

Establishment of Humbul Tex (Pvt) Ltd.

Environmental Impact Assessment
(EIA) - Construction Phase NOC



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Humbul Tex (Pv.) Ltd.

ESTABLISHMENT OF HUMBUL TEX (PVT) LTD

LIST OF ABBREVIATIONS

CO ₂	Carbon Dioxide
°C	Degree Celsius
dB(A)	Decibel (Unit of Noise)
EMMP	Environmental Mitigation and Monitoring Plan
EMP	Environmental Management Plan
EPA	Environmental Protection Agency
EP&CC	Environmental Protection and Climate Change Department
HSE	Health, Safety & Environment
m ³ /h	Cubic meter per hour
NOC	No Objection Certificate
NO _x	Oxides of Nitrogen
PM	Particulate Matter
PPEs	Personal Protective Equipment
PEPA 1997	Punjab Environmental Protection Act 1997
SOPs	Standard Operating Procedures
SO _x	Oxides of Sulfur

ESTABLISHMENT OF HUMBUL TEX (PVT) LTD

EXECUTIVE SUMMARY

The project titled “**Establishment of Humbul Tex (Pvt) Ltd.**” is proposed at Mouza Raja Bholey, Tehsil Cantt, District Lahore (3-5 KM Rohi Nala, Moza Raja Bely off 22 KM Ferozpur Road), Lahore, Pakistan by **Mr. Mazhar Hussain (CNIC: 36102-1193129-9)**.

The proposed project involves the establishment of a textile manufacturing facility focused on fabric weaving, dyeing, digital printing, finishing, embroidery, and related processes for the production of high-quality fashion and functional fabrics. It is important to note that this facility is dedicated to textile production activities only.

The project site is currently under development, and construction activities will commence only after obtaining the required **Environmental Approval (Construction Phase NOC)** from the Punjab Environmental Protection Agency under Section 12 of PEPA, 1997.

SALIENT FEATURES OF THE PROJECT

SR. NO	SALIENT FEATURES	DESCRIPTION
i	Title of Project	Establishment of Humbul Tex (Pvt) Ltd.
ii	Location of Project	Mouza Raja Bholey, Tehsil Cantt, off 22 KM Ferozpur Road / Rohi Nala, Lahore, Pakistan
iii	Nature of Project	Construction and operation of textile manufacturing facility involving weaving, dyeing, printing, finishing, embroidery, and related processes for fabric production.

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SR. NO	SALIENT FEATURES	DESCRIPTION
iv	Total Area	Approximately 87,001 Sft (Industrial Hall) + additional sheds (e.g., 9,350 Sft Raw Material Shed) and associated infrastructure.
v	Name of Project Proponent	Mr. Mazhar Hussain
vi	Type of Study	Environmental Impact Assessment (EIA) – Construction Phase NOC
vii	Capacity	Textile processing facility (weaving, dyeing, digital printing, finishing – capacity to be finalized in detailed design stage).
viii	Project Cost	Approximately PKR 250 Million

BRIEF OUTLINE OF THE PROJECT

1. Area of Project The total land allocated for the project is spread across plots in Mouza Raja Bholey and adjacent areas, with a major industrial hall of approximately 87,001 Sft and additional covered areas including raw material sheds.

2. Nature of Area The proposed site is located in an industrial area in District Lahore. The site is currently under development and does not fall within any environmentally sensitive areas such as protected forests, wetlands, or archaeological zones.

3. Quantity of Wastewater Construction Phase:

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- Negligible industrial wastewater will be generated.
- Wastewater will mainly consist of domestic sewage from construction labor.
- Disposal will be managed through septic tanks, soak pits, or temporary sanitation arrangements as shown in approved site plans.

Operational Phase:

- Wastewater will primarily originate from fabric processing, dyeing, washing, and finishing activities.
- The company has obtained a conditional NOC from the Irrigation Department for discharge into Hudiera Main Drain after proper treatment.
- An Effluent Treatment Plant (ETP) / treatment system will be installed to ensure compliance with Punjab Environmental Quality Standards (PEQS).
- Quarterly effluent monitoring will be conducted.

4. Quantity of Gaseous Emissions Construction Phase:

- Dust emissions from site preparation, excavation, and material handling.
- Vehicle and machinery exhaust emissions.

Operational Phase:

- Emissions from boilers, generators (if any), fabric processing, and finishing units.
- Dust and fumes from printing and finishing processes.
- Emissions will be controlled through proper ventilation, dust collectors, and stack monitoring.

ENVIRONMENTAL IMPACTS ANTICIPATED DURING CONSTRUCTION PHASE 1.1 Dust generation due to excavation, material handling, and construction activities. 1.2 Noise and vibration from construction machinery. 1.3 Exhaust emissions from vehicles and equipment. 1.4 Generation of construction waste (debris, packaging, etc.). 1.5 Occupational health and safety risks to workers. 1.6 Temporary traffic disturbances and minor social impacts.

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These impacts are short-term, localized, and manageable with standard mitigation measures.

ENVIRONMENTAL IMPACTS ANTICIPATED DURING OPERATIONAL

PHASE 2.1 Wastewater generation from textile processing. 2.2 Generation of solid waste including fabric waste, packaging, and sludge. 2.3 Air emissions from processing units and utilities. 2.4 Noise pollution from machinery. 2.5 Occupational health risks (dust, noise, chemical handling). 2.6 Potential soil/groundwater contamination if waste is not managed properly.

With proper mitigation and treatment systems, these impacts can be minimized to acceptable levels.

MITIGATION MEASURES

1. Construction Phase 1.1 Regular water sprinkling and covering of material stockpiles to control dust. 1.2 Proper maintenance of machinery to minimize noise and emissions. 1.3 Segregation and responsible disposal of construction waste. 1.4 Provision of PPE and safety training to all workers. 1.5 Preference to local labor to reduce social impacts. 1.6 Adherence to approved building plans and structural safety requirements.

2. Operational Phase 2.1 Installation and operation of a full-scale Effluent Treatment Plant (ETP) to meet PEQS. 2.2 Proper segregation, recycling, and disposal of solid waste. 2.3 Installation of dust extraction, ventilation, and emission control systems. 2.4 Use of low-emission technologies and fuels. 2.5 Implementation of noise control measures and provision of hearing protection. 2.6 Strict housekeeping, chemical management, and spill prevention protocols. 2.7 Regular environmental monitoring and compliance reporting to Punjab EPA. 2.8 Training of workers on environmental, health, and safety (EHS) practices.

PROPOSED ENVIRONMENTAL MONITORING PLAN 1.1 Regular monitoring of wastewater quality (quarterly as per Irrigation NOC). 1.2 Ambient air quality and stack emission monitoring. 1.3 Noise level monitoring in the facility. 1.4 Solid waste handling and disposal audits. 1.5 Groundwater quality monitoring (if applicable). 1.6 Occupational

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health and safety inspections. 1.7 Maintenance of all environmental records and timely submission of reports to concerned authorities.

Note: Construction activities will commence only after obtaining the required **Environmental Approval (Construction Phase NOC)** from the Punjab Environmental Protection Agency (EPA). All conditions mentioned in the building plan sanctions by Lahore Metropolitan Corporation (Nishtar Zone) and the Irrigation Department NOC will be strictly followed.



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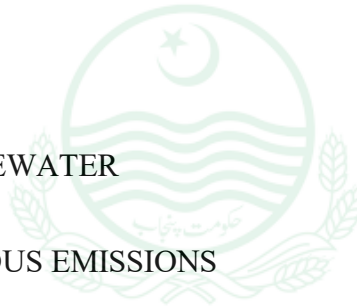
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CHAPTER NO 01

INTRODUCTION



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ESTABLISHMENT OF HUMBUL TEX (PVT) LTD

CHAPTER NO. 01 INTRODUCTION

The project titled “**Establishment of Humbul Tex (Pvt) Ltd.**” is proposed at Mouza Raja Bholey, Tehsil Cantt, District Lahore (3-5 KM Rohi Nala, Moza Raja Bely off 22 KM Ferozepur Road), Lahore, Pakistan by **Mr. Mazhar Hussain (CNIC: 36102-1193129-9)**.

This document presents the Environmental Impact Assessment (EIA) of the proposed project. The primary objective of this study is to ensure full compliance with the applicable environmental laws, rules, and regulations of Punjab, particularly under Section 12 of the Punjab Environmental Protection Act (PEPA), 1997 (as amended), which requires prior environmental approval before initiation of construction or operation of prescribed projects.

The proposed project involves the establishment of a textile manufacturing facility focused on fabric weaving, dyeing, digital printing, finishing, embroidery, and related processes for the production of high-quality fashion and functional fabrics.

The project site is currently under development, and construction activities will commence only after obtaining the required **Environmental Approval (Construction Phase NOC)** from the Punjab Environmental Protection Agency under Section 12 of PEPA, 1997.

The EIA study systematically identifies and evaluates the potential environmental impacts associated with both the construction and operational phases of the project. It further proposes practical and site-specific mitigation measures, along with an Environmental Management Plan (EMP) and Environmental Monitoring Plan, to ensure sustainable development with minimal environmental footprint.

Considering the nature of activities such as fabric processing, dyeing, printing, and finishing, the project has been categorized under EIA requirements as per Punjab EPA guidelines due to its industrial scale and potential environmental aspects including wastewater generation, emissions, noise, and waste.

1.2 PURPOSE AND OBJECTIVES OF THE EIA The main purpose of this EIA

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Report is to fulfill the legal and regulatory requirements prescribed under: 1.1 Punjab Environmental Protection Act, 1997 (as amended). 1.2 Punjab Environmental Protection Agency (Review of IEE & EIA) Regulations, 2000, including subsequent amendments and categorization criteria. 1.3 Punjab Environmental Quality Standards (PEQS) for industrial effluents, emissions, and noise.

This EIA serves as the basis for obtaining the Construction Phase NOC from Punjab EPA and demonstrates that the proposed project is environmentally sound and sustainable.

1.3 LEGAL REQUIREMENT (SECTION 12 OF PEPA 1997) As per Section 12 of PEPA, 1997: “No proponent of a project shall commence construction or operation unless he has filed with the Provincial Agency an Initial Environmental Examination (IEE) or Environmental Impact Assessment (EIA), and has obtained approval from the Provincial Agency.”

The proposed project qualifies for EIA due to: 1.1 Its industrial nature involving textile processing and chemical finishing. 1.2 Use of machinery for weaving, dyeing, printing, and finishing. 1.3 Potential impacts related to wastewater, air emissions, noise, and solid waste generation.

1.4 OBJECTIVES OF THE EIA STUDY The key objectives of the EIA are as follows: 1.1 To establish baseline environmental conditions of the project area including physical, biological, and socio-economic aspects. 1.2 To identify and evaluate environmental impacts associated with construction and operational activities. 1.3 To assess the magnitude, duration, and significance of impacts on air, water, soil, noise, and human health. 1.4 To propose effective mitigation measures to minimize or eliminate adverse impacts. 1.5 To develop a comprehensive Environmental Management Plan (EMP). 1.6 To design an Environmental Monitoring Plan in compliance with PEQS. 1.7 To ensure sustainable industrial development with minimal environmental footprint. 1.8 To facilitate informed decision-making by Punjab EPA.

1.5 PROPONENT DETAILS 1.1 Project Title: Establishment of Humbul Tex (Pvt)

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Ltd. 1.2 Company Name: Humbul Tex (Pvt) Ltd. 1.3 Project Proponent: Mr. Mazhar Hussain 1.4 CNIC: 36102-1193129-9 1.5 Project Area: Approximately 87,001 Sft (Industrial Hall) + additional sheds and infrastructure 1.6 Location: Mouza Raja Bholey, Tehsil Cantt, off 22 KM Ferozepur Road, Lahore, Pakistan 1.7 Project Cost: Approximately PKR 250 Million 1.8 Project Phase: Construction Phase NOC

1.6 NATURE, SIZE AND LOCATION OF PROJECT

1.6.1 Nature of Project The proposed project involves: 1.1 Construction of industrial halls, sheds, processing areas, storage zones, and supporting infrastructure. 1.2 Installation of machinery for: • Fabric weaving • Dyeing and color processing • Digital printing and embroidery • Finishing and washing processes • Inspection and packaging

1.6.2 Size of Project The project is a medium to large-scale textile manufacturing unit with significant covered area for production halls and supporting facilities.

1.6.3 Location Description 1.1 The project is located in Mouza Raja Bholey, Tehsil Cantt, District Lahore. 1.2 The area is industrial in nature with good road connectivity. 1.3 The site is under development with approved building plans. 1.4 No environmentally sensitive areas exist nearby such as forests, wetlands, or protected zones.

1.7 SCOPE OF THE EIA STUDY The scope of the study includes: 1.1 Review of project design and processes. 1.2 Baseline environmental assessment. 1.3 Identification of environmental aspects and impacts. 1.4 Impact evaluation and significance analysis. 1.5 Development of mitigation measures. 1.6 Preparation of Environmental Management Plan (EMP). 1.7 Development of Environmental Monitoring Plan.

1.8 METHODOLOGY AND DATA COLLECTION The methodology adopted includes: 1.1 Site visits and field observations. 1.2 Consultation with project proponent. 1.3 Collection of primary and secondary data. 1.4 Review of regulatory guidelines and PEQS. 1.5 Impact identification using checklists and process flow analysis. 1.6 Evaluation of impacts based on magnitude, duration, and reversibility.

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1.9 BASELINE ENVIRONMENTAL CONDITIONS 1.9.1 Physical

Environment 1.1 Climate: Semi-arid with hot summers and moderate winters. 1.2 Air Quality: Moderate baseline due to nearby industrial and traffic activity. 1.3 Noise Levels: Within acceptable industrial limits. 1.4 Soil: Alluvial soil typical of Punjab region. 1.5 Water Resources: Groundwater and controlled discharge into Hudlara Main Drain after treatment.

1.9.2 Biological Environment 1.1 Sparse to moderate vegetation present on site. 1.2 No endangered species or protected habitats in vicinity.

1.9.3 Socio-Economic Environment 1.1 Availability of local labor. 1.2 Positive impact through employment generation. 1.3 No land acquisition or displacement issues.

1.10 ENVIRONMENTAL IMPACTS

1.10.1 Construction Phase 1.1 Dust emissions from site preparation. 1.2 Noise from construction machinery. 1.3 Solid waste generation (debris). 1.4 Temporary traffic disturbances.

1.10.2 Operational Phase 1.1 Wastewater from dyeing, washing, and finishing activities. 1.2 Solid waste including fabric waste and packaging. 1.3 Air emissions from processing and utilities. 1.4 Noise from machinery operations. 1.5 Occupational health risks.

1.11 MITIGATION MEASURES

1.11.1 Construction Phase 1.1 Dust suppression through water sprinkling. 1.2 Proper waste disposal. 1.3 Use of PPE by workers. 1.4 Adherence to approved building and drainage plans.

1.11.2 Operational Phase 1.1 Installation and operation of Effluent Treatment Plant (ETP). 1.2 Recycling and proper disposal of solid waste. 1.3 Installation of ventilation and emission control systems. 1.4 Noise control measures and PPE. 1.5 Compliance with PEQS standards and quarterly effluent monitoring as per Irrigation Department NOC.

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1.12 ENVIRONMENTAL MANAGEMENT PLAN (EMP) The EMP includes: 1.1 Defined roles and responsibilities. 1.2 Implementation schedule. 1.3 Environmental compliance procedures. 1.4 Reporting mechanisms to Punjab EPA.

1.13 ENVIRONMENTAL MONITORING PLAN 1.1 Wastewater quality monitoring (quarterly). 1.2 Air quality and dust monitoring. 1.3 Noise level monitoring. 1.4 Solid waste management tracking. 1.5 Occupational health and safety monitoring.

1.14 STAKEHOLDER CONSIDERATIONS 1.1 Employment opportunities for local population. 1.2 No significant adverse impact on nearby communities. 1.3 Improved economic activity in the region.

1.15 REPORT STRUCTURE

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2. Project Description
3. Existing Environment
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6. Monitoring Plan
7. Institutional Arrangements
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CHAPTER NO. 02
LEGISLATIVE AND REGULATORY
FRAMEWORK



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CHAPTER NO. 02 LEGISLATIVE AND REGULATORY FRAMEWORK

2.1 INTRODUCTION

Pakistan is a signatory to various Multilateral Environmental Agreements (MEAs) and international environmental conventions related to environmental protection, sustainable development, climate change mitigation, occupational health and safety, and pollution control.

The country has established a comprehensive legal and institutional framework to address environmental issues such as: 1.1 Industrial emissions and pollution 1.2 Water contamination 1.3 Air quality degradation 1.4 Improper solid waste disposal 1.5 Occupational health and safety risks 1.6 Climate change impacts 1.7 Resource conservation

Following the 18th Constitutional Amendment, environmental management became a provincial subject. Accordingly, the Government of Punjab is responsible for environmental regulation through the Punjab Environmental Protection Agency (EPA Punjab).

This chapter presents the legislative, regulatory, and policy framework applicable to the proposed project of **Humbul Tex (Pvt) Ltd.**, involving textile manufacturing processes including weaving, dyeing, digital printing, finishing, embroidery, and related operations.

2.2 PUNJAB ENVIRONMENTAL PROTECTION ACT (PEPA), 1997

2.2.1 Legal Status The Punjab Environmental Protection Act, 1997 (as amended) is the principal environmental law governing environmental protection in Punjab.

The Punjab Environmental Protection Agency (EPA Punjab) is responsible for: 1.1 Implementation of environmental policies 1.2 Monitoring environmental quality 1.3 Reviewing and approving IEE/EIA reports 1.4 Enforcing environmental standards

2.2.2 Key Provisions Relevant to the Project The following provisions of PEPA 1997 are applicable to the proposed project:

I. Establishment of Punjab Environmental Protection Council 1.1 Provides policy direction and strategic guidance for environmental protection.

II. Establishment of Punjab Environmental Protection Agency 2.1 EPA Punjab regulates, monitors, and enforces compliance with environmental laws.

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III. Section 11 – Prohibition of Certain Discharges or Emissions 3.1 No discharge of effluents, emissions, or noise exceeding PEQS limits is allowed. 3.2 Applicable to the project in terms of:

- Wastewater from dyeing, washing, and finishing processes
- Air emissions from processing units and utilities
- Dust and fumes from printing and finishing
- Noise from machinery operations

IV. Section 12 – IEE and EIA Requirement 4.1 No project can commence construction without prior environmental approval. 4.2 The proposed project requires EIA approval due to its industrial nature and potential for wastewater generation.

V. Environmental Protection Orders (EPOs) 5.1 EPA may issue orders in case of non-compliance.

VI. Environmental Tribunals 6.1 Environmental disputes are resolved through designated tribunals.

2.3 PUNJAB ENVIRONMENTAL QUALITY STANDARDS (PEQS) The project will comply with Punjab Environmental Quality Standards (PEQS) for air, water, noise, and waste management.

2.3.1 PEQS for Ambient Air Quality The project may generate emissions from: 1.1 Boilers and standby generators (if installed) 1.2 Fabric processing and finishing units 1.3 Material handling and printing operations

Compliance with ambient air standards is mandatory.

TABLE 2.1: PEQS FOR AMBIENT AIR QUALITY (Same standards as original – SO₂, NO₂, PM₁₀, PM_{2.5}, CO, etc.)

2.3.2 PEQS for Industrial and Municipal Effluents Wastewater generated from the project will mainly originate from: 1.1 Fabric dyeing, washing, and finishing processes 1.2 Domestic wastewater from workers

The company has already obtained a conditional NOC from the Irrigation Department for discharge into Hudiera Main Drain at RD 220-1000 / 221-222, subject to proper treatment through an Effluent Treatment Plant (ETP).

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TABLE 2.2: PEQS FOR EFFLUENTS (Parameter values remain the same – pH, BOD, COD, TSS, Oil & Grease, TDS)

2.3.3 PEQS for Drinking Water Water supplied to workers must meet drinking water standards.

TABLE 2.3: DRINKING WATER STANDARDS (Same as original)

2.3.4 PEQS for Gaseous Emissions

TABLE 2.4: INDUSTRIAL EMISSIONS (Same standards – Particulate Matter, CO, Oxides of Nitrogen)

2.3.5 PEQS for Noise

TABLE 2.5: NOISE STANDARDS (Same – Industrial Area: 75 dB Day / 65 dB Night)

2.4 SOLID WASTE MANAGEMENT RULES Solid waste generated from the project includes: 1.1 Fabric scraps and textile waste 1.2 Packaging waste 1.3 Sludge from ETP (if any) 1.4 Domestic waste 1.5 Construction debris (during construction phase)

TABLE 2.6: WASTE CLASSIFICATION

Waste Type	Nature	Disposal Method
Fabric/Textile Waste	Non-hazardous	Recycling / Reuse
ETP Sludge	Non-hazardous	Approved disposal
Packaging Waste	Non-hazardous	Recycling
Domestic Waste	Biodegradable	Municipal Disposal
Construction Debris	Inert	Approved Dump Site

2.5 OCCUPATIONAL HEALTH AND SAFETY LAWS The project will comply with: 1.1 Punjab Factories Act 1.2 Occupational Health & Safety Guidelines 1.3 Labor Laws

TABLE 2.7: EXPOSURE LIMITS (Same as original – Noise, Dust, Temperature,

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Illumination)

2.6 HAZARDOUS SUBSTANCES MANAGEMENT 1.1 Dyes, chemicals, and auxiliaries used in textile processing will be managed carefully. 1.2 Proper storage, labeling, handling, and spill management procedures will be adopted. 1.3 No highly hazardous or banned substances will be used.

2.7 LOCAL ZONING AND LAND USE 1.1 Project site lies within an industrial area in Mouza Raja Bholey, Lahore. 1.2 Building plans have been provisionally sanctioned by Lahore Metropolitan Corporation (Nishtar Zone). 1.3 No protected or sensitive areas are affected. 1.4 No land acquisition or displacement is involved.

2.8 INTERNATIONAL ENVIRONMENTAL CONVENTIONS Pakistan is signatory to: 1.1 Convention on Biological Diversity (CBD) 1.2 UN Framework Convention on Climate Change (UNFCCC) 1.3 Basel Convention

The project aligns with these commitments through proper wastewater treatment, pollution control, and sustainable manufacturing practices.

2.9 ENVIRONMENTAL COMPLIANCE STRATEGY To ensure compliance: 1.1 Obtain Construction Phase NOC under Section 12 from Punjab EPA. 1.2 Install and operate Effluent Treatment Plant (ETP) as per Irrigation Department NOC. 1.3 Implement Environmental Management Plan (EMP). 1.4 Conduct regular environmental monitoring (including quarterly effluent analysis). 1.5 Maintain waste management records. 1.6 Provide worker safety training. 1.7 Submit reports to Punjab EPA and other concerned departments.

TABLE 2.8: MONITORING FREQUENCY

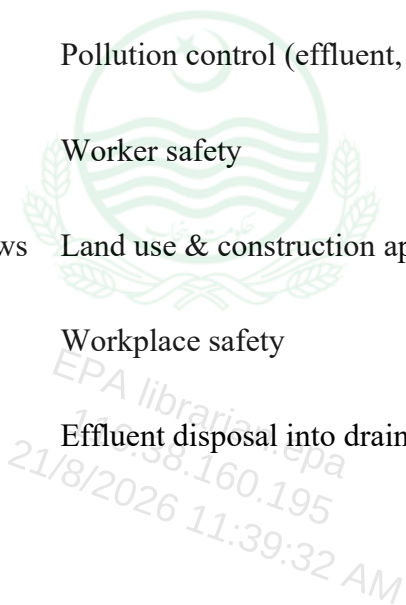
Parameter	Frequency
Wastewater	Quarterly
Drinking Water	Biannually
Noise	Biannually

ESTABLISHMENT OF HUMBUL TEX (PVT) LTD

Parameter	Frequency
Air Quality	As required
Solid Waste	Monthly
Workplace Safety	Monthly

2.10 SUMMARY OF APPLICABLE LAWS

Law	Relevance
PEPA 1997	Environmental approval & enforcement
PEQS	Pollution control (effluent, air, noise)
Factories Act	Worker safety
Local Govt / Building Bye-Laws	Land use & construction approval
OHS Guidelines	Workplace safety
Irrigation Dept. NOC	Effluent disposal into drain



CHAPTER NO.3

SCREENING AND SCOPING



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ESTABLISHMENT OF HUMBUL TEX (PVT) LTD

CHAPTER 3: SCREENING AND SCOPING

This chapter describes the screening process, project categorization, scoping exercise, project objectives, and analysis of alternatives conducted for the proposed **Establishment of Humbul Tex (Pvt) Ltd.**

The screening and scoping were carried out in accordance with the requirements of the Punjab Environmental Protection Act (PEPA), 1997 (as amended), and the Punjab Environmental Protection (Review of Initial Environmental Examination and Environmental Impact Assessment) Regulations, 2022.

3.1 TYPE AND CATEGORY OF PROJECT

According to Section 12 of the Punjab Environmental Protection Act, 1997: “No proponent of a project shall commence construction or operation unless he has filed with the Provincial Agency an Initial Environmental Examination (IEE) or, where the project is likely to cause an adverse environmental effect, an Environmental Impact Assessment (EIA) and has obtained from the Provincial Agency approval in respect thereof.”

The Punjab Environmental Protection (Review of IEE and EIA) Regulations, 2022 classify projects into two schedules:

- **Schedule-I:** Projects requiring an Initial Environmental Examination (IEE)
- **Schedule-II:** Projects requiring a full Environmental Impact Assessment (EIA)

The proposed **Humbul Tex (Pvt) Ltd.** is a textile manufacturing facility involving fabric weaving, dyeing, digital printing, finishing, embroidery, and related processes. The total project area includes an Industrial Hall of approximately 87,001 Sft along with additional sheds (e.g., raw material shed of 9,350 Sft) and supporting infrastructure, located in Mouza Raja Bholey, Tehsil Cantt, Lahore.

Due to the industrial scale, involvement of wet processing (dyeing and finishing), potential wastewater generation, air emissions, noise from machinery, solid waste

ESTABLISHMENT OF HUMBUL TEX (PVT) LTD

(fabric scraps, packaging, ETP sludge), and occupational health & safety aspects, the project falls under **Schedule-II** of the Regulations 2022. It is categorized under Manufacturing and Processing Industries (Textile Sector).

Therefore, a detailed Environmental Impact Assessment (EIA) is mandatory for this project. This EIA Report has been prepared to fulfill the regulatory requirements and to obtain the **Construction Phase Environmental Approval / NOC** from the Punjab Environmental Protection Agency (Punjab EPA).

3.2 SCOPING

Scoping is a critical step in the EIA process that identifies the key environmental issues, concerns, and potential impacts that need detailed investigation. The scoping exercise for this project was conducted through:

- Detailed review of project design, layout, manufacturing process flow, raw materials, machinery requirements, and proposed construction and operational activities.
- Site visits and assessment of surrounding land use in Mouza Raja Bholey.
- Review of existing approvals including building plan sanctions by Lahore Metropolitan Corporation (Nishtar Zone) and conditional NOC from the Irrigation Department for effluent disposal.
- Identification of potential environmental receptors (ambient air, noise levels, soil, groundwater, surface water drain, workers, and nearby communities).
- Consultation with the project proponent and technical experts to prioritize issues.

Effective scoping helped in: i. Defining the spatial boundaries (project site and immediate surroundings within a 1–2 km radius) and temporal boundaries (construction phase and long-term operational phase). ii. Identifying stakeholder concerns related to dust and noise during construction, wastewater from dyeing/finishing, air emissions, waste management, and worker safety. iii. Focusing on significant issues such as water quality and effluent management, air quality, noise levels, solid waste generation, soil contamination risks, and traffic. iv. Prioritizing impacts that require detailed assessment, baseline monitoring, and mitigation planning

ESTABLISHMENT OF HUMBUL TEX (PVT) LTD

in the subsequent chapters of this EIA report.

The facility is dedicated to textile production processes with proper treatment systems, making the overall environmental footprint manageable.

3.3 OBJECTIVES OF THE PROJECT

The primary objective of the **Establishment of Humbul Tex (Pvt) Ltd.** is to set up a modern textile manufacturing facility for high-quality fabrics, including weaving, dyeing, digital printing, finishing, and embroidery to meet demand in fashion and functional textiles.

The project will:

- Utilize raw materials such as yarns, fabrics, dyes, and chemicals for various processing stages.
- Produce finished textile products through efficient weaving, dyeing, printing, finishing, and embroidery processes.
- Generate direct and indirect employment opportunities for skilled and semi-skilled workers in the Lahore industrial area.
- Contribute to the industrial and economic development of Punjab by strengthening the local textile sector, supporting export potential, and promoting value addition while ensuring full compliance with environmental standards.

The project has been designed with appropriate pollution control systems (e.g., Effluent Treatment Plant, dust extraction, ventilation, waste recycling arrangements, and noise control measures) to minimize environmental impacts during both construction and operational phases.

3.4 ALTERNATIVES

3.4.1 No-Project Alternative The “No-Project” option would mean forgoing the establishment of this textile manufacturing facility. This would result in the loss of economic benefits, including employment generation, contribution to the local textile industry, and value addition in the supply chain. Given the industrial nature of the site,

ESTABLISHMENT OF HUMBUL TEX (PVT) LTD

the proponent's experience, and strong commitment to environmental safeguards (including existing Irrigation Department NOC and building approvals), the "No-Project" alternative is not considered favorable.

3.4.2 Site Alternatives The selected site at Mouza Raja Bholey, Tehsil Cantt, off 22 KM Ferozepur Road, Lahore is highly suitable for the project. It lies in an established industrial area with good road access. The surrounding environment consists mainly of industrial and agricultural land, with no nearby dense residential settlements or environmentally sensitive areas.

Other potential sites were evaluated but found less suitable due to accessibility, infrastructure, or proximity to existing operations. The selected site minimizes environmental and social disturbances while providing necessary infrastructure support.

3.4.3 Technological / Process Alternatives The project will adopt modern, efficient textile machinery and best available techniques (BAT) including digital printing, energy-efficient dyeing, and advanced finishing equipment. These measures ensure compliance with Punjab Environmental Quality Standards (PEQS) and minimize resource consumption, waste generation, and emissions compared to outdated technologies.

3.4.4 Environmental Alternatives The project design incorporates various environmental controls (Effluent Treatment Plant, dust suppression during construction, emission control systems, proper waste segregation, and occupational health & safety measures) to keep all emissions, effluents, noise, and waste within the limits prescribed under PEQS and the Punjab Environmental Protection Act, 1997. With the implementation of the proposed mitigation measures and Environmental Management Plan (EMP), the construction and operational phases are not expected to cause significant adverse environmental effects.

3.5 CONCLUSION OF SCREENING AND SCOPING

Screening confirms that the project falls under Schedule-II, requiring a full EIA.

ESTABLISHMENT OF HUMBUL TEX (PVT) LTD

Scoping has successfully identified the key environmental aspects (wastewater management, air quality, noise, solid waste, and occupational safety) that have been addressed in detail in subsequent chapters of this report. The selected site, modern technology, and commitment to environmental compliance represent the most environmentally and economically viable option.

This EIA will ensure that the project proceeds in an environmentally sustainable manner while delivering socio-economic benefits to the region.



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**CHAPTER 4: DESCRIPTION OF THE
PROJECT**



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ESTABLISHMENT OF HUMBUL TEX (PVT) LTD

CHAPTER 4: DESCRIPTION OF THE PROJECT

This chapter provides a detailed description of the proposed **Establishment of Humbul Tex (Pvt) Ltd.** The chapter focuses primarily on the construction phase while also outlining key operational aspects for context. The project is promoted by **Mr. Mazhar Hussain** on behalf of Humbul Tex (Pvt) Ltd.

The facility is a new textile manufacturing unit located in Mouza Raja Bholey, Tehsil Cantt, District Lahore (3-5 KM Rohi Nala, Moza Raja Bely off 22 KM Ferozepur Road), Lahore, Pakistan. It will specialize in the production of high-quality fabrics through processes including weaving, dyeing, digital printing, finishing, embroidery, and related textile operations.

The manufacturing processes will include receiving raw materials (yarns, grey fabric, dyes, and chemicals), weaving, dyeing, printing, finishing, embroidery, quality inspection, and packaging/dispatch. All activities will comply with relevant quality standards and environmental regulations under the Punjab Environmental Protection Act (PEPA), 1997 (as amended). An Environmental Impact Assessment (EIA) is being prepared to obtain the **Construction Phase Environmental Approval / NOC** from the Punjab Environmental Protection Agency (Punjab EPA).

The construction phase is estimated to last 12–18 months (depending on weather, approvals, and procurement of machinery). It will involve site preparation, civil works for industrial foundations, erection of industrial halls and sheds, installation of utilities, processing machinery, Effluent Treatment Plant (ETP), ventilation systems, waste management facilities, and landscaping.

Potential environmental impacts during construction are expected to be temporary, short-term, localized, and reversible. These mainly arise from earthworks, heavy machinery operation, material transportation, labor activities, and minor waste generation. Impacts have been assessed considering the site-specific conditions in the industrial area of Lahore, with surrounding industrial and agricultural land. Mitigation will follow best practices from similar textile projects in Punjab and Punjab Environmental Quality Standards (PEQS).

ESTABLISHMENT OF HUMBUL TEX (PVT) LTD

Key objectives during construction include minimizing dust and air emissions, controlling noise and vibration, preventing soil erosion or contamination, managing water use efficiently, ensuring worker safety, and preparing the facility for smooth transition to compliant operation.

4.1 OBJECTIVES OF THE PROJECT

The primary objective of the **Establishment of Humbul Tex (Pvt) Ltd.** is to set up a modern, specialized textile manufacturing facility for the production of high-quality fashion and functional fabrics to meet growing market demand.

Key objectives include:

- Precision production of fabrics through efficient processes such as weaving, dyeing, digital printing, finishing, embroidery, and quality control to meet international and local market standards.
- Achieving high operational efficiency, superior product quality, effective effluent treatment, emission control, proper waste management, and a minimal environmental footprint while fully adhering to Punjab Environmental Quality Standards (PEQS).
- Contributing to Pakistan's textile industry by strengthening local production, supporting export potential, value addition, and employment generation.
- Generating direct and indirect employment opportunities for skilled and semi-skilled workers in the Lahore industrial area.
- Promoting sustainable industrial development in compliance with PEPA 1997 (Section 12) through the implementation of best available techniques (BAT), including Effluent Treatment Plant, dust extraction, ventilation, waste recycling, and noise control measures.

The project design prioritizes environmental safeguards from the construction phase onward to ensure long-term sustainability.

4.2 PARTICULARS OF THE PROJECT

Particulars of the project are summarized in the table below:

ESTABLISHMENT OF HUMBUL TEX (PVT) LTD

TABLE 4.1: PARTICULARS OF THE PROJECT

Sr. No.	Particulars	Details
1	Name of Project	Establishment of Humbul Tex (Pvt) Ltd.
2	Name of Company / Proponent	Humbul Tex (Pvt) Ltd. Proponent: Mr. Mazhar Hussain (CNIC: 36102-1193129-9)
3	Latitude & Longitude	To be determined through detailed GPS survey
4	Location	Mouza Raja Bholey, Tehsil Cantt, off 22 KM Ferozepur Road, Lahore, Pakistan
5	District	Lahore
6	Nature of Area	Industrial land under development; flat terrain in established industrial zone; no sensitive ecosystems nearby
7	Road Access	Direct access via Ferozepur Road for inbound raw materials and outbound finished products

4.3 LOCATION AND LAYOUT OF THE PROJECT

The project site is situated in Mouza Raja Bholey, Tehsil Cantt, Lahore. This location offers good connectivity, availability of skilled labor, and logistical advantages for the

ESTABLISHMENT OF HUMBUL TEX (PVT) LTD

textile sector.

Proposed Layout (Conceptual – Detailed engineering drawings already submitted with building plans):

- Raw material storage and warehouse sheds
- Main industrial hall for weaving, dyeing, printing, and finishing
- Embroidery and value-addition sections
- Effluent Treatment Plant (ETP) and wastewater management area
- Administrative block and worker facilities
- Utilities area (electricity, water supply, backup systems)
- Waste management and recycling zone
- Green belt / landscaping buffer along boundaries

The site is currently under development with approved building plans from Lahore Metropolitan Corporation (Nishtar Zone). The layout optimizes material flow, worker safety, and pollution control.

4.4 SIZE AND MAGNITUDE OF THE PROJECT

This is a medium to large-scale textile manufacturing unit with a major Industrial Hall of approximately 87,001 Sft and additional sheds (including a 9,350 Sft raw material shed). The project includes installation of modern textile machinery, processing units, and supporting infrastructure. The focused nature of operations results in a manageable environmental footprint.

4.5 AREA AND COST OF THE PROJECT

- **Land / Built-up Area:** Approximately 87,001 Sft (Industrial Hall) + additional covered areas and infrastructure.
- **Estimated Capital Cost:** Approximately PKR 250 Million (includes civil works, machinery, ETP, utilities, and environmental control systems).

4.6 NATURE OF AREA AND LAND USE ON SITE

ESTABLISHMENT OF HUMBUL TEX (PVT) LTD

The site consists of land in an industrial zone. Post-project land use will be dedicated textile manufacturing. Surrounding areas feature industrial units, roads, and agricultural land. Soil is typical alluvial with low erosion risk when proper controls are applied.

4.7 VEGETATIVE FEATURES ON SITE

The site has minimal vegetation typical of developed industrial land. No significant protected flora or endangered species are present.

4.8 RELOCATION AND REHABILITATION PLANS

There are no structures, settlements, or residents requiring relocation. No significant trees requiring felling. The land is privately owned and no rehabilitation is needed.

4.9 STAFF / MANPOWER

- **Construction Phase:** Approximately 50–150 workers (skilled: masons, fabricators, electricians, machine installers; unskilled: general laborers). Priority will be given to local hiring.
- **Operational Phase:** Estimated 100–250 permanent staff (machine operators, technicians, quality inspectors, maintenance, supervisors, and administrative personnel). All staff will receive training on safety, environmental procedures, and emergency response.

4.10 ELECTRICITY AND UTILITIES

- **Electricity:** Primary supply from WAPDA grid with backup generators.
- **Water:** Tube well or approved source; moderate demand during construction.
- **Wastewater:** Managed through septic systems during construction and full Effluent Treatment Plant (ETP) during operation as per Irrigation Department NOC.
- **Other:** Adequate drainage, fire-fighting system, and solid waste facilities.

4.11 AIR EMISSIONS, WASTEWATER, AND SOLID WASTE (Construction Phase Focus)

ESTABLISHMENT OF HUMBUL TEX (PVT) LTD

- **Construction Phase:** Temporary dust from earthworks and material handling; minor emissions from machinery. Wastewater minimal (domestic). Solid waste includes construction debris (segregated and disposed responsibly).
- **Operational Phase (for context):** Emissions from processing units managed through ventilation; wastewater treated via ETP; solid waste (fabric scraps, packaging) recycled where possible.

4.12 NOISE

Noise levels will be temporarily elevated during construction due to machinery and civil works. Levels will be mitigated through scheduling, enclosures, and PPE to comply with PEQS. Operational noise from textile machinery will be controlled via acoustic measures.

4.13 SCHEDULE OF IMPLEMENTATION

The construction phase is planned for 12–18 months. A detailed Gantt chart will be developed after approvals.

4.14 MATERIALS FOR CONSTRUCTION AND EQUIPMENT

- Civil works using RCC structures, industrial flooring, and durable roofing.
- Modern textile machinery for weaving, dyeing, digital printing, and finishing.
- Environmental control equipment including ETP, dust extraction, and ventilation systems.

4.15 WORKING OF THE UNIT (Operational Overview for Context)

The unit will operate as a streamlined textile processing facility. Raw materials will undergo weaving, dyeing, printing, finishing, embroidery, inspection, and packaging. Emphasis will be placed on efficient material flow, quality control, wastewater treatment, waste recycling, emission control, and strict adherence to environmental regulations.

**CHAPTER 5: DESCRIPTION OF THE
ENVIRONMENT**



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ESTABLISHMENT OF HUMBUL TEX (PVT) LTD

CHAPTER 5: DESCRIPTION OF THE ENVIRONMENT

This chapter describes the baseline environmental conditions of the project area, covering the physical, biological (ecological), and socio-economic environment. The information is based on desk studies of secondary data (including reports from Punjab Environmental Protection Agency (EPA), Pakistan Meteorological Department (PMD), Pakistan Bureau of Statistics (PBS), Punjab Irrigation Department, hydrogeological studies, and relevant academic/government publications), multiple field visits to the project site and its vicinity, and consultations with relevant stakeholders and government departments (e.g., Punjab Forest & Wildlife Department).

For the **Establishment of Humbul Tex (Pvt) Ltd.** located in Mouza Raja Bholey, Tehsil Cantt, District Lahore (3-5 KM Rohi Nala, Moza Raja Bely off 22 KM Ferozepur Road), the baseline focuses on site-specific conditions in the peri-urban industrial area and district-level data. This helps evaluate potential impacts from the construction phase (e.g., dust, noise, vibration from civil works, temporary waste generation) and future operational phase (e.g., wastewater from dyeing and finishing, air emissions from processing units, noise from machinery, fabric waste, and ETP sludge). The facility is dedicated to textile manufacturing processes, making the environmental aspects focused and manageable with proper treatment systems.

5.1 DATA COLLECTION Primary data was collected through direct site surveys of the industrial land and surrounding areas, including observations of land use, vegetation, ambient air and noise levels, and local community interactions. Secondary data on physical parameters (topography, geology, seismology, hydrology, climatology) was obtained from official sources such as Punjab EPA, PMD, Punjab Irrigation Department, and published hydrogeological reports. Biological parameters (flora and fauna) were assessed via field observations and consultations with the Punjab Wildlife & Parks Department and Forest Department. Socio-economic data were compiled from the latest Population & Housing Census by the Pakistan Bureau

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of Statistics (PBS), district profiles, and interactions with nearby settlements and industrial stakeholders. This integrated approach ensures a reliable baseline for impact assessment and mitigation planning for the textile manufacturing unit.

5.2 PHYSICAL ENVIRONMENT The project area lies in Lahore District, which forms part of the fertile alluvial plains of the Indus Basin (primarily influenced by the Ravi River system). The district supports intensive agriculture alongside rapid industrial and urban development. The project site in Mouza Raja Bholey is located in an established industrial zone with no major water bodies immediately adjacent. However, proximity to the Hudiara Main Drain (for which conditional NOC has been obtained) and agricultural fields requires careful management of construction-related runoff and treated operational discharges.

5.3 PHYSICAL RESOURCES Physical resources in the project vicinity include fertile alluvial soils supporting nearby agriculture (wheat, rice, vegetables, and fodder crops). Irrigation relies on canal systems linked to the Ravi River. Alluvial deposits of clay, silt, and sand are common and suitable for construction. The industrial area along Ferozepur Road features road networks and existing manufacturing units. The site under development minimizes immediate resource conflicts, but best management practices will be applied during construction to avoid soil compaction, erosion, or contamination that could affect adjacent lands.

5.4 GEOGRAPHY AND GEOLOGY Lahore District is located in central Punjab on the flat alluvial plains of the Indo-Gangetic Plain. Geologically, the area consists of thick Pleistocene to recent alluvial deposits formed by river sedimentation. Soil textures are predominantly silt loam, sandy loam, and clay loam. The region falls in Seismic Zone 2B (moderate seismic risk) according to the Building Code of Pakistan. The stable alluvial geology is well-suited for industrial foundations and structures. No rock outcrops or unstable geological features are present at the site.

5.5 TOPOGRAPHY Lahore District has predominantly flat terrain with a gentle slope. Elevation ranges approximately 200–220 m above sea level, with minimal variation across the project site. The site is relatively flat with no significant slopes or

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natural flood-prone features. Proper stormwater management and erosion control will be implemented during construction.

5.6 HYDROLOGY Groundwater is the main water source in the area, extracted through tube wells. The aquifer comprises thick alluvial deposits, recharged primarily by rainfall, canal seepage, and influence from the Ravi River system. Annual rainfall contributes to recharge. Surface water resources include the Ravi River and irrigation canals/nullahs. For the project, construction-phase water demand will be modest, and operational wastewater will be treated through the Effluent Treatment Plant (ETP) before discharge into Hudiara Main Drain as per the Irrigation Department NOC. Project activities will comply with Punjab Environmental Quality Standards (PEQS) to prevent contamination.

TABLE 5.1: KEY HYDROLOGICAL PARAMETERS IN LAHORE DISTRICT (PERI-URBAN CONTEXT)

Parameter	Details	Source/Reference
Groundwater Depth	Shallow: 10–40 m; Deeper: >100 m	Punjab Irrigation Dept., PCRWR
Aquifer Thickness	200–300 m+ (thick alluvial deposits)	Hydrogeological reports
Recharge Sources	Rainfall (~600–700 mm/year), canal seepage	PMD, Irrigation Department
Extraction Rate	High (agricultural, domestic, industrial)	PCRWR / WASA reports
Pollution Indicators	TDS, nitrates in shallow zones	Punjab EPA, local studies

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5.7 CLIMATE Lahore has a subtropical semi-arid/hot steppe climate characterized by extreme seasonal variations: very hot summers and mild winters. The hot season extends from April to July, with June being the hottest month (average high around 40–42°C). Winters are cooler, with January as the coldest month (average low around 7–9°C). Annual precipitation is approximately 600–700 mm, mostly during the monsoon season (July–August).

TABLE 5.2: AVERAGE MONTHLY TEMPERATURE AND PRECIPITATION IN LAHORE REGION

Month	Avg. High (°C)	Avg. Low (°C)	Avg. Precipitation (mm)
Jan	19–21	7–9	20–30
Feb	22–24	10–12	30–50
Mar	28–30	14–16	30–50
Apr	35–37	20–22	20–30
May	39–41	25–27	15–25
Jun	40–42	28–30	50–80
Jul	36–38	27–29	150–200
Aug	35–37	26–28	140–180
Sep	34–36	24–26	60–90
Oct	32–34	19–21	10–20

ESTABLISHMENT OF HUMBUL TEX (PVT) LTD

Month	Avg. High (°C)	Avg. Low (°C)	Avg. Precipitation (mm)
Nov	26–28	13–15	5–15
Dec	21–23	8–10	10–20
Annual	~31–32	~19–20	~600–700

5.8 BIOLOGICAL ENVIRONMENT

5.8.1 Flora The peri-urban industrial areas of Lahore feature tropical thorn scrub, agricultural crops, and scattered trees. Common species include Kikar (*Acacia nilotica*), Sheesham (*Dalbergia sissoo*), Eucalyptus, and Neem. The project site, being under industrial development, has minimal vegetation — mainly sparse grass and scrub — with no significant trees or endangered/protected flora. No protected forests or biodiversity hotspots are located in the immediate vicinity.

5.8.2 Fauna Fauna in the area is typical of an urban-agricultural-industrial mosaic and includes common species such as rodents, stray dogs, birds (sparrows, crows, mynahs, pigeons), and lizards. No endangered, threatened, or protected species have been recorded on or near the site. The project is not expected to affect any sensitive ecological receptors.

5.9 SOCIO-ECONOMIC RESOURCES The project area benefits from abundant skilled and semi-skilled labor available in Lahore's industrial workforce. The local economy is driven by textiles, engineering, garments, rice processing, and other manufacturing. The Humbul Tex facility will strengthen the local textile sector and contribute to employment generation. Community infrastructure includes good road connectivity via Ferozepur Road, access to healthcare, education, and utilities. Positive socio-economic impacts are anticipated through job creation with minimal adverse effects when proper mitigation is applied.

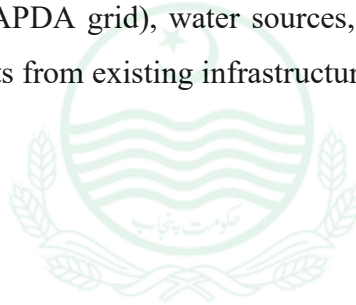
ESTABLISHMENT OF HUMBUL TEX (PVT) LTD

5.10 DEMOGRAPHY According to the latest Population & Housing Census, Lahore District has a large and dense population, providing a readily available labor pool for industrial projects.

5.11 LITERACY RATE Lahore District has a relatively high literacy rate (higher in urban and peri-urban areas), supporting recruitment of skilled workers for textile machinery operation, quality control, and technical roles.

5.12 INDUSTRIES Lahore is a major industrial hub in Punjab, hosting numerous textile, garment, engineering, and manufacturing units. The Ferozepur Road corridor is active with industrial activities. The proposed Humbul Tex unit aligns with and strengthens the local textile industry.

5.13 AMENITIES The district offers good access to hospitals, educational institutions, electricity (WAPDA grid), water sources, and transportation networks. The project location benefits from existing infrastructure.



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**CHAPTER 6: STAKEHOLDER
CONSULTATION**



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CHAPTER 6: STAKEHOLDER CONSULTATION

Stakeholder consultation is a systematic process of engaging relevant individuals, communities, institutions, and government departments who may have an interest in or be affected by the environmental, social, economic, or operational aspects of the proposed project. This engagement ensures that concerns are identified early, incorporated into project planning and design, and adequately addressed to achieve sustainable development outcomes.

For the **Establishment of Humbul Tex (Pvt) Ltd.** located in Mouza Raja Bholey, Tehsil Cantt, District Lahore (3-5 KM Rohi Nala, Moza Raja Bely off 22 KM Ferozepur Road), Lahore, Pakistan (proponent: **Mr. Mazhar Hussain, CNIC: 36102-1193129-9**), consultations were carried out to meet the mandatory requirements of the Punjab Environmental Protection Act (PEPA), 1997 (as amended), and the Punjab Environmental Protection (Review of Initial Environmental Examination and Environmental Impact Assessment) Regulations, 2022. The process followed Punjab Environmental Protection Agency (EPA) guidelines, which emphasize public participation and inclusive stakeholder engagement for EIA projects. Consultations also drew upon best practices from similar textile manufacturing units in Punjab's industrial areas.

Emphasis was placed on key project aspects such as temporary construction impacts (dust, noise, vibration from civil works and machinery installation), operational activities (weaving, dyeing, digital printing, finishing, embroidery), solid waste (fabric scraps and packaging), air emissions from processing units, noise from machinery, and wastewater from dyeing/finishing processes (to be treated through Effluent Treatment Plant before discharge into Hudaira Main Drain as per Irrigation Department NOC). The dedicated textile manufacturing focus makes the scope of potential impacts manageable with proper mitigation.

6.1 OBJECTIVES OF STAKEHOLDER CONSULTATION

ESTABLISHMENT OF HUMBUL TEX (PVT) LTD

Stakeholder consultation sessions were organized to obtain informed feedback from local communities, government officials, industry representatives, and potential workers. The specific objectives, tailored to this textile manufacturing facility, are as follows:

- i. To transparently share project information, including the site layout, construction timeline (estimated 12–18 months), manufacturing processes (yarn/fabric receiving → weaving → dyeing → digital printing → finishing → embroidery → inspection → packaging), and proposed environmental safeguards (Effluent Treatment Plant, dust extraction, ventilation systems, waste recycling, and noise control measures).
- ii. To discuss potential impacts on the physical environment (temporary dust and noise during construction, controlled emissions and treated wastewater during operation), biological environment (minimal disturbance to existing vegetation), and socio-economic environment (positive impacts such as job creation and skill development; minor issues such as temporary traffic increase on Ferozepur Road).
- iii. To identify and record stakeholders' specific concerns regarding air quality, noise levels, wastewater management, solid waste (fabric recycling), water use, occupational health and safety, and traffic during construction and operation.
- iv. To gather practical suggestions for improving project design, such as effective dust suppression during construction, proper ETP operation, priority local hiring, worker training on safety, and establishment of a grievance redress mechanism (GRM).
- v. To understand community perceptions about social benefits (employment opportunities in the Lahore industrial area) and any potential adverse effects on nearby agricultural fields or communities.
- vi. To raise awareness about the project's benefits, including contribution to Pakistan's textile industry, value addition, export potential, economic growth, and full compliance with Punjab Environmental Quality Standards (PEQS).
- vii. To ensure balanced consideration of both positive impacts (employment generation, local economic uplift) and manageable negative impacts, while promoting

ESTABLISHMENT OF HUMBUL TEX (PVT) LTD

sustainable industrial development.

viii. To establish ongoing communication channels, including contact details of the proponent (Mr. Mazhar Hussain), a formal grievance redress mechanism, and periodic updates during construction and operation.

Stakeholder consultation forms an integral part of the EIA process under PEPA and the 2022 Regulations. It promotes transparency, reduces potential conflicts, and helps refine mitigation measures. Consultations covered the project's Area of Influence (AOI), generally within a 1–2 km radius around the site in Mouza Raja Bholey.

6.2 METHODOLOGY OF STAKEHOLDER CONSULTATION

The consultation methodology followed Punjab EPA guidelines for EIA projects and incorporated international best practices for inclusive engagement. A multi-phase approach was adopted:

- Scoping Phase (initial information sharing)
- Detailed Consultation Phase (impact-specific discussions)
- Follow-up Phase (verification of feedback)

Methods included:

- One-on-one interviews and key informant meetings with government officials and experts.
- Focus Group Discussions (FGDs) with homogeneous groups (e.g., local residents, farmers, potential workers, and women).
- Community meetings (20–50 participants) using visual aids such as project layout maps, process flow diagrams, and illustrations of textile machinery and ETP.
- Structured questionnaires covering environmental (dust, noise, wastewater), social (employment, health), and operational concerns.
- Use of Urdu and Punjabi languages for better accessibility; separate sessions for women to ensure gender inclusivity.

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- Full documentation through attendance registers, signed consent forms, photographs (with permission), and detailed minutes of meetings.

Primary data came from direct field interactions, while secondary information was drawn from EPA reports and similar EIA studies of textile units in Punjab. The entire process ensured transparency, voluntary participation, and cultural sensitivity.

6.3 IDENTIFICATION OF STAKEHOLDERS

Stakeholders were identified and categorized as per Punjab EPA guidelines:

Primary Stakeholders (directly affected or benefiting):

- Local residents and communities within 1–2 km radius (households near Ferozepur Road, farmers in adjacent fields).
- Potential workers and laborers from the peri-urban area of Lahore.
- Nearby small businesses (e.g., transporters, fabric suppliers, local workshops).

Secondary Stakeholders (indirectly involved or having influence):

- Government departments (Punjab EPA Lahore office, Industries Department, Labour & Human Resource Department, Irrigation Department, Lahore Metropolitan Corporation).
- Local NGOs and community-based organizations concerned with environmental protection.
- Industry associations (Lahore Chamber of Commerce & Industry, textile manufacturers' associations).
- Academic or technical experts in textile engineering and environmental management.

Identification took into account the industrial character of the area and the existing mix of manufacturing units and agricultural land.

6.4 CONSULTATION PROCESS

An independent environmental consultancy team facilitated all consultation activities. Multiple community sessions (3–5 rounds) and institutional meetings were held.

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Visual tools helped explain the textile manufacturing process and environmental controls (especially ETP). Approximately 150–250 individuals participated across all sessions, including dedicated women’s focus groups. All proceedings were properly documented.

TABLE 6.1: SAMPLE LIST OF CONSULTED COMMUNITY MEMBERS (REPRESENTATIVE)

Sr. No.	Person Name (Representative)	Address / Area	Key Discussion Focus
1	Muhammad Aslam	Near project site	Dust and noise during construction
2	Abdul Rehman	Nearby industrial cluster	Air quality and wastewater management
3	Fatima Bibi	Adjacent area	Employment opportunities for local youth
4	Ali Hussain	Ferozpur Road vicinity	Traffic and dust concerns
5	Sana Ullah	Local workshop	Waste recycling and

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Sr. No.	Person Name (Representative)	Address / Area	Key Discussion Focus
		area	job opportunities

Additional FGDs were conducted with potential workers (machinery safety and training needs), farmers (possible effects on nearby fields), and women (family benefits and health concerns).

6.5 KEY FINDINGS: CONCERNS AND SUGGESTIONS

Overall, stakeholders expressed strong support for the project due to its economic benefits, particularly job creation in the Lahore industrial area. Key findings included:

Environmental Concerns & Suggestions:

- Temporary dust and noise during construction – suggested water sprinkling, scheduling of noisy activities during daytime, and use of barriers.
- Wastewater from dyeing and finishing – strong emphasis on proper operation of Effluent Treatment Plant and compliance with Irrigation Department NOC.
- Solid waste (fabric scraps) – recommended recycling and proper storage.
- Air emissions and noise from machinery – suggested effective ventilation, dust extraction, and maintenance schedules.

Social & Health Concerns:

- Priority for local hiring (at least 70–80% from surrounding areas).
- Worker safety training and provision of PPE.
- Protection of community health from construction-related dust and traffic.

Positive Aspects Highlighted:

- Generation of direct and indirect employment.

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- Skill development in textile processing and digital printing.
- Contribution to the local textile industry and economy.
- Potential for Corporate Social Responsibility (CSR) activities.

6.6 INTEGRATION OF FEEDBACK INTO PROJECT DESIGN

All practical and feasible suggestions received from stakeholders have been incorporated into the project design and Environmental Management Plan (EMP), including:

- Implementation of dust suppression measures during construction.
- Installation and operation of a full-scale Effluent Treatment Plant (ETP).
- Proper ventilation, dust extraction, and waste recycling systems.
- Priority local employment and comprehensive worker training on safety and environmental procedures.
- Establishment of a formal Grievance Redress Mechanism (GRM) with clear contact details of the proponent.
- Regular environmental monitoring and reporting to Punjab EPA.

6.7 CONCLUSION AND ONGOING ENGAGEMENT

The stakeholder consultations confirmed broad community and institutional support for the project, provided that recommended mitigation measures are effectively implemented. The consultations have helped strengthen the environmental and social safeguards of Humbul Tex (Pvt) Ltd.

A Stakeholder Engagement Plan (SEP) has been developed as part of this EIA. It includes provisions for ongoing communication, quarterly meetings during construction, periodic updates to the community, effective grievance handling, and annual reporting to Punjab EPA. This will ensure adaptive management and sustained positive outcomes throughout the project lifecycle.

**CHAPTER 7: POTENTIAL
ENVIRONMENTAL IMPACTS AND
MITIGATION MEASURES**



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CHAPTER 7: POTENTIAL ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

This chapter presents a systematic identification, assessment, and mitigation of potential environmental impacts associated with the **Establishment of Humbul Tex (Pvt) Ltd**. The assessment is based on the project's nature, scale, location, and activities. The facility is a dedicated textile manufacturing unit on industrial land in Mouza Raja Bholey, Tehsil Cantt, District Lahore (3-5 KM Rohi Nala, Moza Raja Bely off 22 KM Ferozepur Road), promoted by **Mr. Mazhar Hussain (CNIC: 36102-1193129-9)**.

The manufacturing processes focus on fabric weaving, dyeing, digital printing, finishing, embroidery, and related textile operations. Key activities include receipt of raw materials (yarns, grey fabric, dyes, and chemicals), weaving, dyeing, printing, finishing, embroidery, quality inspection, and packaging. The project has obtained provisional building plan approval from Lahore Metropolitan Corporation (Nishtar Zone) and a conditional NOC from the Irrigation Department for treated effluent discharge into Hudaira Main Drain.

The impact assessment follows Punjab Environmental Protection Agency (EPA) guidelines, the Punjab Environmental Protection (Review of IEE and EIA) Regulations, 2022, Punjab Environmental Quality Standards (PEQS), and best practices from similar textile manufacturing units in Punjab. Both adverse (negative) and beneficial (positive) impacts have been evaluated for the **construction phase** and **operational phase**.

7.1 IDENTIFICATION OF POTENTIAL ENVIRONMENTAL IMPACTS

Potential impacts were identified using a combination of:

- Desktop review and standardized EIA checklists
- Site-specific observations in Mouza Raja Bholey

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- Stakeholder feedback (Chapter 6)
- Proponent consultations
- Professional judgment based on similar textile processing projects

Main project aspects that may generate impacts include: i. Ambient Air Quality — Dust from construction and minor emissions from processing units. ii. Noise — From machinery during construction and textile equipment during operation. iii. Wastewater — From dyeing, washing, and finishing (to be treated via ETP). iv. Solid Waste — Fabric scraps, packaging, and ETP sludge. v. Soil and Groundwater — Risk of minor contamination from spills or runoff. vi. Traffic — Increased movement of raw materials and finished goods. vii. Occupational Health and Safety — Chemical handling, noise, and machinery operation. viii. Socio-economic Conditions — Employment generation and minor localized disturbances. ix. Ecology — Minimal impact on existing vegetation. x. Resource Use — Electricity, water, and chemicals.

No significant impacts are anticipated on archaeology, cultural heritage, or protected ecological areas.

7.2 SCOPING CRITERIA FOR IMPACTS

Impacts were scoped using the following criteria adapted from Punjab EPA guidelines:

- Alignment with baseline environmental conditions (Chapter 5)
- Compliance with PEQS and Irrigation Department NOC conditions
- Stakeholder concerns (dust, noise, wastewater treatment, employment)
- Spatial extent: Local (<1 km), moderate (1–5 km), regional (>5 km)
- Temporal extent: Short-term (construction), long-term (operational)
- Reversibility: Most impacts are reversible with proper mitigation
- Intensity: Low, moderate, or high based on magnitude and receptor sensitivity
- Nature: Adverse, beneficial, or neutral

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7.3 METHODOLOGY FOR IMPACT ASSESSMENT

Impacts were evaluated using a matrix approach that considers the severity (magnitude) and likelihood (probability) of each impact. Significance was determined as Insignificant, Low, Moderate, High, or Beneficial.

TABLE 7.1: IMPACT SIGNIFICANCE CRITERIA

Level	Severity of Impact	Likelihood
High	Significant or irreversible harm	High / Continuous
Moderate	Measurable but manageable damage	Moderate / Periodic
Low	Minor or negligible harm	Low / Rare
Beneficial	Positive contribution (e.g., employment)	—

7.4 POTENTIAL ENVIRONMENTAL IMPACTS ASSOCIATED WITH PROJECT LOCATION

The selected site in Mouza Raja Bholey offers several advantages that minimize inherent risks:

- Located in an established industrial area with compatible land use.
- Good road access via Ferozepur Road.
- Sufficient space for industrial halls, ETP, green buffer, and waste management.
- No protected ecological sites, endangered species, or archaeological resources nearby.

Overall, the site is environmentally suitable for a textile manufacturing unit, with low location-specific adverse impacts when standard mitigation measures are applied.

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7.5 POTENTIAL IMPACTS DURING CONSTRUCTION PHASE AND MITIGATION MEASURES

The construction phase is expected to last 12–18 months. Main activities include site preparation, civil works for industrial halls and sheds, machinery installation, ETP construction, and landscaping. Impacts during this phase are temporary, localized, and largely reversible.

7.5.1 Dust Emissions and Air Quality

- **Potential Impact:** Generation of PM10/PM2.5 from earthworks and material handling. Significance: Moderate (short-term).
- **Mitigation Measures:** Regular water sprinkling, covering of material stockpiles, tarpaulin on trucks, speed limits on site, and dust masks for workers.

7.5.2 Noise and Vibration

- **Potential Impact:** Elevated noise and vibration from construction machinery. Significance: Moderate (temporary).
- **Mitigation Measures:** Restrict noisy activities to daytime, use of silenced equipment, temporary noise barriers, and ear protection for workers.

7.5.3 Solid Waste Generation

- **Potential Impact:** Construction debris and packaging waste. Significance: Low.
- **Mitigation Measures:** Segregation at source, recycling of usable materials, and disposal at approved sites. No open burning.

7.5.4 Wastewater and Runoff

- **Potential Impact:** Minor site runoff and domestic wastewater from labor. Significance: Low.
- **Mitigation Measures:** Sedimentation traps, portable septic tanks, and reuse of water for dust suppression.

7.5.5 Soil Contamination and Erosion

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- **Potential Impact:** Minor risk from spills or exposed soil. Significance: Low.
- **Mitigation Measures:** Spill containment, proper fuel storage, and site stabilization.

7.5.6 Ecological Impacts

- **Potential Impact:** Negligible (minimal vegetation on site). Significance: Insignificant.
- **Mitigation Measures:** Minimize clearing and develop a green belt with native species.

7.5.7 Occupational Health and Safety

- **Potential Impact:** Risk of accidents and dust exposure. Significance: Moderate.
- **Mitigation Measures:** Mandatory PPE, safety training, first-aid facilities, and insurance.

7.5.8 Socio-economic Impacts

- **Potential Impact:** Temporary traffic increase; positive job creation (50–150 workers). Significance: Overall beneficial.
- **Mitigation Measures:** Traffic management plan and priority local hiring.

7.6 POTENTIAL IMPACTS DURING OPERATIONAL PHASE AND MITIGATION MEASURES

7.6.1 Air Emissions

- **Potential Impact:** Minor emissions from processing units and utilities. Significance: Moderate.
- **Mitigation Measures:** Proper ventilation, dust extraction systems, and regular maintenance.

7.6.2 Noise Pollution

- **Potential Impact:** Noise from textile machinery. Significance: Moderate.
- **Mitigation Measures:** Acoustic enclosures, ear protection, and equipment

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maintenance.

7.6.3 Solid Waste Generation

- **Potential Impact:** Fabric scraps, packaging, and ETP sludge. Significance: Low to Moderate.
- **Mitigation Measures:** Segregation, recycling of fabric waste, and proper disposal of sludge.

7.6.4 Wastewater Generation

- **Potential Impact:** Wastewater from dyeing, washing, and finishing. Significance: Moderate.
- **Mitigation Measures:** Installation and operation of full-scale Effluent Treatment Plant (ETP) as per Irrigation Department NOC. Quarterly monitoring and compliance with PEQS before discharge into Hudiara Main Drain.

7.6.5 Water Consumption

- **Potential Impact:** Moderate demand for processing and domestic use. Significance: Moderate.
- **Mitigation Measures:** Water-efficient technologies and recycling where possible.

7.6.6 Occupational Health and Safety

- **Potential Impact:** Exposure to chemicals, noise, and machinery. Significance: Moderate.
- **Mitigation Measures:** Training, PPE, ventilation in dyeing/printing areas, and regular health check-ups.

7.6.7 Socio-economic Impacts

- **Potential Impact:** Creation of 100–250 permanent jobs and contribution to the textile sector. Significance: Beneficial.
- **Mitigation Measures:** Local hiring priority, skill development, and CSR initiatives.

7.7 WAYS OF ACHIEVING MITIGATION MEASURES

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Mitigation will be achieved through:

- Incorporation of controls into engineering design (ETP, ventilation, green belt).
- Implementation of a comprehensive Environmental Management Plan (EMP).
- Appointment of a dedicated Health, Safety & Environment (HSE) officer.
- Use of Best Available Techniques (BAT) for dyeing and wastewater treatment.
- Regular monitoring and reporting.

7.8 ENVIRONMENTAL ENHANCEMENT MEASURES

- Development of a green belt around the facility.
- Promotion of energy efficiency and water conservation.
- Full recycling of fabric waste.
- Community support through employment and CSR programs.

7.9 MONITORING AND COMPLIANCE

- Dedicated HSE officer for implementation.
- Budget allocation for environmental monitoring (2–3% of project cost).
- Third-party testing for wastewater (quarterly), air, and noise.
- Submission of compliance reports to Punjab EPA and Irrigation Department.

TABLE 7.2: SUMMARY OF KEY ENVIRONMENTAL IMPACTS & MITIGATION MEASURES

Potential Impact	Phase	Significance	Key Mitigation Measures
Dust / Air Emissions	Construction & Operation	Moderate	Water sprinkling, ventilation, dust extraction
Noise	Both	Moderate	Acoustic measures, ear protection, maintenance

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Potential Impact	Phase	Significance	Key Mitigation Measures
Wastewater	Operation	Moderate	ETP operation, quarterly monitoring, Irrigation NOC compliance
Solid Waste	Both	Low-Moderate	Segregation, recycling of fabric waste
Occupational Health & Safety	Both	Moderate	PPE, training, ventilation
Socio-economic (Employment)	Both	Beneficial	Local hiring, skill training, CSR

With the implementation of the proposed mitigation measures and the Environmental Management Plan (EMP), all potential adverse impacts will be reduced to acceptable levels. The project will operate in an environmentally sustainable manner while delivering significant socio-economic benefits to the Lahore region.

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**CHAPTER 8: ENVIRONMENTAL
MANAGEMENT & MONITORING PLAN
(EMMP)**



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CHAPTER 8: ENVIRONMENTAL MANAGEMENT & MONITORING PLAN

This chapter presents the Environmental Management and Monitoring Plan (EMMP) for the **Establishment of Humbul Tex (Pvt) Ltd.** located in Mouza Raja Bholey, Tehsil Cantt, District Lahore (3-5 KM Rohi Nala, Moza Raja Bely off 22 KM Ferozepur Road), Pakistan (proponent: **Mr. Mazhar Hussain, CNIC: 36102-1193129-9**).

The EMMP covers both the **construction phase** (estimated 12–18 months) and the **operational phase** to ensure the project maintains a minimal environmental footprint, achieves full compliance with the Punjab Environmental Quality Standards (PEQS), the Punjab Environmental Protection Act (PEPA), 1997 (as amended), the Punjab Environmental Protection (Review of IEE and EIA) Regulations, 2022, and the conditions of the Irrigation Department NOC for effluent discharge into Hudaira Main Drain.

The facility is dedicated to textile manufacturing processes including weaving, dyeing, digital printing, finishing, embroidery, and related operations. The EMMP specifically addresses key environmental aspects such as wastewater from dyeing and finishing (treated through Effluent Treatment Plant), air emissions and dust from processing units, noise from machinery, solid waste (fabric scraps, packaging, ETP sludge), occupational health and safety, and resource consumption.

The plan incorporates Punjab EPA guidelines for industrial projects, a condition-wise compliance matrix, mitigation tracking, performance indicators, corrective action protocols, and adaptive management based on monitoring results and stakeholder feedback.

8.1 OBJECTIVES OF THE EMMP

The primary objectives of the EMMP are to:

- i. Ensure systematic implementation of all mitigation measures identified in Chapter 7 to prevent, minimize, or offset adverse environmental impacts during construction

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(e.g., dust, noise, temporary waste) and operation (e.g., wastewater, air emissions, noise, fabric waste).

ii. Establish a robust and verifiable monitoring framework to track environmental performance against PEQS limits, project commitments, and stakeholder expectations, enabling early detection and correction of any deviations.

iii. Define clear institutional responsibilities, training requirements, and resource allocation to achieve and maintain compliance with Punjab EPA approval conditions and the Irrigation Department NOC.

iv. Enable adaptive management by using monitoring data, audit findings, and stakeholder inputs to continuously improve environmental performance.

v. Promote resource efficiency (water and energy conservation), waste minimization (maximum recycling of fabric waste), and positive community contributions (local employment and safety awareness).

vi. Facilitate transparent reporting to Punjab EPA, Irrigation Department, and other concerned authorities to support the long-term sustainable operation of the textile manufacturing facility.

8.2 COMPONENTS OF THE EMMP

The EMMP consists of the following interconnected components:

- i. **Environmental Management Plan (EMP)** — Detailed mitigation actions, Standard Operating Procedures (SOPs), responsibilities, and timelines.
- ii. **Environmental Monitoring Plan** — Parameters, methods, frequency, locations, and responsible parties.
- iii. **Communication, Reporting, and Documentation** — Protocols for record-keeping and reporting.
- iv. **Institutional Arrangements and Capacity Building** — Organizational structure, roles, and training programs.
- v. **Grievance Redress Mechanism (GRM)** — Structured process for handling complaints.
- vi. **Budget and Resources** — Cost estimates and funding sources.
- vii. **Auditing and Adaptive Management** — Procedures for periodic review and improvement.

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8.3 INSTITUTIONAL ARRANGEMENTS AND RESPONSIBILITIES

A clear institutional framework will be established to ensure effective implementation of the EMMP.

TABLE 8.1: ROLES AND RESPONSIBILITIES

Entity / Role	Key Responsibilities
Project Proponent (Mr. Faheem Anwar / Company)	Overall leadership and accountability; appoint HSE/Environmental Officer; ensure budget allocation; submit required reports to Punjab EPA; respond to grievances and regulatory queries.
HSE / Environmental Officer (full-time during operation; part-time during construction)	Day-to-day implementation and supervision; coordinate monitoring; organize training; maintain records; prepare internal and compliance reports; liaise with Punjab EPA and third-party laboratories.
Contractor (Construction Phase)	Execute site-specific mitigation measures (dust suppression, noise control, waste segregation, safety); report incidents immediately; ensure worker compliance.
Third-Party Accredited Laboratory	Conduct sampling and analysis of air, noise, wastewater (if any), and other parameters; issue certified reports.
Punjab EPA (Sheikhupura / Lahore)	Review reports; conduct site inspections and

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Entity / Role

Key Responsibilities

Office)

audits; enforce approval conditions.

Local Community /
Stakeholders

Participate in GRM; provide feedback during consultations.

8.4 ENVIRONMENTAL MANAGEMENT PLAN

The EMP translates the mitigation measures from Chapter 7 into practical, trackable actions with clear responsibilities and performance indicators. Standard Operating Procedures (SOPs) will be developed for key activities such as dust control, painting booth operation, scrap handling, and emergency response.

TABLE 8.2: MITIGATION MANAGEMENT MATRIX (SUMMARY)

Impact Area	Key Mitigation Measures	Phase	Responsibility	Performance Indicator / Target	Frequency
Dust & Particulates	Water sprinkling, dust extraction systems, covered material handling, filtration in paint booths	Construction & Operation	HSE Officer / Contractor	No visible dust beyond boundary; PM10/PM2.5 within PEQS	Daily (construction); Quarterly (operation)
Noise & Vibration	Acoustic enclosures, restricted working hours, ear protection, equipment maintenance	Both	HSE Officer / Contractor	Noise ≤ 75 dB(A) at perimeter; worker exposure logs	Bimonthly
Solid Waste (Steel Scrap)	Segregation at source, recycling of all metal scrap, proper storage	Both	HSE Officer	>90% recycling rate; zero illegal dumping	Monthly audits
Wastewater (if generated)	Efficient water use, recycling where possible,	Operation	HSE Officer / Operator	Compliance with PEQS; reuse where	Quarterly lab tests

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	treatment to PEQS before discharge			feasible	
Occupational Health & Safety	Mandatory PPE, training, ventilation in painting areas, machinery guarding, emergency plans	Both	HSE Officer	Zero lost-time incidents; 95%+ training attendance	Monthly inspections
Traffic & Community Disturbance	Traffic management plan, local hiring priority	Construction	Contractor / HSE Officer	No major complaints; local employment target	As required

8.5 ENVIRONMENTAL MONITORING PLAN

Monitoring will verify the effectiveness of mitigation measures and ensure early detection of any issues. It includes visual inspections, instrumental measurements, and laboratory analysis.

TABLE 8.3: ENVIRONMENTAL MONITORING PLAN (SUMMARY)

Environmental Component	Parameters to be Monitored	Applicable Standards (PEQS)	Monitoring Frequency	Location(s)	Responsibility	Method / Equipment
Ambient Air Quality	PM10, PM2.5, dust/particulates	PEQS limits	Bimonthly (construction); Quarterly (operation)	Site boundaries & downwind	Third-party lab / HSE Officer	High-volume samplers
Noise Levels	Equivalent continuous sound level dB(A)	≤75 dB(A) industrial daytime	Bimonthly (construction); Quarterly (operation)	Site perimeter & nearby receptors	HSE Officer / Lab	Sound level meter
Solid Waste Management	Quantity, segregation, recycling rate	Zero illegal dumping	Monthly	Waste storage area	HSE Officer	Waste logs & visual audits
Wastewater (if any)	pH, TSS, BOD, COD, TDS (if generated)	PEQS effluent standards	Quarterly	Any discharge point	Third-party accredited lab	Grab / composite sampling
Occupational Health & Safety	Incident records, PPE compliance	Internal + PEPA standards	Monthly	Work areas	HSE Officer	Checklists & medical logs
Water	Daily/weekly	Internal	Monthly	Metered	HSE Officer /	Flow

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Environmental Component	Parameters to be Monitored	Applicable Standards (PEQS)	Monitoring Frequency	Location(s)	Responsibility	Method / Equipment
Consumption	usage & recycling rate	efficiency targets		sources	Operator	meters & logs

All laboratory analyses will be carried out by Punjab EPA-approved accredited laboratories. Baseline data from Chapter 5 will be used for comparison where relevant.

8.6 SUPERVISION, AUDITING AND CORRECTIVE ACTIONS

- The HSE Officer will conduct daily/weekly site supervision during construction and regular inspections during operation.
- Non-compliances will trigger immediate corrective actions (within 7–14 days depending on severity).
- Annual third-party environmental audits will be conducted.
- Punjab EPA will be notified immediately of any major non-compliance.
- Adaptive management will be applied based on monitoring results and audit findings.

8.7 COMMUNICATION AND DOCUMENTATION

All environmental records (monitoring data, lab reports, training records, incident logs, grievance registers, and photographs) will be maintained in both digital and physical formats.

- Internal monthly reviews will be held.
- Quarterly and annual compliance reports (including Semi-Annual Environmental Monitoring Reports where required) will be submitted to Punjab EPA.
- Relevant information will be shared with stakeholders during periodic consultations.

8.8 GRIEVANCE REDRESS MECHANISM (GRM)

A simple, accessible, and transparent GRM will be established:

- **Level 1:** Site-level resolution by HSE Officer (within 7 days).
- **Level 2:** Escalation to Project Proponent (Mr. Faheem Anwar) (within 15 days).

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- **Level 3:** Referral to Punjab EPA if still unresolved (within 30 days).

The GRM will be publicized through site signage, community meetings, and contact details (phone/email). Anonymous complaints will be accepted, and resolution rates will be tracked (>90% target within defined timelines).

8.9 ENVIRONMENTAL TRAINING AND CAPACITY BUILDING

Training programs will be conducted to ensure all personnel understand their roles in EMMP implementation.

TABLE 8.4: TRAINING SCHEDULE (SUMMARY)

Target Personnel	Key Topics	Frequency	Trainer
Management & Proponent Staff	EMMP overview, compliance, reporting	Induction + Quarterly	External expert / HSE Officer
All Workers & Operators	PPE usage, safety, waste segregation, emergency response	Induction + Bimonthly refreshers	HSE Officer
Machine & Painting Operators	Dust/fume control, machinery safety, painting booth	Monthly / On-the-job	HSE Officer / External trainer

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Target Personnel	Key Topics	Frequency	Trainer
	operation		
Contractors	Construction safety, dust & noise control	At mobilization + Monthly	HSE Officer

Attendance and effectiveness will be evaluated through quizzes and practical drills.

8.10 BUDGET AND RESOURCES FOR EMMP IMPLEMENTATION

An adequate budget will be allocated for successful implementation of the EMMP (approximately 2–3% of the project cost).

Indicative Annual Budget (Operational Phase):

- Environmental monitoring & laboratory analysis: PKR 800,000 – 1.2 million
- Training & capacity building: PKR 300,000 – 500,000
- PPE, safety equipment & maintenance: PKR 400,000
- Green belt maintenance & waste handling: PKR 200,000
- GRM & community engagement: PKR 100,000
- Contingency (10–15%): As required

The proponent will ensure timely release of funds from project operational expenditure. The budget will be reviewed annually and adjusted based on actual needs and audit recommendations.

This EMMP provides a comprehensive, practical, and enforceable framework for managing environmental aspects throughout the project lifecycle. Full implementation of this plan will be a mandatory condition of the Punjab EPA Environmental Approval / NOC and will ensure the New Fender Manufacturing Unit operates sustainably while

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delivering economic benefits to the region.



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**CHAPTER 9: CONCLUSION AND
RECOMMENDATIONS**



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CHAPTER 9: CONCLUSION AND RECOMMENDATIONS

9.1 CONCLUSION

The Environmental Impact Assessment (EIA) findings demonstrate that the **Establishment of Humbul Tex (Pvt) Ltd.** located in Mouza Raja Bholey, Tehsil Cantt, District Lahore (3-5 KM Rohi Nala, Moza Raja Bely off 22 KM Ferozepur Road), Pakistan (proponent: **Mr. Mazhar Hussain, CNIC: 36102-1193129-9**) is an environmentally feasible, socially beneficial, and economically viable project.

The proposed facility is a dedicated textile manufacturing unit focused on fabric weaving, dyeing, digital printing, finishing, embroidery, and related processes for the production of high-quality fashion and functional fabrics. The project has already secured provisional building plan approvals from Lahore Metropolitan Corporation (Nishtar Zone) and a conditional No Objection Certificate from the Irrigation Department for the discharge of treated effluent into Hudiara Main Drain.

The project site lies in an established industrial area with good road access and compatible surrounding land use. Baseline studies confirm that the site has no ecologically sensitive areas, endangered flora or fauna, protected habitats, wetlands, archaeological sites, or dense residential settlements within the immediate Area of Influence. The industrial setting minimizes potential conflicts with sensitive receptors.

Potential adverse impacts identified during the assessment are limited in scope and magnitude:

- **Construction Phase** (12–18 months): Temporary and localized effects including dust generation from earthworks, noise and vibration from machinery, minor construction waste, and temporary traffic increase. These impacts are short-term and readily manageable.
- **Operational Phase:** Wastewater from dyeing and finishing (to be treated through Effluent Treatment Plant), air emissions from processing units, noise from machinery, solid waste (fabric scraps and ETP sludge), and occupational health &

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safety considerations. All operational impacts are moderate and can be effectively controlled through engineering and management measures.

With the full implementation of the mitigation measures and the Environmental Management and Monitoring Plan (EMMP) presented in Chapter 8, all potential adverse impacts will be reduced to insignificant or low levels, ensuring full compliance with Punjab Environmental Quality Standards (PEQS), PEPA 1997, and the conditions of the Irrigation Department NOC.

The overall benefits of the project clearly outweigh any residual negative effects. The development will:

- Generate direct employment for approximately 100–250 permanent workers during operation (plus 50–150 during peak construction), with priority given to local hiring from Lahore.
- Strengthen Pakistan's textile industry through value addition, digital printing, and export-oriented production.
- Promote sustainable practices through efficient resource use, operation of Effluent Treatment Plant, maximum recycling of fabric waste, dust and noise control systems, and energy-efficient operations.
- Contribute to skill development in textile processing and provide positive socio-economic benefits to the local community without causing irreversible environmental harm.

Compared to the “No-Project” alternative, this initiative is clearly preferable. It delivers significant economic and social gains while incorporating modern environmental safeguards, thereby avoiding unregulated or informal manufacturing practices that often result in higher pollution and safety risks.

Based on the comprehensive EIA assessment — including baseline data, stakeholder consultations, impact evaluation, mitigation planning, and the detailed EMMP — the project is not anticipated to cause any significant adverse impacts on the physical, biological, or socio-economic environment when implemented as proposed.

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Therefore, it is strongly recommended that the **Punjab Environmental Protection Agency (EPA)** grant the **Environmental Approval (Construction Phase NOC)** in favor of the proponent, Mr. Mazhar Hussain, subject to the standard conditions of approval and strict adherence to the commitments made in this EIA report.

9.2 RECOMMENDATIONS

In light of the EIA findings, the proposed textile manufacturing facility is considered environmentally safe, sustainable, and socially responsible, provided the following recommendations are fully implemented:

- i. Implement the entire Environmental Management and Monitoring Plan (EMMP) as detailed in Chapter 8, including appointment of a dedicated HSE/Environmental Officer, regular third-party monitoring of wastewater (quarterly as per Irrigation NOC), air quality, noise, and timely submission of compliance reports to Punjab EPA.
- ii. Ensure mandatory use of appropriate Personal Protective Equipment (PPE) — including safety helmets, ear plugs/muffs, dust masks/respirators, gloves, safety boots, chemical-resistant aprons, and eye protection — for all workers during construction and operational phases.
- iii. Develop, document, and strictly enforce Standard Operating Procedures (SOPs) for key activities such as dyeing, printing, finishing processes, ETP operation, dust extraction system maintenance, waste segregation, noise control, and emergency response. Conduct monthly internal audits and regular safety inspections.
- iv. Install and maintain a comprehensive fire safety system including ABC-type fire extinguishers, smoke/heat detectors, fire alarms, emergency lighting, clearly marked exits, and fire-resistant storage for chemicals and flammable materials. Conduct quarterly fire drills and annual third-party inspections.
- v. Adopt a routine preventive maintenance program for all critical equipment, including textile machinery, dyeing units, printing machines, ETP, ventilation systems, and backup generators, to ensure operational efficiency, minimize emissions, and prevent leaks or spills.

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vi. Adopt a zero-tolerance policy for practices that could compromise worker safety, environmental quality, or product integrity, including improper waste handling or lapses in safety protocols.

vii. Develop and execute a green belt / tree plantation plan around the site perimeter and in available open spaces using native or well-adapted species. The green belt will help in dust and noise buffering, improve aesthetics, and enhance local biodiversity.

viii. Install color-coded and clearly labeled waste bins at strategic locations for proper segregation at source: recyclable fabric waste, ETP sludge (for approved disposal), and general waste. Ensure daily collection, secure storage, and documented disposal with zero open dumping or burning.

ix. Provide comprehensive training to all workers, operators, supervisors, and security personnel on emergency response, first-aid, spill containment, fire evacuation, PPE usage, chemical handling, and environmental procedures. Conduct induction training for new staff and regular refresher sessions.

x. Maintain an active Grievance Redress Mechanism (GRM) as described in Chapter 8, including prominent display of contact details (proponent and HSE Officer) at the site entrance, periodic community meetings, and prompt resolution of any concerns.

xi. Pursue and maintain relevant certifications such as ISO 9001 (Quality Management), ISO 14001 (Environmental Management), or equivalent textile industry standards to strengthen credibility and demonstrate commitment to sustainable operations.

xii. Allocate and ring-fence the necessary budget (approximately 2–3% of project cost) for full EMMP implementation, covering monitoring, training, PPE, green belt development, ETP operation, waste management, and contingency measures.

Full and diligent implementation of these recommendations will position **Humbul Tex (Pvt) Ltd.** as a modern, environmentally responsible, and economically viable textile manufacturing facility. The project will contribute meaningfully to Lahore's industrial development, Pakistan's textile sector, local employment generation, and

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sustainable manufacturing practices while effectively safeguarding the surrounding environment and community.



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