاتی و سماجی پیش رفت رپورٹ پیش کرے گا، جس میں سائٹ لیول ESMP اور ESMP-C پر عملدرآمد، افرادی قوت اور لیبر مینجمنٹ، پیشہ ورانہ صحت و سلامتی کے واقعات، فضلہ اور اخراج کے انتظام، کمیونٹی شکایات اور ان کا ازالہ، SH/SEA واقعات اور ضابطہ اخلاق کی تعمیل، سائٹ معائنہ نتائج، اور پچھلے اقدامات پر اصلاحی پیش رفت شامل ہوگی۔

اسی طرح، اپنی ذمہ داریوں کے دائرہ کار اور PMIU کی مقرر کردہ فریکوئنسی کے مطابق سپرویزن کنسلٹنٹ ایک ماحولیاتی و سماجی مانیٹرنگ رپورٹ تیار کرے گا، جس میں سائٹ لیول ESMP کی تعمیل کے مشاہدات، کنٹریکٹر کی ماہانہ رپورٹس کی تصدیق، پیشہ ورانہ صحت و سلامتی کے مشاہدات، کمیونٹی اور اسٹیک ہولڈر فیڈ بیک، GRM کی فعالیت کا جائزہ، لیبر آڈٹس، SH/SEA سے بچاؤ اور رد عمل کے نظام کی صورتحال، اور دوران رپورٹنگ سامنے آنے والے نئے ماحولیاتی و سماجی خطرات شامل ہوں گے۔ رپورٹ میں اصلاحی اقدامات کا ٹریکنگ سسٹم اور مستقبل کی بہتری کے لیے سفارشات بھی شامل ہوں گی۔

اسٹیک ہولڈرز سے مشاورت

اسٹیک ہولڈرز سے مراد وہ افراد یا گروہ ہیں جو منصوبے سے متاثر ہو سکتے ہیں یا ہونے کا امکان رکھتے ہیں (affected parties-project)، اسی طرح وہ تمام فریقین بھی شامل ہیں جن کی اس منصوبے میں دلچسپی ہو سکتی ہے (other interested parties)، جیسا کہ عالمی بینک کے ماحولیاتی و سماجی فریم ورک (ESF) کے ESS10 کے مطابق بیان کیا گیا ہے۔ P-GRADES اور STP-GRADES دونوں منصوبوں کے لیے علیحدہ اسٹیک ہولڈر انگیجمنٹ پلانز (SEPs) تیار کیے گئے ہیں، جو منصوبے کے پورے دورانیے میں اسٹیک ہولڈرز کی نشاندہی، مشاورت، معلومات کی فراہمی، اور شکایات کے نظام (GRM) کی رہنمائی فراہم کرتے ہیں۔ ان SEPs پر عملدرآمد PMIU میں موجود سوشل ڈویلپمنٹ اسپیشلسٹ کے ذریعے کیا جائے گا، اور منصوبے کی پیش رفت، سرگرمیوں اور اسٹیک ہولڈرز کی ضروریات میں تبدیلی کے مطابق انہیں وقفہ وقتاً بوقت ڈیٹ کیا جاتا رہے گا۔

دونوں منصوبوں کے لیے ESMF اور SEPs کی تیاری کے دوران صوبائی، ضلعی، تحصیل اور اسکول/کمیونٹی سطح پر وسیع اسٹیک ہولڈر مشاورت کی گئی۔ ان مشاورتی اجلاسوں میں محکمہ اسکول ایجوکیشن پنجاب، محکمہ اسپیشل ایجوکیشن پنجاب، لٹریسی اینڈ نان فارمل بیسیک ایجوکیشن ڈیپارٹمنٹ پنجاب، اسکول ہیڈز، اساتذہ، والدین، اسکول مینجمنٹ کمیٹی، مقامی کمیونٹیز اور دیگر متعلقہ فریقین شامل تھے۔ اس کے علاوہ فوکس گروپ ڈسکشنز (FGDs) اور تفصیلی انٹرویوز بھی کیے گئے۔ ان مشاورتوں کے دوران حاصل ہونے والی آراء اور تحفظات کو باقاعدہ ریکارڈ کیا گیا اور انہیں منصوبے کے ڈیزائن، حفاظتی اقدامات اور عملدرآمد کی ترتیبات میں شامل کیا گیا ہے۔

GRADES-P کے تحت مشاورت کے اہم نتائج میں اسکول انفراسٹرکچر کی توسیع اور بحالی کی ضرورت کو نمایاں کیا گیا، جن میں اضافی کلاس رومز، باؤنڈری والز، واش رومز اور پانی، صفائی و حفظان صحت (WASH) کی بہتر سہولیات شامل ہیں۔ اسٹیک ہولڈرز نے اسکولوں کی حفاظت، صاف پینے کے پانی کی دستیابی، بہتر صفائی، اور موسمیاتی تبدیلی کے اثرات (جیسے سیلاب، شدید گرمی اور دیگر ماحولیاتی خطرات) سے نمٹنے کے لیے کلائمٹ ریزیلیٹ انفراسٹرکچر کی ضرورت پر زور دیا۔ تعمیریاتی مرحلے کے دوران صحت و سلامتی، فضلے کے انتظام، اور تدریسی عمل میں عارضی خلل سے متعلق خدشات بھی اٹھائے گئے، جنہیں ESMF اور ESMPs میں شامل تدارک کی اقدامات کے ذریعے حل کیا گیا ہے۔

GRADES-STP کے لیے مشاورت میں غیر رسمی تعلیم (Non-Formal Education - NFE) کو اسکول سے باہر بچوں (OOSC) تک رسائی اور تعلیمی

مساوات کے فروغ کے ایک اہم ذریعہ کے طور پر اجاگر کیا گیا۔ کمیونٹیز، والدین اور تعلیمی حکام نے چکدار تعلیمی نظام، تعلیمی مراکز کی کمیونٹی سے قربت، اور ثقافتی طور پر موزوں، بچوں کے لیے دوستانہ ماحول کی اہمیت پر زور دیا، خصوصاً لڑکیوں اور پسماندہ طبقات کے لیے۔ اس کے علاوہ محفوظ تعلیمی ماحول، تربیت یافتہ سہولت کار، بنیادی تعلیمی مواد، اور غیر رسمی سے رسمی تعلیم میں منتقلی کے واضح راستوں کی ضرورت کو بھی نمایاں کیا گیا۔

دونوں منصوبوں میں مشاورت کے دوران بچوں کے تحفظ، کمیونٹی صحت و سلامتی، صنفی مساوات، معذور بچوں کی شمولیت، اور شکایات کے ازالے کے نظام سے متعلق اہم سماجی امور پر زور دیا گیا۔ اسٹیک ہولڈرز نے ضابطہ اخلاق، محفوظ تعمیراتی طریقہ کار، رسائی کی سہولیات (accessibility features) اور کمیونٹیز کے ساتھ مسلسل رابطے کو شفافیت اور اعتماد کے لیے ناگزیر قرار دیا۔

GRADES-STP اور GRADES-P دونوں منصوبوں کے تحت اسٹیک ہولڈر انجمنٹ کا عمل منصوبے کے پورے دورانیے میں SEPs کے مطابق جاری رہے گا۔ SEPs میں مشاورتی طریقہ کار، معلومات کی فراہمی کے اصول، مشاورت کے اوقات کار، اور شکایات کے ازالے کے نظام کی تفصیلات شامل ہیں، جو رسمی اسکولوں اور غیر رسمی/کمیونٹی مبنی تعلیمی ماحول دونوں پر لاگو ہوں گی۔ جاری مشاورت کے نتائج کو منصوبے کے چکدار انتظام، ماحولیاتی و سماجی خطرات کے تذکرہ، اور مانیٹرنگ کے عمل میں شامل کیا جاتا رہے گا۔

کمیونٹی مشاورت سے حاصل شدہ آراء

کمیونٹی مشاورت کے دوران شرکاء نے متعدد اہم مسائل اور ضروریات کی نشاندہی کی۔ ان میں اضافی کلاس رومز کی تعمیر، پانی، صفائی و حفظان صحت (WASH) کی سہولیات تک رسائی میں اضافہ، اور دیہی علاقوں میں تعلیمی سہولیات کی بہتری کو بنیادی ترجیحات کے طور پر اجاگر کیا گیا۔ بعض اسکولوں میں باؤنڈری والز اور صفائی ستھرائی کی سہولیات ناکافی پائی گئیں، جبکہ موجودہ تعلیمی اداروں میں طلبہ کی بڑھتی ہوئی تعداد کو ایڈجسٹ کرنے کے لیے دستیاب جگہ بھی غیر تسلی بخش قرار دی گئی۔ دیہی علاقوں میں خصوصاً یہ بھی نشاندہی کی گئی کہ جماعت پنجم تک تقریباً 3 تا 5 فیصد مستقل ڈراپ آؤٹ کی شرح رپورٹ ہو رہی ہے، جس کی ایک بڑی وجہ کم عمری کی شادیاں بتائی گئی ہے۔ اس کے علاوہ اسکول انفارمیشن سسٹم (SIS) اور آئی ٹی سے متعلق اساتذہ کی تربیت کو مزید لازمی اور مؤثر بنانے کی ضرورت پر بھی زور دیا گیا، تاکہ تعلیمی انتظامی نظام اور تدریسی معیار کو بہتر بنایا جاسکے۔

ادارہ جاتی مشاورت سے حاصل شدہ آراء

ادارہ جاتی مشاورت کے دوران اسکولوں کی سہولیات میں توسیع کی ضرورت پر زور دیا گیا، خصوصاً موجودہ تعلیمی اداروں میں اضافی کلاس رومز، باؤنڈری والز اور واش رومز کی فراہمی کو ناگزیر قرار دیا گیا۔ اس کے ساتھ ساتھ اس بات پر بھی اتفاق پایا گیا کہ نئے ترقیاتی یا مرمتی کاموں کے دوران کسی بھی ہنگامی یا خطرناک صورتحال کی صورت میں عمارت میں موجود افراد کے محفوظ انخلا (safe evacuation) کے لیے مؤثر اور فوری انتظامات دستیاب ہونے چاہئیں۔

اسکول عمارتوں کی مرمت و بہتری، مٹی کے کھیل کے میدانوں کی بحالی، اور پانی، صفائی و حفظان صحت (WASH) کی سہولیات کی اپ گریڈیشن کو لڑکوں اور لڑکیوں کی تعلیمی شرکت میں اضافے کے لیے انتہائی اہم قرار دیا گیا۔

یہ بھی نشاندہی کی گئی کہ اسکول کی سطح پر مناسب منصوبہ بندی کے فقدان کی وجہ سے ماحولیاتی و سماجی تقاضوں پر عملدرآمد میں مسائل پیدا ہوتے ہیں، جن میں عمارتوں کی غیر موزوں ساخت، اور بیت الخلا و سپٹک ٹینکس کی غلط جگہ بندی کے باعث پانی اور مٹی کی آلودگی جیسے مسائل شامل ہیں۔

اسکولوں میں صفائی ستھرائی کے مناسب نظام (Good Housekeeping Practices) کی کمی بھی ایک اہم مسئلہ ہے، کیونکہ طلبہ اور اساتذہ سے پیدا ہونے والا مائع اور ٹھوس فضلہ بغیر کسی منظم طریقہ کار کے تلف کر دیا جاتا ہے۔ نتیجتاً مؤثر ویسٹ مینجمنٹ اور ڈسپوزل سسٹم کا فقدان پایا جاتا ہے۔

پانی کے معیار میں نمایاں کمی بھی ایک بڑا مسئلہ ہے، اور محفوظ پینے کے پانی کی فراہمی اکثر اسکولوں کے لیے ایک چیلنج بنی ہوئی ہے، خصوصاً جنوبی پنجاب کے اُن علاقوں میں جہاں زیر زمین پانی کھارا (saline) ہے۔ آلودہ پانی کے استعمال کے باعث طلبہ اور اساتذہ صحت کے مختلف خطرات سے دوچار ہیں۔ مزید برآں، اسکول عمارتوں کی تعمیر کے دوران کمیونٹی، طلبہ، اسکول عملے اور ارد گرد کے ماحول پر صحت و سلامتی سے متعلق اثرات کا امکان بھی ظاہر کیا گیا، جس کے لیے مؤثر تدارکی اور حفاظتی اقدامات کی ضرورت پر زور دیا گیا۔

صنعتی فریم ورک

ESMF کے تحت ایک صنعتی فریم ورک (Gender Framework) تجویز کیا گیا ہے جو GRADES-P اور سسٹم ٹرانسفارمیشن پروجیکٹ (STP) کے تحت نافذ کی جانے والی تمام سرمایہ کاریوں پر لاگو ہوگا۔ خواتین پاکستان کی آبادی کا تقریباً نصف حصہ ہیں، اور ترقی، معاشی نمو اور سماجی پیش رفت کے لیے ان کی مساوی شمولیت ناگزیر ہے۔ پاکستان نے صنعتی مساوات کے فروغ کے لیے متعدد بین الاقوامی اور آئینی ذمہ داریوں کو تسلیم کیا ہے، جن میں یونیورسل ڈیکلریشن آف ہیومن رائٹس، CEDAW، بیجنگ پلیٹ فارم فار ایکشن اور پائیدار ترقی کے اہداف (SDGs) شامل ہیں۔ تاہم ان وعدوں کے باوجود پاکستان عالمی صنعتی اشاریوں میں نسبتاً کم درجہ رکھتا ہے، جو اس بات کی نشاندہی کرتا ہے کہ صنعتی عدم مساوات کو کم کرنے کے لیے مسلسل اور منظم اقدامات کی ضرورت ہے۔

اس تناظر میں بچوں کی تعلیم 5SDG کے حصول اور دیگر پائیدار ترقی کے اہداف میں تیزی لانے کے لیے ایک مؤثر ترین ذریعہ ہے۔ بچوں کو محفوظ، جامع اور معیاری تعلیم تک رسائی دینا نہ صرف ان کی صلاحیتوں میں اضافہ کرتا ہے بلکہ ان کے انتخاب کے دائرہ کار کو وسیع کرتا ہے، نقصان دہ سماجی رویوں اور تشدد کے خطرات کو کم کرتا ہے، اور طویل المدتی معاشی خود مختاری کو فروغ دیتا ہے۔ شواہد سے ثابت ہے کہ بچوں کی تعلیم میں سرمایہ کاری کے وسیع تر سماجی و معاشی فوائد حاصل ہوتے ہیں، جن میں بہتر صحت، فیصلہ سازی میں خود مختاری، گھریلو سطح پر بااختیاری اور آنے والی نسلوں پر مثبت اثرات شامل ہیں۔ حکومت پاکستان نے بھی صنعتی مین اسٹریٹنگ کے لیے قومی سطح پر اصلاحاتی اقدامات کے ذریعے واضح پالیسی عزم ظاہر کیا ہے، جن میں نیشنل جینڈر پالیسی فریم ورک شامل ہے، جو تعلیمی منصوبہ بندی، عملدرآمد اور نگرانی میں صنعتی مساوات کے اہداف کو شامل کرنے کے لیے ایک مؤثر بنیاد فراہم کرتا ہے۔

اس پالیسی کو بنیاد بناتے ہوئے P-GRADES اور STP کے لیے صنعتی فریم ورک کو ایک رسک اور نتائج پر مبنی حکمت عملی کے طور پر نافذ کیا جائے گا۔ اس کے تحت:

- (i) صنعتی نقطہ نظر کو شامل کرتے ہوئے لڑکیوں کے داخلوں، تعلیمی تسلسل، منتقلی اور بنیادی تعلیمی مہارتوں میں حائل رکاوٹوں کی نشاندہی کی جائے گی، جن میں تحفظ، نقل و حرکت کے مسائل، نا کافی WASH سہولیات، صنعتی طور پر غیر حساس تعلیمی ماحول اور معذور بچوں کی شمولیت میں رکاوٹیں شامل ہیں؛
- (ii) صنعتی بنیاد پر تشدد (SH/SEA) اور بچوں کے تحفظ سے متعلق اقدامات کو مضبوط کیا جائے گا، جن میں ضابطہ اخلاق، خفیہ شکایتی نظام، ریفرل میکا نزم، کمیونٹی انگیجمنٹ اور عملدرآمدی اداروں و فرنٹ لائن عملے کی استعداد کار میں اضافہ شامل ہے؛
- (iii) انفراسٹرکچر اور خدمات کی فراہمی میں صنعتی حساسیت اور معذوری کے حامل افراد کی شمولیت کو یقینی بنایا جائے گا، تاکہ محفوظ، قابل رسائی اور موزوں تعلیمی ماحول فراہم کیا جاسکے
- (iv) احتسابی نظام کو صنعتی اشاریوں، باقاعدہ رپورٹنگ اور صنعتی و معذوری کے لحاظ سے الگ الگ ڈیٹا کے استعمال کے ذریعے مضبوط بنایا جائے گا، تاکہ پیش رفت کی نگرانی اور ضروری اصلاحی اقدامات ممکن بنائے جاسکیں۔

PMIU کی جینڈر اسپیشلسٹ کے ذریعے تیار کردہ ایک صنعتی ایکشن پلان دونوں منصوبوں میں صنعتی تجزیہ اور عملدرآمد کی رہنمائی کرے گا۔

شکایات کے ازالے کا نظام

منصوبے کے لیے ایک مخصوص شکایات کے ازالے کا نظام (GRM) قائم کیا جائے گا، جو PMIU کے موجودہ نظام سے منسلک ہوگا اور مختلف ذرائع سے موصول ہونے والی شکایات اور تحفظات کو وصول کرے گا۔ PMIU / سیف گارڈز آفس کے تحت ایک گریوینس ریڈریسل سیل قائم کیا جائے گا، جو پروگرام ڈائریکٹر (PD) کی نگرانی میں کام کرے گا۔ اس نظام کے تحت اضلاع کی سطح پر کمیٹیاں تشکیل دی جائیں گی، تاکہ ایک مرحلہ وار (tiered) طریق کار کے ذریعے شکایات کا مؤثر حل ممکن بنایا جاسکے۔ GRM کو دو سطحی (tiered-two) نظام کے طور پر قائم کیا جائے گا: ایک سطح ضلعی ہوگی جہاں مقامی طور پر فوری طور پر شکایات کا ازالہ کیا جائے گا، جبکہ دوسری سطح PMIU کی ہوگی جہاں اُن معاملات کا جائزہ لیا جائے گا جو مقامی سطح پر حل نہ ہو سکیں یا زیادہ پیچیدہ نوعیت کے ہوں۔

شکایات کو وصول کرنے، درج کرنے اور ان کی جانچ کے لیے ایک باقاعدہ نظام قائم کیا جائے گا، اور تمام شکایات کو مقررہ وقت کے اندر اندر تحقیق کے بعد حل کیا جائے گا۔ تمام شکایات اور ان کے ازالے کا ریکارڈ ایک مرکزی ڈیٹابیس میں محفوظ کیا جائے گا، جسے روزانہ کی بنیاد پر اپ ڈیٹ کیا جائے گا۔ یہ ریکارڈ شکایت کے مقام اور نوعیت کے مطابق الگ الگ رکھا جائے گا، اور اس میں شکایت کے حل کے لیے کیے گئے اقدامات اور ان کی تکمیل کی تاریخوں کی مکمل تفصیل شامل ہوگی۔

معلومات کی فراہمی اور اشاعت

ماحولیاتی و سماجی انتظامی فریم ورک (ESMF) کا عالمی بینک کے ساتھ جائزہ لیا جائے گا اور اس کی منظوری کے بعد اسے PESRP-PMIU کی ویب سائٹ کے ذریعے اور عالمی بینک کے پلیٹ فارم پر عام کیا جائے گا۔ ESMF کے ایگزیکٹو سمری کو مقامی زبان میں ترجمہ کیا جائے گا اور اسے بھی PESRP-PMIU کی ویب سائٹ پر شائع کیا جائے گا۔ اس کے ساتھ ساتھ یہ دستاویز منصوبے سے متاثرہ کمیونٹیز اور متعلقہ اسٹیک ہولڈرز کی رسائی کے لیے دستیاب بنائی جائے گی، تاکہ شفافیت اور مؤثر معلومات کی فراہمی کو یقینی بنایا جاسکے۔

اسٹیک ہولڈرز کی استعداد کار میں اضافہ

منصوبے کے تعمیراتی اور عملی مراحل کے دوران ماحولیاتی و سماجی اثرات کے تدارکاتی اقدامات کے مؤثر نفاذ، نگرانی، جائزہ، اور رپورٹنگ کے لیے متعلقہ اسٹیک ہولڈرز کی استعداد کار میں اضافہ ناگزیر ہوگا۔ اس سلسلے میں عملدرآمدی اداروں کے لیے ماحولیاتی و سماجی اثرات، ان کے تدارک، اور موسمیاتی تبدیلی کے حوالے سے آگاہی پیدا کرنے کی ضرورت ہوگی۔ اس کے علاوہ الیکٹرانک ویسٹ مینجمنٹ پلان، SOPs EHSS-C، ماحولیاتی و سماجی اسسمنٹ اور مانیٹرنگ، لیبر مینجمنٹ پروسیجر (LMP)، گریوینس ریڈریسل میکانزم (GRM)، اسٹیک ہولڈر انگیجمنٹ پلان (SEP)، اور ری سیٹلمنٹ پالیسی فریم ورک (RPF) جیسے اہم پہلوؤں پر بھی تربیت فراہم کی جائے گی۔ منصوبے کے جزو کے طور پر ہیڈ کوارٹر کو بھی ماحولیاتی اور موسمیاتی تبدیلی سے متعلق آگاہی کی تربیت دی جائے گی۔

GRADES-STP اور GRADES-P کے تحت کنٹریکٹرز کے عمل کے لیے یہ لازمی ہوگا کہ وہ تعمیراتی کام کے آغاز سے قبل اور منصوبے کے مختلف مراحل کے دوران باقاعدہ تربیتی پروگرامز میں حصہ لیں۔ کنٹریکٹرز کی تربیت میں ESMF اور ESMP پر عملدرآمد، پیشہ ورانہ صحت و سلامتی (OHS)، مانیٹرنگ اور رپورٹنگ، صنفی بنیاد پر تشدد (GBV) اور بچوں کا تحفظ، معذور افراد کی شمولیت، فضلے کا انتظام، اور کمیونٹی ہیلتھ اینڈ سیفٹی جیسے موضوعات شامل ہوں گے۔ اس کے ساتھ ساتھ عالمی بینک کے ESF تقاضے، قومی و صوبائی قوانین، اسٹیک ہولڈر میپنگ اور انگیجمنٹ، منصوبے کے اثراتی علاقے میں ماحولیاتی و سماجی حساسیت، OHS مینجمنٹ پلان پر عملدرآمد، صنفی حساسیت، اور SH/SEA سے بچاؤ کے اقدامات پر بھی جامع تربیت فراہم کی جائے گی۔ کنٹریکٹرز پر یہ بھی لازم ہوگا کہ وہ سائٹ پر ایک مخصوص ESHS ماہر کو تعینات کریں،

SH/SEA سے متعلق ضابطہ اخلاق (Code of Conduct) جمع کرائیں اور اس پر عملدرآمد یقینی بنائیں، اور کنٹریکٹرز کا ماحولیاتی و سماجی انتظامی منصوبہ (ESMP-C) تیار اور نافذ کریں۔

ورکرز اور لیبر کے لیے خصوصی تربیت فراہم کی جائے گی جس میں ESMP پر عملدرآمد، لیبر مینجمنٹ پروسیجر، پیشہ ورانہ صحت و سلامتی، ہنگامی صورتحال سے نمٹنے کی تیاری، گریوینس ریڈریسل میکانزم، اور ضابطہ اخلاق شامل ہوں گے، اور یہ تمام تربیت تعمیریاتی کام شروع ہونے سے قبل مکمل کرنا لازم ہوگا اور بعد ازاں منصوبے کے دوران باقاعدگی سے جاری رکھی جائے گی۔ کمیونٹی انفریس پر کام کرنے والے کنٹریکٹرز کے لیے اسٹیک ہولڈر انگیجمنٹ، ماحولیاتی و سماجی آگاہی، کمیونٹی اور پیشہ ورانہ صحت و سلامتی، شکایات کے ازالے کے نظام کا استعمال، صنفی حساسیت، اور GRM کے تحت SH/SEA کیسز کے انتظام پر تربیت فراہم کی جائے گی۔ تمام تربیتی تقاضے پروجیکٹ آپریشنز مینوئل (POM) اور متعلقہ ماحولیاتی و سماجی دستاویزات کے مطابق نافذ کیے جائیں گے، جبکہ GRADES-PMIU کی ماحولیاتی و سماجی ٹیم جس میں ماحولیاتی ماہر، سوشل ڈویلپمنٹ اسپیشلسٹ اور جینڈر اسپیشلسٹ شامل ہوں گے، ان تمام سرگرمیوں کی نگرانی اور تعمیل کو یقینی بنائے گی۔

بجٹ

منصوبے کے تعمیریاتی اور عملی مراحل کے دوران ماحولیاتی و سماجی جائزے اور تدارکی منصوبے پر عملدرآمد کے لیے GRADES-P اور STP کے تحت متوقع بجٹ تقریباً 1.5 ملین امریکی ڈالر رکھا گیا ہے۔

3. INTRODUCTION

3.1. Overview

This chapter provides background of the both projects and its components to be financed by the World Bank and GPE profile of the proponent and the Environmental and Social Management Framework (ESMF) for the project. This framework will be applied to all the project components and its associated facilities¹, if any.

Punjab has a history of education reforms implemented over the years. These reforms have enabled to add value to the overall ability of the system to provide education at scale to the 11 million plus children enrolled in government schools across the province. It is important that going forward the successful elements of these reforms are continued and scaled up while also ensuring that the overall physical infrastructure of the schools is improved. The GoPb envisions the areas defined under Getting Results: Access and Delivery of Quality Education Services in Punjab (GRADES) Project will be aligned with the current vision of the Education Department, Punjab, that is to bring improvements in three key thematic areas; Access, Quality and Governance. At the same time STP project is a comprehensive initiative designed to enhance educational outcomes in Punjab.

3.2. Purpose of the ESMF

The purpose of the ESMF is to ensure compliance, inclusion and sustainability of environmental and social management requirements of the national laws and World Bank environmental and social framework for those GRADES-P and STP activities that are not yet defined and/or whose locations are unknown at the time the project was appraised. The ESMF describes the process of how environmental and social impacts will be assessed, addressed and managed during the project implementation, when the sub-projects will be identified in terms of technical aspects and location; as well as a set of measures for mitigation, monitoring and institutional responsibility that should be taken during the project implementation to eliminate adverse environmental and social impacts, their neutralization or reducing up to acceptable levels. The ESMF covers generic mitigation measures for possible impacts of different proposed activities to be supported by the both project; implementation arrangements for project environmental and social aspects, relevant capacity building activities, consultation process etc.

Rationale of the ESMF in the GRADES-P and STP Projects is supported by the World Bank through Investment Project Financing for which the compliance of Environmental and Social Standards (ESSs) is the responsibility of the PMIU to manage project's environmental and social impacts. As per ESS-1 (Assessment and Management of Environmental and Social Risks and Impacts), PMIU is required to prepare an Environmental and Social Management Framework (ESMF) for all activities under GRADES-P and STP Projects.

ESMF is an instrument that examines the risks and impacts when a project consists of a program and/or series of subprojects, and the risks and impacts cannot be determined until the program or subproject details have been identified. The ESMF sets out the principles, rules, guidelines and procedures to assess the environmental and social risks and impacts. It contains measures and plans to reduce, mitigate and/or offset adverse risks and impacts, provisions for estimating and budgeting the costs of such measures, and information on the agency or agencies responsible for addressing project risks and impacts, including on its capacity to manage environmental and social risks and impacts.

ESMF further identifies the responsibilities of project stakeholders, procedures for environmental and social safeguards screening, review and approval, monitoring and reporting requirements, as well as plans to enhance institutional capacity through capacity building activities.

3.3. Applicability of ESMF

The proposed projects interventions could have potential environmental and social impacts, which are most likely to be small scale, localized, and reversible in nature. Because of the nature of the grant funding

mechanisms of the projects, a framework approach is required to implement the environmental and social management guidelines for the both projects.

The Bank requires environmental and social management of associated impacts of projects proposed for Bank financing to help ensure that these are environmentally and socially sound and sustainable, and thus to improve decision making. By ensuring ESMF, the borrower, in this case the PMIU-PESRP, SED, GoPb, will:

- Avoid or mitigate adverse impacts to people and the environment;
- Conserve or rehabilitate biodiversity and natural habitats, and promote the efficient and equitable use of natural resources and ecosystem services;
- Promote worker and community health and safety;
- Ensure that there is no prejudice or discrimination toward project-affected individuals or communities and give particular consideration to Indigenous People, minority groups, and those disadvantaged or vulnerable, especially where adverse impacts may arise or development benefits are to be shared;
- Address project-level impacts on climate change and consider the impacts of climate change on the selection, siting, planning, design and implementation and decommissioning of projects; and
- Maximize stakeholder engagement through enhanced consultation, participation and accountability.

3.4. Approach and Methodology of the ESMF

This ESMF has been prepared by using primary and secondary information collected through a literature review, reconnaissance survey, institutional stakeholder consultations which includes:

- ✓ Government departments
- ✓ School Education Department
- ✓ Special Education Department
- ✓ Literacy & Non-Formal Basic Education Department
- ✓ Punjab Education Curriculum, Training and Assessment Authority
- ✓ Punjab Education Foundation
- ✓ District Education Authority
- ✓ P&DD, Health, Education
- ✓ Environmental Protection Department
- ✓ Traffic Police
- ✓ Local Govt. officials of District government
- ✓ Councilors
- ✓ NGOs/CBOs

The community consultation and primary stakeholders' participants involves:

- ✓ Local Community
- ✓ Business Community (Mobile Vendor/ Encroachers)
- ✓ Local Vulnerable person (Poor, Women Headed Household, Disabled)
- ✓ Academy
- ✓ School Council and Notables

This framework will be followed by PMIU, once the activities are identified during both projects' implementation and their location, technical and engineering details are available. The ESMF also provides the stakeholder engagement and involvement guidelines throughout the projects life cycle and mechanism to disclose projects information to them and redress the grievances of the affected communities.

PMIU will use this ESMF during the planning, designing, construction and operational phases of the both projects components to ensure safeguard compliance and to mitigate environmental and social impacts at all the stages of the projects as per the environmental and social management plan provided in the framework.² The sub-project may be termed as a target / selected school individually or at district level comprising the collective development of one or more than one schools as a whole.

4. PROJECT DESCRIPTION

4.1. Description of the GRADES-P Project

The School Education Department (SED), Government of Punjab, with financial and technical assistance from the World Bank, has implemented several education reform initiatives across the province. Building on these efforts, the Project Management and Implementation Unit (PMIU) under the Punjab Education Sector Reform Program (PESRP) is implementing a new project titled Getting Results: Access and Delivery of Quality Education Services in Punjab (GRADES-P).

GRADES-P aims to address persistent challenges related to access, equity, and learning outcomes in Punjab's education sector, with a particular focus on improving participation and learning outcomes for girls. One of the most critical constraints affecting girls' education is inadequate school infrastructure, including shortages of classrooms and insufficient water, sanitation, and hygiene (WASH) facilities. Evidence from Punjab shows that increased distance to schools disproportionately affects girls' enrolment, and more than half of primary schools lack sufficient classrooms, while approximately 48 percent do not meet minimum sanitation standards. National and international evidence demonstrates that improved school infrastructure particularly classroom construction significantly increases enrolment, improves retention, and enhances learning outcomes, especially for girls. GRADES-P is designed to address these constraints while supporting the broader education reform agenda of the Government of Punjab.

4.2. Project Development Objectives

The goal of this project is 'to increase girls' and boys' participation rates in pre-primary to elementary grades and enhance reading proficiency in primary grades.

4.3. Project Beneficiaries

The primary beneficiaries of GRADES-P are students enrolled in Early Childhood Care and Education (ECCE) and primary schools, particularly girls and children from underserved, remote, and climate-vulnerable areas. Secondary beneficiaries include teachers, headteachers, school administrators, and education managers who will benefit from improved infrastructure, enhanced teaching capacity, and strengthened governance systems. Communities and households will benefit indirectly through improved access to safe, inclusive, and quality education services.

The project will be implemented by SED with support from the World Bank through PMIU-PESRP. Classroom construction will be undertaken on existing government-owned land, with the Communication and Works (C&W) Department acting as the lead agency for construction activities.

4.4. Project Components

4.4.1. Component 1: Getting Results Agenda

This component supports Punjab's education reform agenda through Performance-Based Conditions (PBCs) aligned under three pillars: access, learning, and governance. Key interventions include gender- and disability-disaggregated enrolment and learning targets; expansion and strengthening of Public-Private Partnerships (PPPs) to enrol out-of-school children; learning recovery initiatives to address COVID-19-related learning losses; expansion of quality ECCE provision; teacher and headteacher capacity building including child protection and GBV prevention; strengthening student assessment

systems; and improved school financing mechanisms to incentivize learning outcomes and energy efficiency.

4.4.2. Component 2: Building climate-smart classrooms for a sustainable expansion of the school system

This component will support the construction of approximately 5,400 additional classrooms (ECCE to Grade 5), prioritizing girls' schools and high-demand areas. All classrooms will incorporate low-cost, climate-smart, and inclusive design features, including natural ventilation and lighting, heat-resistant and reflective roofing, raised plinths in flood-prone areas, water- and energy-efficient fittings, rainwater harvesting where feasible, tree plantation, and universal accessibility features such as ramps and handrails. Site selection will be informed by School Information System data and satellite-based mapping of out-of-school populations.

4.4.3. Component 3: Technical Assistance

This component will provide technical assistance for effective project implementation, including:

- (i) support to departments implementing PBCs;
- (ii) third-party verification and analytical studies;
- (iii) project staffing and coordination;
- (iv) supervision and monitoring of classroom construction, including environmental and social compliance; and
- (v) strengthening gender-based violence (GBV) reporting, referral, and response systems within schools.

4.5. Descriptions of the STP Project:

The GPE-funded System Transformation Project (STP) complements GRADES-P by focusing on improving learning quality, system capacity, and behavioral change across the same geographic areas. STP addresses enrolment, retention, and foundational literacy and numeracy through expansion of Early Childhood Education, non-formal education pathways for out-of-school children, inclusive education for girls and children with disabilities, structured pedagogy, teacher professional development, and strengthened assessment and data systems. Gender equity and inclusion are cross-cutting priorities implemented through coordinated action across SED, the Special Education Department (SpED), and the Literacy & Non-Formal Basic Education Department (L&NFBED).

4.6. STP Components:

4.6.1. Component 1: Provision of Access to Schooling

Supports expanded access to education through establishment of ECE classes, creation of Non-Formal Education Institutions (NFEIs) for out-of-school children, and provision of disability-friendly infrastructure and equipment in SpED institutes and selected SED schools.

4.6.2. Component 2: Improved Learning Outcomes

Strengthens foundational literacy and numeracy by improving teaching and learning materials, revising continuous professional development (CPD) frameworks, providing targeted teacher training, and enhancing classroom support and coaching mechanisms across SED, SpED, and L&NFBED.

4.6.3. Component 3: Enhancing System Capacity and Data Systems

Focuses on data standardization through unique student identifiers, gender-responsive planning via the Punjab Education Gender Cell (PEGC), financial management reforms, school empowerment, and strengthening assessment systems with emphasis on foundational learning.

4.6.4. Component 4: Influencing Behavioral Change

Implements a province-wide Communication and Outreach Strategy targeting parents and communities, with particular focus on areas with high out-of-school children and low gender parity, to improve enrolment, retention, and learning outcomes through increased awareness and parental engagement.

4.7. Project Beneficiaries

Primary beneficiaries include children across Punjab particularly out-of-school children, young learners in ECCE and primary grades, girls, and children with disabilities. Teachers, school leaders, district education staff, parents, and communities will also benefit through strengthened education systems and improved service delivery.

4.8. Project Location of GRADES-P and STP

Punjab is one of the four provinces of Pakistan, with an estimated population of approximately 110 million as of 2021. Both the GRADES-P Project and the System Transformation Project (STP) will be implemented in the same geographic locations, covering 145 tehsils across 36 districts of Punjab Province.

The project districts include Bahawalnagar, Bahawalpur, Rahim Yar Khan, D.G. Khan, Muzaffargarh, Rajanpur, Multan, Khanewal, Lodhran, Layyah, Bhakkar, Okara, Faisalabad, Jhang, Toba Tek Singh, Gujranwala, Gujrat, Sialkot, Narowal, Hafizabad, Sheikhupura, Lahore, Kasur, Nankana Sahib, Pakpattan, Mandi Bahauddin, Chiniot, Jhelum, Chakwal, Attock, Rawalpindi, Khushab, Mianwali, and Sargodha.

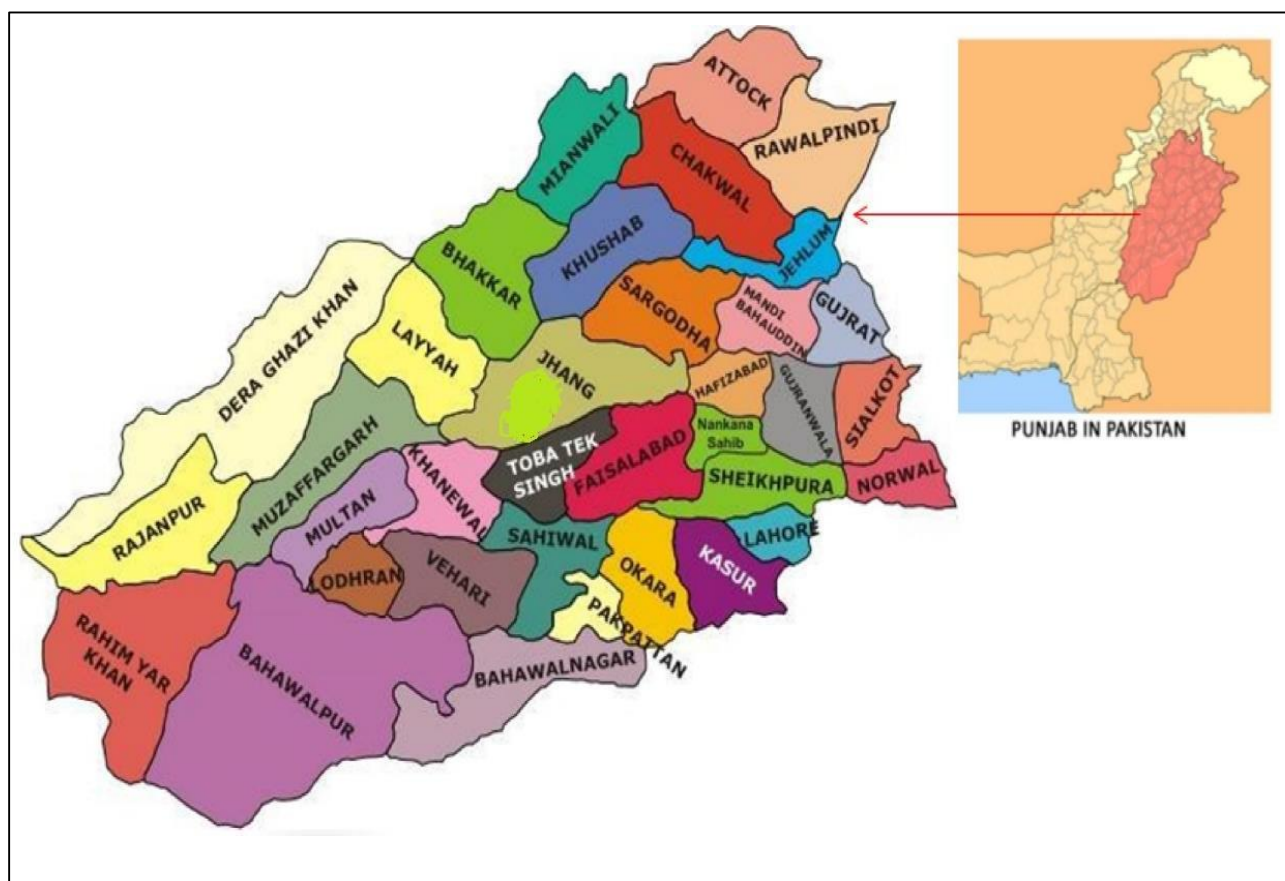


FIGURE 1: LOCATION MAP OF THE PROJECT AREA OF GRADES-P AND STP (PUNJAB)

5. OVERVIEW OF POLICY, LEGAL AND REGULATORY FRAMEWORK

5.1. Review of National Environmental & Social Policy, Legal and Regulatory Framework

This chapter briefly describes the national and provincial laws, policies, strategies, guidelines, codes and procedures, and World Bank's Environmental and Social Standards (ESSs) for the categorization, screening, environmental and social assessment and environmental and social compliance of the proposed project.

5.1.1. Constitution of Pakistan (1973) Gender Equality

The Constitution of Islamic Republic of Pakistan provides the principle of equal rights and equal treatment to all citizens/ persons, without any distinction including on the basis of sex. The following articles of Constitutional of Islamic Republic of Pakistan broadly cover women rights:

Article 3 calls upon the State to eliminate all forms of exploitation.

Article 4 provides for the right of individual to enjoy the protection of law and to be treated in accordance with the law. This applies to the citizens as well as “to every other person for the time being within Pakistan” without distinction. This article also clearly states that certain rights cannot be suspended.

Article 25 ensures equality before the law and equal protection of the law and states that there shall be no discrimination on the basis of sex alone.

Articles 25 (3) and 26 (2) allow the state to make special provisions for the protection of women and children.

Article 26 & 27 provide for equal access to public places and equality of employment in the public and private sector.

Articles 11 & 37 (g) prohibit trafficking in human beings as well as prostitution.

Article 32 makes special provisions for the representation of women in local Government.

Article 34 directs the state to take appropriate measures to enable women to participate in all spheres of life and social activities.

Article 35 asks the state to protect the marriage, the family, the mother and the child.

Article 37 (e) directs the state to make provisions 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 ensuring maternity benefits for women in employment

Articles 51 & 106 provide for the reservation of seats for women in the legislatures.

5.1.2. National Policies, Laws and Strategies

This section briefly describes different policies, laws, and strategies of the Government of Pakistan relevant for the proposed project mentioned in the previous chapters.

5.1.3. National Environmental Policy, 2005

The National Environmental Policy provides an overarching framework for addressing the environmental issues facing Pakistan, particularly pollution of freshwater bodies and coastal waters, air pollution, lack of proper waste management, deforestation, loss of biodiversity, desertification, natural disasters, and

climate change. It also gives directions for addressing the cross sectoral issues as well as the underlying causes of environmental degradation and meeting international obligations.

Policy measures recommends to i) enact the National Clean Air Act, ii) ensure reduction and control of harmful emissions through regulatory programs, iii) promote cleaner production technologies, iv) introduce discharge licensing systems for industry, v) establish cleaner production centers and promote cleaner production techniques and practices, vi) encourage reduction, recycling and reuse of municipal and industrial solid and liquid wastes, and vii) provide financial and other incentives (reduction/elimination of tariffs, low interest loans, appreciation certificates and awards) for technology up-gradation, adoption of cleaner technology, implementation of pollution control measures and compliance with environmental standards.

5.1.4. Pakistan Environmental Protection Act 1997

PEPA 1997 is the basic legislative tool empowering the Government to frame regulations for the protection of the environment. It is a comprehensive legislation and provides the basic legal framework for protection, conservation, rehabilitation, and improvement of the environment. The act is applicable to a wide range of issues and extends to air, water, soil, marine, and noise pollution, and to the handling of hazardous wastes.

Environmental pollution control associated with hazardous waste is addressed in this act under Section 13 and 14. Under Section 13 ‘Prohibition of Import of Hazardous Waste’, no person shall import hazardous waste into Pakistan and its territorial waters, Exclusive Economic Zone and historic waters. Under Section 14 ‘Handling Hazardous Substances’, no person shall generate, collect, consign, transport, treat, dispose of, store, handle or import any hazardous waste except under a license issued by the Federal Agency and in such manner as may be prescribed or in accordance with the provision of any other law or of any international treaty, convention, protocol, code, standard, agreement or other instruments to which Pakistan is a party.

The Review of IEE and EIA Regulations of Punjab regulation requires filing of IEE Performa for the construction of new schools only under Schedule III. Construction or expansion of new classrooms/WASH facilities within the existing schools do not require IEE Performa. One IEE for all new schools’ construction in target districts throughout the whole province will be done as discussed and confirmed by Environment Protection Department.

5.1.5. Climate Change Policy of Pakistan 2012

Climate Change Policy (CCP) establishes that urban areas in Pakistan are already affected by short-term climate changes. In the long term, it is predicted that urban areas located in the irrigated plains and coastal areas will be significantly affected by climate changes. It is predicted that due to climate changes, changes in hydrological cycle (intensive and erratic monsoon rains, flash floods, increased availability of water due to increased melting of glaciers in the short term, and decrease in water availability in the long term due to decrease in glacier flows) and increase in temperature will affect urban areas.

CCP recommends the following actions: develop city-specific strategic plans, prepare and enforce legislation for water resource management in industry and domestic sectors with special focus on groundwater, adopt water efficiency measures and technologies, adopt rain harvesting measures, avoid excessive groundwater pumping, reuse wastewater after treatment, take flood protection measures, assess the health vulnerabilities of communities and build their capacities, develop proper disaster management system, redesign and upgrade drainage capacity of cities, strengthen early warning systems, develop enabling mechanisms for the adoption of climate change adaptations and mitigation measures; and conduct awareness campaigns to underscore the importance of conservation and sustainable use of water resources.

Regarding environmental management and climate change resilience of cities, CCP recommends that cities should update town planning design principles for lowering carbon footprints, ensure proper land use planning and encourage vertical instead of horizontal expansion, install wastewater treatment plants, segregate solid waste at source, develop municipal infrastructure in the periphery of urban areas, and conduct hazard mapping and zoning of areas before construction.

5.1.6. Pakistan Climate Change Act 2016

The Prime Minister established Pakistan Climate Change Council which coordinates and supervises the enforcement of the provisions of the Act, monitor implementation of the international agreements relating to climate change, approve and monitor implementation of comprehensive adaptation and mitigation policies, strategies, plans, programs, projects and other measures formulated by the authority to meet Pakistan's international obligations, monitor the implementation of National Adaptation Plan and its constituent provincial and local adaptation action plans, approve guidelines for the protection and conservation of renewable and non-renewable resources, species, habitats and biodiversity adversely affected or threatened by climate change.

5.1.7. Pakistan Penal Code

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. In the context of this program, the Penal Code can provide a basis for the infrastructure projects to coordinate activities with the local authorities to ensure that construction and operation activities do not become a cause of public nuisance or inconvenience.

5.1.8. Hazardous Substance Rules 2003

Under the Hazardous Substance Rules 2003, made under PEPA 1997, license will be required for the import and transportation of hazardous substance from Federal or Provincial agency. The application for the grant of license for the industrial activity involving generation, collection, consignment, transport, treatment, disposal, storage, handling or import of hazardous substances, will also be accompanied with an ESMP. The validity of the license will be for three years from the date of issue. The licensee will notify any major accident occurring at licensed facility to provincial and federal agencies. There will be packing and labeling requirement, safety precautions for the premises and workers which will have to be followed. The licensed facility may be inspected by the provincial or federal staff.

5.1.9. Land Acquisition Act (1894)

In Pakistan, the governing legislation for land acquisition and compensation is the Land Acquisition Act (LAA) of 1894 with successive amendments, which regulates the land acquisition process and enables the federal and provincial governments to acquire private land for public purposes. Land acquisition is a provincial subject, and each province has its own interpretation of the Act, and some have their own province specific implementation rules.

The law deals with the matters related with acquisition of private land and other immovable properties existing on the land for the public purpose. The public purpose, *inter alia*, includes the construction of development projects of public interest. The LAA specifies a systematic approach for acquiring and compensation of land and other properties for development projects. It stipulates various sections pertaining to notifications, surveys, acquisition, compensation and apportionment awards and disputes resolution, penalties and exemptions.

The LAA prescribes provisions for fair and adequate compensation for land acquired involuntarily, however, its enforcement marred by many lacunas due to the bureaucratic ineptness and the whole process from notification to compensation and grievance resolution often encumbered with inordinate delays and under the guise of eminent domain the state coercively acquires the citizens property and agonizing and

pushing them in impoverishment with a little recourse. In addition, the LAA procedures do not entail the consultation and participation of affected people but leave the entire process to the discretion of the revenue department and implementing agency.

The framework of the LAA is generally considered to be constricted in scope and inadequately take into account the rehabilitation and resettlement of displaced populations and restoration of their livelihoods. The LAA also does not specifically provide any assistance for the poor, vulnerable or severely PAPs, nor does it cover for livelihood losses or resettlement costs for rehabilitation. Generally, it is limited to a cash compensation policy for the acquisition of land and built-up property, and damage to other assets such as crops, trees, and infrastructure. Consequently, a National Resettlement Policy and Resettlement Ordinance in 2002 with a wider scope of eligibility and entitlements had been drafted. However, the national policy and ordinance have yet to be officially approved, notified and enacted. In order to fill the vacuum, currently some transient measures are taken to compensate adversely affected non-titled people, non-registered tenants, businesses and wage workers under project specific arrangements for their rehabilitation, payment of resettlement costs and assistance for livelihood restoration.

For different range of infrastructural and developmental functions, land acquisition laws are applied. Land Acquisition Act of 1894 allows the various government departments LCs authorities to apply to relevant Boards of Revenue or other authorities for acquisition of land for public interest projects.

5.1.10. **Building Energy Code**

These codes address only the energy conservation aspects of the buildings used for human inhabitation such as residences, offices, shops, schools, hotels, government buildings etc. The buildings used for manufacturing, warehousing, storage, agriculture or industrial processes are exempted from this code. The buildings plans and specifications will be approved and allowed electric and gas connection or oil storage after all the requirements of this code are met. Buildings will be inspected for the compliance of the code. These codes address energy efficiency and conservation aspect of building envelope, roofs, ceiling, ventilation, and HVAC.

5.1.11. **Pakistan School Safety Framework**

Pakistan School Safety Framework, is formulated by Gender and Child Cell, National Disaster Management Authority with the support of UNICEF to provide policy guidance and to set a standard for the implementation of Comprehensive School Safety at national, provincial, district and school levels. The regulation intended to:

- Promote a safe learning environment for students, teachers and school staff against natural and human-induced disasters
- Ensure preparedness of the school community against hazards
- Enable schools to develop a comprehensive response mechanism in the event of a hazard or disaster
- Sensitize all stakeholders about their respective responsibilities in the realm of school safety
- Ensure child participation in building school safety and implementing risk reduction
- Clearly define all constituent elements of school safety in the context of Pakistan and to determine realistic standards for the adoption of meaningful DRR measures

This framework is intended to assist Ministry of Education and relative stakeholder departments, donors, development partners, public and private schools and informal educational institutions, to incorporate Pakistan School Safety Framework (PSSF) into their overall programming for education. School safety involves a conscious, systematized effort to assess risk from potential natural hazards (such as earthquakes, floods, landslides, and heat waves) and man-made hazards (such as fires, bomb threats, hostage situations, terrorist attacks, building collapse and toxic hazards) and to counter those risks. It involves planning and preparing so as to be secure from and able to respond effectively to threats or

hazards that may endanger the lives of students, teachers and others and/or disrupt educational continuity (i.e. student's continued learning in a conducive environment during and after a hazard has struck). School safety initiatives and programs are designed to promote safe physical, emotional, social and academic involvement.

5.1.12. Provincial Policies and Strategies, and Laws

This section briefly describes different laws, policies and strategies of the Punjab province for the environmental and social compliance of proposed project mentioned in the previous chapters.

5.1.13. Punjab Environmental Policy 2015

This policy addresses effluent and sewage treatment plant, wastewater, air and soil pollution control, groundwater management, energy efficiency and renewable energy, climate change and ozone depletion, and industrialization and environment. Installation of effluent and sewage treatments plants will be encouraged.

The district WASAs and TMAs will install wastewater treatment plants to treat the sewage in accordance with prescribed standards by EPA Punjab. It emphasizes to promote metering of water consumption to discourage indiscriminate use of water for industrial and domestic purposes, developing and implementing the viable models of public-private partnerships for setting up and operating secure landfills, incinerators, and other appropriate techniques for the treatment and disposal of toxic and hazardous waste, and the promotion of recycling technology and establishing system for segregation, recycling, and reuse of municipal solid wastes. It focuses on regulating transportation of sand, clay, bricks and other construction materials in open trolleys and carts, in urban centers to reduce air pollution and making the Building Energy Code as part of the Building Code of Punjab.

5.1.14. Punjab Environmental Protection Act 1997 (Amendment 2012)

This act addresses prohibition of discharges and emissions of wastewater and air emissions, noise control, requirements of initial environmental examination and environmental impact assessment for the newly established development projects, and hazardous waste and substances. Under this act, no person is allowed to discharge or emit any effluent or waste or air pollutant or noise in an amount, concentration or level which is in excess of the Punjab Environmental Quality Standards. The Government may levy a pollution charge on any person who contravenes or fails to comply with the provisions of this act. No project construction or production will be allowed to commence without conducting and submitting Initial Environmental Examination (IEE) or Environmental Impact Assessment (EIA) study to the provincial agency and getting no objection certificate. However, the construction/renovation of schools will not require any NOC from the agency.

5.1.15. Punjab Growth Strategy 2023

The strategy under 'Reforming Education to Harness Punjab's Human Capital, the government will significantly increase the total education expenditure in the province. More importantly it will increase the Annual Development Program allocation to more than 20 percent over the next five years. The government over the next five years will focus significantly on the improving the quality of teachers and the teachings aids, materials and pedagogy including i) improve pre-service teacher training in the province, ii) teacher certification regime will be introduced under the Punjab Education Professional Standards Council, iii) in-service teacher training programmes and ICT enabled environment will be supported.

The government will invest where required in school infrastructure and will effectively use PPPs to expand the capacity. The government will focus on reducing the OOSC in the Punjab. A major step towards this will be improving quality and thus improving the returns on education. The government will focus on building suitable capabilities in the public sector school education management. The government will develop a comprehensive PPP strategy and implementation framework for the sector to ensure private

sector investment and deployment of expertise. The government will also initiate programmes to include technical knowledge and skills in parallel with main stream education. The government will establish the Punjab Private Educational Institutions Regulatory Authority with the primary purpose to ensure quality of education, teachers' quality, teachers' welfare and cost of education.

5.1.16. **The Punjab Wildlife (Protection, Preservation, Conservation and Management) Act, 1974**

This law protects wildlife sanctuaries, wildlife breeding farms, national parks, game reserves, wildlife parks, zoological gardens, zoo and safari parks and restricts for any intervention which could impact the wildlife. Under this act, polluting water flowing in or through the wildlife breeding farms, wildlife parks, zoological gardens, zoo, safari parks and national parks is prohibited.

5.1.17. **Punjab Local Government Act 2019**

As per the law, the functions of a Metropolitan Corporation, Municipal Corporation and Municipal Committee include management of primary, elementary and secondary education facilities, monitoring and supervision of primary health care facilities, preventive health and hygiene, solid waste collection and disposal, sewage collection and disposal including water management and treatment, building control and land use, public parking facilities, city roads and traffic management, public transport, drinking water supply, community safety, environmental health, awareness and services, and parks and landscape development. These functions are mentioned in different schedules of the act. The detail of the municipal offences and their penalties related with public nuisance and public health, land use and building control and public safety are mentioned in the fifteenth schedule of the act.

5.1.18. **The Punjab Occupational Safety and Health Act 2019**

Under this act, the employer would be responsible to ensure the health and safety of the workers at workplaces (construction sites are also considered as workplace under the act). The act mentions health and safety requirements which need to be ensured to be complied by the employer/site in-charge and the workers. The Chief Inspector and the inspectors appointed under the act shall be responsible to enforce health and safety requirements prescribed by the act. Penalties shall be imposed in case of noncompliance of the requirements.

5.1.19. **Punjab Hazardous Substances Rules 2018**

These rules are made under Punjab Environmental Protection Act 2012 to manage hazardous substances in the province for their collection, generation, handling, consignment, transport, treat, dispose of, manufacturing and storage. The names of the hazardous substance and their threshold quantities are listed in Schedule 1, 2, 3 and 4 which are regulated under these rules.

The concerned authorities are required to inspect the subject industrial activity once a year and submit the report on the compliance of the rules by the occupiers to the EPA annually. The occupier is required to notify the concerned authority in case of major accident within the premises or outside the premises of the licensee within 48 hours during manufacturing, loading or unloading, supply, storage, marketing, and transportation of hazardous substances. The notified officer will take appropriate actions to prevent accidents from recurring.

The occupier of the subject industrial activity will require to acquire license from concerned authority i.e. EPA to operate the facility after submitting Hazardous Substance Report. The occupier is also required to submit safety report to the concerned authority 90 days before commencing the industrial activity. This safety report will be updated annually. The occupier is also required to prepare and keep up to date an onsite emergency plan. It shall be the duty of the Rescue 1122 to prepare and keep up to date an adequate off-site emergency plan with details that how emergencies relating to a possible major accident on that site will be dealt with.

The rules provide guidelines to the occupier regarding packaging and labeling of the hazardous material, conditions to be maintained for the premises where hazardous substance is generated, collected, consigned, treated, disposed of, stored or handled, general and specific safety precautions to be taken at the facility and for the workers, and requirements of the safety plan and waste management plan.

5.1.20. **Punjab Land Acquisition Rules, 1983**

As per Punjab Land Acquisition Rules, the acquiring authority shall submit an application to the Collector of the District concerned for the acquisition of land under the act given full justification of the public purpose involved and minimum area required by it with full details of all other area owned by it in same locality. The Collector shall examine its feasibility and after his satisfaction regarding the genuineness of the requirement, shall issue a notification and conduct the survey of the area and submit his report to the Commissioner, not later than sixty days from the date of publication of the notification.

Where the land is to be acquired for a public purpose, the Commissioner shall issue a notification not later than one year from the date of the publication of the notification by the Collector. In case the notification is not issued by the Commissioner within the said prescribed time, its time can be extended by the Board of Revenue upon request by the Commissioner for the extension in time. In case, Board of Revenue declines to grant the extension applied, the acquisition proceedings shall be deemed to have come to an end.

After the publication of notification by the Commissioner, the Commissioner shall issue declaration within six months. If no notification is issued within the said prescribed time, the acquisition proceedings shall be deemed to have come to an end, provided that the Board of Revenue, in its discretion does not extend the time for issuance of notification.

After the publication of declaration, the Land Acquisition Collector shall announce the award within a period of six months. Where the land is acquired for company, the Commissioner immediately forward the survey report, received from the Collector, to the Board of Revenue, within a period of one year from the date of the notification by the Collector, the acquisition proceedings shall be deemed to have come to an end.

The objections received by the Collector shall be disposed of by the Collector with the least possible delay and his report/recommendations shall be forwarded to the Commissioner within a period of ninety days from the date of publication of the notification by the Commissioner. The decision of the Commissioner shall be announced within a period of three months from the date of receipt of the report from the Collector.

5.1.21. **Punjab Transparency and Right to Information Act 2013**

The Punjab Transparency and Right to Information Act 2013 was promulgated with effect from 4th October 2013 to provide for transparency and freedom of information to ensure that citizens have improved access to public information; to make the Government more accountable to citizens; to enforce the fundamental right of access to information in all matters of public importance and to provide for ancillary matters. The law was promulgated owing to an old demand of different sections of the society, NGOs and the courts of law; above all, due to the following Article of the Constitution (inserted through 18th Amendment in the year 2010):

*“19A. **Right to information** – Every citizen shall have the right to have access to information in all matters of public importance subject to regulation and reasonable restrictions imposed by law.”*

5.1.22. **National Gender Policy Framework 2022**

Since women comprise almost half of total population of Pakistan, the sustainability in three dimensions can only be achieved through inclusion and their empowerment. Thus, the focus on gender mainstreaming

and women's empowerment corroborates with the thrust on economic growth and development. Empowering women is indeed a top priority national agenda for which the Planning Commission pursued a strong manifesto for ensuring equal rights for women and had put in place a National Gender Policy Framework. Between March and Dec 2021, the Planning Commission undertook an intensive nation-wide multi-channel consultative exercise with ministries, provincial departments, subject experts, development partners, academicians, researchers, practitioners and youth representatives to set national gender policy framework agenda identifying focused, evidence-informed high impact strategic priorities for accelerating progress on gender mainstreaming and improving the consistently low ranking on gender indices. The Sustainable Development Goals (SDGs) recognize the importance of women empowerment as a cross-cutting theme. Goal 5 i.e. "achieving gender equality and empowering all women and girls" is applicable to all its three dimensions i.e. economic, social and environment. The targets for this goal seek to end all forms of discrimination, eliminate violence against women and girls in all its manifestations such as health and reproductive rights, political, social and economic inclusion, recognition and value of unpaid family support and removal of socio-cultural impediments that hinder accessibility. Targets 5.4, 5(a) and 5(b1) are particularly relevant to enabling women's economic empowerment. Women's right to information is emphasized through greater use of information technology along with protection of women's land rights. The Sustainable Development Goals (SDGs) reaffirm and strengthen the close link between gender equality and education. In particular, SDG Target 4.5 calls for eliminating gender disparities in education and ensuring equal access to learning opportunities for all, while the broader 2030 Agenda for Sustainable Development highlights the central and mutually reinforcing relationship between education and gender equality. Achieving gender equality therefore requires a rights-based approach that ensures girls and boys, women and men not only access and complete all stages of education, but also experience equal empowerment, safety, and opportunity within and through the education system.

5.2. Applicable International Treaties Signed by the Government of Pakistan

Pakistan is a signatory to a number of Multilateral Environmental Agreements (MEAs). These MEAs impose requirements and restrictions of varying degrees upon the member countries, in order to meet the objectives of these agreements. However, the implementation mechanism for most of these MEAs is weak in Pakistan and institutional setup mostly non-existent. The following are the relevant international treaties and conventions that have been ratified by Pakistan:

- Ramsar Convention on Wetlands of International Importance
- Basel Convention on the Control of Trans-Boundary Movements of Hazardous Wastes and their Disposal
- Convention Concerning the Protection of World Culture and Natural Heritage
- Convention on the International Trade in Endangered Species
- International Plant Protection Convention
- International Covenant on Economic, Social and Cultural Rights
- International Labor Organization's (ILO) Core Labor Standards on:
 - Freedom of association (convention 87)
 - Elimination of forced and compulsory labor (conventions 29 and 105)
 - Elimination of discrimination in respect of employment and occupation (conventions 100 and 111)
 - Abolition of child labor (conventions 138 and 182)
- Kyoto Protocol to the Convention United Nations Framework on Climate Change
- Stockholm Convention on Persistent Organic Pollutants
- United Nations Convention on Biological Diversity
- United Nations Convention on the Rights of the Child
- United Nations Framework Convention on Climate Change.

5.3. World Bank's Environmental and Social Framework

Through the Environment and Social Framework (ESF), the Bank is committed to supporting Borrowers in the development and implementation of projects that are environmentally and socially sustainable, and to enhancing the capacity of Borrowers' environmental and social frameworks to assess and manage the environmental and social risks and impacts of projects. This ESF defines specific Environmental and Social Standards (ESSs) which are meant to avoid, minimize, reduce or mitigate the adverse environmental and social risks and impacts of the projects. The Bank will assist Borrowers in their application of the ESSs to projects in accordance with this Environmental and Social Policy for Investment Project Financing. To carry out this policy, the Bank will:

- (a) Undertake its own due diligence of proposed projects, proportionate to the nature and potential significance of the environmental and social risks and impacts related to the project; (b) As and where required, support the Borrower to carry out early and continuing engagement and meaningful consultation with stakeholders, in particular affected communities, and in providing project-based grievance mechanisms;
- (b) Assist the Borrower in identifying appropriate methods and tools to assess and manage the potential environmental and social risks and impacts of the project; and
- (c) Agree with the Borrower on the conditions under which the Bank is prepared to provide support to a project, as set out in the Environmental and Social Commitment Plan (ESCP); and
- (d) Monitor the environmental and social performance of a project.

5.4. Gap Analysis between National and International Requirements Comparison of Policies

A gap analysis between WB's ESSs and GoPb Regulations was conducted as part of the E&S capacity assessment of the GRADES-P and STP projects. The results of the gap analysis indicated that the ES risk assessment and management system for the GRADES-P and STP is open-ended but just like other country's EIA systems, does not cover all the World Bank ESF's ES Standards. The coverage of the EIA study therefore would depend on the expertise of the EIA team. There is no assurance that each ES Standard (1-8 and 10) are considered in the EIA study and the formulation of the ESMP. Although the EIA is heavy towards the environmental aspects, more and more social issues are incorporated in the assessment. Moreover, the practice under normal circumstances does not include labour management issues. Another critical gap pertains to lack of provisions for requiring the preparation of project-specific ES management plans. The eminent domain land acquisition system for example does not require the preparation of RAP. The projects are also not required to formulate their own Labour Management Procedures/Plans. Given the gaps, this ESMF will follow the most stringent standards and requirement. Table below has given an overview of the gaps between GoPb laws and WB's ESSs and steps suggested to address those gaps.

5.5. Application of World Bank Environmental and Social Standards

Following Environmental and Social Standards (ESSs) of the World Bank are relevant with GRADES-P and STP projects:

- ESS-1: Assessment and Management of Environmental and Social Risks and Impacts
- ESS-2: Labour and Working Conditions
- ESS-3: Resource Efficiency and Pollution Prevention
- ESS-4: Community Health and Safety
- ESS-5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement
- ESS-8: Cultural Heritage
- ESS-10: Stakeholder Engagement and Information Disclosure

5.6. Gaps between Government Laws and World Bank ESSs

TABLE 1 GAPS BETWEEN GOVERNMENT LAWS AND WORLD BANK ESSs

WB ESF Standard	Gaps	Gap Minimization
ESS1: Assessment and Management of Environmental and Social Impacts and Risks	(i) ESIA filing and review under Punjab EIA/IEE Regulations do not guarantee coverage of all ESS standards in the assessment. (ii) The stakeholder engagement during the conduct of the ESIA is limited. The ESIA preparation does not require analysis of alternatives.	ESMF has suggested to follow the ESS1 requirements, given in the relevant sections of Environmental Management Procedures. In case, the rules/regulations do not cover the ESS requirements, relevant clauses should be added in the Financial Agreements and Project Appraisal Document to follow the more stringent safeguards requirements according to WB ESF.
ESS2: Labor and Working Conditions	(i) The Labor Act does not specifically require that development be assessed and reviewed in terms of labor and working conditions including OHS requirements before approval. (ii) The Labor Act does not require development projects to prepare Labor Management Plans/Procedure or OHS Plan.	A separate LMP has been prepared which will guide requirements for OHS plan. Guideline for developing Site Specific Management plans including OHS has been included in this ESMF.
ESS3: Resource Efficiency and Pollution Prevention and Management	Pakistan Environment Protection Act (PEPA) 1997 provides prevention and control of pollution, and promotion of sustainable development. Whereas it is expedient to provide for the protection, conservation, rehabilitation and improvement of the environment, prevention and control of pollution, thus promotion of sustainable development.	ESMP to be developed for GRADES-P and STP project components will address this issue, and incorporate mitigation measures.
ESS4: Community Health and Safety	Covered under ESIA but the systems do not provide clear requirements for the development project and implementation.	Guideline for Community Health Safety has been addressed in LMP and GBVF.

ESS5: Land Acquisition, Land Use Restriction and Involuntary Resettlement	(i) does not require the preparation of RAP; (ii) does not provide compensation or assistance to those who do not have formal legal claim to the land; (iii) does not provide transitional allowances for restoration of livelihoods for informal settlers; (iv) relies on cash compensation, no developmental objectives; (v) no provision to give special attention to the vulnerable groups (vi) valuation of lost asset is not based on "replacement cost" standard	A separate RF has been prepared which on agreement will be followed as part of ESMF. Therein in the given scenario if found inevitable, RP/s will be prepared.
ESS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	No equivalent requirements on: (i) the application of hierarchy of measures; (ii) the preparation of Biodiversity Management Plan; (iii) differentiated measures on types of habitats; (iii) conduct of due diligence on primary suppliers.	Not relevant for GRADES-P and STP projects, as most of the activities will be undertaken in the existing premises. However, a detail guideline has been given in ESMP preparation section for protection of homestead plants and animal biodiversity. Besides, site specific management plans will be prepared for each construction/ renovation sites.
ESS7: Indigenous People	N/A	N/A
ESS8: Cultural Heritage	No equivalent requirements on: (i) the application of hierarchy of measures; (ii) the development of Cultural Heritage Management Plan; (iii) the development and adoption of project-specific Change Find Procedures; and (iv) the engagement of cultural heritage experts.	Detail guideline has been given in the ESMP section. A separate RPF has also been prepared addressing this ESS8, cultural heritage.
ESS9: Financial Intermediaries	N/A	N/A
ESS10: Stakeholder Engagement and Information Disclosure	the ESIA guidelines issued by EPA recommends public consultations during scoping and the preparation of the ESIA. There is also no provision for any stakeholder engagements during project implementation	A separate SEP has been prepared for the both GRADES-P and STP projects. Besides, guideline for stakeholders' engagement has been provided in this ESMF will be followed.

5.7. Remedial Measures to Bridge the Gap

In principle, Pakistan's Law and World Bank ESF adhere not only to the objective of compensation for affected families, but also to the objective of rehabilitation. However, Pakistan's law is unclear on how rehabilitation is to be achieved and in practice the provision of rehabilitation is left to ad-hoc arrangements taken by the local governments and the specific project proponents. To clarify these issues and reconcile eventual gaps between Pakistan's Law and WB ESF, this ESMF sub-project has been prepared which ensures the following:

- ✓ Compensation for any privately-owned land lost as a result of the works
- ✓ Compensation for lost assets regardless of rights to land on which they are sited

- ✓ Valuation of assets and land at the prevailing market rate
- ✓ Assistance in relocation for any affectees, regardless of legal entitlement to the land they occupy, in the form of a cash transport allowance
- ✓ Provision of additional allowances for vulnerable affectees
- ✓ Provision of additional allowance for those who may suffer commercial losses

5.7.1. **Assessment and Management of Environmental and Social Risks & Impacts**

ESS-1: This standard sets out the Borrower's responsibilities for assessing, managing and monitoring environmental and social risks and impacts associated with each stage of a project supported by the Bank through Investment Project Financing, in order to achieve environmental and social outcomes consistent with the Environmental and Social Standards (ESSs).

The objectives of this standard are to i) identify, evaluate and manage the environment and social risks and impacts of the project in a manner consistent with the ESSs, ii) adopt a mitigation hierarchy approach to (a) Anticipate and avoid risks and impacts; (b) Where avoidance is not possible, minimize or reduce risks and impacts to acceptable levels; (c) Once risks and impacts have been minimized or reduced, mitigate; and (d) Where significant residual impacts remain, compensate for or offset them, where technically and financially feasible, iii) adopt differentiated measures so that adverse impacts do not fall disproportionately on the disadvantaged or vulnerable, and they are not disadvantaged in sharing development benefits and opportunities resulting from the project, iv) utilize national environmental and social institutions, systems, laws, regulations and procedures in the assessment, development and implementation of projects, whenever appropriate, v) promote improved environmental and social performance, in ways which recognize and enhance Borrower capacity.

5.7.2. **Labor and Working Conditions**

ESS-2: This standard recognizes the importance of employment creation and income generation in the pursuit of poverty reduction and inclusive economic growth. Borrowers can promote sound worker-management relationships and enhance the development benefits of a project by treating workers in the project fairly and providing safe and healthy working conditions.

The objectives of this standard are to i) promote safety and health at work, ii) promote the fair treatment, nondiscrimination and equal opportunity of project workers, iii) protect project workers, including vulnerable workers such as women, persons with disabilities, children (of working age, in accordance with this ESS) and migrant workers, contracted workers, community workers and primary supply workers, as appropriate, iv) prevent the use of all forms of forced labor and child labor, v) support the principles of freedom of association and collective bargaining of project workers in a manner consistent with national law, vi) provide project workers with accessible means to raise workplace concerns.

5.7.3. **Resource Efficiency and Pollution Prevention**

ESS-3: This standard sets out the requirements to address resource efficiency and pollution prevention and management throughout the project life cycle consistent with Good International Industry Practice (GIIP).

The objectives of this standard are to i) promote the sustainable use of resources, including energy, water and raw materials, ii) avoid or minimize adverse impacts on human health and the environment by avoiding or minimizing pollution from project activities, iii) avoid or minimize project-related emissions of short and long-lived climate pollutants, iv) avoid or minimize generation of hazardous and non-hazardous waste, and v) minimize and manage the risks and impacts associated with pesticide use.

5.7.4. **Community Health and Safety**

ESS4 recognizes that project activities, equipment, and infrastructure can increase community exposure to risks and impacts. In addition, communities that are already subjected to impacts from climate change may also experience an acceleration or intensification of impacts due to project activities.

The objectives of this standard are to: i) anticipate and avoid adverse impacts on the health and safety of project-affected communities during the project life cycle from both routine and non-routine circumstances, ii) promote quality and safety, and considerations relating to climate change, in the design and construction of infrastructure, including dams, iii) avoid or minimize community exposure to project-related traffic and road safety risks, diseases and hazardous materials, iv) have in place effective measures to address emergency events, and. v) ensure that the safeguarding of personnel and property is carried out in a manner that avoids or minimizes risks to the project-affected communities. The World Bank EHS Guidelines in general will be applicable.

5.7.5. **Land Acquisition, Restrictions on Land Use & Involuntary Resettlement**

ESS5 recognizes that project-related land acquisition and restrictions on land use can have adverse impacts on communities and persons. Project-related land acquisition or restrictions on land use may cause physical displacement (relocation, loss of residential land or loss of shelter), economic displacement (loss of land, assets or access to assets, leading to loss of income sources or other means of livelihood), or both. The term “involuntary resettlement” refers to these impacts. Resettlement is considered involuntary when affected persons or communities do not have the right to refuse land acquisition or restrictions on land use that result in displacement.

The objectives of this standard are to

- i) avoid involuntary resettlement or, when unavoidable, minimize involuntary resettlement by exploring project design alternatives;
- ii) avoid forced eviction;
- iii) mitigate unavoidable adverse social and economic impacts from land acquisition or restrictions on land use by:
 - a. providing timely compensation for loss of assets at replacement cost, and
 - b. assisting displaced persons in their efforts to improve, or at least restore, their livelihoods and living standards, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher;
- iv) improve living conditions of poor or vulnerable persons who are physically displaced, through provision of adequate housing, access to services and facilities, and security of tenure;
- v) conceive and execute resettlement activities as sustainable development programs, providing sufficient investment resources to enable displaced persons to benefit directly from the project, as the nature of the project may warrant; and
- vi) ensure that resettlement activities are planned and implemented with appropriate disclosure of information, meaningful consultation, and the informed participation of those affected.

5.7.6. **Biodiversity Conservation and Sustainable Management of Living Natural Resources**

ESS-6: This standard is not applicable to this Project as all the development activities will be taken place at existing places duly owned by the government/SED. And, if any such activity make impact/s on natural environment will be mitigated as per actions designed in this ESMF. ESS6 is applicable to all projects that potentially affect biodiversity or habitats, either positively or negatively, directly or indirectly, or that depend upon biodiversity or their success. It is also applied to projects that involve primary production and/or harvesting of living natural resources. The PMIU is obliged to avoid adverse impacts on bio-diversity and habitats.

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

ESS-7: This standard is not applicable to both Project as there are no any social or cultural groups in the projects area.

5.7.8. Cultural Heritage

ESS-8: This standard sets out general provisions on risks and impacts to cultural heritage from projects activities. Objective of ESS 8 are the following:

- (a) To promote the equitable sharing of benefits from the use of cultural heritage.
- (b) To address cultural heritage as an integral aspect of sustainable development.
- (c) To promote meaningful consultation with stake-holders regarding cultural heritage.
- (d) To protect cultural heritage from the adverse impacts of project activities and support its preservation.

This standard is not applicable to this project but would be subject to chance finding.

5.7.9. Financial Intermediaries

ESS-9: This standard is not applicable to this Project.

5.7.10. Stakeholder Engagement and Information Disclosure

ESS-10: This standard recognizes the importance of open and transparent engagement between the Borrower and project stakeholders as an essential element of good international practice. Effective stakeholder engagement can improve the environmental and social sustainability of the projects, enhance project acceptance, and make a significant contribution to successful project design and implementation.

The objectives of this standard are to i) establish a systematic approach to stakeholder engagement that will help borrowers identify stakeholders and build and maintain a constructive relationship with them, in particular project-affected parties, ii) assess the level of stakeholder interest and support for the project and to enable stakeholders' views to be taken into account in project design and environmental and social performance, iii) promote and provide means for effective and inclusive engagement with project-affected parties throughout the project life cycle on issues that could potentially affect them, iv) ensure that appropriate project information on environmental and social risks and impacts is disclosed to stakeholders in a timely, understandable, accessible and appropriate manner and format, v) provide project-affected parties with accessible and inclusive means to raise issues and grievances, and allow borrowers to respond to and manage such grievances. The relevance of all the above-mentioned standards with the project specific E&S management instruments are presented in matrix below:

TABLE 2 PROJECT SPECIFIC E&S MANAGEMENT INSTRUMENTS

Environmental and Social Standard	Relevance	E&S Management Instruments
ESS-1 Assessment and Management of Environmental and Social Risks and Impacts	Assessment and management of E&S risks of the project activities	ESMF, ESIA/ESMP
ESS-2 Labor and Working Conditions	Ensure welfare of all type of workers involved in the project during construction and operational phases	LMP, ESMF, C-EHSS/CESMP

ESS-3 Resource Efficiency and Pollution Prevention	Ensure use of resources efficiently and prevent pollution arising from resources use during project activities (renewable energy)	ESMF, ESIA/ESMP,
ESS-4 Community Health and Safety	Ensure health and safety of the community including students, students with special needs and teachers/staff of the schools during project interventions i.e. construction activities	C-EHSS SOPs, ESMP
ESS-5 Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Ensure transparent land acquisition and resettlement under project Activities	RPF, RP/s including income restoration and livelihood enhancement planning
ESS-6 Biodiversity Conservation and Sustainable Management of Living Natural Resources	Ensure protection of biodiversity and natural resources during construction activities of the project	C-EHSS SOPs
ESS-7 Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	This standard is not applicable to this Project as there are no any social or cultural groups in the project area	N/A
ESS-8 Cultural Heritage	Ensure protection of cultural heritage during construction activities of the project	C-EHSS SOPs
ESS-9 Financial Intermediaries	This standard is not applicable to this Project	N/A
ESS-10 Stakeholder Engagement and Information Disclosure	Ensure engagement of all the stakeholders during all phases of the project and disseminate project information.	SEP

6. ENVIRONMENTAL AND SOCIAL BASELINES

This section describes the environmental and social baseline of the entire area for the proposed projects, GRADES-P and STP (Punjab province) including physical, socioeconomic conditions and cultural aspects relevant to GRADES-P and STP Projects.

6.1. Physical Environment

a) Geography

Punjab is Pakistan's second largest province having an area of 205,344 km² after Balochistan. It is located at 31.17° N and 72.70° E, at the north-western edge of the geologic Indian plate in South Asia. Punjab occupies about 26 percent of the land area of Pakistan. It is the nation's only province that touches every other province. It is bordered by Sindh, Balochistan and Khyber Pakhtunkhwa, as well as the regions of Islamabad Capital Territory and the Azad Kashmir. It also shares borders with the Indian states of Punjab, Rajasthan, and Jammu and Kashmir. The Punjab province is divided into nine divisions and 36 districts. The capital and largest city of the province is Lahore which was the historical capital of the wider Punjab region. Other important cities include Multan, Faisalabad, Sheikhupura, Sialkot, Gujranwala, Jhelum and Rawalpindi.

The province is a mainly a fertile region along the river valleys, while sparse deserts can be found near the border with Rajasthan and the Sulaiman Range. The region contains the Thal and Choolistan deserts. The land of Punjab is made up of soils deposited by the Indus River and its tributaries during the Quaternary Era. The Indus River is the longest river of Pakistan and therefore, also of Punjab. The landscape is amongst the most heavily irrigated on earth and canals can be found throughout the province.

b) Topography

Punjab province is predominantly on plain level, however, there are some hilly areas in the North- West and extreme South-West including the Sulaiman Mountains in the South-West part of the province, the Margalla Hills in the north near Islamabad, and the Salt Range which divides the most northerly portion of Punjab. There is also a plateau adjacent to the mountains known as the Potohar plateau and sparse deserts can be found in southern Punjab near the border with Rajasthan and near the Sulaiman Range.

Punjab's landscape consists mostly of fertile alluvial plains of the Indus River and its four major tributaries in Pakistan, the Jhelum, Chenab, Ravi, and Sutlej rivers which traverse Punjab north to south. The landscape is amongst the most heavily irrigated on earth and canals can be found throughout the province.

c) Soil Morphology

The texture, morphology, and moisture holding capacities of the soils in the province vary from region to region. The surface crust soils are composed of alluvial deposits consisting of silt, clay, sand, and loam. Clay and silt formations occur in discontinuous layers with limited lateral extent. Their thickness is generally less than five meters. Due to rich surface irrigation in the central Punjab, the fertile soils of the floodplains give a good per unit yield.

The soil of the areas of Sialkot, Narowal, Gujranwala, Hafizabad and Sheikhpura is of clayey soil. The soil of the areas of Lahore, Jhang, Nankana Saheb, Chiniot, Vehari and Multan is of loamy soil whereas the soil of areas of Layyah, Bhakar, Mianwali and Bahawalpur is of sandy soil.

d) Climate

Punjab lies in arid to semi-arid region of Pakistan. Climatically, Punjab has three major seasons:

- Hot (April to June) when the temperature rises to about 46 °C;
- Rainy season (monsoon rainfall) July up to September;
- Cool/foggy/mild weather from November to March.

e) Temperature

Table 4 and Figure 2 show the maximum, minimum and average monthly temperatures of the Punjab province for the recent years (2017-2021). The maximum temperature range is 21 – 46 °C. The average temperature range is 17 - 42°C. The minimum monthly temperature range is 12 – 35 °C. April to October are hot months whereas cold months are November to March.

TABLE 3 YEARLY TEMPERATURE RECORDED IN PUNJAB

Year	Month's Temperature C ⁰											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017												
Max	23	29	35	42	45	44	42	42	42	40	32	26
Avg	19	24	30	38	41	41	40	39	38	36	28	22
Min	12	16	19	27	33	34	34	33	31	26	20	16
2018												
Max	27	30	36	41	45	46	43	42	41	38	33	27
Avg	23	25	32	38	42	42	40	38	37	34	29	22

Min	15	17	23	29	34	34	34	31	29	25	21	15
2019												
Max	24	25	30	40	43	46	44	42	43	38	29	25
Avg	20	21	27	37	40	42	40	39	39	34	26	21
Min	13	15	20	29	33	35	32	33	32	27	20	15
2020												
Max	21	28	31	39	44	45	45	41	41	39	30	26
Avg	17	24	26	35	40	41	40	38	37	34	26	21
Min	12	16	19	28	32	34	34	33	31	25	18	14
2021												
Max	26	32	37	40	41	44	40	40	38	36	30	-
Avg	21	26	32	35	37	40	37	36	33	30	24	-
Min	12	17	22	27	30	33	32	29	27	22	16	-

Source: Extract from Temperature Graph (World Weather Online)

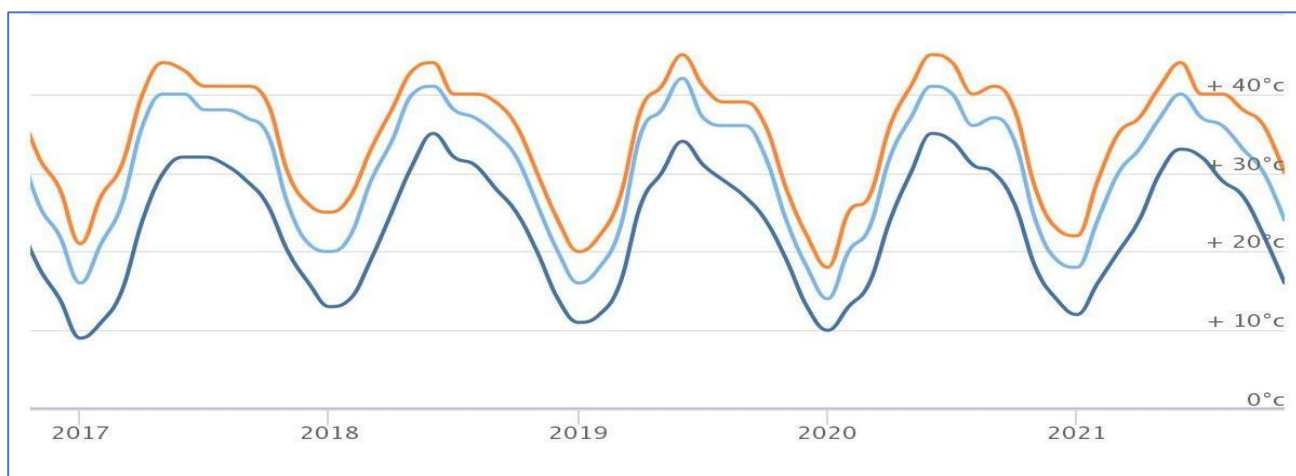


FIGURE 2 MAXIMUM, MINIMUM AN AVERAGE TEMPERATURE (PUNJAB)

Source: World Weather Online

f) Rainfall

TABLE 4 SHOWS THE AVERAGE MONTHLY RAINFALL DATA OF THE PUNJAB

Year	Month's Average Rainfall (mm)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	4.3	0	0.5	1.4	6.9	17.6	7.3	4.2	1.3	0	0	4.4

2018	0	0.1	1.4	2.3	6.7	18.1	8.1	6.5	1.02	0	0	0.3
2019	13.3	29.6	18.4	17.3	53.1	5	29.6	16.5	17.8	17.7	23.5	3.6
2020	11.9	0.5	34.7	5	4.8	22.3	13.6	69.1	17.1	0	0	0.2
2021	0	0	2.3	7.8	9.6	16.6	13.6	0.8	7.1	0.2	0	-

Source: Extract from Rainfall Graph (World Weather Online)

Average monthly rainfall pattern of Punjab is illustrated as Figure 3 below:

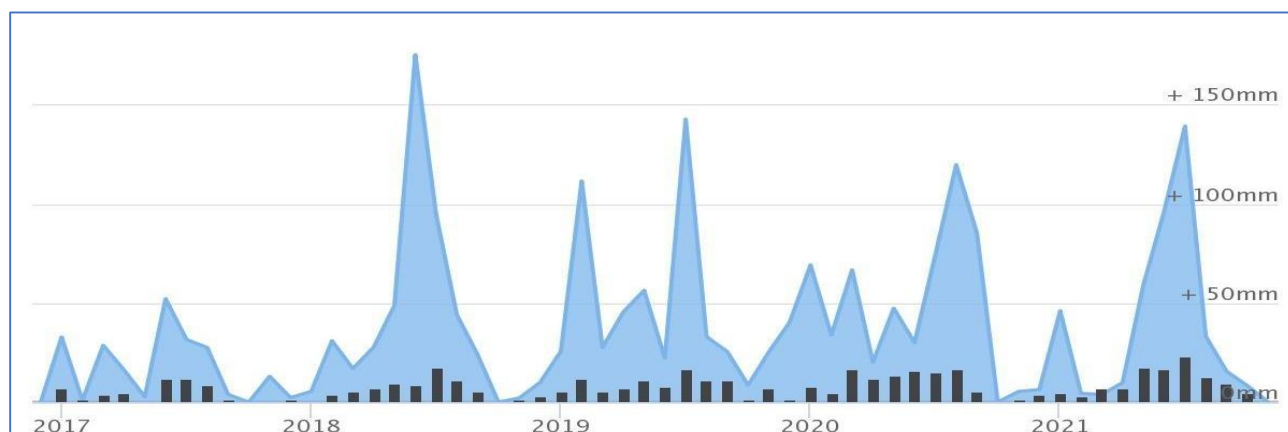


FIGURE 3 MONTHLY AVERAGE RAINFALL (MM) AND NUMBER OF RAINY DAYS OF PUNJAB

Source: World Weather Online

g) Humidity

Table 6 presents detail of the average monthly humidity of Punjab.

TABLE 5 AVERAGE HUMIDITY (%) OF PUNJAB

Year	Month's Average Humidity (%)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	40	21	21	15	18	31	35	34	25	12	20	22
2018	17	24	18	14	11	26	36	39	32	14	18	22
2019	28	33	33	18	18	23	38	38	33	24	34	27
2020	41	25	37	21	16	27	34	42	32	13	23	27
2021	22	18	18	16	24	35	39	37	39	24	15	-

Source: Extract from Humidity Graph (World Weather Online)

Average monthly humidity trend of Punjab is illustrated as Figure 4

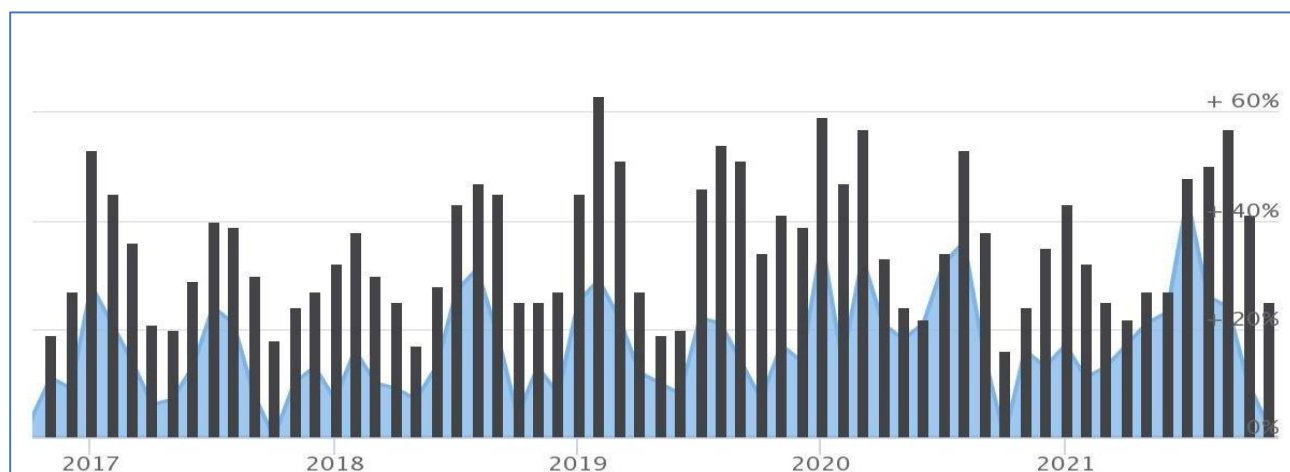


FIGURE 4 AVERAGE HUMIDITY AND CLOUDS (%) OF PUNJAB

Source: World Weather Online

h) Wind

Table 7 shows the maximum and average monthly wind speed of Punjab.

TABLE 6 MAXIMUM AND AVERAGE WIND SPEED (KMPH) OF PUNJAB

Year	Month's Wind Speed (kmph)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017												
Max	15	14.9	16.7	17	16.6	23.1	21	24.2	15.9	13.2	11.5	11.9
Avg	10.2	9.71	10.1	10.8	11.2	15.7	13.7	16.1	10.3	8.4	7.31	7.8
2018												
Max	13.1	16.7	17.2	20.3	19	26.4	27.4	26.4	19.5	13.4	14.3	12.8
Avg	8.7	11.2	10.7	12.3	11.2	18.9	19.1	18.8	14.5	8.2	8.9	8.2

Year	Month's Wind Speed (kmph)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2019												
Max	16.5	18.3	20	19.1	19	23.5	29.9	24	20.9	15.9	15.1	11.6
Avg	11.41	13	13	12.8	12.8	16.9	21.9	18.2	16.2	11.1	10.8	8.2
2020												
Max	17.7	17.5	19.5	21.2	22.5	30.1	29.4	24.7	17.9	14	15.5	12.1

Avg	12.9	12.6	13.7	13	15.3	23.1	22.2	19	14.1	10.4	10.9	8.7
2021												
Max	13.9	14.8	19.9	20.5	23.1	28.1	26.2	26.2	21.2	19.1	13.7	-
Avg	9.3	10.2	13.2	14.3	16.6	21.8	20.7	21.2	15	13.4	9.8	-

Source: Extract from Wind Graph (World Weather Online)

Monthly maximum and average wind speed pattern of Punjab is illustrated as Figure 5.

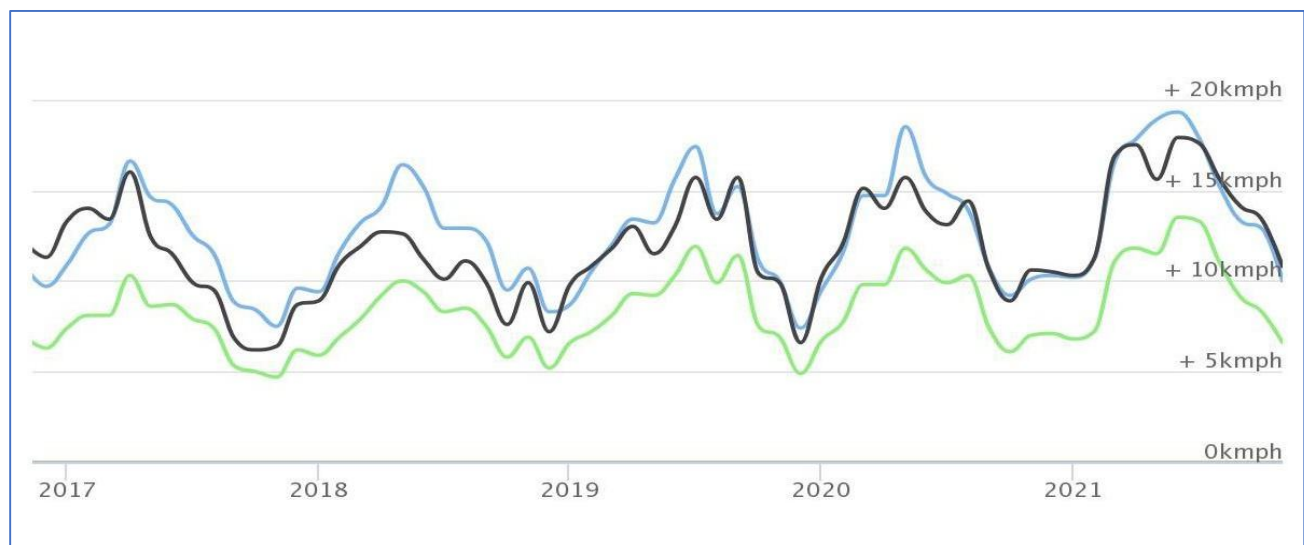


FIGURE 5 MONTHLY AVERAGE AND MAXIMUM WIND SPEED AND GUST (KMPH) OF PUNJAB

Source: World Weather Online

i) Climate Change

Pakistan lies in the zone that faces one of the highest risks of climate change in the ‘high- extreme risk category’. South Punjab falls in the ‘extreme risk’ category while central and north Punjab are at ‘high risk’. The negative effect of floods alone is estimated to be USD 6 billion per year.

The climate of the Punjab ranges from extremely hot summers to mild foggy winters. The land is hydrated by summer monsoons and by the five rivers which run longitudinally through the province, namely, Indus, Jehlum, Chenab, Ravi, and Sutlej. Summers are hot from May to July, followed by monsoon rainfall from the Bay of Bengal from August to September which breaks the heat spell. These bring precipitation to the northern parts of the province. The Southern parts of the province receive rainfall from southwest winds from over the Arabian Sea.

According to Global Climate Risk Index (2017) Pakistan ranks 7th amongst the most adversely affected countries by Climate Change.

The annual mean temperature in Pakistan has increased by roughly 0.5 degree centigrade while some districts of Punjab like Rahim Yar Khan have even experienced a 1.3-degree increase. Precipitation patterns have changed over time as well, where maximum increment in precipitation was seen in Lahore 359.62 mm recorded over two normal periods (1951 to 1980 and 1981 to 2015). Pakistan’s urban air pollution is among the highest in South Asia and the resulting damage already exceeds several high-profile causes of mortality and morbidity in the region. Such variability has led to considerable increase in frequency and intensity of extreme weather events, erratic monsoon rain and

floods that pose a threat to water security, food security, energy security and National Security. With the focus being given to climate change action increasing globally, there is a dire need to address climate change in the planning and implementation of development projects in Punjab.

By 2035, precipitation is likely to increase, with the mid scenario projected a slight increase of 1.1% at the southwest to 5.7% at the northeast of the province. The uncertainty range is 0.8 to 4.3% for the southwest and 2.1 to 10.7% for the northeast. In comparison to precipitation, the projected temperature increase is more uniform: a likely 0.95°C increase for most areas from baseline by the mid scenario, with the uncertainty range of 0.70°C to 1.8°C as projected by the low and high scenarios. Western and northern high-altitude areas have a slightly higher increase rate than the rest of the area. The vulnerability to climate change in Punjab region can be summarized as follows:

- i. For energy sector, climate change will likely add further energy demand for major cities of Punjab; climate change may cause reduced hydroelectricity generation due to its impact on stream-flow.
- ii. For water resources, climate change will bring in additional challenges in water resource management. Besides normal projected demand increase, additional water will be needed due to climate change for the cities.
- iii. Climate change will also affect the groundwater recharge through its impact on river inflows in the region, and combined effects from the climate change impact are most likely pointing to continuing groundwater resource depletion.
- iv. Climate change will likely cause more severe urban flooding through impact on heavy rainfall events. Besides enhanced rain intensity, climate change also implies more frequent severe flood events.
- v. Enhanced rainfall also influences the wastewater system.
- vi. During flood events, the wastewater systems become overloaded, which can potentially cause pollution and threat to water borne diseases.
- vii. For transport, enhanced flood risk causes water damage to the road networks.
- viii. Furthermore, the potential increase of heat wave places stress on road infrastructures, softens the asphalt causing traffic rutting, potentially resulting in pavement cracking.

j) **Water Resources**

The Indus River and its tributaries are the main source of surface water in the Punjab Province. The Indus rises in Tibet, at an altitude of about 5,486 m (18,000 feet) above mean sea level, and has a total catchment area of 654,329 km². Length of the Indus River in the country is about 2,750 km. The five main rivers that join the Indus from the eastern side are Jhelum, Chenab, Ravi, Beas and Sutlej. These rivers originate from the Himalayas and pass from North- West to South-West. They are primeval in nature and the volume of water increases in the summer after the monsoon rains, resulting sometimes in floods. Besides these, two minor rivers, Soan and Harrow also drain into the Indus. On the western side, a number of small rivers join Indus, the biggest of which is River Kabul with its main tributaries i.e. Swat, Panjkora and Kunar. Several small streams such as Kurram, Gomal, Kohat, Tai, and Tank also join the Indus on the right side.

Water availability and usage is crucial for Punjab. Most of the province's territory is arid or semi-arid relying on an extensive irrigation system. Much of the irrigation water from the Indus River is from glacial melt, snowmelt, rainfall and runoff. Erratic monsoons, rising average temperature, increased glacial melt and cross border water disputes increase the uncertainty and vulnerability of agriculture of the province.

Approximately 94% of Pakistan's water (mainly in Punjab) is for agriculture, out of which an estimated 50% is wasted during distribution and application. Over-irrigation from lack of knowledge on optimal timing and quantity is common. Rapid urbanization, population growth, inadequate water storage, sedimentation of reservoirs and overall low system efficiency are an increasing strain on supplies. The share of Punjab in the Water Accord is 55.94-million-acre feet (MAF). This includes

18.87 MAF for Rabi and 37.07 MAF for Kharif. However, in Punjab, there has been a yearly shortage of water during the past five years (2013-2018).

Increased demand and erratic availability have increased the reliance on and extraction of ground water, with an exponential growth in the number of tube wells over the last 4 decades, with 1 million tube wells in Punjab alone. This strain on groundwater by agriculture and industry has dramatically dropped the water table and aquifers have become contaminated by unregulated discharge. Water quality is deteriorated and safe water supply is a challenge faced by most schools in Punjab, especially those located in the underground salt water area in southern Punjab. Students and teachers are facing health risks due to contaminated water supplies in schools.

k) Flooding

Punjab province is affected by the floods. The detail of the floods in Punjab is as under:

In 2010, almost all of Pakistan was affected when massive flooding caused by record breaking rains hit Khyber Pakhtunkhwa and Punjab. The number of individuals affected by the flooding exceeds the combined total of individuals affected by the 2004 Indian Ocean tsunami, the 2005 Kashmir earthquake and the 2010 Haiti earthquake. At least 2,000 people died in this flood and almost 20 million people were affected by it.

In September 2012, more than 100 people died, and thousands of homes destroyed, with thousands of acres of arable land affected when intense rainfall battered Khyber Pukhtunkhwa, Southern Punjab and Upper Sindh.

In September 2014 Due to massive rain in Jammu and Kashmir as well as in Punjab constituted flood situation in River Chanab and River Jhelum. southern Nullahs and River Chenab swelled its banks affecting adjoining districts of Punjab; mainly districts of Jhang, Muzafargarh, and Multan. The western districts of province face the risk of flash floods originating in the western mountain ranges. Districts such as Rajanpur, DG Khan, Mianwali and Khushab are vulnerable to flash floods due to heavy rains.

According to the National Disaster Management Authority, most recently in 2019, six people died in Lahore due to monsoon flooding and building collapses.

l) Air Quality

A joint air quality study of Lahore, Rawalpindi, and Islamabad by the Pak-EPA and the Japan International Cooperation Agency (JICA), showed that the average suspended particulate matter (SPM) in the study districts was 6.4 times higher than WHO Guideline Values. The levels of sulfur dioxide, carbon monoxide, and oxides of nitrogen also exceeded the acceptable standards in some areas, but the average levels were below the Guideline Values³. Another similar study of Gujranwala and Faisalabad also revealed higher concentrations of SPM in the ambient air⁴. However, barring congested urban centers, air quality in rest of the province generally conforms to WHO Guideline Values⁵. The ambient air quality in the rural areas of Punjab is likely to be free from most of the criteria pollutants such as sulfur dioxide, carbon monoxide, and oxides of nitrogen.

The smog phenomenon occurs in Punjab during the months of November and December due to air pollution. It gets its name from the words 'smoke' and 'fog'. Smog can also be defined as a mixture of various gases with dust and water vapors. In Lahore and its adjoining areas, over the last decade, a smog descends every November/December. It is so thick that even airplane flights to/from Lahore are cancelled as a result. In the last 5 years, this smog has grown way worse, owing to poor air quality and high amount of pollution caused by vehicles and factories. Deforestation and rapid industrialization has not helped matters as well, something that the development focused authorities should do well to heed as well. Lahore

is now considered as one of the most polluted cities in Asia. In winter months, all the pollutants tend to accumulate in the lower layer of atmosphere due to rains, cold spells and dry condition.

m) Urban Heat Island (UHI)

UHI formation and heating effect in urban is a property associated with urban and land transformation that is the key interest in scientific disciplines. All the negative impacts happen as a result of reduction in latent heat flux and also an increase in sensible heat in populated areas. Temperature difference map has been drawn to assess the urban heat island. It reveals drastic results depicting 1-to-3-degree upsurge in Cities of Punjab. This situation can be lethal and challenge the efforts are being made for provision of quality foods, health facilities, housing, education and adequate infrastructure for the public.

6.1.1. Seismology

As per seismic zoning map, Pakistan is divided into five seismic zones (Zones 1, 2A, 2B, 3, and 4) considering the severity of seismic hazard. The Zone 1 is the lowest, and zone 4 is the highest seismic zone. Punjab is located in a moderate earthquake zone. Most of the tehsils of Punjab are located in zone 2A and 2B.

Punjab has been subjected to severe shaking in the past due to earthquakes in the Himalayas. Known main active fault of the Himalayas is the Main Boundary Thrust (MBT), which passes at a distance of about 180 km from Lahore towards northeast along the Himalayan front. Earthquakes of magnitude greater than 8 have been recorded along this fault during the past century. The epicenters of low to moderate magnitude earthquakes, recorded in the Punjab plain are associated with the subsurface fractures in the basement rocks, which are concealed by thick alluvial deposits.

6.1.2. Solid Waste and Wastewater Management

Solid waste collection by government owned and operated services in the cities of Punjab currently averages only 50% of waste quantities generated. None of the cities in the Punjab has a proper solid waste management system right from collection of solid waste up to its proper disposal. Much of the uncollected waste poses serious risk to public health through clogging of drains, formation of stagnant ponds, and providing breeding ground for mosquitoes and flies with consequences risks of malaria and cholera. In addition, because of the lack of adequate disposal sites, much of the collected waste finds its way in dumping grounds, open pits, ponds, rivers and agricultural land.

A number of municipalities of selected cities have deployed the sweepers and sanitary workers. The workers collect the solid waste from small heaps and dustbins with the help of wheel borrows, brooms, etc. and store at formal and informal depots and carry out sweeping of streets and roads. Generally, the service of street/road sweeping is not regular and mainly limited to administrative, commercial and other industrial areas.

Since the 2001 Local Government Ordinance, municipal services including water supply and sanitation services are the responsibility of the Tehsil Municipal Administrations (TMAs) across the districts. The government of Punjab through its The Punjab Water Act 2019 manages wastewater in urban areas through both public and private entities.

³ Cities Investigation of Air and Water Quality (Lahore, Rawalpindi, Islamabad), JICA/Pak-EPA, 2001

⁴ Cities Investigation of Air and Water Quality (Gujranwala and Faisalabad), JICA/Pak-EPA, 2003

⁵ Air Quality Monitoring in Six Districts of Punjab using Physio-Chemical Techniques, Environment Protection Department, Government of the Punjab, 2005

The Water and Sanitation Authority (WASA) have arrangements in managing and controlling wastewater for 5 main cities including Lahore, Faisalabad, Rawalpindi, Multan and Gujrat. Government of Pakistan has given special emphasis on the integration of WASH in schools within the Education Sector, and this is acknowledged in the national education policy 2009 that identifies provision of missing facilities especially toilets and drinking water is critical for retention and quality education. According to PRSP II 2012 report, 63% of primary schools have water facility and 62% schools have latrine/toilet facility. In short, three out of every five students in primary education have access to water and sanitation in schools. The field surveys, conclude that mostly sewerage systems are completely absent from the school vicinity, and sewage water is drained into adjacent empty lands or back walls.

The Annual Status of Education Report (ASER) 2012 compiled by civil society organizations of Pakistan showed 61% of government primary schools had useable water facility compared to 55% in 2011, while 50% of government primary schools had a functional toilet compared to 43% in 2011.

The percentage of private primary schools with useable water facility were 84% and 75% were found with a functional toilet in 2012. Half of all government primary schools and 1/4th of private primary schools in Pakistan are without toilet facilities. The Ministry of Education in 2010 developed and adopted national standards for child friendly inclusive education that underpins provision of WASH as a critical component for a healthy and protective environment for the children. The child friendly school manual for Pakistan includes WASH especially the hygiene component with hand washing and personal hygiene components.

Government of Pakistan initiated a dialogue related to Menstrual Hygiene Management (MHM) in selected schools, primarily understanding the scope of education impacts and challenges across cultural backgrounds. A study conducted at the national level showed WASH facilities in schools are not supportive to management of menstrual hygiene; majority of the girls rely on mothers and sisters for MHM related information; little information is provided or discussed at school level. Most girls reported using reusable torn cloth during menstruation, but reported difficulties washing and drying the cloth due to lack of privacy.

6.1.3. Punjab WASH in Schools Strategy 2016

In 2016, the School Education Department of Government of Punjab identified the need for a specific WASH in schools (WinS) strategy in collaboration with UNICEF. The development of WinS strategy went through participatory consultation with Sector Partners and other stakeholders.

On 30th January 2018, Punjab School Education Department through a notification titled “Implementation of Punjab WinS Strategy, Standards and Action plan” was directed to all Chief Executive Officers (CEO) at districts’ level to take measures for formation of WASH clubs in school and ensuring the availability of soap for students for hand washing at critical times. This notification further made the head teacher responsible for any laxity to implementation of notification’s directions.

On 4th January 2019, PMIU-PESRP of SED, revised its monitoring indicators through a notification. The new set of districts’ ranking indicators consists of 14 indicators, while three of these are derived from WinS i.e. sufficiency of toilet, drinking water, and hygiene of schools. Furthermore, in another notification issued on January 1st, 2019, PMIU revised hygiene indicators through including availability of soap. On 9th April, 2019, PMIU included another set of indicators related to existence and functionality of WASH club in its schools’ monitoring application.

In addition to institutionalization and adaptation of WinS strategy in day-to-day business of education department, 440 teachers from districts of Faisalabad, DG Khan, Rahim Yar Khan, Rajanpur and

Bahawalpur were trained on WinS by Literacy and Non-Formal Basic Education Department of Government of Punjab.

6.2. Biological Environment

Punjab Province has been divided into five main agro ecological zones. About 80% of the country is arid and semiarid, along with 12% sub-humid and 8% humid, with two distinct seasons (i.e. summer and winter). The monsoons bring a major portion of annual rainfall to most of the country. Winter rains are usually scarce. Because of its uneven distribution, precipitation is generally inadequate for productive rain-fed agriculture. There are vast areas of arid and semi-arid habitat which host important biodiversity resources in the country.

a) Forests

Forests have vital global, ecological and socio-economic importance as a renewable resource. According to the Food and Agriculture Organization (FAO, 2012), the forest degradation rate in Pakistan is the highest in Asia and the country is ranked at 110th in respect of forest cover of the world. In the province of Punjab, the area under forest and allied purposes like Range Management and Wildlife is 1.66 million acre. As per Landsat image 2012-13 the total area of Punjab is 50.95 million acres. Out of which area under tree cover in state as well as private land is 3.49 million acres. Hence total tree cover of Punjab comes to be 6.85%.

A major threat to Punjab's forests is uncontrolled and unsustainable logging for living purposes and timber products. The total area of Punjab is 50.95 million acres. The recorded forests area is 1.66 million acres (excluding) Linear Plantations, which constitutes 3.26 % of the geographic area of the Punjab. Major forest types occurring in the province are Irrigated Plantation, Riverine Forest, Scrub Forest, Range Lands and Coniferous Forest. Irrigated Plantations comprises 25.6%, Riverine Forests 10.6%, Scrub Forest 40.7%, Range lands 12.2%, Desert 2.3%, Coniferous forests 6.8% and Mix Forests (Coniferous/Scrub) constitute 1.8% of the total forest area of Punjab. Punjab Province has been divided into three zones (southern, central and northern zones) for administration purposes.

b) Biodiversity

Punjab, the land of five rivers, is amongst the most heavily irrigated landscapes on earth with a canal system spread all over the province. Approximately 80 mammals, 10 amphibians, 85 reptiles, and 500 birds have been reported from Punjab. Rates of endemism vary from group to group but overall diversity is high.

The topography of Punjab is very diverse in the sense that it encompasses mountains, wetlands, rangelands, and deserts, in addition to flat plains. Most of the area is fertile alluvial plains, formed by the long-term deposition of sediments by the river Indus and its major tributaries i.e. Jhelum, Chenab, Ravi, and Sutlej. Approximately seventeen wetland sites have been delineated in Punjab including Ucchali lake, Nammal lake, head Islam, Taunsa barrage, Marala headworks, etc.

Approximately 499 species of birds have been recorded in different areas of Punjab. Out of these, 21 species have IUCN status whereas 11 species are vulnerable. Out of the 80 mammals found in Punjab, 6 species are threatened according to the IUCN red list. The reasons for their endangerment are habitat fragmentation and inbreeding depression due to construction of barrages.

c) Protected Areas

Protected areas are essential not only for conservation of biological heritage but also provide ecological goods and services for the social and economic wellbeing of the people. In Punjab, there is a single Administrative Department, who has three attached departments namely Forest, Wildlife & Fisheries. The set up in Punjab provides an opportunity to address the issue of Protected Areas especially for sites, which are required to be declared as protected areas are also state forest land. Hence, it provided two legislative

covers i.e. Punjab Forest Act (Amended) 2010 and Wildlife Act 2007. It is due to the reason that most of the Game Reserves, Wildlife Sanctuaries and National Parks are on forest land. In Punjab, the protected areas through Protected Area Act 2020 protect the majority of wildlife in addition to threatened species such as Punjab Urial and Indus Blind Dolphin. However, the national parks cover only 1.03% of the total area of Punjab, and there is a need for more protected areas for conservation. With the rise in human population, agricultural practices have intensified and Punjab has undergone major land cover changes. Natural habitats and associated wildlife are depleting rapidly due to the conversion of natural ecosystems for agriculture and housing. Various ecosystems have suffered due to the construction of barrages and human control over the river Indus. Almost all of the natural ecosystems present in Punjab are now critically endangered.

6.3. Socioeconomic Environment

a) Demography

Punjab is the most populous province and home to about half of the population of Pakistan. According to the latest Population Census of 2017, Punjab has a population of 110 million, equivalent to 52.95 percent of the national population. The proportion of rural and urban population is 63.3% and 36.7% respectively. Punjab is blessed with a young population. As far back as 1998, the share of young (up to the age of 24 years) population has risen to almost 63 percent. This is certainly a favorable position, but only if enough productive jobs can be found for the youth entering the labor force.

The major language spoken in the Punjab is Punjabi and Punjabis comprise the largest ethnic group in the country. The language is not given any official recognition in the Constitution of Pakistan at National level. Punjabis themselves are a heterogeneous group comprising different tribes, clans and communities. In Punjab these clans and communities have more to do with traditional occupations such as blacksmiths or artisans as opposed to rigid social stratifications.

In addition to the Punjabis, the province is also home to other smaller ethnic groups in the province including the Siraiiki, Hindkowan, Kashmiris, Sindhis, and Muhajirs. The Muhajirs are Urdu speaking Muslim migrants from India and settled in Pakistan after independence in 1947. Three decades of bloodshed in neighboring Afghanistan have also brought a large number of Afghan refugees to the province.

As per the census of Pakistan 2017, linguistic distribution of the Punjab province is: Punjabi (69.67 percent), Saraiki (20.68 percent), Urdu (4.87 percent), Pashto (1.98 percent), Balochi (0.83 percent), Sindhi (0.15 percent) others (1.82 percent). The population of Punjab is estimated to be between 97.77 percent Muslim with a Sunni Hanafi majority and Shia minority. The largest non-Muslim minority is Christians and make up 1.88 percent of the population. Hindus form about 0.2% of the population. The other minorities include Ahmedi, Hindu, Sikh, Parsi, and Bahai.

The dialects spoken in different regions of the land have a common vocabulary and a shared heritage. The people of Punjab have also a shared spiritual experience, which has been disseminated by *Tasawwaf* and can be witnessed on the occasion of the remembrance-fairs held on the Urs of Sufi Saints.

b) Agriculture

Agriculture⁶ is the mainstay of Punjab economy, contributing approximately 27% to the provincial GSP, while its share in national GDP is only 19%. As a result, the province accounts for two-thirds of the national agriculture production. Agriculture constitutes three quarters of national exports, of which 60% is from Punjab. The province represents a significant share of national production of key cash crop; wheat (77%), cotton (74%), sugarcane (65%), rice (52%) and cattle (55%). But also, significant national share in horticulture, including mango (77%) and citrus (97%). Agriculture not only offers vital raw materials

for key exports as textiles and agro-food products (including rice and horticulture), but also contributes significantly to the social, economic and cultural activities of its citizens.

c) Land Use

Punjab comprises around 25% of Pakistan's geographical area, 57% of the cultivated area and 73% of the cropped area. Approximately 72% of the reported land in Punjab (12.5 million ha) is available for cropping, with the balance land either infertile or under infrastructure. The province's forested area is only 2.3% of total land and is declining at a rate of 0.2-0.5% per year nationally. Deforestation is driven by urbanization, a rural reliance on fuel wood, and poor land planning. The area of land under production has remained relatively stable over the last four decades. Since most of the arable land in Punjab is already cultivated, agricultural growth is achieved through intensification and higher use of fertilizers and pesticides, with longer term implications for human health and wellbeing, soil degradation and ecological damage⁷.

d) Health

In spite of extensive network of health⁸ care facilities in the province, health status of the people of the province as a whole is below the desired level. Infant mortality rate is 77 per 1000 live births. Under 5 mortality rate is 112 per 1000 live births. Maternal mortality ratio is estimated to be 300 per 100,000 live births, lower than the national figure of 350. Total fertility rate in the province is estimated to be 4.7. About 92 percent of the population has access to improved drinking water sources; whereas 58 percent of the population in the province has access to sanitation.

Currently there are about four million malnourished children in Punjab, and about a third of all pregnant women are estimated to have iron deficiency anemia. Over 34 percent of children under the age of five years are short for their age; over 10 percent are under weight for their age and over half anemic. Malnutrition is a major contributor to infant and maternal deaths.

Poor health status is in part explained by poverty, low levels of education especially for women, low status of women in large segments of society, and inadequate sanitation and potable water facilities, low spending/expenditure on health even by Asian standards (0.7% as compared to 1.3%, World Bank report). It is also strongly related to serious deficiencies in health services, both in public and private sectors.

e) Education

As per the Pakistan Social & Living Standards Measurement Survey (2019-20), Punjab has the highest literacy⁹ rate with 64 percent among all provinces for the population 10 years and older. District wise comparison reveals that within Punjab, Rawalpindi with 82 percent is at top in literacy and Rajanpur with 42 percent is at bottom. The youth literacy (age 15-24) of Punjab is 78 percent, higher than all other provinces.

The population of ten years and older that has ever attended schools at Punjab level is 66 percent. Out of School consists of children aged 5 to 16 years who have never been to school and those children who attended school and left afterwards. Out of school children at Punjab level is 24 percent which has the lowest among other provinces.

⁶ FAO, Climate Smart Agriculture for Punjab, Pakistan

⁷ FAO, Climate Smart Agriculture for Punjab, Pakistan

⁸ <https://health.punjab.gov.pk/PunjabHealthProfile.aspx>

f) Economy

The estimated share of the economy¹⁰ of Punjab in the national GDP was 54.2 percent in 2017-18. This implies that given the share in population of just below 53 percent, the per capita income of Punjab is 2 percent higher than the national average. This indicates that in terms of USD, it is \$1,673. The growth rate of Punjab's economy has been close to the national growth rate. During the last five years, the average annual provincial GDP growth rate has been 4.9 percent.

The sector-wise composition of Punjab's economy is given in Table 4.5. The share of agriculture in 2017-18 was 20 percent. Over the last five years, the share has declined from 23 percent in 2012-13. Simultaneously, the shares of the industrial and service sectors have increased. A comparison with the share of different sectors in the national economy reveals that agriculture and services in Punjab have a comparatively larger share, while the industrial share is smaller.

TABLE 7 SECTOR-WISE SHARE (%), PUNJAB & PAKISTAN, 2012-13 TO 2017-18

Sector	2012-13	2015-16	2017-18
Punjab			
Agriculture	23.0	20.8	20.2
Industry	17.2	17.4	17.5
Services	59.8	61.8	62.4
Pakistan			
Agriculture	21.4	19.8	19
Industry	20.4	20.9	20.8
Services	58.2	59.3	60.2

Source: Punjab Economic Research Institute, Government of Punjab and Pakistan Bureau of Statistics

Overall, Punjab's economy has a higher share in private and public investment, as well as in Net Foreign Factor Income (NFFI). Also, Punjab has a significantly higher saving rate. The net trade deficit of Punjab is somewhat higher at 6 percent of the provincial GDP.

The labor force participation rate is higher in Punjab than the national average. From 2013-14 to 2017-18: it averaged at 48.4 percent as compared to 44.9 percent of Pakistan's. The difference is largely due to the higher labor force participation rates of females in Punjab. The labor force growth rate is the same in Punjab and the country as a whole. Employment growth has been slightly faster in Punjab. However, the unemployment rate in Punjab during 2017-18 at 6 percent is somewhat higher than 5.8 percent in Pakistan. Punjab has a higher share of employment in both agriculture and manufacturing. The latter is due to the stronger and more pervasive presence of small-scale manufacturing units in the province, with strong export orientation.

g) Urbanization

Urbanization in Pakistan occurs largely through migration from low-income rural areas. Most of the migration occurs within provinces. The migration rate in Punjab is the highest among other provinces. The rural to urban migration continues to be the pre-eminent method of urbanization in Punjab and KPK. Agglomeration in Punjab particularly has unfolded along the lines predicted by theory. It is more evident in the form of localization economies, in which benefits are received due to interactions within industries and the sharing of inputs. Hubs of economic activity have proliferated around cities within the Lahore-Faisalabad-Sialkot-Gujranwala corridor, and urban areas in Punjab contribute 25 to 33 percent of Pakistan's total GDP. Pakistani cities are expanding without sufficient planning, leading to poor

infrastructure, inefficient public services and unaffordable housing. This has prevented the realization of agglomeration benefits in terms of lower production costs, growth of entrepreneurship and creation of much needed jobs.

7. POTENTIAL KEY ENVIRONMENTAL AND SOCIAL IMPACTS

7.1. Impact Assessment and Prediction

The environmental and social assessment will be based on current information, including an accurate description and delineation of the projects and any associated aspects, and environmental and social baseline data at an appropriate level of detail sufficient to inform characterization and identification of risks and impacts and mitigation measures. The assessment will evaluate the both project's potential environmental and social risks and impacts; examine project alternatives; identify ways of improving projects selection, siting, planning, design and implementation in order to apply the mitigation hierarchy for adverse environmental and social impacts and seek opportunities to enhance the positive impacts of the project. The environmental and social assessment will include stakeholder engagement as an integral part of the assessment, in accordance with ESS.

Environmental and Social Standard (ESS) establishes the importance of:

- The Project's existing environmental and social framework in addressing the risks and impacts associated;
- An integrated environmental and social assessment to identify the risks and impacts of a project;
- Effective community engagement through disclosure of project-related information, consultation and effective feedback;
- Management of environmental and social risks and impacts by the Borrower throughout the project life cycle.

The World Bank requires all environmental and social risks and impacts of the project to be addressed as part of the environmental and social assessment conducted in accordance with ESS1. ESS2–10 set out the obligations in identifying and addressing environmental and social risks and impacts that may require particular attention. These Standards establish objectives and requirements to avoid, minimize, reduce and mitigate risks and impacts, and where significant residual impacts remain, to compensate for or offset such impacts.

Equally, social development and inclusion are critical for all of the World Bank's development interventions and for achieving sustainable development. Inclusion means empowering all people to participate in, and benefit from, the development process. It encompasses policies to promote equality and non-discrimination by improving the access of all people, including the poor and disadvantaged, to services and benefits such as education, health, social protection, infrastructure, affordable energy, employment, financial services and productive assets. It also embraces action to remove barriers against those who are often excluded from the development process, such as women, children, persons with disabilities, youth and minorities, and to ensure that the voice of all can be heard.

⁹ Key Findings Report, Pakistan Social and Living Standards Measurements (PSLM) Survey, District Level (2019-20)

¹⁰ Planning and Development Board, Government of Punjab, Growth Strategy 2023

Therefore, within the parameters of a project, the World Bank seeks to:

- Avoid or mitigate adverse impacts to people and the environment;
- Conserve or rehabilitate biodiversity and natural habitats, and promote the efficient and equitable use of natural resources and ecosystem services;
- Promote worker and community health and safety;
- Ensure that there is no prejudice or discrimination toward project-affected individuals or communities and give particular consideration to Indigenous Peoples, minority groups, and those disadvantaged or vulnerable, especially where adverse impacts may arise or development benefits are to be shared;
- Address project-level impacts on climate change and consider the impacts of climate change on the selection, siting, planning, design and implementation and decommissioning of projects; and
- Maximize stakeholder engagement through enhanced consultation, participation and accountability.

7.2. Impact Assessment Methodology

The World Bank and GPE are committed in supporting the development and implementation of the GRADES-P and STPs project which shall be environmentally and socially sustainable, and also to enhance the Project's capacity of environmental and social frameworks as well as to assess/manage the environmental and social risks and impacts of GRADES-P and STP projects. To this end, the World Bank has defined specific

Environmental and Social Standards (ESSs), which are designed to avoid, minimize, reduce or mitigate the adverse environmental and social risks and impacts of projects. The Bank will assist in application of the ESSs to projects in accordance with this Environmental and Social Policy.

The methodology for environmental and social risks assessment and their impacts which the Bank will take into account and which are project-related include the following:

a) Environmental Impacts:

- Identified in the World Bank Group Environmental, Health, and Safety Guidelines (EHSGs)
- Related to workers and community safety;
- Pertaining to climate change and other trans boundary or global risks and impacts;
- Any material threat to the protection, conservation, maintenance and restoration of natural habitats and biodiversity; and
- Regarding ecosystem services and the use of living natural resources, such as fisheries and forests;

b) Social Impacts:

Generally, the social impacts a development project have:

- Threats to human security through the escalation of personal, communal or interstate conflict, crime or violence;
- Risks that project impacts fall disproportionately on individuals or groups who, because of their particular circumstances, may be disadvantaged or vulnerable;
- Any prejudice or discrimination toward individuals or groups in providing access to development
- Resources and project benefits, particularly in the case of those who may be disadvantaged or vulnerable;
- Negative economic and social impacts relating to the involuntary taking of land or restrictions on land use;

- Impacts on the health, safety and well-being of workers and project-affected communities; and risks to cultural heritage.

7.3. Potential Key Environmental and Social Impacts of GRADES-P and STP Projects

Overall potential environmental and social risks/impacts of the proposed activities under the project have been provided in Table 5.1. In general, the potential risks/impacts during construction will include but not limited to the followings:

Key environmental risks include:

- localized noise,
- dust emissions,
- solid waste,
- occupational health and safety,
- community health and safety (during both construction and operational phases of the project),
- Wastewater generation,
- Poor WASH facilities,
- Limited access to good quality potable water
- possible spread of infectious diseases – in particular COVID-19 and associated waste management issues.

Key social risks include:

- Threats to human security and safety including localized tensions, harassment, crime or violence in and around schools, NFEIs, and SpED institutions, particularly where external workers, visitors or service providers interact with students and communities.
- Risks of SEA/SH GBV and violence against children, including exploitation, bullying and other inappropriate conduct, particularly affecting adolescent girls in NFEIs settings and children with different needs.
- WASH and dignity related risks, including reduced access to safe, private and functional toilets for girls during works, which may affect attendance, menstrual hygiene management, retention and overall being of children.
- Concerns and conflicts during the construction project activities may arise if all the stakeholders are not adequately informed, consented and taken into confidence about the project or its schedule of operations, before the commencement of project activities;
- Traffic and road safety risks around schools due to movement of construction materials, equipment and vehicles creating hazards for children during school in and out timings in densely populated areas.
- If the proposed construction site is not appropriately cordoned off to restrain outsiders from entering the site, issues of trespassing may arise. Quarrels due to traffic congestion and unavailability of parking may also arise;
- Nuisance to local community and shop vendors is envisaged;
- Relocation and resettlement, either temporary or permanent;
- Impact on business. The site may be cleared from hawkers and small vendors which may give rise to conflicts;
- Impact on livelihood in terms of anticipated loss to agriculture where target schools in rural areas are closer to cropping areas;
- Lack of availability of potable water;
- Public mobility due to construction work, especially for women and children;
- Obstruction in traffic if the schools are on main or side roads, even in streets;

- Hazardous and emergency situation during operation/construction;
- Insecurity for project operations and associated workers;
- Discrimination in consideration of vulnerable, marginalized and minority members of the community in project development;
- Selection bias and elite capture, where project benefits are diverted to less-vulnerable individuals and locations;
- Poor access to beneficiaries for meaningful community engagements and difficulty in monitoring social issues;
- Sexual Exploitation, Abuse and Harassment (SEAH/SEA) and other forms of Gender Based Violence (GBV).

TABLE 8 COMPONENT-WISE ENVIRONMENT AND SOCIAL IMPACTS AND OUTCOMES OF GRADES-P AND STP PROJECTS

S. No.	Components of GRADES-P	Environment and Social Impacts and Outcomes
1	Strengthening Management of the Education System and Schools	
1.1	Innovations to Strengthen Management	
	Strengthening the delivery chain of the education system from the provincial level to districts down to the school level and promote data-driven management.	This step will help to increase access and quality of education in the districts by analyzing the outcomes and sustainability of the reforms.
	The component will finance development of applications, with integrated and individualized dashboards that provide gender- disaggregated data to District Level Officials, Assistant Education Officials (or similar teachers' mentors), Schools (principals and head teachers) and Teachers and building capabilities at different levels of the education delivery chain to utilize these data.	- Development of field offices/information kiosks will help in future decision making and to enhance and retention of girl's participation. - Gender disaggregated data including children with disabilities will provide equitable delivery of education and assist in improving inclusiveness for all children contributing to the prosperity of the community. - Educating girls at primary levels will contribute in empowering gender balance and provision in betterment of the society beginning from the school level including teachers, administration and education delivery mechanisms.
	Building capabilities at different levels. Additionally, at the school level, the component will support modules and pilots for a capacity building program for management practices, including instructional leadership.	- This step will increase ways of creatively addressing challenges in school education delivery systems. - The pilot and demonstration project will develop teamwork skills at different tiers identifying the strengths and weaknesses.
	The component will support to strengthen shock responsiveness (including to climate shocks), by using technology for community engagement, through SMS messaging and an application to support stronger engagement with parents, guardians and communities.	- Mobile enabled technologies provide new opportunities to support Disaster Risk Management (DRM) in emerging economies. This will help to improve risk assessment, preparedness, early action and resilience to natural hazards. - Provide access to instant and immediate data which aids early response action. - Contributing to the strengthening of resilience and reduction of losses - Rapid and reliable dissemination of information before, during and after a disaster, when decisions and actions need to be taken quickly in order to save lives.

S. No.	Components of GRADES-P	Environment and Social Impacts and Outcomes
	New applications in the School Information System based on a unique and verified identifier that will allow school administrators to better track students through the school system and to identify those at risk of grade repetition or dropping out. These data systems will also capture indicators related to disability and inclusion at individual student level.	- Improved SIS will help to identify parameters which needs focusing causing Grade repetition or dropping out which can be prevented by enhancing teacher's socialization as well as collaborative skills. - The component also assists in inclusiveness of disabled students to evolve as better performing citizens of the community.
	Improved data collection in private schools, by strengthening the Private Education Provides Registration and Information System (PEPRIS) reporting system and supporting the design of a sample-based monitoring system for private schools.	- The accountability component is rooted in the use of reliable, relevant and timely data to inform feedback on performance and hold the system/actors accountable. - Since this component is solely based on provision of ICT systems, there is a probability of generation of obsolete ICT equipment, long-term output of ICT waste generation. However, it is rarely possible due to the government's internal procurement policies which do not allow discarding of equipment.
	Providing an ERP for the School Education Department and associated departments (PMIU, PECTAA, PEF) to improve the departments' administration.	- It helps to strengthen the delivery chain of the education system through data management systems from the provincial level to districts down to the school level and promote data-driven management. - Increasing the capacity of the education system while also restructuring district education departments of the entire province, a fundamental shift in how education was managed in the Punjab
	Strengthening the grievance redress system for the SED, including complaints on GBV and a service-oriented team that can address and investigate complaints, while coordinating with district and other officials.	- It will enable to bring up grievance related to provision of student amenities and quality education, non-payment or delay in payments, complaints on discrimination by students from SC/ST/minority women/disabled categories. - The system will bring down the feedback on the administration's performance. This will help to assess the capability of schools by higher authorities. - GRM provide security and develop a sense of confidence to the person who is victimized. - Also, the use of such a grievance redress system will help them lodge complaints without the fear of being harassed or bullied.
	Support overall project monitoring and implementation, communication about project results.	Robust monitoring and evaluation mechanism will help in evidence informed service delivery and improved accountability embedded in the system.

S. No.	Components of GRADES-P	Environment and Social Impacts and Outcomes
1.2	Improving the Delivery of the Public and Private Schooling System	
	Supports the use of yearly gender-disaggregated targets for school enrolment and learning levels across the delivery chain (from province down to district and school level) to improve the management of schools and the broader education system.	- This will enhance students' retention and better delivery of education to girls who would find a secure and healthy environment. - Targets of universal primary education cannot be achieved without female access to educational opportunities, which contains several external benefits especially empowerment of women. - Produce positive external benefits, and a strong case can be made for the continued involvement of the government for gender equitable public spending on education.
	Strengthening the role of head teachers in the province by adopting a policy framework for school leadership, and the implementation of a training program for head teachers.	- By enhancing the quality of their instructions, a head teacher will be able to self-evaluate by viewing reports on the collection of any data which may serve the purpose to help out the cause of command and control which is an essential task of the head teacher. - Capacity building of head teachers define, propagate and promote high expectations as there is a direct relation of great significance between the teacher and classroom. A better - classroom and teaching environment will be executed where students feel encouraged to attend school regularly.
	Supports financing for schools through the non-salary budgets which will be in line with community priorities set by school councils.	- Non- salary budgets enable the school to procure operational consumables needed. - These budgets help to acquire such as: ➤ teaching and learning materials; ➤ repair and maintenance of school building; ➤ basic facilities such as drinking water and electricity; ➤ co-curricular activities; ➤ utility bills; ➤ medical supplies; ➤ photocopying and printing; ➤ cleaning; refreshments, etc.
2	Expanding School Participation	
2.1	Classroom and School Construction	

S. No.	Components of GRADES-P	Environment and Social Impacts and Outcomes
	Building of new classrooms and classrooms	- The interventions under this sub-component will reduce overcrowding by building new classrooms. - Travel time to schools will be reduced by coming back to newly constructed building on existing government owned former demolished school sites. - Construction of WASH facilities. - Increase in school safety (e.g. construction of boundary wall). - These construction activities are known to positively affect girls' participation and improve retention rates of girls who are more likely to drop out in first grades. - During construction; EHS related impacts might occur, however, identified as localized and reversible.
	Reducing multi-grading across the primary grades	- Students learning experience will be improved in single-grade classes compared to the conventional multi-grade classes. - Teachers will have independent role in providing segregated grade-wise education.
	Provision of accessible wheelchair ramps and handrails	Equitable opportunities for disabled persons to gain education in same institutions, socialize, and learning skills with other regular students.
	Construction with climate adaptive efforts	- Climate Change adaptation including heat insulation, natural ventilation and lighting, will help to cope with extreme weather conditions. - Provision of clean energy production through Solar Panels will help to produce no greenhouse gas emissions from fossil fuels and reduces some types of air pollution. - Solar panels will diversify energy supply and reduce dependence on imported fuels.
	Construction in flood prone sites	- The local topography of any construction site could influence the flood risk from surface water runoff if not adequately controlled by appropriate formal storm water drainage and site management. - The construction process could potentially cause flooding elsewhere or within excavations if impermeable areas are temporarily increased without mitigation measures in place.
	Supervision and technical support to the procurement process to strengthen the targeting, costing, and implementation of construction efforts.	- Monitoring & Evaluation helps ensure resources are used efficiently - It results in better transparency and accountability of any project - Also help organizations to catch problems early - M&E helps organizations replicate the best projects/programs
2.2	Strengthening Public Private Partnership to Expand Access to Schooling	

S. No.	Components of GRADES-P	Environment and Social Impacts and Outcomes
	Developing a long-term strategic plan for public-private partnerships, that strengthens the management of partner schools with focus on teacher contracts and student well-being (in particular regarding GBV).	- The government along with the private sector will accomplish the task of providing quality education to all eligible students covering the large population of the province. The private sector would play a monumental role in improving access to schools and the quality of education. - This approach will help to enhance the quality of post-primary education. Such partnerships in education are a long-term contractual relationship between the government and a private sector operator to deliver education infrastructure and services. - They should leverage the private sector's innovation and new technology for more effective delivery of education services.
3	Improving Learning Outcomes	
3.1	Innovations to Improve Teaching and Learning Practices	
	Technical assistance for the expansion of smartphone applications that provide pedagogical support.	- Modern learning techniques will help in: ➤ 24/7 access ➤ Effective parent - student - teacher communication ➤ Comprehensive and systematic approach ➤ Time efficiency - Cost-effective strategy
	Technical assistance to strengthen monthly teacher forums, where teachers can practice newly acquired pedagogical skills. The component will provide technical assistance to develop new teacher guides, which will include formative assessments, positive gender roles, and climate-awareness.	- Capacity building of teachers on quality education delivery will be done where teachers learn to improve their educational skills, time management, updating technical knowledge and apply better ways to motivate the students. - Positive behavior changes in teachers avoiding corporal punishments, gender-based violence and improve disability provision. - Training guides on formative assessments, positive gender roles and climate awareness will justify to a sustainable outcome of student's intellectual development.
	Technical assistance to learning material production, including a strengthening of quality assurance processes.	- This aspect will help in active learning of the students. - The students will develop their logical reasoning and creative thinking as teachers engage them in practical and intellectual learning activities.

S. No.	Components of GRADES-P	Environment and Social Impacts and Outcomes
	Provide technical assistance to implement remedial learning in public sector schools, building on existing pilots and international experiences.	Pilot projects can generate success stories that can be used for vision casting and gaining momentum. It would assist the project implementing partners to execute international best practices in the public sector schools, and evaluate the system compatibility at national level.
3.2	Improving Learning Outcomes	
	Monitoring of student learning in Early Childhood Education and standard setting for large scale assessment.	- Regular formal and informal assessments provide teachers with valuable information on the progress and achievements of their students. - Monitoring students' progress will be a self-evaluating tool for the teachers to assess the impact of the instructional strategies they use and improve or introduce techniques for better learning.
	Strengthening careers for teacher mentors by clarifying reporting rules and establishing a career path for Assistant Education Officer (or similar) to becoming senior and master teacher mentors.	This reform will place a large emphasis on the teaching profession, building the capacity of teachers and incorporating support mechanisms for teachers as well as expanding the profession entirely providing mid-level teachers opportunities to enhance their skills.
	Provide training for remedial learning programs (Targeted Instruction, sometimes referred to as Teaching at the Right Level) for students at different levels of achievement to combat learning losses.	This student data can be used to identify where a student is placed in relation to their personal learning goals, the other students in the class, or other targeted benchmarks.
	Production of and quality assurance for learning materials, as well as the strengthening of business processes for learning material production and procurement.	Inclination of students' willingness and engagement with the content provided in the learning material.

S. No.	Components of STP Project	Environment and Social Impacts and Outcomes
1	Component 1. Provision of Access to Schooling	
1.1	Implementation of an expanded ECE program	This step is expected to deliver positive social outcomes by increasing early enrolment and school readiness particularly for girls and disadvantaged children thereby strengthening foundational learning and long-term retention.
1.2	Supporting OOSC at the middle level through NFEIs	This step is expected to increase re-enrolment and retention especially for adolescent girls by offering flexible pathways to complete basic education, improve foundational skills, and strengthen transition opportunities to formal schooling or further learning.
1.3	Provision of enabling infrastructure and equipment for SpED institutes	This step is expected to improve access, dignity, and learning participation for children with disabilities by strengthening inclusive facilities, assistive supports, and the overall learning environment, which can reduce exclusion and improve retention and learning outcomes.
1.3b	Subcomponent 1.3b: Provision of disability friendly infrastructure to SED schools	- This step is expected to improve access, safety, and dignity for children with disabilities by reducing physical barriers, increasing enrolment and regular attendance, and strengthening inclusion and participation in classroom learning. - Social outcomes include reduced exclusion and stigma over time, improved retention and transition opportunities, and greater confidence among parents to send children with disabilities especially girls to school.
2	Component 2: Improved Learning Outcomes	- This step is expected to improve learning achievement especially foundational literacy and numeracy by strengthening teaching-learning materials, teacher development, coaching/mentoring, and remedial support through learning camps, which can increase student engagement, reduce repetition and dropouts, and improve progression to higher grades. - Social outcomes include more equitable learning opportunities for girls, OOSC re-entrants, and children with disabilities; however, risks may include exclusion of weaker learners if targeting is unclear, pressure on teachers and students, and safeguarding concerns in camp settings, which require clear criteria, safe learning environments, and child protection/SEA-SH controls.
2.1	Development of Teaching-Learning Materials (TLM), teacher training and improvement of CPD framework	- This is expected to improve classroom quality and learning outcomes by providing better teaching-learning materials, strengthening teacher skills, and upgrading the continuous professional development (CPD) system - It can lead to more effective, student-centered instruction and improved foundational literacy and numeracy.

S. No.	Components of STP Project	Environment and Social Impacts and Outcomes
		Social outcomes include more equitable learning for girls and marginalized learners when materials and training are gender-responsive and inclusive; potential risks include uneven reach or quality of training and limited accommodation of disability needs, which can be managed through transparent coverage plans, inclusive content standards, and monitoring of teacher uptake.
2.2	Bridging gaps in management, mentoring and coaching for district management	- This is expected to strengthen district-level supervision, mentoring, and coaching, leading to better support for schools and teachers, more consistent implementation of reforms, and improved learning outcomes. - Social outcomes include improved accountability and more equitable service delivery across districts especially for girls and marginalized learners while key risks include uneven capacity or bias in support delivery, which can be managed through standardized tools, transparent performance monitoring, and gender- and inclusion-sensitive coaching protocols
2.3a	Establishment of 4000 Learning Camps at Primary Level	- This is expected to improve foundational literacy and numeracy for low-performing students by providing targeted remedial support, which can boost confidence, attendance, and retention especially for girls and disadvantaged learners. - This step will reduce learning gaps and improved progression, while key risks include exclusion if selection is unclear and safeguarding concerns in camp settings; these will require transparent targeting, safe learning spaces, and strong child protection/SEA/SH controls.
2.3b	Establishment of 4000 remedial camps at Middle Level	- This is expected to help adolescents especially girls and previously out-of-school learners recover foundational learning gaps, improve exam readiness, and reduce dropout by strengthening confidence and engagement in schooling. - Social outcomes include improved progression to higher grades and more equitable learning opportunities, while key risks include mobility and safety concerns for adolescents, stigma around remedial placement, and safeguarding risks in camp settings; - These will be managed through safe-site arrangements, community coordination, transparent selection, and strong child protection/SEA/SH measures.
2.4	Establishment and operationalization of a content hub to create quality content	- This is expected to improve the quality, consistency, and availability of curriculum-aligned learning content, which can strengthen teaching effectiveness and student learning outcomes across schools. - Social outcomes include wider access to better learning resources particularly when

S. No.	Components of STP Project	Environment and Social Impacts and Outcomes
		content is gender-sensitive, inclusive, and adapted for children with disabilities while key risks include unequal access due to the digital divide and potential exposure to inappropriate content if safeguards are weak; these can be managed through inclusive design, offline/low-tech options, and strong child online safety and data protection measures.
3	Enhancing System Capacity and Data Systems	• This step is expected to strengthen education governance and service delivery by improving data quality, standardization, and interoperability across departments. • It will enable better planning, transparent targeting of resources, and timely identification of gaps in enrolment and learning especially for girls, out-of-school children, and children with disabilities. • Social outcomes include improved accountability, more accurate tracking of student progression and dropouts through strengthened assessment and MIS systems, and stronger institutional capacity (including operationalizing the Gender Cell) to mainstream gender and inclusion in decision-making; key risks relate to privacy and misuse of sensitive student data and potential exclusion if data systems are incomplete, which require strong data protection protocols and equitable data coverage.
4	Influencing Behavioral Change	• This step is expected to improve enrolment, retention, and foundational learning by shifting community and stakeholder attitudes and practices through outreach, engagement, and mobilization particularly to support girls' education, the return of out-of-school children, and inclusive education for children with disabilities. • Social outcomes include stronger parental involvement, reduced social resistance to girls' schooling, improved awareness of child protection and safe learning, and greater community ownership of education outcomes; key risks include backlash in conservative contexts or exclusion of hard-to-reach groups, which can be reduced through culturally sensitive messaging and inclusive engagement approaches.
4.1	Community Engagement & Targeted Outreach	• Community engagement and targeted outreach are expected to increase awareness and acceptance of education especially for girls, out-of-school children, and children with disabilities leading to improved enrolment, attendance, retention, and support for foundational learning at home. • Social outcomes include stronger parent school relationships, reduced stigma and harmful norms, and better reporting and prevention of child safeguarding risks, provided outreach is inclusive and locally appropriate.

S. No.	Components of STP Project	Environment and Social Impacts and Outcomes
4.2	Stakeholder Engagement & Enrollment for OOSC	- Stakeholder engagement to support OOSC enrolment is expected to strengthen coordination among schools, communities, local leaders, and relevant departments to identify out-of-school children, reduce barriers to return, and increase enrolment and retention particularly for girls and marginalized learners. - Social outcomes include improved trust in education services, stronger community ownership, and more equitable access to learning opportunities when outreach and enrolment processes are transparent and inclusive.
4.3	Student Engagement for Supporting FLN	- This step will support foundational literacy and numeracy (FLN) are expected to increase learners' motivation, confidence, and participation, leading to improved attendance, better learning outcomes, and reduced dropout especially among low-performing students and girls. - Social outcomes include a more supportive learning environment and stronger student–teacher interaction, provided activities are inclusive and safe for all learners, including children with disabilities.
4.4	Alumni Engagement for Innovative Financing	- Alumni engagement for innovative financing is expected to mobilize additional resources and community support for schools, helping improve learning environments and sustain education initiatives beyond project funding. - Social outcomes include stronger school–community linkages, increased local ownership, and improved opportunities for students especially when alumni contributions are directed transparently toward equitable needs such as girls' education and inclusion of children with disabilities.

7.4. Potential Environmental and Social Impacts Related to Project Siting

The primary social issues are associated with the identification and management of school expansion, up-gradation and new school construction activities envisaged under Component 1.1. For building and provision of new facilities such as additional classrooms and toilets, community health and safety will be a major concern for school children and staff (due to construction related risks, security risks and GBV). For new school construction or expansion of existing schools, there may be additional risks related to land acquisition and land use besides, all the construction is emphasized on existing sites. However, these risks are expected to be temporary, localized and site specific. Close attention will need to be paid to ensure that the site selection process follows principles of equity and inclusion; as school infrastructure projects in Pakistan tend to be guided by local structures of patronage and power, with many competing stakeholders. There is therefore also a risk that schools located in rural and remote areas and communities where clusters of ethnic, linguistic and religious minorities exist may be excluded from project benefits. During the project siting stage, potential environmental impacts must be carefully assessed to avoid long-term ecological consequences. Site selection for new school construction may involve land clearance, which can lead to loss of vegetation, disruption of local biodiversity, and alteration of natural drainage patterns. Improper site selection near water bodies or low-lying areas increases the risk of flooding and soil erosion. Additionally, siting in areas with existing soil contamination or proximity to industrial zones could pose health risks to students and staff. Noise and air quality disturbances from nearby traffic or commercial activities must also be evaluated during site screening to ensure a safe and environmentally suitable learning environment.

7.5. Potential Environmental and Social Impacts during Project Implementation

Both projects will be implemented in the province of Punjab. Punjab is the most populous province of Pakistan. According to the 2017 census, the population of the province is 110 million. Components 1 and 3 of the GRADES-P Project are expected to generate positive social impact, by expanding teacher mentoring and support mechanisms, introducing technology and improving school management and student- teacher interactions. The success of these Components may be hampered by varying existing degrees of technological literacy amongst teachers and administrators, which could lead to unequal project outcomes.

The construction activities under component 2.1 of GRADES-P and STP Projects will pose localized, temporary and reversible environmental, health and safety impacts on surroundings, communities, school children and staff. The environmental impacts may occur in the form of potential and adverse localized impacts on drainage clogging/wastewater ponding, soil and groundwater contamination, dust pollution, noise pollution and occupational health hazards due to improper management of sanitary wastewater, spill of hazardous waste, other construction materials, and movement of vehicles/trucks as potential risk to communities and worker health and safety at the construction sites and surrounding communities.

7.6. Environmental and Social Impacts on Completion

During operation stage the potential environmental and health risks (students, school staff, and community) are associated with WASH facilities if there is shortage of water supply at toilets and washbasins, inappropriate treatment and disposal of sewage from the toilets, non-potable drinking water facilities and the limited supply of hygienic products (soaps, germicidal/disinfectants) and substandard hygienic services (washing, cleaning and disposal of waste) at schools. Safe water supply is a challenge for most of the schools in Pakistan in general, and particularly schools located in the underground brackish water zones in southern Punjab. Students and teachers are facing health risks due to contaminated water supplies in schools.

It is envisaged that electronic waste (may be in low quantity) will be generated if the use of Education Technologies will involve procurement of several types of education IT equipment (ICTs) for use by different schools and educational departments. The environmental and health and safety impacts will be associated during recycling and disposal of the existing obsolete e-waste. If e-waste is recycled and disposed under improper extraction facilities and disposal arrangements then environmental, health and safety impacts will occur in the form of discharge of heavy metals and dioxins in the environment and risks to the health of the associated workers and communities. The standard auction process practice of the existing office equipment procedures is adopted by all the government departments in general.

Following sections describe details of the mitigation measures for the above identified potential environmental and social impacts in Table 10 for the design, construction and operation phases of the project activities.

TABLE 9 ENVIRONMENTAL AND SOCIAL IMPACTS AND MITIGATION PLAN

Generic Environmental/Social Guidelines			
No.	Aspects and Impacts	Mitigation Measures	Responsibility
A	Design and Planning Stage		
	Site Location		
	- Obstruction of sunlight, - Air movement, - Ventilation of the existing built-up structures in the surroundings, - Roaming of school children - School locating far from the benefitting population and conveniently not easily accessible - Freshwater availability near the project site - Consent of the local community for the construction of the said project	Select a site: - that causes minimal obstruction to sunlight, air movement, ventilation of the existing built-up structures in the surroundings, and roaming of school children. - that is conveniently located, easily accessible and nearer to the benefitting population which has a patent source of freshwater for ensuring adequate and sustainable water supply in consultation and with consent of the local community	- Design Engineer Dy. DEO / Head Teacher Concerned - Special Site Selection Committee comprising EDO (Education); - DO (Rev.); School In-charge; and Owner/Donor of the land
	- Site selection in disaster prone areas - Nearby railway line, wastewater drain, surface water body, or noisy vicinity - Causing loss of play areas or divides the larger play areas into smaller fragments - Selection of low-lying site thereby making it vulnerable to runoff stagnation - Cutting or removal of vegetation. - Ecologically sensitive area, protected forests, and areas of archaeological importance - Selection of site which can likely to entail a potential negative land use change / loss of agricultural land	Do not select a site: - in an active flood zone, fault line, protected area near railway line, wastewater drain, surface water body, - or noisy vicinity causing loss of play areas or divides the larger play areas into smaller fragments which is low lying thereby making it vulnerable to runoff stagnation which involves tree cutting, - or removal of vegetation in an ecologically sensitive area, protected forests, - and areas of archaeological importance that is likely to entail a potential negative land use change / loss of agricultural land that poses obstruction to	- Design Engineer Dy. DEO / Head Teacher Concerned - Special Site Selection Committee comprising EDO (Education); - DO (Rev.); School Incharge; and Donor of the land

Generic Environmental/Social Guidelines			
No.	Aspects and Impacts	Mitigation Measures	Responsibility
	Poses obstruction to public thoroughfares, roads, or passersby's movement	public thoroughfares, roads, or passersby's movement	
	Design Aspects:		
	• Infringe easement rights of the neighbors • Having architectural features flouting to general landscape of the area • Do not cater the required capacity of approximately 5-6 m3 space per child • Construction materials from distant places • Not incorporating proper ventilation and provision of sunshine, air movement, and less usage of the natural light for illumination and heating purposes in winter • No provision of climate change mitigation in schools which are off-grid. • No arrangements for special children (children with disabilities) requirements of wheelchair ramps and handrails and studded floors for blinds, where needed • Toilet facilities for boys and girls not far from each other • Collection of drainage of the spilled water near to the hand pump borehole • Stagnant water at the floor platform of the hand pump • No safety access on watercourses or ditches on school route • Lack of internal footpaths and or provision of pavements	Building's Design and Layout should: • Not infringe easement rights of the neighbors • Have architectural features in conformity to general landscape of the area • Be in consonance with local climatic, environmental, and meteorological conditions • Prefer local construction materials • Incorporate proper ventilation and provision of sunshine, air movement, and maximum usage of the daylight • Provision for installation for solar panels on roof top in off grid schools • Cater for requirements of special children (children with disabilities), e.g., provision of wheelchair-ramp, side rails along stairs, and studded floors for blinds, where needed • Incorporate toilet facilities separate for boys and girls • Make provision for drainage of the spilled water away from hand pump borehole by providing a concrete platform • Provide for floor platform of the hand pump with a slope so that water does not stay • Provide safe access by having culverts on watercourses or ditches on school route	• Design Engineer / Architect • PMIU • Dy. DEO / Head Teacher Concerned

Generic Environmental/Social Guidelines			
No.	Aspects and Impacts	Mitigation Measures	Responsibility
	- Hand washing arrangement in the opposite direction of lavatories - Wastewater's outlet connection open to the ground outside. - Do not have the applicable building code - Drinking water quality not up-to the optimal level in the premises	- Provide for internal footpaths and or pavements to ensure all weather access Provide hand washing arrangement outside lavatories and display instructions for washing hands after attending toilet - Provide for toilet wastewater's outlet connection to the nearest sewer / wastewater-draining channel. It should not open to the ground outside. If public sewer system not available, a septic tank of adequate capacity be included in the design - Be in accordance with the applicable building code - Provide for availability of safe drinking water at convenient locations in the premises - Due consideration to emergency/life & fire safety features to ensure safe evacuation of all building occupants in case of an emergency in the light of EHS Guidelines	
	- Toilet space close to the classroom block - Placement of toilet place in a wind direction from toilets towards the classroom - place toilets near to drinking water source - Scattered and hanging at low level electricity wiring intervening children movement place - Placement of electricity switches and panels within reach of toddlers	- The Architectural Layout should not: - Place toilets close to the classroom block - Place the toilets at such a location wherein the general wind direction is from classrooms towards toilets - Place toilets near to drinking water source - Allow hanging electricity wiring (prefer concealed wiring) place electricity switches and panels within reach of toddlers	- Design Engineer / Architect - PMIU - Dy. DEO / Head Teacher Concerned
	Installation of electricity poles in the middle of playground or school compound	Do not install electricity poles in the middle of playground or school compound	- Design Engineer / Architect - PMIU - Dy. DEO / Head Teacher Concerned

Generic Environmental/Social Guidelines			
No.	Aspects and Impacts	Mitigation Measures	Responsibility
	High voltage electric lines passing over the school premises	No high voltage electric lines be passing over the school premises	- Design Engineer / Architect - PMIU - Dy. DEO / Head Teacher Concerned
	- Natural hazards and disasters may cause serious damage to infrastructure and lives; floods, earthquakes, dust storms, hailstorms etc. - Hazards and Risks that can occur if not considered in design stage may include, building - collapse, electrical shocks, fires, uncontrolled drainage etc.	- The Building Code Practices must be well covered in the civil engineering design, appropriate safety measures must be included for durability of the building. - Emergency Response Plan should be developed for all floors and building, Assembly Points should be also indicated for emergency situations, evacuation drills must be proposed for the head teachers and students, Staircases and emergency exits should be clearly marked and indicated	- Design Engineer / Architect - PMIU - Dy. DEO / Head Teacher Concerned
B	Construction Stage		
	Air Quality concerns		
	- Dust and emission producing activities (Operating machinery, loading/offloading materials) - Mechanically less efficient machinery and vehicles used in construction activity - Use of adulterated fuels and lubricants and use of spent oil - Use of operating machinery and equipment in windy conditions	- Carryout dust and emission producing activities (Operating machinery, loading/offloading materials) preferably after school hours to minimize exposure to schoolchildren - Keep machinery and vehicles adequately tuned up and well serviced - Use only new and unadulterated fuels and lubricants. Do not use spent oil Avoid operating machinery and equipment in windy conditions - Cover loose materials (e.g., sand, soil) with canvas/plastic sheets while stacked onsite or	Construction Contractor School In-charge

Generic Environmental/Social Guidelines			
No.	Aspects and Impacts	Mitigation Measures	Responsibility
	- Open placement of loose materials (e.g., sand, soil) and stacked onsite or transporting on a vehicle without any protective cover. - Vehicle drivers over speeding on earthen and narrow rural roads and road bends - Active construction zone not covered by vertical shields/blinds	- transporting on a vehicle. If sheeting is not possible, then lightly sprinkle the surface with water - Instruct the vehicle drivers to lower down the speed on earthen and narrow rural roads and road bends to reduce blowing of drag dust - Obscure and isolate the active construction zone by vertical shields/blinds - Incorporate the relevant provisions into the ESMPs and C-ESMPs	
	Water Usage		
	- Use of water from a shared community water source without consent of the community - Washing machinery, vehicles, construction implements in nearby surface waters - Containment structures or water diverting barriers away from low lying rooms	- Do not draw water from a shared community water source without consent of the community - Avoid washing machinery, vehicles, construction implements in nearby surface waters - Provide containment structures or water diverting barriers in front of low-lying rooms - Contractor will be instructed to conserve water while using water resources in an efficient way - Do not draw water from a shared community water source without consent of the community	Construction contractor
	Waste Water		
	- Open placement of wastewater without proper draining in a nearby drain - Throwing liquids/chemicals/paints into nearby water bodies or on land - Surface and storm water drainage	- Dispose of the wastewater by draining into the nearby drain or through a soaking pit - Avoid throwing liquids/chemicals/paints into nearby water bodies or on land Surface water drainage should be monitored and lined, such that stormwater or surface water drainage from sites should be collected at a point and safely disposed	Construction Contractor School In-charge
	Waste Management		

Generic Environmental/Social Guidelines			
No.	Aspects and Impacts	Mitigation Measures	Responsibility
	- Excavated soil and spoiled debris scattered, strewn, or piled - Generation of Metal clippings/scrap, wood scrap, empty containers, packaging materials (plastic/paper); classify as non-hazardous waste - Oil and paint containers misused, improper storage or disposal; classify as hazardous waste	- Excavated soil if not utilize in the construction need to be stockpiled at an appropriate location near site. Adequate enclosures and curbs to be provided to avoid blowing away by wind and run off with storm water. The soil to be reused for backfilling and grading as feasible. Any excess soil to be disposed off in approved dumpsites; - Wastes from construction activities such as concrete waste, metal scraps, domestic refuse, etc., to be collected, segregated and disposed through approved landfill sites; - Metal scrap, wood scrap, empty containers of non-hazardous materials, packing materials, etc., to be collected, segregated and recycled to scrap dealers as feasible and the non- recyclable waste to be disposed through approved dumpsites; - Non-hazardous wastes should not be mixed with hazardous wastes at any time. Non- hazardous wastes suspected to be contaminated with hazardous wastes are to be treated as hazardous wastes;	Construction Contractor School In-charge
	Noise Pollution		
	- Operation noise producing construction machinery preferably within school hours - Operating construction machinery at night time - Loading /unloading activities during school hours	- Operate noise producing construction machinery preferably after school hours Avoid operating construction machinery at night time - Incorporate the relevant provisions into the ESMPs and C-ESMPs - Carryout fabrication and loading /unloading activities preferably after school hours	Construction Contractor School In-charge
	Public Utilities		

Generic Environmental/Social Guidelines			
No.	Aspects and Impacts	Mitigation Measures	Responsibility
	- Carryout excavations / diggings without referring the local utilities layout map - No standard operating procedure for dealing with accidental damage to utilities along with an immediate restoration plan - No relocation of any public utility or facility be carried out well ahead of start of construction	- Public Utilities - Carryout excavations / diggings after referring the local utilities layout map Devise a standard operating procedure for dealing with accidental damage to utilities along with an immediate restoration plan - Relocation of any public utility or facility be carried out well ahead of start of construction	Construction Contractor
	Social Environment / Worksite Safety		
	- Non-awareness of staff towards risks of personal injuries and the ways of avoiding (e.g., wearing helmets, dust masks, earmuffs, safety goggles, gloves, etc.) - Non-availability of first-aid box at the construction site - Unawareness of the Site supervisor about the standard operating procedures	- Make working staff aware of risks of personal injuries and the ways of avoiding (e.g., wearing helmets, dust masks, earmuffs, safety goggles, gloves, etc.) - Regular Tool Box Talks, Job safety assessments and health supervision of workers should be done on daily basis - Keep a first-aid box handy at the construction site - The Site supervisor will know the standard operating procedures - The construction sites should be clearly marked/fenced off to prevent unauthorized access by the community and potential risks of injuries - OHS and ESMPs should be followed clearly	Construction contractor
	Solid Waste		

Generic Environmental/Social Guidelines			
No.	Aspects and Impacts	Mitigation Measures	Responsibility
	General waste including paper, glass, cans, plastic wrappers and organic kitchen waste like food leftovers and canteen waste collections is expected during school operation phase.	Recycling of solid waste will be carried out as far as possible and practical. Composting of biodegradable waste will be considered and adopted if practicable. Disposal of solid waste will be carried out in a manner that does not negatively affect the drinking water sources, water channels, natural drainage paths, the existing waste management system in the area, local routes, and general aesthetic value of the area. No wastes should be dumped at any location outside the site boundary/designated disposal site. Training should be provided to working personnel for identification, segregation, and management of waste.	School In-charge, Construction supervisor
	Aesthetics, and Landscape		
	- Dirty and unclean floors creating smell and displeasing environment - Not consulting the Forest Department for obtaining and planting trees and vegetative cover during each plantation season.	- Sweep the floors after light sprinkling with water - Liaison with the Forest Department for obtaining and planting trees and vegetative cover during each plantation season. Protect saplings by observing the recommended watering schedule and trimming	School In-charge
	Emergency and Fire Fighting		
	- Firefighting arrangements not present in the vicinity - No Periodic checking of the firefighting arrangements - Not displaying telephone numbers of the local rescue agency at prominent places	- Keep the fire-fighting arrangements handy - Periodically check for adequacy of the firefighting arrangements - Display telephone numbers of the local rescue agency at prominent places Labor Management Plan (LMP), Environmental Health and Social Safeguards SOPs, and Emergency Response and	School In-charge

Generic Environmental/Social Guidelines			
No.	Aspects and Impacts	Mitigation Measures	Responsibility
	Natural hazards, like flash floods, earthquake, dust storms, posing threat to infrastructure and lives	Preparedness Plan (ERP) will be followed Evacuation systems, spacious staircases pathways, emergency exits, should be well placed and inspected for its condition Evacuation drills must be regularly conducted with the teachers and students Assembly points must be clearly marked in case of any emergency every individual may reach safely.	
	Air Quality		
	- Dust accumulation on furniture and other articles - Open burning of solid waste in the school - Storage of ignitable or inflammable material in the school - Not displaying telephone numbers of the local rescue agency at prominent places	- Carryout-soaked cloth mopping of the furniture and other articles Educate and make schoolchildren aware of dealing with emergency - Keep the stove, heater, and or other similar articles out of reach of children and especially outside the classrooms. - Avoid open burning of solid waste in the school - Do not store any ignitable or inflammable material inside the school premises. - Labor Management Plan (LMP) and Environmental Health and Social Safeguards SOPs will be followed	Construction Supervisor
E	Gender Violence		
	- School Related Gender Based Violence - Psychological violence - Corporal violence - Cyber violence - Bullying - Sexual violence	- Safe transportation is an issue Lack of courage to report incidents - Lack of awareness on reporting mechanism - Inadequate awareness of laws amongst all related institutions Student areas. - Lack of coordination and accountability - Lack of ownership of concerned authorities	- PMIU - Gender specialist - District CEO/DEO - School In-charge

7.7. Mitigation Measures to Address Environmental Impacts

7.7.1. Design Stage Mitigation Measures

Design phase environmental mitigation measures for the GRADES project are given below:

a) Selection of Sites for Schools Renovation/Construction

Under Component-2, rehabilitation, / construction of additional classrooms and new schools is proposed as per approved by SED which will take place on the existing government owned places/lands of demolished schools. At the design stage, the proposed sites for the construction will be screened with respect to the environmental sensitivity. There exist no sensitive sites for biodiversity in context of project development is reported. In case any site is found to be environmentally sensitive, proper mitigation measures will be adopted. Any loss or conversion of natural habitats and any changes in land or resource use are not expected as such sites will be excluded for the renovation/construction. The site selection criteria is developed and will be applied prior to finalization of any site for the schools' renovation/construction. The environmental and social screening checklist are presented in Annex A.

7.7.2. Renovation/Construction related Environmental Impacts Mitigation

The renovation/construction of schools under civil works will generate construction related environmental, health and safety impacts. Short-term, reversible, and localized environmental impacts may occur in the form of drainage clogging due to improper construction waste disposal, sanitary wastewater ponding due to improper disposal arrangements at construction sites, air pollution due to dust, raw material stacks and vehicular emissions, noise pollution, soil pollution, occupational health hazards associated with construction activities, and to the community due to improper management of sanitary and hazardous waste.

Construction Environmental, Health, Safety and Social (C-EHSS) SOPs will be developed at design stage to mitigate construction related environmental, health, safety and social impacts. These SOPs will be part of the bidding document where the civil contractor will be responsible to follow these SOPs during construction activities. The cost of complying the C-EHSS SOPs will be incorporated in the bid price.

7.7.3. Use of Solar Photovoltaic Technologies at schools

As per compliance of ESS-3 (Resource Efficiency and Pollution Prevention), there will be provision in the design of installing solar photovoltaic technologies at schools to allow at least 20-30% contribution of the renewable energy in the total electricity consumption. The uptake of renewable energy technologies will result in reducing GHG and other air pollutants, generating from the thermal power plants of the province.

7.7.4. Renovation/Construction Phase Environmental Mitigation Measures

The contractors appointed for the renovation/construction of schools will have to follow the C-EHSS SOPs as part of his contract obligations and implement following measures to avoiding to the extent possible the removal of vegetation/trees and/or replacement as well as halting digging/construction in the event of chance findings of cultural artifacts.

Mitigate construction related impacts at construction sites. These measures will be mentioned in the SOPs.

- Suppression of dust emission
- Control of stack and vehicular emissions

- Safe disposal of sanitary wastewater
- Safe disposal of domestic solid waste
- Safe disposal of hazardous and construction waste
- Soil pollution control
- Construction site surface runoff control
- Noise abatement
- Protection of workers from health and safety hazards
- Protection of community from accidents
- Management of vehicular traffic in or around the construction sites

The PMIU will be responsible for monitoring and supervising the implementation of mitigation measures by the contractors. PMIU will implement a system of internal checks to ensure that these actions are carried out to a satisfactory standard. The hired E&S supervision firm will supervise the compliance of mitigation measures adopted by the contractor on the construction sites. In exceptional circumstances, if the contractors refuse to adhere to the requirements of the SOPs, then the PMIU will use its authority to call a halt to a particular construction activity.

To avoid any misunderstandings regarding who is responsible for any particular mitigation activities mentioned in the SOPs, the C-EHSS SOPs will be appended to the bidding documents. This will ensure that contractors include in their bids the cost of any mitigation actions and also a reliable mechanism for enforcement. In fact, most of the recommended actions involve little or no capital investment, but these also depend on whether the contractor's management adopts a responsible attitude toward environmental and social protection, thereby ensuring that the construction activity is properly planned and that mitigation measures are properly implemented. The recommended environmental mitigation actions for the construction phase are as follows:

7.7.5. Suppression of Dust Emission

Regular water sprinkling will be the responsibility of the contractor at the dust generation points, during construction activities. The water will be also sprinkled at vehicular and machinery movement routes to avoid dust spreading to the nearby community. In addition, the provision of dust masks and ensuring their use by the workers will also be the responsibility of the contractor under C-EHSS SOPs. In case of transporting the sand to construction site/s, the water will proper be sprinkled over the stacks on carrying trollies.

7.7.6. Control of Stack and Vehicular Emissions

The stack emissions from generators, if used as standby source of power supply and vehicular/machinery movement at the construction site can affect the ambient air quality of the area. It will be the responsibility of the contractor to use well maintained generators and vehicles/machines to keep ambient air quality within the desired level. The contractor will be obliged to provide fitness certificate/maintenance records of the generators, vehicles, and machines before deploying them at the construction sites.

7.7.7. Safe Disposal of Sanitary Wastewater

In case, the construction labor stays at the construction sites under temporary residential arrangement, generally proper disposal of sanitary wastewater is not practiced there. It will be the responsibility of the contractor to dispose sanitary wastewater in a nearby drain after passing it through septic tanks. The contractor can also plan to include temporary septic tanks for the construction labor.

7.7.8. Safe Disposal of Domestic Solid Waste

In case of labor stay at the construction sites under temporary residential arrangement, there will be chance that the improper disposal of domestic solid waste will lead to air, water, and soil pollution, if it is burnt, thrown in the surface water drains or on open land. The solid waste dumping site becomes breeding place for mosquitos and flies which could be the source of outbreak of diseases. The construction contractors will be responsible to manage all sort of domestic waste and dump at the proper dumping site.

7.7.9. Safe Disposal of Hazardous and Construction Waste

During construction activities different types of hazardous solid waste including empty containers of paint, lubricants, grease, fuel etc. oil filters, oily rags and construction waste are generated. The hazardous waste will be properly collected and stored at impervious surface under shade. This waste will be handed over to the authorized waste collectors so that these could be disposed of properly.

The debris produced during construction would preferably be dumped at nearby depressions rather than being thrown away and left unattended. Leftover material would not be dumped into storm water drains or watercourses, because such practices can clog these man-made and natural drainage systems and cause many other problems for the residents.

7.7.10. Soil Pollution Control

Soil pollution will be controlled by taking following measures:

- Storage of fuel, paint, and oil containers, oil filters, oily parts, and oily rags on impervious floor under shade or storing of fuel and lubricants on a sand flooring of at least 6 inches thick done on brick edge flooring lined with polyethylene sheet
- Placement of fuel containers under containment and proper decantation arrangement to avoid its spillage and leakage on floor
- Presence of spill kit to remove spills from the floor
- Avoidance of washing the contaminated floors rather dry cleaning the spills from the floor with saw dust and rags
- Location of fuel storage and refilling areas at least 500 m from all cross-drainage structures and important water bodies

Secondary containment measures will be implemented via the erection of containment barriers (e.g. bunds, dikes), small spill trays, drainage systems, and portable or flexible barriers used to separate a spill area (if occurs) from its surroundings. In the context of spill containment, portable barriers like berms will be established in advance.

7.7.11. Construction Site Surface Runoff Control

Construction site surface runoff control will be considered during construction activities by taking following measures by the contractors:

- All the chemical containers, lubricants and fuels will be kept under shade and at appropriate height to avoid entering any water during rain or from any other sources
- All the containers of chemicals, lubricants and fuel will be placed inside the containment for leakage and seepage control and avoiding material dripping on the floor during dispensing

The generators will be placed at raised platform with the provision of collection of fuel and lubricants in case of its leakage and spillage. These generators will be covered from the top to avoid any contact of rain water and the generator parts.

Secondary containment may also involve the use of flares and scrubbers to remove toxins that are being emitted as a gas or smoke. In some cases, secondary containment measures entirely encapsulate the primary containment system, such as when an active pipeline is placed within a secondary pipeline to contain leaks.

A strong fixed cover or temporary but solid roof will be made to protect such storages.

7.7.12. Noise Abatement

To minimize noise impacts on workers and nearby communities, the following measures will be taken:

- First of all, the contractor will undertake an OHS analysis.
- Carrying out regular inspection and maintenance of the construction vehicles and equipment Replacement of worn and noise producing parts of construction machinery in a timely manner
- In case of severe noise, using sound barriers to avoid the dispersion of sound waves into the nearby community
- Workers will use noise protection equipment when working in a noisy area. In such regard, a noise safety analysis will be made by the contractor prior to start of civil works for prescribing and adoption of mitigation measures according to the hierarchy of controls with the use of personal protection equipment and silencers for machinery and heavy vehicles.
- The noise level of 85 dBA for 8 hours working for the workers is considered safe. The contractors would ensure keeping noise levels within safe limits. In case of higher noise levels (more than 85 dBA), the workers will be rotated. The workers at higher noise level areas will not be allowed to work for more than two to three hours and shifted to calm places for rest of the hours
- Vehicular and machineries will not be allowed to operate at construction site at night
- Noisy machines and vehicles will not be allowed to be used at the construction site (noise level should not be more than 85 dBA at 7.5 m distance)
- Restrict site working hours during day time only
- Machinery operation and high noise activities should be carefully planned and scheduled.
- Where that is not possible, high noise activities should cease between 22:00 and 06:00 hrs.
- Use noise-abating devices wherever needed and practicable
- Reducing equipment noise at source by proper design, regular maintenance & repair of construction machinery and equipment. - Mufflers or silencers should be used by project-related vehicles

7.7.13. Protection of Workers from Health and Safety Hazards

The contractor will comply with all the precautions as required for the safety of the workforce as per the national/provincial and World Bank requirements. Also, an advance OHS risk analysis will be done by the contractor, which will be validated by the hired E&S supervision firm. Workers will use noise protection equipment when working in a noisy area. In such regard, a

noise safety analysis will be made by the contractor prior to start of civil works for prescribing and adoption of mitigation measures according to the hierarchy of controls with the use of personal protection equipment and silencers for machinery and heavy vehicles. Contractor will also ensure that all operators of heavy or dangerous machinery are trained, certified, and insured. The contractor will supply all necessary safety appliances such as safety goggles, helmets, masks, safety shoes etc., to the workers and staff. The contractor will comply with all regulation regarding safe scaffolding, ladders, working platforms, gangway, stairwells, excavations, trenches and safe means of entry and egress. Workers, who are engaged in welding works, would be provided with welder's protective eye-shields. First Aid Box will be provided at every construction site and under the charge of a responsible person who will always be readily available during working hours. Suitable transport will be provided to take injured or ill person(s) to the nearest approachable hospital and the contractor will maintain record of injuries and sickness of workers/labour. The contractor will be responsible for providing safe drinking water and for implementing appropriate sanitation conditions, and for supplying hygienic food and a sewerage system for the construction team at the site.

The risk of fires will be evaluated for each construction site based on the activities that would occur, environmental conditions, and presence of ignitable or combustible materials in the area. The evaluation will be done at the siting stage through the Environmental and Social Screening Checklist. If the activities pose a risk of igniting a wildfire, appropriate fire prevention and response equipment will be available at each active site such as shovels, axes, fire extinguishers, and dedicated water tanks. All workers will be trained on proper fire prevention and response procedures prior to working on the site. Any smoking on site will be restricted to barren areas away from ignitable or combustible material. Smoking waste will be fully extinguished and disposed of appropriately.

Each contractor will be required to follow the occupational health and safety (OHS) measures as mentioned in the C-EHSS SOPs. In case of COVID-19 or any other pandemic situation in the province, the contractor will have to follow the specific safety measures, mentioned in the SOPs and as per the most updated Government /WHO guidelines with respect to regular use of sanitizers, washing of hands, wearing of face masks and maintaining physical distancing by the construction labor.

7.7.14. Protection of Community from Accidents

The construction activities, particularly the excavation, will not be carried out during rainy season to avoid any accident. The excavated areas will be properly cordoned off with hard barricading, and warning and safety signs will be posted at accident prone areas to warn the passersby the potential danger at the construction site. The construction contractor/s will initially develop a traffic safety management plan to deal with and mitigate any risks to the workers and community associated with the movement of vehicles/equipment to and from the construction site. He will further install temporary signs and fences around all unsafe areas to prevent members of the public from entering the areas. If installing fences is not feasible, the area will be clearly identified as unsafe with signs and flagging.

7.8. Operational Phase Environmental & Social Mitigation Measures

The following are the environmental mitigation measures for the operational phase of the project:

7.8.1. Management of Wastewater/Sewage Associated with WASH

The management of wastewater during operational phase will include usage of proper septic tank, ensuring regular cleaning and removal of grit from the drainage line, display instructions at prominent places, particularly near the lavatories, requesting the schoolchildren not to throw any solid article and paper into the wastewater drains or closets, prevent flow of wastewater towards drinking water source (hand pump) in case of damage or leakage of the effluent pipeline, keeping an emergency plan handy for dealing with an emergency as well as following the Laborer Management Plan (LMP) and Environmental Health and Social Safeguards SOPs.

7.8.2. Operation of Solar Power Technology at schools

At the operational phase, PMIU will ensure that the installed solar power technologies are operational in all the schools. There will be proper record keeping of energy consumption from grid, generators and the solar PV to ensure that the renewable energy consumption is within 20-30% as perceived during design stage.

The components of the solar power technologies, including solar panels, charge controllers, batteries, inverters, cables etc. will be considered as e-Waste after end of their useful life and managed as per proposed e-Waste Management Plan of the project.

7.8.3 Life and Fire Safety Hazards during Operational Phase

During the operational phase of school facilities, life and fire safety hazard risk mitigation must adhere to World Bank Environmental, Health, and Safety (EHS) Guidelines to ensure the protection of students, staff, and the broader school community. Regular fire drills and evacuation exercises should be conducted periodically to ensure preparedness among students and staff. Electrical installations must comply with safety standards, with routine inspections carried out to prevent short circuits and electrical fires. Structural integrity of buildings should be periodically assessed to mitigate risks of collapse during seismic events or extreme weather. World Bank standards further require that schools maintain updated emergency response plans, designated assembly points, adequate lighting in corridors and stairwells, and trained safety personnel to manage incidents effectively during school operational hours. Furthermore, the use of gas-powered heaters, open-flame devices, or any combustible heating equipment inside classrooms poses significant fire and asphyxiation hazards; such equipment should be strictly regulated, regularly inspected for gas leakages and ventilation adequacy, and where possible, replaced with safer, approved alternatives to eliminate risks of accidental fires or carbon monoxide poisoning within enclosed classroom environments.

7.9. Social Impacts Mitigation Measures

Following sections describe details of the mitigation measures for the above identified potential social impacts in Table 5.1 for the design, construction and operation phases of the project activities.

It is clear from the above table that the identified impacts/mitigations can be grouped into the following categories:

- Community engagement & inclusion
- Gender equality and its mainstreaming
- School locations and their user-friendly operation for girls

- Grievance redress mechanism
- Resettlement, eviction and livelihood
- Labor management
- Health and safety
- Emergency and Fire Safety
- Capacity building of staff on IT skills
- Effective communication

The following sections describe the generic mitigation measures for the identified issues. As per the Environmental & Social Commitment Plan of the project, relevant studies (e.g. ESIA, ESMP, and RPs if required etc.) will be carried out for individual interventions. These studies will further assess and address the social impacts of various project activities under the different project components.

7.9.1. **Community Engagement & Inclusion**

Social exclusion is an over-arching risk, and this can occur due to lack of meaningful engagement with communities, particularly vulnerable groups such as women, ethnic and religious minorities, residents of low-income settlements such as *katchi abadis* etc. Without proper stakeholder and community engagement, low-income neighborhoods and communities may be excluded from project benefits.

Furthermore, social acceptability of the project might decrease if any of the stakeholders perceive that his concerns and complaints are not addressed properly and in a transparent manner. These impacts would be mitigated starting from the design stage through the following:

Mapping and engaging stakeholders, including vulnerable groups such as women, minorities, informal settlement residents etc., at the start of the design process and obtaining their feedback about project interventions;

Consulting the affected communities regarding any design changes, prior to finalization.

These risks can be mitigated by ensuring that the SEP is implemented and, as required, updated throughout the project life cycle.

In order to ensure that the stakeholders are consulted during design and implementation phases of the project, PMIU developed the SEP in accordance with ESS-10 that will be disclosed on the websites of the implementing departments. SEP identifies all the stakeholders involved in the project. In addition to identifying stakeholders, the SEP helps to ensure that all the identified stakeholders are engaged throughout the project. Given the continuing rise in COVID-19 cases in

Punjab, consultations at the field level were not possible during the design phase; however, these will be completed when conditions allow. Hence, a preliminary SEP (including a project grievance redress mechanism-GRM) was prepared in accordance with the WB technical note on community consultations under conditions of restricted public gatherings, consulted on, and disclosed in- country and on the Bank's website. The SEP will be updated, as required, within 60 days of effectiveness and re-disclosed. The commitment to update and re-disclose the SEP is included in the ESCP.

The SEP has been prepared and hence, may be updated during project implementation as and when new information or risk is identified. The ESCP also includes the condition for updating the SEP in such regard.

The project design ensures that an effective project-specific GRM is in place. This will ensure that project related complaints are resolved efficiently and in a transparent manner. While the SEP outlines a project specific GRM, all effort will be made to use the existing complaints mechanism in place in the implementing departments, to register, record and address any complaints and issues related to the project.

7.9.2. School Locations and their User-Friendly Access and Operation for Women

These impacts will be addressed and mitigated to a large extent at the design stage. All project feasibility studies and technical designs will also take social aspects into consideration. In particular, while determining locations for building new schools on public land, it will be ensured that those locations are selected which do not cause any disturbance for pedestrians, traffic, and adverse impacts of the livelihood and living environment/conditions of communities living and working in the select areas. Similarly, in accordance with the SEP, communities, particularly vulnerable groups, will be meaningfully consulted and engaged during the siting process so that their needs are prioritized and addressed, in particular

Access to School: When finalizing the locations for schools, the easy access to these schools' aspects will be considered.

Design provision for vulnerable groups (e.g. women, differently-abled): During design phase, e.g. of schools, it will be ensured that the needs of women and vulnerable groups such as the differently-abled are addressed.

7.9.3. Grievance Redress Mechanism

During the design phase, based on consultations, the existing redress platform of the implementing departments will be reviewed and strengthened in accordance with both projects' requirements. A project- specific GRM, proportionate to the potential risks and impacts of the project, will also be established, implemented, monitored and reported on a regular basis. There has to be a robust and effective GRM in place with equal access for all including an appeals process, so that any complaints and issues are addressed in a timely manner and nobody is excluded from accessing it. The project GRM will become operational no later than 30 days after the effective date, as agreed in the ESCP, and commitment to maintain the GRM throughout the projects is also reflected in the ESCP.

7.9.4. Resettlement, Eviction and Livelihood

A social, legal and institutional assessment will be done during design phase. Besides, there will be no forced eviction in any case in terms of relocation and resettlement. The assessment will aim to identify potential risks and impacts, as well as appropriate design measures to minimize and mitigate adverse economic and social impacts, especially those that affect poor and vulnerable groups. There are chances that the informal settlers/ occupants will have to be displaced and resettled during the project activities. The RPF, prepared under the project, provides guidance on the preparation of the Resettlement Plan, including identification of eligible affected persons, and entitlements for informal settlers/occupants as per World Bank regulations. All project activities which include civil works will be screened by the project to

identify any potential impacts related to resettlement. The RPF includes an Involuntary Resettlement Screening Checklist for Civil Works to be used during a rapid assessment of a site.

The resettlement impacts will be avoided or minimized as far as possible through the selection of design alternatives. Detailed scoping activities will be conducted to avoid all potential resettlement impacts of the project activities at critical locations. The RPF, among other details, includes measures to address encroachment impacts along with an entitlement matrix elaborating the compensation for different groups. The RF will be disclosed before project appraisal. RP/s will be prepared, in accordance with the RF, if any relocation, resettlement/livelihood issues are involved.

7.9.5. Labor Management

This can be particularly acute in smaller communities hosting a largely male workforce (a potential scenario during the renovation/construction of schools), and/or a workforce from other areas which may result in conflicts between locals and non-locals concerning employment opportunities, wages, and use of public services. Mobile workers may also contribute significantly to gender-based social impacts and risks.

Increased risk of crime: The influx of workers and service providers into communities may increase the rate of crimes and/or a perception of insecurity by the local community. This may include theft, physical assaults, substance abuse, prostitution and human trafficking.

Increased burden on and competition for public service provision: Presence of construction workers and service providers (and in some cases family members of either or both) can generate additional demand for the provision of public services, such as water, electricity, medical services, transport, etc.

Increased risk of communicable diseases: The influx of people may bring communicable diseases to the project area, including sexually transmitted diseases (STDs), or the incoming workers may be exposed to diseases to which they have low resistance. Local health and rescue facilities may also be overwhelmed and/or ill-equipped to address the accidents at the construction sites.

To mitigate the above-mentioned impacts, stand-alone Labor Management Procedures (LMP) (in accordance with ESS-2) will be prepared within 60 days after project effectiveness, and a commitment in this regard is included in the ESCP. Besides the 60-days timeline, it will also be ensured that the LMP is in place before the commencement of any works on the ground. The LMP will be applicable for all type of workers likely to be involved in the project i.e. direct workers, contract workers and primary labor. The LMP will include an assessment of potential worker related risks; an overview of labor regulations, policies and procedures; contract terms and conditions; working age regulations; mechanism for redressal of workers related grievances. However, it is not applicable to civil servants, with the exception of provisions relating to child and forced labor and occupational health and safety. Labor management requirements will be included in bidding and contract documents for all civil contractors to construct the schools.

7.9.6. Health & Safety

School construction and rehabilitation activities may pose health and safety risks to construction workers, students, school staff, and nearby communities. These risks include occupational health and safety (OHS) hazards, accidents related to movement of construction machinery and

vehicles, exposure to dust and noise, and safety risks within active school environments. Mitigation measures to address these risks, including worker safety protocols, traffic management, site barricading, and controlled access, are defined in the environmental impact mitigation measures and will be implemented throughout the construction phase.

In addition, fire and life safety risks will be systematically addressed in both formal schools and non-formal education settings. A consolidated Emergency, Fire, and Life Safety Plan will be prepared and implemented for each site, covering emergency preparedness, evacuation procedures, roles and responsibilities, and coordination with local emergency services. Schools and non-formal education facilities will be equipped with appropriate fire safety equipment, including fire extinguishers, clearly marked evacuation routes, emergency exits, and basic fire safety signage. Periodic safety inspections and awareness sessions for school staff, facilitators, and students will be conducted to ensure readiness and safe evacuation in case of fire or other emergencies.

7.9.7. Effective Communication

The project will need effective communication throughout the project life to avoid impacts such as social disharmony and conflict arising from widespread disputes over land, significant risks due to the power imbalance of influential local landlords, exclusion of vulnerable/marginalized groups

Various modes of communication will be used to disseminate the necessary information to the relevant stakeholders which is also outlined in the SEP. An effective communication action plan will be prepared, based upon all possible social impacts arising from the improper communication or lack of engagement. This plan will be implemented and its progress will be monitored. As per the plan, targeted communication campaigns will be initiated in the rural/remote areas and different information sessions will be organized to make women aware of formal complaint procedures. Various awareness raising and information sharing campaigns will be organized at project inception and at regular intervals targeting women in particular. The pamphlets will be prepared in both English and Urdu language and disseminated to the stakeholders.

7.9.8. Post Operation Phase Social Mitigation Measures

As per the Resettlement Policy Framework, resettlement and compensation requirements will be applicable on project activities that may result in involuntary economic or physical displacement from public lands during the project lifetime and for up to 15 months after project completion.

7.10. Required Site Specific Management Plans

This standard sets out the Borrower's responsibilities for assessing, managing and monitoring environmental and social risks and impacts associated with each stage of a project supported by the Bank through Investment Project Financing, in order to achieve environmental and social outcomes consistent with the Environmental and Social Standards (ESSs).

The objectives of this standard are to i) identify, evaluate and manage the environment and social risks and impacts of the project in a manner consistent with the ESSs, ii) adopt a mitigation hierarchy approach to (a) Anticipate and avoid risks and impacts; (b) Where avoidance is not possible, minimize or reduce risks and impacts to acceptable levels; (c) Once risks and impacts have been minimized or reduced, mitigate; and (d) Where significant residual

impacts remain, compensate for or offset them, where technically and financially feasible, iii) adopt differentiated measures so that adverse impacts do not fall disproportionately on the disadvantaged or vulnerable, and they are not disadvantaged in sharing development benefits and opportunities resulting from the project, iv) utilize national environmental and social institutions, systems, laws, regulations and procedures in the assessment, development and implementation of projects, whenever appropriate, v) promote improved environmental and social performance, in ways which recognize and enhance Borrower capacity.

8. ENVIRONMENTAL AND SOCIAL MANAGEMENT PROCEDURES

8.1. General Principles

The environmental and social policy of the Project will be endorsed by the Project's senior management and will include organizational commitments, objectives, and metrics with regard to the project's environmental and social risk management. The policy will clearly state applicable requirements of the project, and will include the following:

Environmental and Social Framework of the Project will be prepared and implemented in accordance with relevant environmental and social national and local laws and regulations. The project will be screened against exclusions in the legal agreement, environmental and social risks and impacts. The project if, involve resettlement (unless the risks or impacts of such resettlement are minor), adverse risks or impacts on Indigenous Peoples or significant risks or impacts on the environment, community health and safety, labor and working conditions, biodiversity or cultural heritage will apply relevant requirements of ESSs.

The project will put in place and maintain clearly defined environmental and social procedures which reflect and implement the project's Environmental and Social Policy. The procedures will be proportionate to the nature and the level of potential environmental and social risks and impacts associated with it. The environmental and social procedures will include measures to:

- ✓ Screen all project against any exclusions in the legal agreement;
- ✓ Screen, review and categorize the project according to their potential environmental and social risks and impacts;
- ✓ Require that the project is assessed, prepared and implemented to meet national law and, in addition, where the project involves resettlement (unless the risks or impacts of such resettlement are minor), adverse risks or impacts on Indigenous Peoples or significant risks or impacts on the environment, community health and safety, labor and working conditions, biodiversity or cultural heritage, the relevant requirements of the ESSs are applied;
- ✓ Ensure that the measures needed to satisfy the requirements are set out in the legal agreement
- ✓ Monitor and keep and regularly update environmental and social information on the projects;
- ✓ If the risk profile the project increases significantly, apply relevant requirements of the ESSs and document these appropriately;
- ✓ Monitor the environmental and social risks associated to the project

As part of the environmental and social procedures, the project will develop and adopt a categorization system for subprojects with clearly defined risk categories. The categorization

system will take into account the nature and magnitude of environmental and social risks and impacts of subprojects' geographical context.

The risk categorization will inform the scope and nature of the project's environmental and social due diligence and risk management. Such categorization system will allow for a systematic aggregation and analysis of risk. As part of its environmental and social risk categorization system, the project will categorize any subproject which involves resettlement (unless the risks or impacts of such resettlement are minor), adverse risks or impacts on Indigenous Peoples or significant risks or impacts on the environment, community health and safety, labor and working conditions, biodiversity or cultural heritage, as high or substantial risk.

8.2. Environmental and Social Assessment and Management Process

The Environmental and Social Standards of the World Bank are designed to help Borrowers to manage the risks and impacts of a project, and improve their environmental and social performance, through a risk and outcomes-based approach. The desired outcomes for the project are described in the objectives of each ESS, followed by specific requirements to help project achieve these objectives through means that are appropriate to the nature and scale of the project and proportionate to the level of environmental and social risks and impacts. The project will conduct environmental and social assessment for financing to help ensure that projects are environmentally and socially sound and sustainable. The environmental and social assessment will be proportionate to the risks and impacts of the project. It will inform the design of the project, and be used to identify mitigation measures and actions and to improve decision making. The project will manage environmental and social risks and impacts of the project throughout the project life cycle in a systematic manner, proportionate to the nature and scale of the project and the potential risks and impacts.

8.2.1. Screening

The methods and tools to be employed for an environmental and social assessment of different project activities depend on the nature and scale and the level of the risks associated with the activities. It is required to first conduct E&S screening of the project activities to ascertain their E&S risks and then on the basis of their levels, the type of method and tool to be employed for E&S assessment will be decided. E&S screening will be carried out by environmental and social specialists of the PMIU after the identification of the project activities and location. The E&S Screening Checklist is used by E&S specialists of PMIU and decide to employ methods and tools as per the category of the E&S risk of the specific project activity. PMIU, in consultation with the Bank, will decide the risk category and the tools to be used for each project activity.

The following project activities may have potential of causing E&S impacts and need screening to categorize their risks:

- Selection of sites for the construction of schools
- Renovation/construction of schools
- Land acquisition
- Field activities

8.2.2. Environmental and Social Impact Assessment

The Bank classifies all projects into one of four classifications: High Risk, Substantial Risk, Moderate Risk or Low Risk. In determining the appropriate risk classification, the Bank takes

into account relevant issues, such as the type, location, sensitivity, and scale of the project; the nature and magnitude of the potential environmental and social risks and impacts; and the capacity and commitment of the PMIU to manage the environmental and social risks and impacts in a manner consistent with the ESSs.

The Bank has classified GRADES-P is classified as Moderate Risk, while GRADES-STP is classified as Substantial Risk, primarily due to elevated social risks. No high-risk subprojects will be financed. There are various environmental and social issues related to project activities that will be financed under the project, as mentioned in the previous chapters. The project has been designed to deal with these issues following relevant national and international standards and various environmental and social instruments will be prepared to mitigate all potential risks and impacts.

The Bank requires the PMIU to carry out appropriate environmental and social assessment of subprojects, and prepare and implement such subprojects. There under GRADES, no high-risk sub-projects are involved.

PMIU will conduct the screening of all those project activities which could have the potential of causing E&S impacts and assign preliminary risk category on the basis of the extent of the impacts depicted through the checklist (attached as Annexure). This preliminary risk category will be endorsed/finalized by World Bank Safeguard Team. The E&S documents will accordingly be prepared as per outcomes of screening/risk categorization. A General ESMP and site specific ESMPs would be required, an outline is indicated in Annex-D.

8.2.3. Specific Activities and Responsibilities in the ESA Process

In the project, the following different methods and tools can be used to carry out the environmental and social assessment and to document the results of such assessment, including the mitigation measures to be implemented, as per the nature of the project. PMIU will decide to use the methods and tools in consultation with the Bank.

- Environmental and Social Management Framework (ESMF)
- Environment and Social Impact Assessment (ESIA)
- Solid Waste, Wastewater/Sewage from WASH Facilities Management Plan
- Resettlement Framework
- Labor Management Procedure (LMP)
- Stakeholder Engagement Plan (SEP)
- Construction Environmental Health Social and Safety (C-EHSS)
- Emergency/Life and Fire Safety Management Plan
- Resettlement Plan/s

8.3. Environmental and Social Management Plan (ESMP)

Environmental and social management plan (ESMP) is an instrument that details (a) the measures to be taken during the implementation and operation of a project to eliminate or offset adverse environmental and social impacts, or to reduce them to acceptable levels; and (b) the actions needed to implement these measures.

8.3.1. Scope and Objectives of ESMP

An ESMP consists of the set of mitigation, monitoring, and institutional measures to be taken during implementation and operation of a project to eliminate adverse environmental and social risks and impacts, offset them, or reduce them to acceptable levels. The ESMP also includes the measures and actions needed to implement these measures. The Borrower will (a) identify the set of responses to potentially adverse impacts; (b) determine requirements for ensuring that those responses are made effectively and in a timely manner; and (c) describe the means for meeting those requirements.

Depending on the project, an ESMP may be prepared as a stand-alone document or the content may be incorporated directly into the Environmental and Social Commitment Plan (ESCP). The content of the ESMP will include the following:

- Mitigation
- Monitoring
- Capacity Development and Training
- Implementation Schedule and Cost Estimates
- Integration of ESMP with Project

8.3.2. Environmental Codes of Practice (ECPs)

The objective of the Environmental Codes of Practice (ECPs) is to address all potential and general construction-related impacts during the implementation of the Project. The ECPs will provide guidelines for best-operating practices and environmental management guidelines to be followed by the contractors for sustainable management of all environmental issues. These ECPs shall be annexed to the general conditions of all the contracts, including subcontracts, carried out under the Project including but may not be limited to:

- ECP 1: Waste Management
- ECP 2: Fuels and Hazardous Goods Management
- ECP 3: Water Resources Management
- ECP 4: Drainage Management
- ECP 5: Soil Quality Management
- ECP 6: Erosion and Sediment Control
- ECP 7: Topsoil Management
- ECP 8: Topography and Landscaping
- ECP 9: Quarry Areas Development and Operation
- ECP 10: Air Quality Management
- ECP 11: Noise and Vibration Management
- ECP 12: Protection of Flora
- ECP 13: Protection of Fauna
- ECP 14: Protection of Fish
- ECP 15: Road Transport and Road Traffic Management
- ECP 16: Labor Influx Management and Construction Camp Management
- ECP 17: Cultural and Religious Issues
- ECP 18: Workers Health and Safety

The details of ECPs for the Project is given in Annex-E.

8.3.3. Stakeholders Consultation and Participation Plan

An individual SEP is prepared as ESS10 recognizes the importance of open and transparent engagement between the Borrower and project stakeholders as an essential element of good international practice.

a) Labor Management Procedures

An LMP is prepared as this standard recognizes the importance of employment creation and income generation in the pursuit of poverty reduction and inclusive economic growth.

b) Guideline for Preparation of Environmental and Social Monitoring Plan

Monitoring of the Environmental and Social Mitigation Plan (ESMP) is required at construction and operational phases of the project. Project monitoring is the requisite for World Bank. Monitoring will not be required by the Punjab Environmental Protection Agency (EPA) for any project activity. However, EPA role will be important to formalize the E-waste recycling facilities in the province so that E-waste generated from project activities could be handed over to the certified/licensed recyclers.

8.3.4. Design Phase Monitoring

Design phase monitoring will require to ensure that the energy efficiency specifications for the procurement of ICTs have been included in the procurement plan. Also, it will be ensured that the installation of solar photovoltaic technologies is part of the school's design. The environmental considerations for school design for energy efficiency, lighting systems, ventilation etc. will also be accounted.

8.3.5. Procurement Committee

Procurement Committee for goods and consulting/non-consulting services, is notified within PMIU as per Procurement rules and regulations.

8.3.6. Construction Phase Monitoring

There are monitoring requirements for the ESMP under environmental and social assessment for World Bank for construction phase of the project.

a) Programme Monitoring and Implementation Unit

The SED, PMIU will have overall responsibility for the compliance of ESMF and compliance reporting to the World Bank. The PMIU as per past experience is set for the management of GRADES project activities, will overall supervise the monitoring and compliance of ESMF during construction phase. It will be directly involved to monitor construction phase compliance and reporting.

The Environment and Social professionals under PMIU will be responsible for environmental and social aspects of the project activities. PMIU will arrange environmental and social monitoring and prepare compliance reports and submit to the World Bank, to fulfill their monitoring, reporting and compliance requirements of environmental and social safeguard.

Guidelines for preparing the Construction Environmental, Health, Safety and Social (C-EHSS) SOPs will be prepared by the project prior to issuance of the bidding document and shall be appended to the bidding document for the civil contractors. It will be a standard document. The contractors will follow these SOPs to eliminate, offset or reduce environmental, social and health and safety impacts during construction of the schools.

The compliance of C-EHSS SOPs will be the responsibility of the contractor and compliance cost will be added in the bidding documents. The PMIU will be responsible to ensure compliance of SOPs during construction phase through contractors. The compliance will require measurements of environmental and social parameters, and observations at the construction sites to evaluate compliance.

8.3.7. Monitoring Framework and Plan

The generic mitigation plan prepared on the basis of impact assessment discussed in the previous section. The sub-project-specific mitigation plans will be implemented in combination with the generic mitigation plan. These mitigation plans will be expanded if needed and finalized once the sub-project location is known. These plans will also be included in the sub-project ESMPs. The relevant mitigation plans and also the site-specific ESMP will be included in the design of each sub-project, and included in the bidding documents of contractors. The PMIU will be responsible to monitor the ESMP during operational phase. The monitoring Framework and Plan is presented in Table 11 and Table 12 below.

TABLE 10 ENVIRONMENTAL AND SOCIAL MANAGEMENT AND MONITORING FRAMEWORK

Sr. No.	Anticipated Social /Environmental Impacts	Sub-projects Category: Liquid Waste Management Improvement/Rehabilitation/ Construction of Schools, Classrooms, Septic Tanks/Toilets			
		Mitigation Measure(s)	Mitigation Measure(s)	Mitigation Measure(s)	Mitigation Measure(s)
1.	Land acquisition and resettlement	RAPs/ARAPs prepared and implemented in accordance with RPF.	All entitlement per RAP/ARAP -Frequency: -Once at pre-bid level -Once Prior to commencement of civil works -Monthly during construction period. If any RAP/ARAP actions remain ongoing -On complaint: Whenever any grievance is received through GRM	CSC, PMIU	to be completed before start of bid invitation and commencement of civil works
2.	Unsuitable toilet construction may lead to ground water contamination	- Environment friendly designs of toilets and suitable for that specific area should be considered by the engineering design team at design stage. - Monitoring shall be made during project life cycle to check the sustainability of implemented interventions. - Flush toilets should not be encouraged in areas under the program where water is scarce and in dry season. - The existing and new toilets be connected to the septic tanks/system or sewage network.	Check the design details Frequency: -Once at design stage -Once at pre-construction -Every two weeks during construction -Inspection of septic tank construction/lining/connection quality. - Once at the time of completion: Functionality and leakage test -Quarterly (operation): Sustainability check of		Design Team and CSC, PMIU

Sr. No.	Anticipated Social /Environmental Impacts	Sub-projects Category: Liquid Waste Management Improvement/Rehabilitation/ Construction of Schools, Classrooms, Septic Tanks/Toilets			
		Mitigation Measure(s)	Mitigation Measure(s)	Mitigation Measure(s)	Mitigation Measure(s)
		Half and full flushing option should be provided as well for saving water.	implemented interventions (including seepage/overflow signs)		
3.	Impacts on Women, Children, and Vulnerable Groups	It will be ensured that the sub-projects do not have any negative impacts on women, children and vulnerable groups. For community toilets, ramps for people in disabilities should be provided	-Check the design details -Discuss during public Consultation at screening phase Frequency: -One at design stage: -Design check for disability access and privacy/safety elements -Monthly (during construction: Site checks for safety/access restrictions (children entry control) - Once (post-completion): User check (girls/students with disabilities) through school feedback -On complaint: Immediate review if any complaint/GBV/SEA/SH-related concern is raised	Design Team and CSC, PMIU	Ensure Stage -Once at a E&S screening verification
4.	Air Quality deterioration due to dust emissions and excavation activities	- Tractor loads should be covered with any suitable material. - Construction sites including soil piles should be fenced to avoid material escape, generation of dust and access to children.	-Inspect truck/tractor truck/ Mobility -Inspect covered loads, fencing of soil piles/sites, and water sprinkling practices. Frequency:	Contractor	During construction of toilets

Sr. No.	Anticipated Social /Environmental Impacts	Sub-projects Category: Liquid Waste Management Improvement/Rehabilitation/ Construction of Schools, Classrooms, Septic Tanks/Toilets			
		Mitigation Measure(s)	Mitigation Measure(s)	Mitigation Measure(s)	Mitigation Measure(s)
		Water to be sprinkled during and after the construction activity to settle down dust around the project area.	-Daily (during excavation/earthworks days): Dust control and covered transport checks -Weekly checks during construction: Verify fencing condition and dust suppression records. - On observation/complaint: Immediate corrective check if dust nuisance is reported		
		Soil and temporary soil piles should be covered or sprayed with water if generating dust.	Inspect site construction -Weekly during construction period: -Check drainage management and temporary discharge arrangements - Monthly check in the first 3 months of operation. -Early operational monitoring for leakage/overflow/discharge -Quarterly checks during operation -Routine inspections of discharge points and surrounding areas	Contractor	During construction of toilets

Sr. No.	Anticipated Social /Environmental Impacts	Sub-projects Category: Liquid Waste Management Improvement/Rehabilitation/ Construction of Schools, Classrooms, Septic Tanks/Toilets			
		Mitigation Measure(s)	Mitigation Measure(s)	Mitigation Measure(s)	Mitigation Measure(s)
			- On incident/complaint: Immediate inspection after overflow, leakage, or complaint		
		Construction sites including soil piles should be fenced to avoid material escape, generation of dust and access to children.	Inspect fencing	Contractor	During construction of toilets
5.	Surface and Ground Water Quality deterioration due to runoff from toilets during operation or from labor camps of construction sites during construction	- It will be ensured that the liquid wastes and toilets effluents are not released into any drinking water source, cultivation fields, or critical habitat or into open environment. - It will also be ensured that the untreated effluent is not discharged to the environment.	Inspect discharge points of toilets. Frequency: -Monthly visits and checks for the first 3 months after commissioning, then Quarterly; immediate inspection within 24–48 hours if overflow/leakage/complaint is reported. - Inspect construction site / labor camp effluent arrangements (during construction): Frequency: Weekly during active construction; after rainfall events (within 24 hours) to check runoff pathways; on complaint/incident immediately.	Contractor	During operation of Toilets

Sr. No.	Anticipated Social /Environmental Impacts	Sub-projects Category: Liquid Waste Management Improvement/Rehabilitation/ Construction of Schools, Classrooms, Septic Tanks/Toilets			
		Mitigation Measure(s)	Mitigation Measure(s)	Mitigation Measure(s)	Mitigation Measure(s)
		- Effluents from the labor camps should not be released to drinking water sources, cultivation fields, irrigation channels, and critical habitats. - Appropriate effluent treatment arrangements such as settling tanks should be made at the site. - Post primary treatment of effluents, after testing and checking feasibility, it can be used to irrigate the plants at the project site	Inspect construction Site	Contractor	During construction of toilets
6.	Solid Waste Management during construction and operation of toilets	Construction sites should be equipped with temporary refuse bins. The recyclables can be given to the local junk dealers of that area/city.	Inspect placement of refuse bins -Frequency: Weekly during construction; Monthly during operation.	Contractor	During construction of toilets
		Disposal of solid waste will be carried out in a manner that does not negatively affect the drinking water sources, cultivation fields, irrigation channels, natural drainage paths, and the existing waste management system in the area, local routes, and general aesthetic value of the area.	-Inspect waste disposal practices (no dumping into drains/fields/water sources; aesthetics) - Weekly during construction; Quarterly during operation; on complaint immediate	Contractor	During construction of toilets

Sr. No.	Anticipated Social /Environmental Impacts	Sub-projects Category: Liquid Waste Management Improvement/Rehabilitation/ Construction of Schools, Classrooms, Septic Tanks/Toilets			
		Mitigation Measure(s)	Mitigation Measure(s)	Mitigation Measure(s)	Mitigation Measure(s)
		- Wastes should be routinely collected from the designated area and - disposed at waste disposal facilities.	Inspect waste disposal -- Inspect routine waste collection and disposal: -Twice weekly during construction -Weekly during operation.	Contractor	During construction of toilets
7.	Possible Noise emissions from running of construction machinery during construction	Machinery operation and high noise activities should be carefully planned and scheduled and in case of construction of toilets in community parks, it should be avoided during public gathering hours	Inspect construction activities near communities -Frequency: Weekly during construction; spot checks during high-noise activities (e.g., excavation/mixing).	Contractor	During construction phase
		- Where that is not possible, high noise activities should cease between 22:00 and 06:00 hrs. - Buffer zones to be created to contain the noise during construction activities	Inspect working hours -Inspect working hours -Weekly and anytime night time work is observed/reported (immediate corrective action).	Contractor	During construction phase
9.	Occupational Health and Safety	- ESMF has prepared SOPs for Environment, Health & Safety for construction workers/labor (including women labor) following the WB and IFC Environment, Health and Safety (EHS) Guidelines will be implemented. - Moreover, in the current scenario of COVID-19, GoPunjab Primary and	Monitor SOPs compliance and WB EHS Guidelines provisions -Weekly visits during construction and daily toolbox talks recorded by contractor; immediate review after any incident/near-miss.	CSC, PMIU	During construction phase

Sr. No.	Anticipated Social /Environmental Impacts	Sub-projects Category: Liquid Waste Management Improvement/Rehabilitation/ Construction of Schools, Classrooms, Septic Tanks/Toilets			
		Mitigation Measure(s)	Mitigation Measure(s)	Mitigation Measure(s)	Mitigation Measure(s)
		Secondary Healthcare Department has issued Health Safety SOPs for construction workers for COVID-19 and they will be used during pandemic situation			
		The construction contracts will include appropriate clauses to protect environment and public health. The present ESMF will be included in the bidding document.	Inspect bidding Documents for ESMF/ESMP inclusion: -Once per procurement package (pre-bid / before issuance).	CSC, PMIU	During construction phase
		Avoid stagnation of water and initiate drainage/cleanup of stagnant water.	Inspect construction site for stagnant water/drainage: - Weekly + after rainfall (within 24 hours).	CSC, PMIU	During construction phase
		Provide for the provision of appropriately stocked first-aid equipment at work sites.	-Inspect first-aid provision: Frequency: -One before the start of work -Weekly at each site.	CSC, PMIU	During construction phase
		Provide for the provision of appropriate Personal Protective Equipment (PPEs) to minimize risks, such as but not limited to appropriate outerwear, boots and gloves; safety helmets;	-Inspect PPE provision (including mask waste handling where applicable): Frequency: Weekly + spot checks during active work.	CSC, PMIU	During construction phase

Sr. No.	Anticipated Social /Environmental Impacts	Sub-projects Category: Liquid Waste Management Improvement/Rehabilitation/ Construction of Schools, Classrooms, Septic Tanks/Toilets			
		Mitigation Measure(s)	Mitigation Measure(s)	Mitigation Measure(s)	Mitigation Measure(s)
		The COVID related PPE waste (masks) to be sent to the local junk dealers for recycling			
		Provide training to the workers for the use of PPEs	Check training records (PPE/ OHS induction): Frequency: -Once before mobilization -monthly for refreshers (or when new workers join).	CSC, PMIU	During construction phase
		Include procedures for documenting and reporting accidents, diseases, and incidents.	-Check accident/incident reporting procedures: - Monthly record review; -immediately after any incident	CSC, PMIU	During construction phase
10.	Labor influx related issues also including SEA/SH and management of COVID-19 during construction.	Labor management plan prepare and implemented as a part of the EIA/ESMP	Verify LMP implementation + Code of Conduct signing + SEA/SH awareness toolbox talks + worker GRM visibility: Frequency: -One at pre-mobilization level -weekly during construction; -on complaint/incident immediate (same day where feasible). -Verify health/safety SOPs implementation Frequency: - Weekly during construction.	Contractor CSC, PMIU	During construction

TABLE 11 ESMF MITIGATION AND MONITORING PLAN

Sr. No.	Environmental/ Social Impact / Issue	Potential Significance	Location	Mitigation Actions	Frequency of Intervention	Responsibility (Implementation)	Responsibility (Monitoring)
1.	Sub-project siting to any sensitive area	Medium	At sub-projects location	• It will be ensured through screening checklist that the sub-project avoids any ecologically sensitive areas and areas having any critical habitats. • Involuntary Resettlement Screening to be used to check the status of land to be planned for sub-projects. • It will be ensured that private or government land is free from any disputes and Affected Persons and PAPs are duly compensated as per the Entitlement Matrix. • Locations where government has conducted	Before the start of each sub-project. Screening & site verification 01 visit/site per sub-project to confirm screening checklist results. 01 visit/site per sub-project before mobilization to verify documentation completeness (RPF compliance, dispute-free land confirmation, RAP/ARAP readiness).	CSC, PMIU	CSC, PMIU

Sr. No.	Environmental/ Social Impact / Issue	Potential Significance	Location	Mitigation Actions	Frequency of Intervention	Responsibility (Implementation)	Responsibility (Monitoring)
				any anti-encroachment drive will be excluded. • All the relevant stakeholders will be taken onboard for the identification of construction sites of sub-projects. • The sub-projects will be established on the land owned by Government (after payments to the encroachers-if any) or on private lands after adopting processes and procedures as defined in the RPF. • Complete documentation will be maintained as per RPF • Valuation and compensation of affected assets of community should be in line with RPF/Sub-projects RAPs and			

Sr. No.	Environmental/ Social Impact / Issue	Potential Significance	Location	Mitigation Actions	Frequency of Intervention	Responsibility (Implementation)	Responsibility (Monitoring)
				considered before the field activities. Community consultations will be carried out before establishing the sites.			
2.	Air Quality deterioration due to dust emissions, odor and aesthetics nuisance	Low	Construction sites of sub-projects	- Construction machinery, generators, and vehicles will be kept in good working condition, minimizing exhaust emissions. - Truck/tractor loads should be covered with suitable material. - Soil and temporary spoil piles should be covered - Water sprinkling will be ensured to avoid generating dust. - Construction sites including soil piles in streets and open spaces should be barricaded to avoid material	During Construction. 1 visit/site to verify dust control arrangements (water source/sprinkling plan). Weekly and monthly visits to check covered loads, water sprinkling, spoil pile covering, barricading/fencing of soil piles, and vehicle/machinery smoke/maintenance condition.	Contractor	CSC, PMIU

Sr. No.	Environmental/ Social Impact / Issue	Potential Significance	Location	Mitigation Actions	Frequency of Intervention	Responsibility (Implementation)	Responsibility (Monitoring)
				escape, generation of dust and access to children.			
3.	Water Consumption and Conservation	Low	At labor camps and during construction activities	• Capacity building of workers on wise use of water • Avoid wasting water wherever possible • Grey water to be used for irrigation	During labor training sessions and daily toolbox talks	Contractor	CSC, PMIU
4.	Surface and Ground Water Quality deterioration	Low	Construction site	• Design characteristics in case of construction of sludge ponds and rehabilitation of drainage system water distribution networks will be considered to avoid leakages • Ground water (GW) levels and existing quality of GW will be considered at screening stage. • It will be ensured that the wastes are not released into	At planning/ design stage and during construction	Design Engineers, CSC, PMIU and Contractor	CSC, PMIU

Sr. No.	Environmental/ Social Impact / Issue	Potential Significance	Location	Mitigation Actions	Frequency of Intervention	Responsibility (Implementation)	Responsibility (Monitoring)
				any drinking water source, irrigation channels, cultivation fields, or critical habitat. • Effluents from the construction sites will not be released to drinking water sources, cultivation fields, irrigation channels, and critical habitats. Appropriate effluent treatment arrangements such as settling tanks will be made at the site. • Sludge collected from existing sewerage/drainage systems will be collected in a safe manner and may be used as a soil conditioner.			
5.	Solid Waste Management	Low	Construction site and labor camp	• For recycling of solid waste and minimization, it should be local waste	During and after construction activities	Contractor, CSC, PMIU	CSC, PMIU

Sr. No.	Environmental/ Social Impact / Issue	Potential Significance	Location	Mitigation Actions	Frequency of Intervention	Responsibility (Implementation)	Responsibility (Monitoring)
				dealers as far as possible and practical. • Disposal of solid waste will be carried out in a manner that does not negatively affect the drinking water sources, cultivation fields, irrigation channels, natural drainage paths, and the existing waste management system in the area, local routes, and general aesthetic value of the area. • Construction sites should be equipped with temporary refuse bins with two compartments for organic waste and recyclables. • Wastes should be routinely collected from the designated area and			

Sr. No.	Environmental/ Social Impact / Issue	Potential Significance	Location	Mitigation Actions	Frequency of Intervention	Responsibility (Implementation)	Responsibility (Monitoring)
				disposed at waste disposal facilities.			
6.	Noise	Low	Construction sites	• Machinery operation and high noise activities should be carefully planned and scheduled. • Where that is not possible, high noise activities should cease between 22:00 and 06:00 hrs.	During machinery operations. 1 visit at Pre-activity planning to confirm work schedule and planned high-noise activities align with school/community hours. 1 visit per month/site during machinery operations to verify noise controls and compliance with 22:00–06:00 restriction. Minimum 01 visit within 24–48 hours per noise complaint.	Contractor	CSC, PMIU
7.	Occupational Health and Safety	Moderate	Construction sites	• The construction contracts will include appropriate clauses to protect environment and public health. The present ESMF compliance in the form of relevant ESMP and SMP of sub-project will be included in the bidding document.	Construction phase. Minimum: 1 pre-mobilization and 4 visits per month per site. Weekly visits and triggered visits after incidents/complaints.	Contractor	CSC, PMIU

Sr. No.	Environmental/ Social Impact / Issue	Potential Significance	Location	Mitigation Actions	Frequency of Intervention	Responsibility (Implementation)	Responsibility (Monitoring)
				• Avoid stagnation of water and initiate drainage/cleanup of stagnant water. • Provide for the provision of appropriately stocked first-aid equipment at work sites; • Provide for the provision of appropriate personal protective equipment (PPE) to minimize risks, such as but not limited to appropriate outerwear, boots and gloves; safety helmets; • Provide training for workers for the use of PPE; • WB Group's Environment, Health and Safety (EHS) Guidelines and GoPunjab SOPs in emergency will be implemented;			

Sr. No.	Environmental/ Social Impact / Issue	Potential Significance	Location	Mitigation Actions	Frequency of Intervention	Responsibility (Implementation)	Responsibility (Monitoring)
				• Include procedures for documenting and reporting accidents, diseases, and incidents.			
8.	Labor related issues also including SEA/SH	Low	Construction site	• Preference will be given to labor from locally skilled and unskilled workers of community for the construction of toilets in schools. • MCs will ensure that certain clauses will be added in the contract documents i.e. not to force labor to work and official minimum wages to be paid. (SOPs for Environment, Health & Safety for construction workers/labor). • Consultation with labor will be ensured by ESMPs.	Construction Phase. Minimum: 1 visit at pre-mobilization period and 1/month (per site). Higher-risk sites (with camps): 1 pre-mobilization + 4/month (approx. weekly). Plus any triggered visits.	Contractor	CSC, PMIU

Sr. No.	Environmental/ Social Impact / Issue	Potential Significance	Location	Mitigation Actions	Frequency of Intervention	Responsibility (Implementation)	Responsibility (Monitoring)
				• Labor management plan will be prepared as a part of EIA/ESMP.			

8.4. ESMP Implementation Cost

8.4.1. Budget

This section describes the tentative budget for the environmental and social assessment of project activities and compliance of ESMP during construction and operational phases of the project.

The cost of implementing ESMF has been tentatively estimated at USD 1.5 million for the Project (Table 6.3). Detailed cost estimates will be provided in the ESMPs and SEPs of respective subprojects. Assuming that the WB's funding is for five years, the approximate cost for five years under this head.

TABLE 12 ESTIMATED BUDGET FOR ESMF IMPLEMENTATION

Sr. No.	Description	Quantity	Amount (USD)	Remarks
1	Hiring of Environmental staff (Environmental Management Specialist, Assistant Specialist 01)	05 years	-	Already in place in PMIU under TA component
2	Hiring of Social and Gender Staff (Social development specialist, gender specialist, assistant specialists 02)	05 years	-	Already in place in PMIU under TA component
3	Environmental and Social screening of subprojects and Preparation of ESIA/ESMPs/RPs	Lump-sum for once	500,000	Through Independent Consulting Firm
4	Third Party Monitoring of ESIA/ESMP Compliance	Lump-sum over period of project	250,000	Through Independent Firm
5	Capacity building programs	Lump-sum	250,000	on E&S aspects and Climate awareness on need basis E&S Unit of GRADES-P
6	Implementation of GRM	Lump-sum	200,000	
7	Implementation of SEP	Lump sum	200,000	
8	ESMF Implementation support in PMIU	Lump-sum	100,000	Support equipment, surveys, data reporting
	Total		1,500,000	

9. INSTITUTIONAL FRAMEWORK

9.1. Key Institutions and Persons Involved in the Implementation of the GRADES-P & STP ESMF

PMIU is headed by a Project Director, a senior government official, and is supported by qualified technical, procurement, financial management, monitoring, and safeguards staff. The Communication and Works (C&W) Department will be responsible for planning, design, construction, and supervision of civil works under GRADES-P, particularly Component 2, ensuring that all construction activities comply with approved Environmental and Social Management Plans (ESMPs), occupational health and safety requirements, labor management procedures, and climate-resilient design standards. Strategic oversight for both projects will be provided by a Project Steering Committee chaired by the Chairman, Punjab Planning & Development Board, which also oversees the Punjab Education Sector Reform Program, ensuring alignment and coherence across sector reforms.

PMIU will coordinate closely with relevant government institutions involved in project implementation, including the Punjab Education, Curriculum, Training and Assessment Authority (PECTAA) for teacher professional development and assessment-related capacity building, the Punjab Examination Commission (PEC) for large-scale student assessments, the Punjab Curriculum and Textbook Board (PCTB) for curriculum development and learning materials, and the Punjab Education Foundation (PEF) for public-private partnership interventions. Coordination will also be maintained with the Literacy & Non-Formal Basic Education Department and the Special Education Department for selected STP activities. As both projects will be implemented in accordance with the World Bank ESF, a detailed institutional capacity assessment will be conducted during project preparation, and required mitigation and capacity-building measures will be incorporated into the Environmental and Social Management Plan (ESMP). PMIU, under SED, will adopt appropriate environmental and social policies and engage qualified environmental and social specialists to oversee ESMF implementation, monitor ESMPs, manage grievance redress mechanisms, address labor and gender-based violence risks, and ensure sustained compliance with ESF requirements, with technical support from the World Bank as required.

9.2. Governmental and Non-Governmental Organizations

Government departments

- ▶ PECTAA
- ▶ School Education Department
- ▶ Punjab Education Curriculum
- ▶ Training and Assessment Authority
- ▶ Punjab Education Foundation
- ▶ District Education Authority
- ▶ P&DD, health, education
- ▶ Environmental Protection Department
- ▶ Traffic Police
- ▶ Local Govt. officials of District government
- ▶ Councilors
- ▶ NGOs/CBOs

The community consultation and primary stakeholders' participants involves:

- ▶ Local community

- ▶ Business Community (Mobile Vender/ Encroachers)
- ▶ Local Vulnerable person (Poor, Women Headed Household, Disabilities)
- ▶ Academy
- ▶ School Council and Notables

9.2.1. Consultants

The Consultants has completed the tender designs for GRADES-P and STP sub-projects. In due course a Consultant shall be appointed by competitive tender to: assist PMIU in the prequalification and procurement of a contractor to complete the works for sub-projects, act as the ‘Engineer’ under the contract and maintain responsibility for supervision of the contract (on behalf of PMIU), including supervision of construction quality and the contractor’s compliance, for the duration of the works.

9.2.2. Contractors

The contractor(s) shall be appointed by SED-PMIU to implement this sub-project who shall be responsible for all temporary land acquisition required for the completion of his works, and replacement of the following (as specified in the civil works contract:

The contractor’s responsibility shall include the mutual agreement with landowners for the provision of rent or actions in kind in exchange for the temporary use of their land for the establishment of camps or borrow areas.

The contractor(s) shall prepare and keep signed agreements between the contractor and landowners for the temporary use of private land, detailing monetary rent, agreed with the landowner in exchange for the temporary use of his land. The agreements shall also state the condition of the land that is to be handed over to the landowner following use by the contractor.

The contractor(s) shall also be responsible for staff training, including training of migrant staff on cultural sensitivity within the local population.

9.3. Project Implementation Arrangement

The project proponent will require the Borrower to prepare and implement projects so that they meet the requirements of the Environmental and Social Standards in a manner and a timeframe acceptable to the Bank. In establishing the manner and an acceptable timeframe, the Bank will take into account the nature and significance of the potential environmental and social risks and impacts, the timing for development and implementation of the project, the capacity of the project and other entities involved in developing and implementing the project, and the specific measures and actions to be put in place or taken by the project to address such risks and impacts. Where the Bank has agreed that the project may plan or take specific measures or actions to avoid, minimize, reduce or mitigate specific risks and impacts of the project over a specified timeframe, the Bank will require that the project commit to not carrying out any activities or taking any actions in relation to the project that may cause material adverse environmental or social risks or impacts until the relevant plans, measures or actions have been completed.

If the project comprises or includes existing facilities or existing activities that do not meet the requirements of the ESSs at the time of approval by the Bank, the Bank will require the project, to adopt and implement measures, satisfactory to the Bank so that the material aspects of such facilities or activities meet the

requirements of the ESSs within a timeframe acceptable to the Bank. In determining satisfactory measures and an acceptable timeframe, the Bank will take into account the nature and scope of the project and the technical and financial feasibility of the proposed measures.

9.3.1. Institutional Arrangements for ESMF Implementation in GRADES

The World Bank requires from SED and PMIU to conduct environmental and social assessment of the project proposed for Bank support in accordance with ESS1. For the project that is classified as Moderate risk, as well as situations in which the SED and PMIU has limited capacity, the PMIU will retain independent specialists to carry out the environmental and social assessment as per ESMF and ESS1. The Bank requires from PMIU to prepare and implement project activities so that these meet the requirements of the ESSs in a manner and a timeframe acceptable to the Bank. In establishing the manner and an acceptable timeframe, the Bank takes into account the nature and significance of the potential environmental and social risks and impacts, the timing for development and implementation of the project, the capacity of the PMIU in developing and implementing the project, and the specific measures and actions to be put in place or taken by the PMIU to address such risks and impacts.

9.3.2. During Project Implementation

Implementation of environmental and social risks and impacts assessment of each subproject will follow the following steps closely linking with activity planning, design and implementation phases.

9.3.3. During Project Execution (Implementation Phase)

Step-1: Implement mitigation and monitoring plan and report compliance; and follow up on non-compliances

Step-2: Implement Capacity building and training plan.

Step-3: Generate periodic monitoring progress and compliance reporting on Environmental and Social Sectors.

9.3.4. Post Project Monitoring Period

The Bank will monitor the environmental and social performance of the project in accordance with the requirements of the legal agreement, and will review any changes resulting from changes in the design of a project or project circumstances. The extent and mode of the Bank monitoring with respect to environmental and social performance will be proportionate to the potential environmental and social risks and impacts of the project. To the extent that the Bank evaluation at the time of project completion determines that such measures and actions have not been fully implemented, the Bank will determine whether further measures and actions, including continuing Bank monitoring and implementation support, will be required. The Bank will provide implementation support regarding the environmental and social performance of the project, which will include reviewing the Project's monitoring reports on compliance of the project with the requirements of the legal agreement. Where appropriate, the Bank will require the Borrower to engage stakeholders and third parties, such as independent experts, local communities or nongovernmental organizations (NGOs), to complement or verify project monitoring information. Where other agencies or third parties are responsible for managing specific risks and impacts and implementing mitigation measures, the Bank will require the Project to collaborate with such agencies and third parties to establish and monitor such mitigation measures. The organizational chart for the implementation of the ESMF in Grades is shown in the Figure 7.

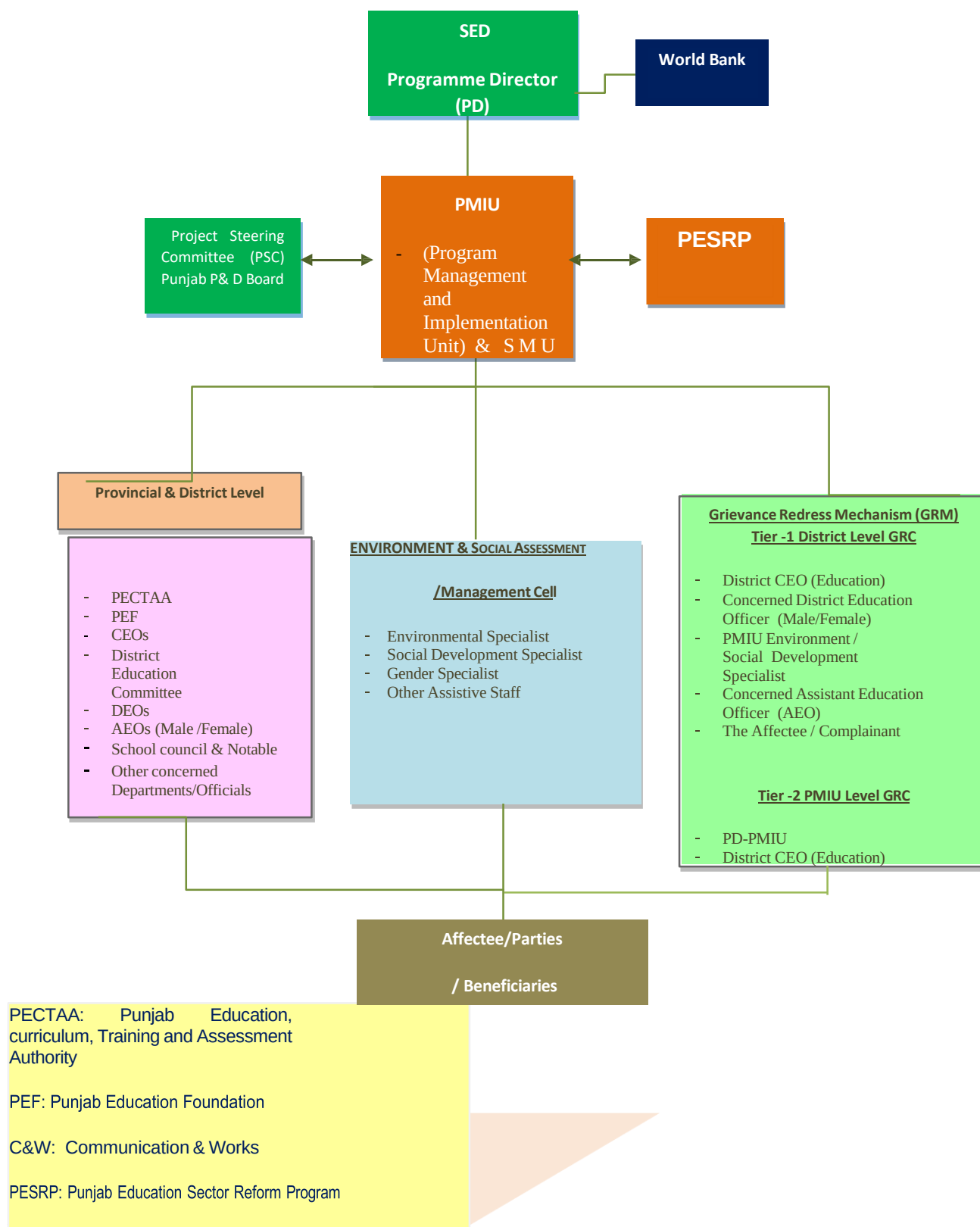


FIGURE 6 INSTITUTIONAL SETUP FOR ESMF IMPLEMENTATION

9.4. Roles and Capacities of Agencies Involved in ES Risk Management

9.4.1. Main Implementing Agency for GRADES-P and STP

Both the Getting Results: Access and Delivery of Quality Education Services in Punjab (GRADES-P) Project and the System Transformation Project (STP) will be implemented through an established and experienced institutional framework of the Government of Punjab. The School Education Department (SED), in coordination with the Communication and Works (C&W) Department, will serve as the primary implementing agencies. SED will execute both projects through the Program Monitoring and Implementation Unit (PMIU) under the Punjab Education Sector Reform Program (PESRP).

Strategic oversight for both projects will be provided by a Project Steering Committee (PSC) chaired by the Chairman, Punjab Planning & Development Board. PESRP, which was established by the Government of Punjab with World Bank support to coordinate sector-wide education reforms, also reports to the same Steering Committee, ensuring alignment and coherence across reform initiatives. PMIU reports administratively to the Secretary, SED, and has a proven track record in implementing World Bank-financed and donor-supported projects, including three results-based Investment Project Financings (PESP-1, PESP-2, and PESP-3) and the education component of the Punjab Human Capital Investment Project. PMIU is led by a Project Director, a senior government official, and is supported by qualified technical, procurement, financial management, monitoring, and environmental and social safeguards staff.

9.4.2. Co-implementing Agencies for GRADES-P and STP

PMIU will coordinate closely with several specialized government institutions responsible for implementing specific components and activities under both projects. These include the Punjab Education, Curriculum, Training and Assessment Authority (PECTAA) for teacher professional development and assessment-related capacity building; the Punjab Examination Commission (PEC) for large-scale student assessments; the Punjab Curriculum and Textbook Board (PCTB) for curriculum development, teacher guides, and textbooks; and the Punjab Education Foundation (PEF) for implementation of public-private partnership (PPP) interventions. In addition, coordination will be maintained with the Literacy & Non-Formal Basic Education Department (L&NFBED) and the Special Education Department (SpED) for selected STP activities, particularly those related to non-formal education and inclusive education for children with disabilities.

9.5. Training and Capacity Building Framework

To ensure effective implementation of the ESMF and compliance with environmental and social mitigation measures under both GRADES-P and STP, strengthening the technical capacity of relevant staff at provincial, district, and school levels is essential. The training and capacity-building framework is designed to establish a sustainable system for managing environmental and social risks and impacts in line with the World Bank Environmental and Social Framework (ESF).

The objectives of the environmental and social trainings are to enhance awareness and understanding of key environmental and social issues associated with project interventions, strengthen knowledge of ESMF requirements, and build practical skills for implementation and monitoring among program personnel. Training programs will target environmental and social specialists, general program staff at PMIU, district-level officials, and project executors involved in planning, procurement, construction, and supervision of sub-projects. For both GRADES-P and STP, the Training and Capacity Enhancement Program will be implemented at three levels:

Provincial-level training for PMIU and project staff;

District-level training for Chief Executive Officers (CEOs), District Education Officers (DEOs), Assistant Education Officers (AEOs), Environmental and Social Monitors (ESMs), and other district-level staff; and

School-level training for Environment and Social Focal Persons (ESFPs) and relevant school staff involved in sub-project design, procurement, and execution.

Details of the proposed training programs and capacity-building activities for key stakeholders are presented in **Table 14**.

TABLE 13 TRAINING REQUIREMENTS

No.	Training Area	Key ESMF Focus	Target Participants	Resource Person	Frequency / Schedule
1.	Orientation on GRADES-P & STP: Environment & Social Risks, Gender Gaps, and Mitigation Measures	ESF overview, ESMF application, gender gaps in access, safety, inclusion	Project staff, SED focal persons Key stake holders	PMIU Environment/Social/ Gender Specialist	At project start + Annual refresher + Induction of new staff
2.	Construction Environment, Health & Safety (C-EHSS) SOPs	ESS2, ESS4, WB EHS Guidelines	Contractors, Site Engineers, Supervisors and District level field staff	Environment Specialist	At start of each contract + Quarterly refreshers
3.	Labor Management Procedures (LMP) & Workers' Rights	ESS2 (wages, no child/forced labor)	Contractors, Site Supervisors	Social Safeguard Specialist	At start of each contract at mobilization stage + Annual refresher
4.	SEA/SH Risk Mitigation, Code of Conduct & Reporting	ESS4, WB SEA/SH	Contractors, Site Supervisors, Workers' District level field staff	Gender Specialist	At project start for district level field staff + At start of each contract + Bi-annual refreshers + Induction for new workers
5.	Grievance Redress Mechanism (Worker & Community GRM)	ESS10 (accessible & confidential GRM)	Contractors, Site Focal Persons	Social/Gender Specialist	Once at the start of the project + Annual refresher + to be incorporated into all relevant training before the start of works

6.	Application of ESMF Screening Tools (Environment, Social & Gender)	ESS1, ESS10, gender screening, risk categorization	PMIU, Contractors and field staff	Environment & Social safeguard/Gender Specialist	At start of project + Refresher annually
7.	Environment & Social Management Plans (ESMPs/SMPs): Preparation, Implementation & Monitoring	ESS1, ESS3, ESS4, ESS10	Contractors Field staff, District Authority	Environment& Social Safeguard/Gender Specialist	Before start of construction works + Semi-annual refresher
8.	Occupational Health & Safety (OHS) and Community Safety in School Construction	ESS2, ESS4, WB EHS Guidelines	Contractors, site engineers, CSC	Environment/ Social Safeguard Specialist	At start of each contract + Quarterly refreshers
9.	Labor Management Procedures (LMP) & Workers' Rights	ESS2 (labor standards, wages, child/forced labor)	Contractors, CSC, PMIU	Social safeguard specialist Gender Specialist	At mobilization + Annual refresher
10.	SEA/SH Risk Mitigation, Codes of Conduct & Survivor-Centered Response	ESS4, ESS10, WB SEA/SH Good Practice	PMIU Staff, Project staff Contractors, District focal persons	Gender Specialist	At project start + At the start of contract + Bi-annual refresher + Mandatory induction for new workers + to be incorporated into all relevant training before the start of works

9.5.1. Monitoring and Evaluation

The ESSs requires proper monitoring of implementation of the ESMF and reporting on its effectiveness. The objective of monitoring is to provide feedback on implementation of the ESMF and to identify problems and successes as early as possible to allow timely adjustment to implementation arrangements. For these reasons, ESMF monitoring and evaluation activities should be adequately funded, implemented by qualified specialists and integrated into the overall program management process.

Monitoring involves periodic checking to ascertain whether activities are progressing as per schedule, while evaluation is essential in reviewing the performance of the ESMF against its original objectives. ESMF implementation will be monitored both internally and externally.

Monitoring and evaluation is an important tool for managers to determine the status of the sub- project. Only through a well-planned and organized system of monitoring and evaluation, the progress against the given targets for various components of a development project can be achieved. Such evaluation is possible through the review of quarterly and annual reports.

In general, the purpose of ESMF monitoring is to verify that:

- Actions and commitments described in the ESMF are implemented fully and on time,
- Complaints and grievances lodged by Affected persons/parties/GBVs are followed up and that where necessary, appropriate corrective actions are taken up and implemented,
- If necessary, changes in ESMF procedure are made to improve delivery of entitlements to Program affected people.
- Progress in community/institutional structure reconstruction,
- Progress of liaison with construction contractor for employment opportunities for Program affected peoples.
- Track accidents and incidents related to all phases of the project.

9.5.2. Internal Monitoring & Evaluation

Internal monitoring will be carried out routinely by the Environmental management specialist and social development specialist under PD-PMIU at the provincial level under the supervision of SED-PMIU and their results will be communicated to the World Bank through the bi-annual and annual Program implementation reports. The monthly reports will be consolidated quarterly in the standard supervision reports to the World Bank.

9.5.3. External Monitoring & Evaluation

Monitoring and evaluation consultants (M&EC) shall be responsible for external monitoring of the ESMF for GRADES sub-project and monitoring of their implementation. They shall review and clear the ESMF. The M & EC shall provide continuous feedback to SED-PMIU, via proper channel, on the sub-project's performance and impact of its various components so that corrective actions could be taken in a timely manner. The M&EC activities are likely to cover but not limited to the following:

- Any acquisition of public and private land and assets.
- Agreements reached and arrangements made for temporary acquisition of assets (such as temporary land acquisition).
- Impact of construction activities in sub-project area in particular on environment and social as part of the evaluation of the ESMF implementation.

10. STAKEHOLDER ENGAGEMENT AND DISCLOSURE

This section describes the process and outcomes of the consultations carried out with various groups of stakeholders during the preparation of the Environmental and Social Management Framework (ESMF) for GRADES-Punjab (GRADES-P) and the GPE System Transformation Project (GRADES-STP). Stakeholder engagement has been undertaken in accordance with the requirements of the World Bank Environmental and Social Framework (ESF), particularly ESS10, to ensure inclusive, transparent, and meaningful participation throughout the project life cycle.

10.1. Stakeholders' Identification

Stakeholders are considered to be individuals or organizations that have an interest in the proposed projects or possess knowledge that can provide insight into issues or influence decision-making related to the projects. On the basis of interest and role criteria, stakeholders for GRADES-P and GRADES-STP are categorized as follows:

10.1.1. Primary Stakeholders

Primary stakeholders (direct stakeholders) include grass-root level groups such as local communities and surrounding households, surrounding business communities including mobile hawkers, vulnerable groups (women, youth, elderly, persons with disabilities, minorities), academic institutions (schools, colleges, madrassas), students, teachers, parents of enrolled and out-of-school children, school management committees, and communities directly affected by construction, renovation, or education service delivery interventions under both projects.

10.1.2. Secondary Stakeholders:

Secondary stakeholders (institutional stakeholders) include government departments, institutions, and organizations that may not be directly affected but can influence project design and implementation. These include the Punjab School Education Department (SED), which will implement both projects through the Program Monitoring and Implementation Unit (PMIU), District Education Authorities (DEA), Planning and Development Department (P&DD), Punjab Education, Curriculum, Training and Assessment Authority (PECTAA), Punjab Examination Commission (PEC), Punjab Curriculum and Textbook Board (PCTB), Punjab Education Foundation (PEF), Literacy and Non-Formal Basic Education Department (L&NFBED), Special Education Department (SpED), Health Department, Environment Protection Department (EPD), Child Protection & Welfare Bureau (CPWB), Punjab Social Protection Authority (PSPA), Council on the Rights of Persons with Disabilities, Local Government Departments, Traffic Police, NGOs, CBOs, and CSOs.

The list of stakeholders may expand or evolve during project implementation as activities progress.

10.1.3. Outcomes of Consultation Meeting

A. Community Consultations – GRADES-P

During the consultations, participants were briefed on the proposed GRADES project and its various elements as well as activities, its need and objectives, and its potential/likely impacts on the head teachers, teachers, PST and local community. Subsequently, their concerns and comments regarding the proposed project were recorded in order to identify appropriate alternatives and mitigation measures. Details of these consultations are presented in Table 15 below.

TABLE 14 COMMUNITY CONSULTATIONS FOR PROPOSED GRADES

Concerns/Feedback	Redress Strategy
Expansion of school facilities with proper planning is needed, including new classrooms, walls and toilets in existing schools. Proper building shape/structure, location of toilets and septic tanks leading to water and soil pollution.	SED/PMIU needs to get involved in order to facilitate and expedite the process of building construction, Building Design suitable for natural lighting, ventilation, invigilation point of view and adjustment in existing school area/plot. This will be taken into consideration in the construction guideline.
Renovate/refurbish school buildings, earthen playgrounds and Water, Sanitation, and Personal Hygiene (WASH) facilities. These are very important to increase the participation of girls and boys in school.	A sustainable approach and recurrent fund allocation for maintenance is required.

Lack of Good Housekeeping practices at school sites. The liquid and solid waste generated by students and faculty are dumped. There is no effective waste management and disposal.	An adequate and effective liquid as well as solid waste management practices should be introduced/ followed.
Water quality has deteriorated and safe water supply is a challenge faced by most schools in Punjab, especially those located in the underground salt water area in southern Punjab. Students and teachers are facing health risks due to contaminated water supplies in schools.	Ensure the availability of safe drinking water by installing water filtration system.
Need Solar Panel facility in most of the school due to load shedding in summer season.	Facilitation will be considered under this project.
During the construction phase of the school building/structure, health and safety related impacts will have an impact on the community, school children, staff and the surrounding environment.	Ensure that health and safety related mitigation measures should be taken at all project stages. By adding appropriate clauses to the contract documents and sub-project design, risks can be reduced.

B. Consultation Meetings with Departments (Institutional Consultations)

In addition to the community consultations discussed in Section above, the institutional consultations were carried out with related departments. The feedback of these consultation meetings is summarized in Table 16.

TABLE 15 INSTITUTIONAL CONSULTATIONS

Concerns/Feedback	Redress Strategy
Building more classrooms, increasing access to (WASH) facilities, rural community education was identified as a key issue. Somewhere, a school boundary wall and sanitary situation is meager.	Extensive consultations have been carried out with the CEOs, AEOs and head teachers' district wise. EMSF will be implemented in a participatory manner involving all stakeholders. Liaison will be maintained with all relevant stakeholders and departments during ESMF implementation as needed.
The budget allocation is not based on the actual situation in all regions of Punjab. NSB Budget is only for paying to temporary teachers. Especially when dealing with any epidemics such as COVID-19 and dengue fever, budget requirements are higher. No rapid response from head offices in emergency situation.	Provision of budget in response to emergency and pandemic situation should be added in project at school level. Development and mitigation measures should be included in the emergency response plan.
3-5% permanent drop outs in 5th class due to early marriages in village areas especially.	Awareness sessions should be held regarding education importance and early age marriages complication for community.
Schools' information system (SIS) and IT related teacher training need more mandatory considerations.	This will be taken care by the ESMF

C. Stakeholder Consultations for GRADES-STP

In addition to GRADES-P, extensive stakeholder consultations were conducted for GRADES-STP during project preparation in line with ESS10. These consultations focused on system-level reforms, Non-Formal Education Institutions (NFEIs), out-of-school children (OOSC), ECE expansion, inclusive education, child protection, and SEA/SH risk mitigation.

Consultations involved government agencies (SED, PECTAA, PEC, L&NFBED), district education managers, literacy mobilizers, teachers, parents, CSOs/NGOs, development partners, and community representatives across multiple districts.

TABLE 16 SUMMARY OF STAKEHOLDER CONSULTATIONS – GRADES-STP

Stakeholder Group	Key Issues / Feedback Raised	Project Response / Integration	Project Stage
Government Agencies (SED, PECTAA, PEC, Literacy & Non-Formal Education Department)	Need for classroom expansion; improved WASH facilities; stronger environmental safeguards; strengthened SIS; enhanced teacher capacity on child protection and GBV; curriculum alignment with FLN and climate change; improved inclusion tracking	Integrated into project design and ESMF; emphasis on child protection, climate-responsive education, FLN objectives, strengthened SIS, teacher training frameworks, and safeguard instruments	Project Preparation and Implementation
Civil Society Organizations (CSOs) and NGOs	Inclusive engagement of minorities, women-headed households, and persons with disabilities; culturally sensitive GBV prevention; strengthening grievance redress mechanisms; use of digital platforms	SEP and GAP strengthened; culturally sensitive outreach strategies developed; NGO partnerships formalized; GRM expanded	Project Preparation and Implementation
Development Partners (e.g., UNICEF, TALEEM Project Team)	SEA risk mitigation; integration of birth registration for child protection; monitoring gaps in non-formal education spaces	SEA recommendations incorporated; coordination with NADRA and partners; monitoring mechanisms for NFEIs strengthened	Early Implementation and Implementation
Literacy Mobilizers and District Literacy Offices	Safety of NFE learning environments; teacher management and Codes of Conduct; GBV/SEA/VAC risks; attendance challenges; need for anonymous complaint mechanisms	Dedicated learning spaces ensured; strengthened teacher Codes of Conduct; anonymous grievance channels introduced; periodic safeguarding trainings planned	Project Preparation and Implementation
District Education Managers (SED)	Land ownership and mutation challenges; emergency protocols; GBV/SEA risks during construction; disability-inclusive infrastructure;	Strengthened land verification processes; enhanced GBV/SEA grievance handling; disability-inclusive designs	Project Preparation and Implementation

	flexible access models; protection of minorities	adopted; flexible schooling models promoted	
Teachers and School Heads	Weak foundational learning outcomes; need for CPD, mentoring, and digital training platforms; classroom overcrowding	Revised CPD frameworks; mentoring and coaching systems strengthened; digital teacher training platforms enhanced	Implementation
Parents of Out-of-School Children (OOSC) and Community Members	Barriers to enrolment and retention; safety of learning spaces; need for flexible learning pathways; access for girls	Establishment and strengthening of NFEIs; community-based access models; gender-responsive communication strategies	Implementation
Children with Disabilities and Caregivers	Physical accessibility barriers; lack of inclusive facilities and assistive support	Provision of disability-friendly infrastructure including ramps, barrier-free access, and enabling facilities	Implementation

Detailed consultation records are documented in the standalone GRADES-STP Stakeholder Engagement Plan (SEP).

10.1.4. Stakeholder Engagement Plan (SEP) and Grievance Redress Mechanism (GRM)

The Stakeholder Engagement Plans (SEPs) for GRADES Punjab (GRADES-P) and the GPE System Transformation Project (GRADES-STP) have been prepared in accordance with the objectives and requirements of Environmental and Social Standard (ESS) 10 of the World Bank's Environmental and Social Framework, as well as applicable national labor and social legislation. The SEPs assess the potential environmental and social risks and impacts associated with the implementation of project activities under both projects and define appropriate mitigation and engagement measures to ensure meaningful, inclusive, and continuous stakeholder participation throughout the project life cycle.

Stakeholders under both GRADES-P and GRADES-STP include individuals and groups who are directly affected by project activities, as well as those who may not experience direct impacts but have an interest in project design, implementation, or outcomes. Key stakeholders include government institutions, district and school-level education authorities, school teachers and administrators, students and parents, Non-Formal Education Institute (NFEI) facilitators (under GRADES-STP), surrounding households, adjacent shopkeepers, mobile vendors, nearby schools, and local communities.

Special attention is given to the identification and engagement of vulnerable and disadvantaged groups under both projects. These include women-headed households, women and girls, persons with disabilities, minorities, landless households, and other marginalized groups living in the vicinity of project-supported schools and NFEIs. The stakeholder engagement process ensures that these groups are included in consultations through culturally appropriate and accessible methods, and that their concerns are reflected in project planning and implementation.

The overarching purpose of stakeholder engagement under both projects is to ensure that all affected and interested parties are able to participate meaningfully in the project process. During the project preparation

stage, engagement focuses on consultations with project-affected parties and institutional stakeholders to inform project design, identify risks, and incorporate local priorities. During project implementation, engagement emphasizes timely information disclosure, feedback collection on project impacts and performance, and consultations on mitigation of any adverse effects. Engagement during project completion and post-implementation stages focuses on assessing whether project objectives have been achieved and documenting lessons learned.

Information disclosure and engagement activities are carried out using multiple communication channels, including community meetings, stakeholder workshops, focus group discussions, public disclosure at schools and NFEIs, and dissemination of information through print, electronic, and social media. Detailed engagement strategies for different stakeholder groups are outlined in the respective SEPs for GRADES-P and GRADES-STP. A Social Development Specialist (SDS) within the Programme Monitoring and Implementation Unit (PMIU) is responsible for overseeing SEP implementation and for ensuring regular outreach to vulnerable groups. A project-wide Grievance Redress Mechanism (GRM) is operational for both GRADES-P and GRADES-STP and forms an integral part of the SEP. A Grievance Redress Committee (GRC) is established at the PMIU level and is managed by the SDS, with representation from relevant departments and community members as appropriate. Grievances may be submitted through multiple channels, including an online complaint registration system linked with the School Education Department's existing grievance platform, as well as through district, school, and NFEI-level entry points.

All grievances are logged, screened, and classified according to priority, with urgent cases addressed on a fast-track basis. Complaints are investigated and resolved within a defined timeframe, which shall not exceed ten days unless the complainant is formally informed of the need for additional time. Records of all grievances, actions taken, and resolution timelines are maintained in a centralized database. The GRM also includes an appeals mechanism to allow complainants to seek review of decisions. GRM performance is monitored by PMIU, and the system is periodically reviewed and strengthened to ensure transparency, accountability, and responsiveness. The SEPs for both projects will be living documents, updated periodically during implementation to reflect changes in project scope, stakeholder composition, or risk profile, and to incorporate feedback from ongoing engagement activities.

ANNEXURES

Annexure A: Environmental and Social Screening Checklist

Screening Questions	Yes	No	Remarks
Project Siting Is the Sub-project area adjacent to or within any of the following environmentally sensitive areas?			
Cultural heritage			The notified archeological / cultural heritage areas / sites will be screened carefully before undertaking sub-projects construction activities under the GRADES Project. The resource person completing this checklist must assess whether the sub-project site contains, overlooks, or negatively impacts any physical cultural heritage resources, including archaeological sites, historical structures, sacred places, or culturally significant landscapes. Where such resources are identified or potentially affected, their type, location, and the nature and extent of the impact must be clearly documented. Any uncertainty should be flagged for further specialist review in accordance with World Bank ESS 6 requirements. No procedures on archeological screening of sites are available to share with construction companies/projects. However, under the Pakistan Antiquities Act 1975 and Punjab Antiquities Act, 2012, chance finds will be reported to the Archeology Department within seven days. If ruins are discovered, then all construction work will be stopped. The department will then conduct a site assessment.
Land acquisition and resettlement			The resource person completing this checklist must assess whether the sub-project site involves, or is likely to involve, any permanent or temporary land acquisition, restriction of access to land or resources, or displacement of persons whether physical or economic. Where such impacts are identified or anticipated, the nature, scale, and number of potentially affected persons or households must be clearly documented. Any uncertainty regarding ownership, occupancy, or informal use of land must be flagged for further review in accordance with World Bank
B. Potential Environmental Impacts			

Screening Questions	Yes	No	Remarks
Ecological disturbances arising from the establishment of a plant or facility complex in or near sensitive habitats?			The resource person completing this checklist must assess whether the sub-project site is located in, adjacent to, or within the influence zone of any sensitive or critical habitats including wetlands, forests, protected areas, wildlife corridors, or biodiversity-rich ecosystems. Where the establishment of a plant or facility complex may cause ecological disturbance through habitat loss, fragmentation, species displacement, or disruption of ecological processes, the type, location, and extent of such impacts must be clearly documented. If any project site may be located near sensitive habitats of ecological resources and any environmental impacts are identified during screening, then under Schedule II of PEPA Review of IEE/EIA Regulations 2000 will be applied.
Loss of precious ecological Values (e.g. result of encroachment into forests/swamp lands or historical/cultural buildings/areas, disruption of hydrology of natural waterways, regional flooding, and drainage hazards)?			The resource person completing this checklist must assess whether the proposed school expansion site may result in loss of ecological values including encroachment into any adjacent forests, wetlands, or drainage channels. Where such impacts are identified or anticipated, their type, location, and extent must be clearly documented, even if minor in scale. It is not expected from GRADES project as they are to be executed in the urban areas.
Eventual degradation of water bodies due to discharge of wastes and other effluents from plant or facility complex?			Fuel, oil, and other chemicals will be handled and stored at the project facilities, following the standard operating procedures, avoiding any leakage and spillage, and minimizing contamination of soil and water. The resource person must assess whether the school expansion may result in degradation of any nearby water bodies through discharge of wastewater, sewage, or construction runoff. Where such impacts are identified, their nature and extent must be documented in accordance with World Bank ESS3 on Resource Efficiency and Pollution Prevention. It should be ensured that the effluents leaving the facility comply with the Punjab Environmental Quality Standards. It will be ensured that the wastes are not released into any drinking water source, cultivation fields, or critical habitat.
Serious contamination of soil and groundwater?			The resource person must assess whether the school expansion may cause soil or groundwater contamination through construction activities, improper waste disposal, or sanitation failures. Where such risks are identified, their nature and extent must be documented in accordance with World Bank ESS3 on Resource Efficiency and Pollution Prevention.

Screening Questions	Yes	No	Remarks
Aggravation of solid waste problems in the area?			This aspect will be assessed while designing specific projects activities. It will be ensured that the sub-projects do not aggravate solid waste problems in the area. Disposal of solid waste will be carried out in a manner that does not negatively affect the drinking water sources, cultivation fields, irrigation channels, natural drainage paths, wetlands and critical habitat, the existing waste management system in the area, local routes, and general aesthetic value of the area. The resource person must assess whether the school expansion may aggravate existing solid waste management challenges in the area through generation of construction debris or increased operational waste.
Public health risks from discharge of wastes and poor air quality; noise and foul odor from plant emissions?			The resource person must assess whether the school expansion may pose public health risks through improper waste discharge, dust or air quality deterioration from construction activities, or noise and odor disturbances affecting students, staff, and surrounding communities. Contractor and labor workers will be trained on these aspects and a site will be specified and designated by the project field staff for solid waste and debris collection. It will be monitored on daily basis and workers/laborers will not be allowed to throw or dump solid waste/debris etc. other than the designated site It will be ensured that the emissions and noise from the sub-project facilities comply with Punjab Environmental Quality Standards. Community consultations will be carried out as part of the sub-project design activities. Grievance redress mechanism will be established in the area to address the public complaints regarding issues such as noise and odor from the sub-project facilities.
Short-term construction impacts (e.g. soil erosion, deterioration of water and air quality, noise, and vibration from construction equipment)			The resource person must assess whether the school expansion may generate short-term construction impacts, particularly given proximity to students and staff. Where such impacts are identified, their nature and extent must be documented in accordance with World Bank ESS3 on Resource Efficiency and Pollution. All the activities will be monitored by the Environmental and Social Focal Persons and regional management teams to ensure that proper mitigation measures are being taken.
Environmental degradation (e.g. erosion, soil and water contamination, loss of soil fertility, disruption of wildlife habitat)			All the activities will be monitored by the project staff team to ensure that proper mitigation measures are being taken and no such activities are carried out that may degrade the environment.

Screening Questions	Yes	No	Remarks
Water pollution from discharge of liquid effluents?			The resource person must assess whether the school expansion may cause water pollution through discharge of liquid effluents including construction runoff, wastewater, or sanitation overflow into nearby drains or water bodies. Where such risks are identified, their nature and extent must be documented in accordance with World Bank ESS3 on Resource Efficiency and Pollution Prevention. All the activities will be monitored by the project staff team to ensure that proper mitigation measures are being taken and no such activities are carried out that may degrade the environment.
Accidental release of potentially hazardous solvents, acidic and alkaline materials?			The resource person must assess whether the school expansion involves storage or use of potentially hazardous materials. There may be a chance of any such incident and to avoid any such accidents all precautionary measures will be implemented as mitigations. Where such risks are identified, their nature and extent must be documented in accordance with World Bank ESS3 on Resource Efficiency and Pollution Prevention. First Aid boxes will be ensured by the contractor to provide at sub-project site and emergency services contacts will be also displayed at the site.
Disruption of transit patterns creation of noise and congestion, and pedestrian hazards aggravated by heavy trucks?			The resource person must assess whether the school expansion may disrupt local transit patterns, create traffic congestion, or pose pedestrian hazards particularly from heavy construction vehicles operating near students, staff, and surrounding communities. All the civil works activities will be monitored by the project staff team to ensure that proper mitigation measures are being taken and no such activities are carried out that may degrade the environment or may create a nuisance for the local communities.
Occupational health hazards due to fugitive dust, materials handling, noise, or other process operations?			The resource person must assess whether the school expansion may expose construction workers to occupational health hazards including fugitive dust, hazardous materials handling, excessive noise, or other construction process risks. For the workers/laborers, use of PPEs will be ensured. Where such hazards are identified, their nature and extent must be documented in accordance with World Bank ESS2 on Labor and Working Conditions.
C: SOCIAL SCREENING			
Dislocation or involuntary resettlement of people			The resource person must assess whether the school expansion may result in physical or economic displacement of any persons including those with formal or informal tenure. Where such risks are identified, the number of affected persons and nature of displacement must be documented in accordance with World Bank ESS5 on Land Acquisition, Restrictions on Land Use and Involuntary Resettlement.

Screening Questions	Yes	No	Remarks
Social conflicts arising from the influx of laborers from other areas?			The resource person must assess whether the school expansion may trigger social tensions arising from the influx of outside laborers including competition over local resources, cultural friction, or community grievances. Where such risks are identified, their nature and extent must be documented in accordance with World Bank ESS4 on Community Health and Safety. Local laborers/workers will be preferred to involve in the civil works. There will be public consultation before and during the civil works. For the handling of complaints, Grievance Redress Mechanism will be made effective. Detail of GRM is given in Chapter 8. Labor Management Plans is also prepared as a separate document.
Disease transmission from inadequate waste disposal?			There may be a chance of vector borne diseases due to inadequate waste disposal. The resource person must assess whether the school expansion may facilitate disease transmission through inadequate waste disposal or poor sanitation practices during construction or operation. To avoid it, contractor and laborers will be trained on these aspects and a site will be specified and designated by the project field staff for solid waste and debris collection. It will be monitored on daily basis and workers/laborers will not be allowed to throw or dump solid waste/debris etc. other than the designated site.
Impediments to movements of people and animals?			During civil works activities, there may be impediments in the movement of vehicles and or local people temporarily. To avoid this, traffic management plans will be displayed at main points and local communities will be informed timely. The resource person must assess whether the school expansion may obstruct or restrict the movement of people. Community consultations will be carried out before the facility establishment. Community liaison will be maintained. Safety signage will be erected at appropriate places. Safe driving practices will be promoted among the drivers.
Disproportionate impacts on the poor, women and children, Indigenous Peoples or other vulnerable groups?			The resource person must assess the following impacts: Due to civil work activities, there may be temporary delay in the access to community parks, drinking water facility in case of water distribution networking. To avoid it, it will be ensured that construction activities should be performed at night hours or early morning and all the possible mitigation measures will be adopted to avoid any delay in the access to facilities. No discrimination with respect to religion, caste, gender, or association with any social group will be practiced in assessing the facilities. Communication outreach and site-level GRM will be developed.

Screening Questions	Yes	No	Remarks
			It will be ensured that the sub-projects do not have any negative impacts on women, children and vulnerable groups. All workers/laborers will be trained to respect the social and cultural norms of the area and do not interfere with the privacy of local communities. All the staff of healthcare facilities will be trained about Sexual Exploitation and Abuse (SEA) and Sexual Harassment (SH) issues and Governmental policies and procedures to handle and report it. There will be information of help desk to handle grievances related to SEA and SH. Impacts related to Disabled Persons Some public facilities are not user friendly especially for disabled personnel due to which these persons have to face lots of issues in getting access to public parks and green spaces. There is scarcity of facilities for disabled persons. This would be a significant, negative medium- term impact. For which, it will ensure to provide user- friendly facilities regardless of the age, race, gender especially to disabled persons. Following facilities for disabled persons should be ensured by the contractor during the construction/revamping work of community parks and public toilets: Staircase Tactile floor located at least 400 mm before the step. Continuous handrails should be provided. Braille inscription at the handrail should be provided. Ramp The ramp should be free from any obstructions and anti-slip. The ramp should be at least 1200 mm wide. There should be provided on both sides. The ramp should be of gentle gradient with landing maximum every 6 meters. Signage The signage should be clearly seen by all people. The signage should be marked with universal symbol.

Screening Questions	Yes	No	Remarks
			Tactile floor should be located at least 400 mm before the step. Entrance The entrance should be free from any obstructions. The entrance should be accessible with pathways. Parking The parking area should be marked with universal symbol. The parking space should be located near to the entrance. Toilet The door should be accessible for wheelchair user should not be less than 900 mm wide. The area of the toilet should be big enough to fit the wheelchair. Handrails provided should be at 800 mm high from the floor and adjustable. The floor should not be slippery. Other facilities should be accessible.
Potential social conflicts arising from land tenure and land use issues?			The resource person must assess whether the school expansion site may give rise to social conflicts stemming from unresolved land tenure disputes, competing land use claims, or unclear ownership and occupancy rights. Where such risks are identified, the nature of the dispute and number of potentially affected parties must be documented
[Private land] Will the construction or installation be done on a private land? If yes, will the cost of construction or installation be shared between the project and landowner?			Where private land use is confirmed, the ownership status, nature of any agreement, and cost-sharing arrangements is clearly documented in accordance with the RPF. The resource person must assess whether the school expansion involves construction on privately owned land, and if so, whether associated costs are to be shared between the project and the landowner.

Annexure B: Security Risk Assessment (SRA) including SEA/SH risks & GBV Risk Assessment

The assessment of SEA/SH risk will be undertaken by both the PMIU and the World Bank Task Team. For the PMIU, the assessment of SEA/SH risks of a project is normally undertaken as part of project preparation, particularly during community consultations.

When considering SEA/SH risks, there are different “areas of impact” that influence both the nature of the risk and the appropriate prevention and mitigation measures that a project can implement:

The project sites include school institutions in the Punjab province. This includes both the actual locations where civil works are conducted, and also the associated areas such as the locations of workers’ camps, quarries, etc. The area of impact beyond the project site includes communities adjoining the project. This extends beyond the specific location where civil works are being carried out. These communities are at risk of SEA/SH, particularly when workers are highly mobile. An assessment at the provincial level can give PMIU, an understanding of those experiencing GBV in the region or country, as well as the type and scale of violence, and its acceptability, in the communities where World Bank-financed projects are implemented.

In most cases, the necessary information on the prevalence of GBV from the project to the provincial level is already available. PMIU and task teams should rely on existing studies and research to guide their decision-making. Creating baseline GBV surveys for the purpose of risk assessment should be avoided. Fragile or conflict-affected environments need to be carefully considered when assessing SEA/SH risks for a project. In such environments, communities may have undergone traumatic experiences and the social fabric may be broken down. Further, as a result of insecurity and conflict, the required support services and care are often limited. There may be a lack of security for communities and rampant impunity for crimes committed. Supervision of projects in such areas is difficult and, in some instances, requires reinforced security arrangements. Contractors may need to recruit police, peacekeepers or military personnel for security; however, these forces may not be subject to the national legal system but have their own internal judicial mechanisms that may either not have adequate enforcement, or not specifically prohibit GBV, especially SEA/SH. The combination of these factors can significantly increase the risk for SEA/SH and should be carefully considered in project preparation and implementation.

World Bank SEA/SH Risk Assessment Tool

A tool for assess the risk of GBV, particularly SEA, has been developed by the World Bank and can be found online ¹⁵. This SEA/SH Risk Assessment Tool helps Task Teams understand the issues and risks of SEA/SH in the project areas. It takes into consideration both project-specific details, such as labor influx levels, as well as the country context¹⁶ where the project takes place such as situations of conflict. Through 25 questions, 12 to be answered by the Task Team and 13 that are prepopulated, the tool gives each project a risk “score” based on the responses to the questions. The questions are meant only as a starting point and are not intended to be exhaustive. As multiple forms of GBV have the same risk factors and drivers, the tool can be used to understand the overall context and how the project may interact with this context in relation to multiple forms of GBV, not just SEA/SH.

Annexure C: Grievance Redress Mechanism (GRM)

Grievance Redress Mechanism for GRADES

A Grievance Redress Mechanism (GRM) has been under the SEP. The grievance redress mechanism established for GRADES will be disclosed to all concerned stakeholders. A grievance redress cell will be established in the PMIU/Safeguards Office under the supervision of Programme Director with its committees at districts level following a tiered approach. The GRM will be set up with a two-tiered structure; one at district level enabling immediate local responses to grievances and another at PMIU level for review, and addressing more difficult cases not resolved at local level.

District-level GRC

As the GRADES is encompassing to almost whole of the Punjab province comprising 36 districts. The district-level GRC (D-GRC) consisting of 5 members will be formed. It will review all unresolved grievances and resolve the cases after careful scrutiny. The composition of the District-level GRC is proposed in Table below:

Composition of the District-level GRC

Chair	District CEO (Education)
Member	Concerned District Education Officer (Male/Female)
Member	PMIU Environment / Social Development Specialist
Member	Concerned Assistant Education Officer (AEO)
Member	Co-opted Member

The scope of work and TORs for GRC at district level shall include:

- i. Any grievances presented to the district level GRC should ideally be resolved within 3 weeks from the date of receiving the case(s).
- ii. In case of complicated cases, the GRC members can request additional information or carry out field level verifications.
- iii. Resolutions should be based on consensus among members, failing which the decision may be taken on 2/3 majority vote.
- iv. Any decision made by the GRC must be within the purview of E&S policy framework and entitlements and other safeguard documents like ESMF and ESMP/s.
- v. In considering any environmental grievances by any of the GRCs, the GRC would be guided by the following: (i) review the merit of the complaints/case received for consideration; (ii) review the case in the light of related Project activity and within the context of applicable laws/guidelines in Pakistan and/or Project E&S Management Frameworks guidelines; and/or Contractor's ESMP; (iii) undertake field level investigations, if necessary for review of the case at hand; and (iv) review and resolve the case and recommend necessary measures or mitigation, if required. The GRC will not deal with any matters pending in the court of law.
- vi. A minimum of four members are required to form the quorum for the meeting of the GRC. The District-level GRC will forward any unresolved cases to the PMIU for resolution.

PMIU-level GRC

The Project-level GRC is at the apex of the GRM. It is a committee of four members as given in Table below, chaired by the Programme Director.

GRC at the PMIU Level

Chair	Programme Director – PMIU
Member	Project Manager – C&W
Member	District CEO (Education)
Member	Concerned District Education Officer (Male/Female)
Member	PMIU Environment / Social Specialist

The scope of work and the Terms of Reference for Independent GRC at Project level shall include:

- (i) The GRC shall review and consider unresolved grievances forwarded by District-level GRC related to social/resettlement issues.

Any grievances forwarded to the PMIU-level GRC should be quickly resolved, preferably on the first day of hearing or within a period of fifteen days from the date of receiving the case/s. PMIU-level GRC can conduct field investigations in case of complicated issues. Grievances of indirectly affected persons and/or persons affected during Project implementation may also be reviewed by PMIU-level GRC.

If any disputant remains dissatisfied with GRC outcome up to the project level GRC, the disputant can seek redress by the formal court. In other words, the affected persons are allowed to take the help of the court provided the GRC processes have been followed and exhausted.

Grievance Redress Mechanism System

First Step: As a first step, an online complaint registration system will be set up for the project, which will also link with the PESRP existing system. Thus, it will pick up relevant complaints from the website and social media, as well as complaints registered on it directly. Complaint registration will be structured such that complaints can be entered directly on the project website (in English or Urdu); can be posted to a designated address as letters or written messages; or can be narrated to operators on a helpline. All complaints, however made, will be consolidated into a database on a daily basis, and separated by location as well as nature of grievance.

Second Step: As a second step, grievances/complaints will be screened and classified into three categories by order of priority, with those requiring instant action being classified as high priority. A set of criteria will be made to determine what sort of grievances/complaints fall into which category. All registered grievances/complaints will be acknowledged through a text message or phone call. If no telephone number

is supplied by the complainant, he or she will be asked through a letter to check back with the PMIU. This acknowledgement will be issued within one day of receipt of the grievance/complaint. Each complainant will be given an estimated timeframe for resolution of the grievance/complaint.

Grievances will be investigated and resolved within the timeframe specified, which will not be longer than ten days. If resolution demands longer than this timeframe, the complainant will be informed, and will be contacted by staff from the PMIU to explain details of the issue. Grievances which require cooperation of a number of departments, or which are otherwise complicated, will be referred to the GRC who will specify how resolution is to take place.

Records of all grievances/complaints will be maintained in a database, including details of actions taken to resolve the issue, and dates on which resolution was affected. At the conclusion of action to solve grievances, the complainants will be informed of the outcome. Two days after action is closed and complainants informed, they will be contacted again to ensure that they are satisfied with the work done. The system will include a system for appeals. If a complainant remains unsatisfied, he/she will be able to lodge an appeal, which will be escalated to the Head of the GRC or the Programme Director (PD).

GBV/SEA/SH Complaints

To address GBV-related complaints, the Gender Specialist (GS) of PMIU will be the focal person for properly handling GBV allegations including assessment of the nature of the complaint, seeking support from various law enforcement agencies to enact sanctions to be applied to the perpetrator. The GS shall ensure specific procedures for GBV to ensure confidential reporting with safe and ethical documentation of GBV cases.

The Mechanism for GBV/SEA/SH Complaints

Once the GBV/SEA/SH-related complaint is received to PMIU from the site, it is directly entered/enrolled in Tier-2 i.e. GRC will directly deal with it. The GS will visit the complainant at his/her place and enquire about the grievance on the same day. The GS will prepare the report accordingly and intimate the PD-PMIU. The GBV complaint will be resolved with-in 24 hours with necessary action(s) as directed by PD-PMIU. There will be a committee constituted within PMIU which deal with the GBV related complaints specifically.

GBV Addressing Committee Members

The GBV committee will be constituted duly notified by PD-PMIU, following are the GBV Committee Members

- 1) Programme Director PMIU (Convener)
- 2) Gender Specialist PMIU (Secretary)
- 3) Social Safeguard Specialist PMIU (Member)
- 4) Concerned CEO of School Education Authority (Member)

Annexure D: ESMP Reports Format

ESMP reports will be prepared for the type of School Construction Projects' Categories, this format will be generally followed for all Contract awards. The format will include the following items (not necessarily in the order shown):

- 1. Title page/ Cover page**
- 2. Table of contents**
- 3. List of acronyms**
- 4. Executive summary.**

Concisely discusses significant findings and recommended actions.

5. Policy, legal, and administrative framework.

Discusses the policy, legal, and administrative framework within which the ESMP is carried out. Identifies relevant international environmental agreements to which the country is a party.

6. Project description

Concisely describes the proposed project and its geographic, ecological, social, and temporal context. Normally includes a map showing the project site and the project's area of influence.

7. Environmental & Social Management Plan (ESMP)

Covers mitigation measures, monitoring, and institutional strengthening. A project's (ESMP) consists of the set of mitigation, monitoring, and institutional measures to be taken during implementation and operation to eliminate adverse environmental and social impact, offset them, or reduce them to acceptable levels. The plan also includes the actions needed to implement these measures. To prepare a management plan, the PMIU and its ES team (a) identify the set of responses to potentially adverse impact; (b) determine requirements for ensuring that those responses are made effectively and in a timely manner; and (c) describe the means for meeting those requirements. More specifically, the ESMP includes the following components.

1. Mitigation

- The ESMP identifies feasible cost-effective measures that may reduce potentially significant adverse environmental impact to acceptable levels. The plan includes compensatory measures if mitigation measures are not feasible, cost-effective, or sufficient. Specifically, the ESMP:
- Identifies and summarizes all anticipated significant adverse environmental impacts (including those involving land acquisition, involuntary resettlement, labour management, etc.);
- Provides linkage with any other mitigation plans (e.g., for involuntary resettlement, indigenous peoples, cultural property or other social impacts such as potential issues of violence against women and children resulting from influx of workers in communities in the subproject area etc.) required for the project.
- The following template will be used for the ESMP preparation

Environmental Management Plan

Activity	Potential Impacts		Assessed	Mitigation	Monitoring	Institutional Responsibilities		Estimated
	Environmental	Social	Risk Level	Measures	Indicators	Implementation	Supervision	Cost

2. Monitoring

Environmental monitoring during project implementation provides information about key environmental aspects of the project, particularly its environmental impact, and the effectiveness of mitigation measures. Such information enables the borrower and the Bank to evaluate the success of mitigation as part of project supervision, and allows corrective action to be taken when needed. Therefore, the ESMP identifies monitoring objectives and specifies the type of monitoring, with linkages to the impact assessed in the ESMF report and the mitigation measures described in the ESMP. Specifically, the monitoring section of the EMP provides (a) a specific description, and technical details, of monitoring measures, including the parameters to be measured, methods to be used, sampling locations, frequency of measurements, detection limits (where appropriate), and definition of thresholds/indicator that will signal the need for corrective actions; and (b) monitoring and reporting procedures to

- i. ensure early detection of conditions that necessitate particular mitigation measures, and
- ii. furnish information on the progress and results of mitigation.
- iii. The following template for monitoring will be used

Parameters To be monitored	Methods to be used	Sampling Locations	Frequency of measurements	Responsibility

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3. Capacity Development and Training

To support timely and effective implementation of environmental project components and mitigation measures, the ESMP draws on the ESMF's assessment of the existence, role, and capability of environmental units on site or at the regency, provincial or central level. If necessary, the ESMP recommends the establishment or expansion of such units, and the training of staff, to allow implementation of ESMF recommendations. Specifically, the ESMP provides a specific description of institutional arrangements - who is responsible for carrying out the mitigation and monitoring measures (e.g., for operation, supervision, enforcement, monitoring of implementation, remedial action, financing, reporting, and staff training). To strengthen environmental management capability in the agencies responsible for implementation, most ESMPs cover one or more of the following additional topics: (a) technical assistance programs, (b) procurement of equipment and supplies, and (c) organizational changes.

#	Training Recipients	Mode of Training	Environmental Aspect to be covered
1	Environmental Safeguards Team	Lecture, workshop Group Discussion Site Visit	• Environmental Overview • Laws and Regulation/standards and Acts • EMP overview • EHS guidelines and pros and cons
2	Contractors	Lecture, workshop Site Visit	• EMP overview • EHS guidelines and pros and cons
3	Labor	Onsite	• EMP overview EHS guidelines and pros and cons

4. Implementation Schedule and Cost Estimates

For all three aspects (mitigation, monitoring, and capacity development), the ESMP provides (a) an implementation schedule for measures that must be carried out as part of the project, showing phasing and coordination with overall project implementation plans; and (b) the capital and recurrent cost estimates and sources of funds for implementing the ESMP. These figures are also integrated into the total project cost tables.

8. Conclusion and Recommendations

9. Annexes:

- I. Technical Drawings, Plans & Maps
- II. Labour Management Procedure
- III. Traffic Management Plan

Annexure E: Environmental Code of Practices (ECoPs)

ECP 1: Waste Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
General Waste	Soil and water pollution from the improper management of wastes and excess materials from the construction sites.	The Contractor shall - Develop a waste management plan for various specific waste streams (e.g., reusable waste, flammable waste, construction debris, food waste etc.) prior to commencing of construction and submit to CSC for approval. - Organize disposal of all wastes generated during construction in an environmentally acceptable manner. This will include consideration of the nature and location of the disposal site, so as to cause less environmental impact. - Minimize the production of waste materials by 3R (Reduce, Recycle and Reuse) approach. - Segregate and reuse or recycle all the wastes, wherever practical. - Prohibit burning of solid waste - Collect and transport non-hazardous wastes to all the approved disposal sites. Vehicles transporting solid waste shall be covered with tarps or nets to prevent spilling waste along the route - Train and instruct all personnel in waste management practices and procedures as a component of the environmental induction process. - Provide refuse containers at each worksite. - Request suppliers to minimize packaging where practicable. - Place a high emphasis on good housekeeping practices. - Maintain all construction sites in a cleaner, tidy and safe condition and provide and maintain appropriate facilities as temporary storage of all wastes before transportation and final disposal.
Hazardous Waste	Health hazards and environmental impacts due to improper waste management practices	The Contractor shall - Collect chemical wastes in 200-liter drums (or similar sealed containers), appropriately labeled for safe transport to an approved chemical waste depot. - Store, transport and handle all chemicals avoiding potential environmental pollution. - Make upfront secondary containment to contain chances of any liquid hazardous effluents. - Store all hazardous wastes appropriately in bounded areas away from watercourses. - Make available Material Safety Data Sheets (MSDS) for hazardous materials on-site during construction. - Collect hydrocarbon wastes, including lube oils, for safe transport off-site for reuse, recycling, treatment or disposal at approved locations. - Construct concrete or impermeable flooring to prevent seepage in case of spills

ECP 2: Fuels and Hazardous Goods Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Fuels and hazardous goods.	Materials used in construction have the potential to be a source of contamination. Improper storage and handling of fuels, lubricants, chemicals and hazardous goods/materials on-site, and potential spills from these goods may harm the environment or health of construction workers.	The Contractor shall Prepare spill control procedures and submit the plan for CSC approval. Train the relevant construction personnel in the handling of fuels and spill control procedures. Store dangerous goods in bounded areas on a top of a sealed plastic sheet away from watercourses; and also, under rainwater shed (to prevent contact with rainwater). Refueling shall occur only within bounded areas. Make available MSDS for chemicals and dangerous goods on-site. Transport waste of dangerous goods, which cannot be recycled, to a designated disposal site approved by EPA or sold to EPA registered vendors. Provide absorbent and containment material (e.g., absorbent matting) where hazardous material is used and stored, and personnel trained in the correct use. Provide protective clothing, safety boots, helmets, masks, gloves, goggles, to the construction personnel, appropriate to materials in use. Make sure all containers, drums, and tanks that are used for storage are in good condition and are labeled with the expiry date. Any container, drum, or tank that is dented, cracked, or rusted might eventually leak. Check for leakage regularly to identify potential problems before they occur. Put containers and drums in temporary storage in clearly marked areas, where they will not be run over by vehicles or heavy machinery. The area shall preferably slope or drain to a safe collection area in the event of a spill. Put containers and drums in permanent storage areas on an impermeable floor that slopes to a safe collection area in the event of a spill or leak. Take all precautionary measures when handling and storing fuels and lubricants, avoiding environmental pollution. Avoid the use of material with greater potential for contamination by substituting them with more environmentally friendly materials. Return the gas cylinders to the supplier. However, if they are not empty prior to their return, they must be labeled with the name of the material they contained or contain, information on the supplier, cylinder serial number, pressure, their last hydrostatic test date, and any additional identification marking that may be considered necessary.

ECP 3: Water Resources Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Hazardous Material and Waste	Water pollution from the storage, handling and disposal of hazardous materials and general construction waste, and accidental spillage	The Contractor shall Follow the management guidelines proposed in ECPs 1 and 2. Minimize the generation of sediment, oil and grease, excess nutrients, organic matter, litter, debris and any form of waste (particularly petroleum and chemical wastes). These substances must not enter waterways, storm water systems or underground water tables
Discharge from construction sites	Wastewaters from construction sites and work camps. The construction works will modify groundcover and topography changing the surface water drainage patterns of the area including infiltration and storage of storm water.	The Contractor shall Minimize the amount of exposed soil at any one time (only clear vegetation immediately before construction is about to begin) Install temporary drainage works (channels and bunds) in areas required for sediment and erosion control and around storage areas for construction materials Install temporary sediment basins, where appropriate, to capture sediment-laden run-off from the site Divert runoff from undisturbed areas around the construction site Stockpile materials away from drainage lines Prevent all solid entering waterways by collecting solid waste, oils, chemicals, bitumen spray waste and wastewaters from brick, concrete and asphalt cutting and transport to an approved waste disposal site or recycling depot Collect, transport and discharge the septic tank waste from the construction camps in the nearby municipal wastewater treatment plants Ensure that tires of construction vehicles are cleaned in the washing bay (constructed at the entrance of the construction site) to remove the mud from the wheels. This shall be done in every exit of each construction vehicle to ensure the local roads are kept clean.
Soil Erosion and siltation	Soil erosion and dust from the material stockpiles will increase the sediment and contaminant loading of surface water bodies.	The Contractor shall Ensure that sealed roads used by construction vehicles are swept regularly to remove sediment. Water the material stockpiles, access roads and bare soils on an as-required basis to minimize dust. Increase the watering frequency during periods of high risk (e.g. high winds).

ECP 4: Drainage Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Excavation and earthworks, and construction yards	Lack of proper drainage for rainwater/liquid waste or wastewater owing to the construction activities harms the environment in terms of water and soil contamination, and mosquito growth.	The Contractor shall Prepare a program for preventing/avoid standing waters, which CSC will verify in advance and confirm during implementation Provide alternative drainage for rainwater if the construction works/earth-fillings cut the established drainage line

		Establish local drainage line with appropriate silt collector and silt screen for rainwater or wastewater connecting to the existing established drainage lines already there Rehabilitate road drainage structures immediately if damaged by contractors' road transports. Build new drainage lines as appropriate and required for wastewater from construction yards connecting to the available nearby recipient water bodies. Ensure wastewater quality conforms to the relevant standards provided by NEQS, before it being discharged into the recipient water bodies. Ensure the internal roads/hard surfaces in the construction yards/construction camps that generate has storm water drainage to accommodate high runoff during a downpour and that there is no stagnant water in the area at the end of the downpour. Construct wide drains instead of deep drains to avoid sand deposition in the drains that require frequent cleaning. Provide appropriate silt collector and silt screen at the inlet and manholes and periodically clean the drainage system to avoid drainage congestion Protect natural slopes of drainage channels to ensure adequate storm water drains. Regularly inspect and maintain all drainage channels to assess and alleviate any drainage congestion problem. Reduce infiltration of contaminated drainage through storm water management design
Ponding of water	Health hazards due to mosquito breeding	Do not allow ponding of water especially near the waste storage areas and construction camps Discard all the storage containers that are capable of storing water, after use or store them in inverted position

ECP 5: Soil Quality Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Storage of hazardous and toxic chemicals	Spillage of hazardous and toxic chemicals will contaminate the soils	The Contractor shall Strictly manage the wastes management plans proposed in ECP1 and storage of materials in ECP2 Construct appropriate spill contaminant facilities for all fuel storage areas Establish and maintain a hazardous materials register detailing the location and quantities of hazardous substances, including the storage, use of disposals Train personnel and implement safe work practices for minimizing the risk of spillage Identify the cause of contamination, if it is reported, and contain the area of contamination. The impact may be contained by isolating the source or implementing controls around the affected site Remediate the contaminated land using the most appropriate available method to achieve required commercial/industrial guideline validation results
Construction material stockpiles	Erosion from construction material stockpiles may contaminate the soils	The Contractor shall Protect the toe of all stockpiles, where erosion is likely to occur, with silt fences, straw bales or bunds

ECP 6: Erosion and Sediment Control

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Construction activities and material stockpiles	The impact of soil erosion are (i) Increased runoff and sedimentation causing a greater flood hazard to the downstream, (ii) destruction of aquatic environment in nearby lakes, streams, and reservoirs caused by erosion and/or deposition of sediment damaging the spawning grounds of fish, and (iii) destruction of vegetation by burying or gullyng.	The Contractor shall Locate stockpiles away from drainage lines Protect the toe of all stockpiles, where erosion is likely to occur, with silt fences, straw bales or bunds. Remove debris from drainage paths and sediment control structures. Cover the loose sediments and water them if required Divert natural runoff around construction areas prior to any site disturbance. Install protective measures on-site prior to construction, for example, sediment traps. Observe the performance of drainage structures and erosion controls during rain and modify them as required.

ECP 7: Topsoil Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Land clearing and earthworks	Earthworks will impact the fertile topsoil that is enriched with nutrients required for plant growth or agricultural development.	The Contractor shall Strip the topsoil to a depth of 15 cm and store in stockpiles of height not exceeding 2m. Remove unwanted materials from topsoil like grass, roots of trees and similar others. The stockpiles will be done in slopes of 2:1 to reduce surface runoff and enhance percolation through the mass of stored soil. Locate topsoil stockpiles in areas outside drainage lines and protect from erosion. Construct diversion channels and silt fences around the topsoil stockpiles to prevent erosion and loss of topsoil. Spread the topsoil to maintain the physio-chemical and biological activity of the soil. The stored topsoil will be utilized for covering all disturbed area and along with the proposed plantation sites Prior to the re-spreading of topsoil, the ground surface will be ripped to assist the bounding of the soil layers, water penetration and re-vegetation
Transport	Vehicular movement outside right of way of existing roads or temporary access roads will affect the soil fertility of the agricultural lands	Limit equipment and vehicular movements within the approved construction zone

ECP 8: Topography and Landscaping

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Land clearing and earthworks	Construction activities especially earthworks will change topography and disturb the natural rainwater/floodwater drainage as well as will change the local landscape.	The Contractor shall Ensure the topography of the final surface of all raised lands (construction yards, approach roads, access roads, etc.) are conducive to enhance natural draining of rainwater/flood water; Keep the final or finished surface of all the raised lands free from any kind of depression that insists waterlogging Undertake mitigation measures for erosion control/prevention by grass-turfing and tree plantation, where there is a possibility of rain-cut that will change the shape of topography. Cover immediately the uncovered open surface that has no use of construction activities with grass-cover and tree plantation to prevent soil erosion and bring improved landscaping

ECP 9: Quarry and Borrow Areas Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Development and operation of Quarry and borrow areas if required under the project/sub-projects. The project will use approved quarry sites, if needed, available near the project site. This ECP will be used only when a new quarry or borrow area to be developed.	Quarry areas will have impacts on local topography, landscaping and natural drainage.	The Contractor shall Use only quarry and borrow sites that are licensed by the provincial government and approved by the project management Organization/Implementation Consultants. Identify new borrow and quarry areas in consultation with Project Director, if required. Reuse excavated or disposed of material available in the project to the maximum extent possible. Store topsoil for reinstatement and landscaping. Develop surface water collection and drainage systems, anti-erosion measures (berms, re-vegetation etc.) and retaining walls and gabions where required. Implement mitigation measures in ECP 3: Water Resources Management, ECP 6: Erosion and Sediment Control The use of explosives should be used in as much minimum quantity as possible to reduce noise, vibration and dust. Control dust and air quality deterioration by application of watering and implementing mitigation measures proposed in ECP 10: Air Quality Management Noise and vibration control by ECP 11: Noise and Vibration Management.

ECP 10: Air Quality Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Construction vehicular traffic	Air quality can be adversely affected	The Contractor shall Fit vehicles with appropriate exhaust systems and emission control
Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines

	by vehicle exhaust emissions and combustion of fuels.	devices. Maintain these devices in good working condition. Operate the vehicles in a fuel-efficient manner Cover haul vehicles carrying dusty materials moving outside the construction site Impose speed limits on all vehicle movement at the worksite to reduce dust emissions Control the movement of construction traffic Water construction materials prior to loading and transport Service all vehicles regularly to minimize emissions Limit the idling time of vehicles not more than 2 minutes
Construction machinery	Air quality can be adversely affected by emissions from machinery and the combustion of fuels.	The Contractor shall Fit machinery with appropriate exhaust systems and emission control devices. Maintain these devices in good working condition in accordance with the specifications defined by their manufacturers to maximize combustion efficiency and minimize the contaminant emissions. Proof of maintenance register shall be required by the equipment suppliers and contractors/subcontractors Focus special attention on containing the emissions from generators Machinery causing excess pollution (e.g. visible smoke) will be banned from construction sites Service all equipment regularly to minimize emissions Provide filtering systems, duct collectors or humidification or other techniques (as applicable) to the concrete batching and mixing plant to control the particle emissions in all its stages, including unloading, collection, aggregate handling, cement dumping, circulation of trucks and machinery inside the installations.
Construction activities	Dust generation From construction sites, material stockpiles and access roads are a nuisance in the environment and can be a health hazard.	Water the material stockpiles, access roads and bare soils on an as-required basis to minimize the potential for environmental nuisance due to dust. Increase the watering frequency during periods of high risk (e.g. high winds). Stored materials such as gravel and sand shall be covered and confined to avoid their being wind-drifted Minimize the extent and period of exposure of the bare surfaces Reschedule earthwork activities or vegetation clearing activities, where practical, if necessary, to avoid during periods of high wind and if visible dust is blowing off-site Store the cement in silos and minimize the emissions from silos by equipping them with filters Establish adequate locations for storage, mixing and loading of construction materials, in a way that dust dispersion is prevented because of such operations Crushing of rocky and aggregate materials shall be wet-crushed, or performed with particle emission control systems

ECP 11: Noise and Vibration Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Construction vehicular traffic	Noise quality will be deteriorated due to vehicular traffic	The Contractor shall Maintain all vehicles in order to keep it in good working order in accordance with manufactures maintenance procedures Make sure all drivers will comply with the traffic codes concerning the maximum speed limit, driving hours, etc. Organize the loading and unloading of trucks, and handling operations for the purpose of minimizing construction noise on the worksite
Construction machinery	Noise and vibration may have an impact on people, property,	The Contractor shall Appropriately site all noise-generating activities to avoid noise pollution to local residents Use the quietest available plant and equipment Modify equipment to reduce noise (for example, noise control kits, the lining of truck trays or pipelines) Maintain all equipment in order to keep it in good working order in accordance with manufactures maintenance procedures. Equipment suppliers and contractors shall present proof of the maintenance register of their equipment. Install acoustic enclosures around generators to reduce noise levels. Fit high-efficiency mufflers to appropriate construction equipment Avoid the unnecessary use of alarms, horns and sirens.
Construction activity	Noise and vibration may have an impact on people, property, fauna, livestock and the natural environment.	The Contractor shall Notify adjacent landholders prior to any typical noise events outside of daylight hours (6 pm to 7 am) if the construction works are being carried out near residential areas Educate the operators of construction equipment on potential noise problems and the techniques to minimize noise emissions Employ the best available work practices on-site to minimize occupational noise levels Install temporary noise control barriers where appropriate Notify affected people if major noisy activities are undertaken, e.g. pile driving Plan activities on-site and deliveries to and from site to minimize the impact Monitor and analyze noise and vibration results and adjust construction practices as required. Avoid undertaking the noisiest activities, where possible, when working at night (6pm to 7 am) near the residential areas

ECP 12: Protection of Flora

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Vegetation clearance	Local flora is important to provide shelters for the birds, offer fruits	The Contractor shall Reduce disturbance to surrounding vegetation Use appropriate type and minimum size of machine to avoid disturbance to adjacent vegetation.

	and/or timber/firewood, protect soil Erosion and overall keep the environment very friendly to human-living. As such damage to flora has a wide range of adverse environmental impacts.	Get approval from the supervision consultant for the clearance of vegetation. Make selective and careful pruning of trees where possible to reduce the need for tree removal. Control noxious weeds by disposing of at designated dump site or burn on site. Clear only the vegetation that needs to be cleared in accordance with the plans. These measures are applicable to both the construction areas as well as to any associated activities such as sites for stockpiles, disposal of fill and construction of diversion roads, etc. Before excavation, mark the trees that must remain on the site and cannot be removed. Do not burn off cleared vegetation – where feasible, chip or mulch and reuse it for the rehabilitation of affected areas, temporary access tracks or landscaping. Mulch provides a seed source, can limit embankment erosion, retains soil moisture and nutrients, and encourages re-growth and protection from weeds. Return topsoil and mulched vegetation (in areas of native vegetation) to approximately the same area of the roadside it came from. Minimize the length of time the ground is exposed, or excavation left open by clearing and re-vegetate the area at the earliest practically possible. Ensure excavation works occur progressively and re-vegetation done at the earliest. Provide adequate knowledge to the workers regarding nature protection and the need to avoid felling trees during construction Supply appropriate fuel in the work caps to prevent fuel wood collection
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ECP 13: Protection of Fauna

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Vegetation clearance	Clearance of vegetation may impact shelter, feeding and/or breeding of animals	The Contractor shall Restrict the tree removal to the minimum required. Retain tree hollows on-site, or relocate hollows, where appropriate Leave dead trees where possible as habitat for fauna Identify the trees that require specific attention (e.g. the hollow-bearing trees) and fell them in a manner that reduces the potential for fauna mortality. Felled trees will be inspected after felling for fauna and if identified and readily accessible will be removed and relocated or rendered assistance if injured. After felling, hollow-bearing trees will remain unmoved overnight to allow animals to move of their own volition.
Construction camps	Illegal poaching	Provide adequate knowledge to the workers regarding the protection of flora and fauna, and relevant government regulations and punishments for illegal poaching. The contractor's code of conduct shall include on the protection of flora and fauna, and ban on tree cutting and hunting of animals. Employees found violating would be subject to strict actions including fines and termination of employment.

ECP 14: Protection of Fish

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
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Construction activities in River	The main potential impacts to fisheries are hydrocarbon spills and leaks from riverine transport and disposal of wastes into the river	The Contractor shall Prepare procedures for the protection of fish and submit them for supervision consultant approval. Ensure the construction equipment used in the river are well maintained and does not have oil leakage to contaminate river water. Contain oil immediately on the river in case of accidental spillage from equipment; make an emergency oil spill containment plan (under the Fuels and Hazardous Substances Management Plan) to be supported with enough equipment, materials and human resources. Do not dump wastes, be it hazardous or non- hazardous into the nearby water bodies or in the river.
Construction activities on the land	The main potential impacts to aquatic flora and fauna River are increased suspended solids from earthworks erosion, sanitary discharge from work camps, and hydrocarbon spills	The Contractor shall follow mitigation measures proposed in ECP 3: Water Resources Management and EC4: Drainage Management.

ECP 15: Road Transport and Road Traffic Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Construction vehicular traffic	Increased traffic use of the road by construction vehicles will affect the movement of normal road traffics and the safety of the road-user	The Contractor shall Prepare and submit a traffic management plan to the CSC for their approval before the commencement of construction. Include in the traffic management plan to ensure uninterrupted traffic movement during construction: detailed drawings of traffic arrangements showing all detours, temporary road, temporary bridges temporary diversions, necessary barricades, warning signs / lights, and road signs. Provide signs at strategic locations of the roads complying with the schedules of signs contained in the Pakistan Traffic Regulations. Install and maintain a display board at each important road intersection on the roads to be used during construction, which shall clearly show the following information in local language: Location: village name Duration of the construction period Period of proposed detour / alternative route Suggested detour route map Name and contact address/telephone number of the concerned personnel Name and contact address / telephone number of the Contractor Inconvenience is sincerely regretted.
Chemicals	Accidents and spillage of fuels and chemicals	Restrict truck deliveries, where practicable, to daytime working hours (7 am to 6 pm). Restrict the transport of oversize loads. Operate road traffics/transport vehicles, if possible, to non- peak periods to minimize traffic disruptions. Enforce on-site speed limit Do not use cellphone during driving and observe safe driving practices

ECP 16: Labor Influx Management and Construction Camp Management

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Construction Camp Facilities	Lack of proper infrastructure facilities, such as housing, water supply and sanitation facilities will increase pressure on the local services and generate substandard living standards and health hazards.	Contractor shall provide the following facilities in the campsites Adequate accommodation, transportation, and basic services including water, sanitation, and medical care for the workers working on that project Safe and reliable water supply, which should meet NEQS. Drinking water to be chlorinated at source and ensure presence of residual chlorine 0.1 ~ 0.25 ppm as a minimum after 30 minutes of chlorine contact time (WHO guideline). Hygienic sanitary facilities and sewerage systems. The toilets and domestic wastewater will be collected through common sewerage. Provide separate latrines and bathing places for males and females with total isolation by location. The minimum number of toilet facilities required is one toilet for every ten persons. Treatment facilities for sewerage of toilet and domestic wastes. Storm water drainage facilities. Paved internal roads. Provide child crèches for women working construction sites. The crèche should have facilities for dormitory, kitchen, indoor and outdoor play area. Schools should be attached to these crèches so that children are not deprived of education whose mothers are construction workers. Provide in-house community/common entertainment facilities. Dependence of local entertainment outlets by the construction camps to be discouraged/prohibited to the extent possible.
Workers Accommodation	All workers in the camp should have adequate accommodation facilities	The Contractor shall provide the following: The labour will be provided with accommodation on twin sharing basis made of insulating material and locally available building material, etc.; The migrant workers with families shall be provided with individual accommodation comprising a bedroom, sanitary and
Workers Accommodation	All workers in the camp should have adequate accommodation facilities	The Contractor shall provide the following: The labour will be provided with accommodation on twin sharing basis made of insulating material and locally available building material, etc.; The migrant workers with families shall be provided with individual accommodation comprising a bedroom, sanitary and cooking facilities; The units will be supported by common latrines and bathing facilities duly segregated for male and female labour; An adequate number of toilets shall be provided in the accommodation facilities. A minimum of 1 unit to 15 males and 1 unit for 10 females shall be provided; The contractor shall provide a kitchen facility for the construction workers and the food will be of appropriate nutritional value and will consider religious/cultural backgrounds; All doors and windows shall be lockable and mobile partitions/curtains shall be provided for privacy; Facilities for the storage of personal belongings for workers shall be provided within the campsite only; Dustbins shall be provided for collection of garbage and will be removed on a daily basis; It is also required to provide first aid box in adequate numbers; and

		Ventilation should be appropriate for the climatic conditions and provide workers with a comfortable and healthy environment to rest and spend their spare time. cooking facilities; The units will be supported by common latrines and bathing facilities duly segregated for male and female labour; An adequate number of toilets shall be provided in the accommodation facilities. A minimum of 1 unit to 15 males and 1 unit for 10 females shall be provided; The contractor shall provide a kitchen facility for the construction workers and the food will be of appropriate nutritional value and will consider religious/cultural backgrounds; All doors and windows shall be lockable and mobile partitions/curtains shall be provided for privacy; Facilities for the storage of personal belongings for workers shall be provided within the campsite only; Dustbins shall be provided for collection of garbage and will be removed on a daily basis; It is also required to provide first aid box in adequate numbers; and Ventilation should be appropriate for the climatic conditions and provide workers with a comfortable and healthy environment to rest and spend their spare time.
Disposal of waste	Management of wastes is crucial to minimize impacts on the environment	The Contractor shall Ensure proper collection and disposal of solid wastes within the construction camps Insist waste separation by source; organic wastes in one pot and inorganic wastes in another pot at the household level. Store inorganic wastes in a safe place within the household and clear organic wastes on a daily basis to waste collectors. Establish waste collection, transportation and disposal systems with the manpower and equipment/vehicles needed. Dispose of organic wastes in a designated safe place on daily basis. At the end of the day cover the organic wastes with a thin layer of sand so that flies, mosquitoes, dogs, cats, rats, are not attracted. One may dig a large hole to put organic wastes in it; take care to protect groundwater from contamination by leachate formed due to decomposition of wastes. Cover the bed of the pit with impervious layer of materials (clayey or thin concrete) to protect groundwater from contamination. Locate the garbage pit/waste disposal site min 500 m away from the residence so that peoples are not disturbed with the odour likely to be produced from anaerobic decomposition of wastes at the waste dumping places. Encompass the waste dumping place by fencing and tree plantation to prevent children from entering and playing with. Do not establish site-specific landfill sites. All solid waste will be collected and removed from the work camps and disposed in approval waste disposal sites.
Fuel supplies For cooking purposes	Illegal sourcing of fuel wood by construction workers will impact the natural flora and fauna	The Contractor shall Provide fuel to the construction camps for their domestic purpose, in order to discourage them from using fuel wood or another biomass. Made available alternative fuels like natural gas or kerosene on ration to the workforce to prevent them from using biomass for cooking. Conduct awareness campaigns to educate workers on preserving the protecting the biodiversity and wildlife of the project area, and relevant government regulations and punishments on wildlife protection.

Health and Hygiene Safety	There will be a potential for diseases to be transmitted including malaria, exacerbated by inadequate health and safety practices. There will be an increased risk of work crews spreading sexually transmitted infections and HIV/AIDS. Inadequate safety facilities to the construction camps may create security problems and fire hazards	Provide first aid facility round the clock. Maintain stock of medicines in the facility and appoint full-time designated first aider or nurse. Provide ambulance facility for the labour during an emergency to be transported to nearest hospitals. Initial health screening of the labour coming from outside areas Inspect all camp facilities regularly to ensure Daily sweeping of rooms and houses shall be undertaken; Regular cleaning of sanitary facilities shall be undertaken; The kitchen and canteen premises shall be established under good hygiene conditions; Daily mealtimes shall be fixed for the labour; Smoking and alcohol consumption shall be prohibited in the workplace; Waterlogging shall be prevented at areas near the accommodation facilities and adequate drainage is to be provided; and Checklists pertaining to the daily housekeeping schedule shall be maintained and displayed at houses, toilets and kitchen. Train all construction workers in basic sanitation and health care issues and safety matters, and on the specific hazards of their work Provide HIV awareness programming, including STI (sexually transmitted infections) and HIV information, education and communication for all workers on a regular basis Complement educational interventions with easy access to condoms at campsites as well as voluntary counselling and testing Provide adequate drainage facilities throughout the camps to ensure that disease vectors such as stagnant water bodies and puddles do not form. Regular mosquito repellent sprays during monsoon. Carryout short training sessions on best hygiene practices to be mandatorily participated by all workers. Place display boards at strategic locations within the camps containing messages on best hygienic practices
		The Contractor shall Provide appropriate security personnel (police / home guard or private security guards) and enclosures to prevent unauthorized entry into the camp area. Maintain register to keep a track on a headcount of persons present in the camp at any given time. Encourage the use of flameproof material for the construction of labour housing / site office. Also, ensure that these houses/rooms are of sound construction and capable of withstanding windstorms/cyclones. Provide the appropriate type of firefighting equipment suitable for the construction camps Display emergency contact numbers clearly and prominently at strategic places in camps. Communicate the roles and responsibilities of laborers in case of an emergency in the monthly meetings with contractors.
Site Restoration	Restoration of the construction camps to the original condition requires demolition of construction camps.	The Contractor shall Dismantle and remove from the site all facilities established within the construction camp including the perimeter fence and lockable gates at the completion of the construction work. Dismantle camps in phases and as the work gets decreased and not wait for the entire work to be completed Give prior notice to the laborers before demolishing their camps/units Reuse the demolition debris to a maximum extent.

		Dispose of remaining debris at the designated waste disposal site. Handover the construction camps with all built facilities as it is if agreement between both parties (contractor and landowner) has been made so. Restore the site to its condition prior to commencement of the works or to an agreed condition with the landowner. Not make false promises to the laborers for future employment in O&M of the project.
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ECP 17: Socio-cultural and Religious Issues

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Construction activities near residential areas	Disturbance from construction activities (dust, noise, traffic, conflicts with contractor's workforce etc.)	The Contractor shall Establish a system for receiving complaints from the community and address them (the community can also make complaints to the GRM established under the project) Shall ensure all the construction workers follows the following code of conduct: All workers are strictly forbidden to establish any kind of relationship with local women brings any un-related women to the project site. All workers should avoid sexual harassment and child abuse. All workers must not leave the camps or work sites unless written authorization is issued by the respective supervisor The contractors will advise and prohibit the local population and its authorities or representatives not to enter the project operation areas (campsites, colonies, etc.) in order to minimize the potential risk of incidents related to the operations.
Construction activities near-religious and cultural sites	Disturbance from construction works to the cultural and religious sites, and contractors' lack of knowledge on cultural issues cause social disturbances.	The Contractor shall Communicate to the public through community consultation and newspaper announcements regarding the scope and schedule of construction, as well as certain construction activities causing disruptions or access restriction. Do not block access to cultural and religious sites, wherever possible Restrict all construction activities within the footprints of the construction sites. Stop construction works that produce noise (particularly during prayer time) shall there be any mosque/religious/educational institutions close to the construction sites and users make objections. Take special care and use appropriate equipment when working next to a cultural/religious institution. Stop work immediately and notify the site manager if, during construction, an archaeological or burial site is discovered. It is an offence to recommence work in the vicinity of the site until approval to continue is given by the CSC/PMU. Provide separate prayer facilities to the construction workers. Show appropriate behaviour with all construction workers especially women and elderly people Allow the workers to participate in praying during construction time Resolve cultural issues in consultation with local leaders and supervision consultants

		Establish a mechanism that allows local people to raise grievances arising from the construction process. Inform the local authorities responsible for health, religious and security duly informed before commencement of civil works so as to maintain effective surveillance over public health, social and security matters
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ECP 18: Worker Health and Safety

Project Activity/ Impact Source	Environmental Impacts	Mitigation Measures/ Management Guidelines
Best practices	Construction works may pose health and safety risks to the construction workers and site visitors leading to severe injuries and deaths. The population in the proximity of the construction site and the construction workers will be exposed to a number of (i) biophysical health risk factors, (e.g. noise, dust, chemicals, construction material, solid waste, wastewater, vector transmitted diseases etc.), (ii) risk factors resulting from human behavior (e.g. STD, HIV etc.) and (iii) road accidents from construction traffic.	The Contractor shall Implement suitable safety standards for all workers and site visitors which shall not be less than those laid down on the international standards (e.g. International Labour Office guideline on 'Safety and Health in Construction; World Bank Group's 'Environmental Health and Safety Guidelines') and standards applicable in US/UK/Australia/or any other developed country can also be used. Provide the workers with a safe and healthy work environment, taking into account inherent risks in its particular construction activity and specific classes of hazards in the work areas. Job Risk Assessment in advance needs to be undertaken to determine appropriate mitigation measures following the hierarchy of controls. Provide personal protection equipment (PPE) for workers, such as safety boots, helmets, masks, gloves, protective clothing, goggles, full-face eye shields, and ear protection. Maintain the PPE properly by cleaning dirty ones and replacing them with the damaged ones. Safety procedures include the provision of information, training and protective clothing to workers involved in hazardous operations and proper performance of their job Appoint an environment, health and safety manager to look after the health and safety of the workers. The contractor also needs to track the record of any emergency or incident and timely report to PMIU Inform the local authorities responsible for health, religious and security duly informed before commencement of civil works and establishment of construction camps so as to maintain effective

		surveillance over public health, social and security matters
	Child and pregnant labor	The Contractor shall not hire children of less than 18 years of age and pregnant women or women who delivered a child within 8 preceding weeks, in accordance with the National Labour Laws
Accidents	Lack of first aid facilities and health care facilities in the immediate vicinity will aggravate the health conditions of the victims	Provide health care facilities and first aid facilities are readily available. Appropriately equipped first-aid stations shall be easily accessible throughout the place of work Document and report occupational accidents, diseases, and incidents. Prevent accidents, injury, and disease arising from, associated with, or occurring in the course of work by minimizing, so far as reasonably practicable, the causes of hazards. In a manner consistent with good international industry practice. The contractor also needs to track the record of any emergency or incident and timely report to PMIU. Identify potential hazards to workers, particularly those that may be life-threatening and provide necessary preventive and protective measures. Provide awareness to the construction drivers to strictly follow the driving rules Provide adequate lighting in the construction area and along the roads
Construction Camps	Lack of proper infrastructure facilities, such as housing, water supply and sanitation facilities will increase pressure on the local services and generate substandard living standards and health hazards.	The Contractor shall provide the following facilities in the campsites to improve health and hygienic conditions as mentioned in ECP 15 Adequate ventilation facilities Safe and reliable water supply. Hygienic sanitary facilities and sewerage systems. The toilets and domestic wastewater will be collected through common sewerage. Treatment facilities for sewerage of toilet and domestic wastes Storm water drainage facilities. Recreational and social facilities Safe storage facilities for petroleum and other chemicals in accordance with ECP 2 Solid waste collection and disposal system in accordance with ECP1. Arrangement for trainings Paved internal roads. Security fence at least 2 m height. Sickbay and first aid facilities
Water and sanitation facilities at the construction sites	Lack of Water sanitation facilities at construction sites cause inconvenience to the construction workers and affect their personal hygiene.	The contractor shall provide portable toilets at the construction sites, if about 25 people are working the whole day for a month. The location of portable facilities shall be at least 6 m away from the storm drain system and surface waters. These portable toilets shall be cleaned once a day and all the sewerage shall be pumped from the collection tank once a day and shall be brought to the common septic tank for further treatment. The contractor shall provide potable drinking water facilities to the construction workers at all the construction sites.

Other ECPs	Potential risks on health and hygiene of construction workers and general public	The Contractor shall follow the following ECPs to reduce health risks to the construction workers and nearby community ECP 2: Fuels and Hazardous Goods Management ECP 4: Drainage Management ECP 10: Air Quality Management ECP 11: Noise and Vibration Management ECP 14: Road Transport and Road Traffic Management
Trainings	Lack of awareness and basic knowledge in health care among the construction workforce, make them susceptible to potential diseases.	The Contractor shall Train all construction workers in basic sanitation and health care issues (e.g., how to avoid malaria and transmission of sexually transmitted infections (STI) HIV/AIDS including COVID19 pandemic. Train all construction workers in general health and safety matters, and on the specific hazards of their work. Training shall consist of basic hazard awareness, site-specific hazards, safe work practices, and emergency procedures for fire, evacuation, and natural disaster, as appropriate. Commence malaria, HIV/AIDS and STI education campaign before the start of the construction phase and complement it with a strong condom marketing, increased access to condoms in the area as well as to voluntary counselling and testing. Implement malaria, HIV/AIDS and STI education campaign targeting all workers hired, international and national, female and male, skilled, semi- and unskilled occupations, at the time of recruitment and thereafter pursued throughout the construction phase on ongoing and regular basis. This shall be complemented by easy access to condoms at the workplace as well as to voluntary counselling and testing.