

EIA REPORT

AZIZ TEXTILES (PVT.) LIMITED

Plot # 361, Phase II, M3 Faisalabad



Enviro Stewards Company (Private) Limited

SUSTAINABILITY CONSULTANT



0301-1199600



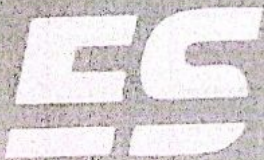
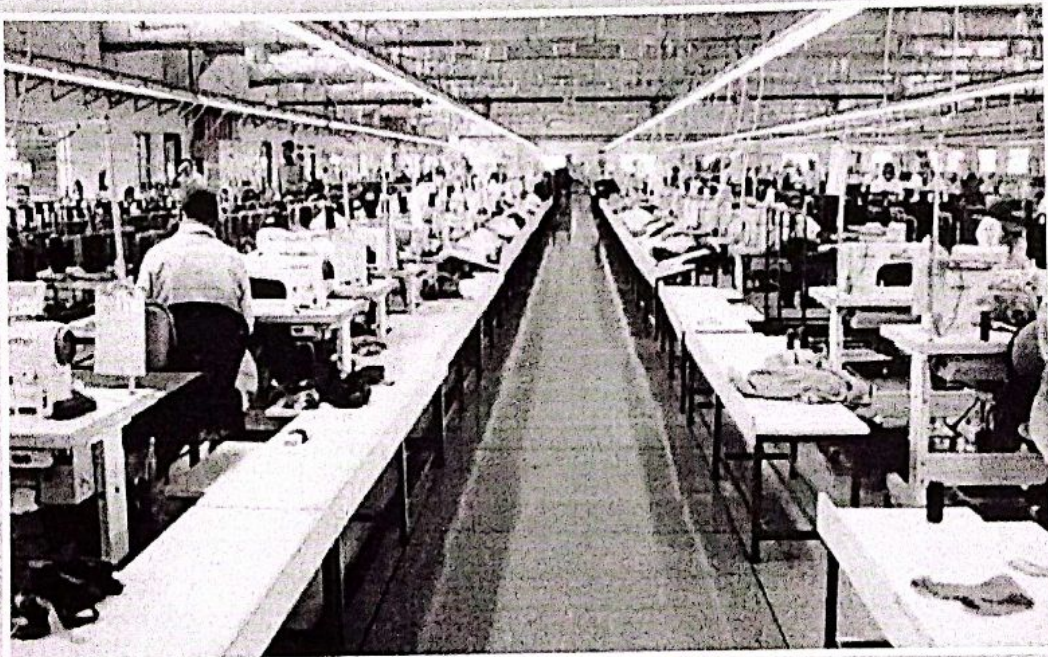
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GUIDELINES FOR PREPARATION AND REVIEW OF ENVIRONMENTAL REPORTS CHECKLIST

Clause No.	Requirements for Preparation and Review of Environmental Reports	Page No. of IEE/EIA Report
2	Commencing Environmental Assessment	
2.3	Format of Report: Report should contain:	
2.3 (A)	Executive Summary, which should contain:	
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	3. Name of the organization preparing the report	i
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	6. Recommendations for mitigation measures	iv
	7. Proposed monitoring	v
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Signature

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	4. Environmental practitioners and experts	
	5. Affected and wider community	
2.7	Site Selection should include sustainability of the site (will not be prohibited, environmentally sensitive, incompatible to surroundings and unsuitable)	
3	Assessing Impacts (For EIA only)	
3.2	Identification of all impacts	
	Methodologies for impact identifications (one/more)	
3.2	1. Checklist	
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3.5	Characteristics of impacts (nature, magnitude, extent and location, timing, duration, reversibility, risk)	
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Clause No.	Requirements for Preparation and Review of Environmental Reports	Page No. of IEE/EIA Report
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EXECUTIVE SUMMARY

The proponent intends to establish a textile unit by the title "Aziz Textiles (Pvt.) Limited" at Plot # 361, Phase II, M3 Faisalabad Industrial Estate Development & Management Company, Faisalabad, over an area of 289935 Sq.Ft.. This project fall in the category of Environment Impact Assessment (EIA) a detailed account of the foreseeable environmental and social impacts likely to emanate from the development of the textile unit in the area are tried to be mentioned.

In this pre-feasibility study, all calculations have been based on a textile unit of total 289935 Sq.Ft. The Environment Impact Assessment (EIA) report is prepared to assess the potential impacts likely to occur from the project's entire life cycle on the local environmental quality and communities. The assessment came up with a set of impact mitigation measures for the project to pursue to minimize the adverse impacts on the environment and nearby communities.

BRIEF OUTLINE OF THE PROJECT

Name of Project	Aziz Textiles (Pvt.) Limited (textile unit)
Location of the of Project	1. Plot # 361, Phase II, M3 Faisalabad Industrial Estate Development & Management Company, Faisalabad 2. 31.619389N, 73.173056E (Google map is attached A3 size with file)
Name & Address of Proponent/ Owner	Zeeshan Rasool , S/O Afzal Ahmad Gull Chaudhary R/O Salamat block H-P-34, Amin Town, Faisalabad, Tehsil & District Faisalabad.
Nature of Project	Textile unit
Raw material	Yarn
Final product	Fabric
Capacity of the project	10 tons to processed fabric
Total Area of Project	289935 Sq.Ft.
Surrounding land use	
North:	Industry
South:	Industry
East:	Industry
West:	Industry
Project Cost:	80 million
Assessed Environmental issues	Solid and liquid waste will be environmental issues. 1500 kg of solid waste will be produced and managed as per guidelines by EPA certified vendors.
Solid waste	During construction there is no solid waste. After construction it would be 1500 kg
Water Availability	Ground water (100-150ft)
Total water usage during development	5-6 m ³ / day irrigation to lawn / parks and tree plantation.
Wastewater generation:	35 m ³ / day (Average) domestic wastewater.
Disposal of wastewater	Wastewater will be disposed of after primary treatment into the

	industrial wastewater drain
Disposal of solid waste	Management will manage solid waste as per EPA standard guidelines.
Consultant company opinion.	As information provided by the Client/Developer site seems feasible in the said area, management will follow all the guidelines mentioned in the EIA report.
Compliance	Punjab Environmental Quality Standard (PEQS 2016) and time to time guidelines by EPA and other enforcement Department / Agencies.
Consultant Name	Enviro Stewards Company (Pvt.) Limited

LEGAL AND ADMINISTRATIVE FRAMEWORK

The national guidelines and legislations relating to the environment considered for the project include, National Conservation Strategy (1992), National Environment Policy (2005), Pakistan Labor Policy (2010), Punjab Environmental Protection Act (PEPA 1997), amended PEPA, (2000), National Environmental Quality Standards (NEQS), Land Acquisition Act (1894), Cutting of Trees (Prohibition) Act (1975), Punjab Wildlife Act (1974), Punjab Plantation and Maintenance of Trees Act (1974), Antiquities Act (1975) etc.

Current national environmental policy as well as administrative and legal framework of PEPA, 2000 has been reviewed comprehensively which provides an overview of the national policies, laws, guidelines, and regulations related to the EIA study of the proposed project. Environment related documents have been reviewed including submission of environmental assessment study report to obtain environmental approval was made mandatory by the Pakistan Environmental Protection Ordinance (PEPO), 1983 and the Pakistan Environmental Protection Act (1997). Section 12(1) of the PEPA (1997) stipulates that no project involving construction or any change in the physical environment can be undertaken unless an EIA or an EIA is conducted, and approval (NOC) is received from the relevant provincial environmental agency.

This report has been prepared with due consideration of PEPA, 1997, Punjab Environmental Protection (Amendments) Act, 2012 and all other legal requirements of Pakistan and Punjab Government Including LAA, 1894.

MAJOR IMPACTS

Since that, the project Aziz Textiles (Pvt.) Limited textile unit, it is therefore likely to produce effects onto the aquatic environment, ecological environment, and most likely solid waste production unless appropriate mitigation measures are employed for balancing out the

identified adverse impacts. Innumerable environmental and social impacts are expected during construction and operation, significant ones of which would be:

The major impacts resulting from the proposed activity during construction and operational phases are as follows:

Physical Environment

Geomorphology and Soils

Water Resources

Ambient air Quality

Noise Pollution

Biological Environment

Wildlife and Habitat

Flora and Fauna

Socio-economic Environment

Safety and Security

Mobility and Transportation

Project and Community Interface

Cultural and Religious Sites

Archaeological Sites

Local Economy and Employment

Summary of Major Environmental Impacts

Impact	Mitigation Measure	
	Construction Phase	Operation Phase
Solid Waste Generation	• Solid waste handling facilities such as waste bins and skips in all sections of the factory. • Ensure that solid waste generated is regularly disposed off appropriately. • Waste will be managed by as per municipal practices. • Non-biodegradable and recyclable matter, such as containers, wastes, used materials and waste packaging materials will be sold to local contractors for recycling or reuse purpose.	• Proper domestic solid waste handling and management practices will be adopted. • Packaging waste, cutting waste will be properly disposed off at solid waste handling area. • Process solid waste will be disposed off through EPA Certified Contractor. • Sludge from ETP will be handled by waste contractors and the suggested method for safe disposal.
Wastewater Generation	• No water will be disposed off into sewer lines without proper treatment. • Municipal wastewater will be handled by septic tank and disposed off into M-3 industrial city drain.	• ETP of adequate capacity will be installed before disposing off in nearby wastewater drain named M-3 Industrial city drain. • Process wastewater will be managed through ETP. • The treatment system shall bring the values of untreated effluent within the limits of treated effluent discharge also to ensure this treatment as an environmentally friendly method to comply with PEQS.

Air Pollution	• Management needs to regularly carry out checks of all machinery and carry out regular servicing and maintenance of it to keep the environmental impact on account of their emissions to its minimum level. • For reducing fugitive dust, regular water sprinkling on roads has been carried out. • All vehicles transportation will be covered with tarpaulin, maintained, and optimally loaded. • Generators will be installed with proper enclosure, tuning and maintenance to control emissions.	• Air emissions will chiefly arise from machinery along with solvent vapor, odor, from floor cleaning and from the generators. • Proper ventilation plan, good housekeeping, and regular monitoring for preventive maintenance of the generators are the control measures which will check air pollution. • Air masks, helmets and safety uniforms will be provided to the workers and proper check will be made to check its compliance in the premises. • Moreover, the green zone will be developed and tree plantation activities of proponent during operational phase would ensure minimal impact of fugitive dust emissions.
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RECOMMENDATIONS FOR MITIGATION MEASURES

The intensity and severity of impacts, foreseen due to the operation of the proposed project vary with change in the nature and magnitude of the impacts as well as depend upon the baseline environmental conditions of the area. The mitigation measures during the operation phase will require implementation of EMMP in letter and spirit. Other mitigations to reduce the adverse environmental impact will be:

- The adverse environmental impacts significantly by adopting best management and monitoring practices as well as by implementation of EMMP effectively.
- It is also recommended that the Proponent should obtain an Environmental Approval (NOC) from the Punjab-EPA before proceeding further into the operation activities.
- An adequate health and safety plan should be implemented.

ENVIRONMENTAL AND SOCIAL MONITORING PLAN

Mitigations for physical, biological, and socio-economic parameters will be measured to determine compliance with standards established in EMP. The monitoring plan will record the inputs provided by various participants in the environmental and social management process. The air quality is determined once before the commencement of the project development as well as to record the baseline environmental conditions and once after the end of the development phase. During the operational phase solid waste management practices and wastewater disposal practices will be monitored by the concerned authority on the regular basis. Moreover, fire-fighting equipment will be installed in the public and private buildings as well as it will be maintained and monitored on the regular basis.

PROPOSED MONITORING

It is small scale textile project, its impact is small and temporary however, to oversee the environmental performance of the project through its lifecycle enforcing the PEQS an Environmental Monitoring Program should be formulated which ensures effective surveillance of the environmental parameters at various stages of the project development and compliances with PEQS and legal obligations. Schedules and methodology for conducting monitoring is given.

Monitoring for relevant Environmental Parameters is recommended:

Particulate Matter/Dust

Regular monitoring for particulate matter should be conducted during construction phase as per PEQS Rules 2001 and report should be submitted to EPA Punjab.

Noise

Regular monitoring for noise level should be recorded periodically during construction and operation phase, it should be conducted on quarterly basis and report should be submitted to EPA Punjab.

Water quality

Regular monitoring for water supply should be conducted on quarterly basis during operation as per prescribed in PEQS of drinking water and report should be submitted to EPA Punjab. Record should be maintained regarding the underground water pump and consumption.

CONCLUSIONS AND RECOMMENDATIONS

As far as the instant project is concerned, most of the foreseeable environmental impacts are of low significance and controllable by implementing the proposed mitigation measures and by complying with environmental laws of the country. In this case, implementation of the environmental mitigation measures and the guidelines, as given in this document, are expected to bring down the negative environmental impacts of the project within the acceptable limits. Nevertheless, to ensure long-term environmental sustainability of the project, institutional arrangements must be put into place for controlling the adverse impacts all during the life of the project.

The total estimated cost for the implementation of EMMP in proposed project area is approximately PKR 5 million it will include tree plantation at designated green area (which is 7% of the project area), installation WWTP, solid waste management, environmental monitoring, installation, and maintenance of fire-fighting equipment etc.

1 INTRODUCTION

1.1. General

This business has great potential in the export as well as in the local market. This pre-feasibility study provides information on key aspects of setting up a "Textile unit" in any metropolitan city of Pakistan, especially Lahore, Karachi. and Faisalabad.

This business has great potential in the export as well as in the local Pakistani market. This particular pre-feasibility study provides information on key aspects of setting up a "Garments Stitching Unit (Men's Dress Trouser)" in any metropolitan city of Pakistan, especially Lahore, Karachi and Faisalabad. The proposed unit will cater for export market, mainly US and Europe.

In order to reduce initial capital investment, the unit is proposed to be established on a rented building. The unit will have an installed capacity of stitching / producing 250,400 pieces of Men's Dress Trouser annually, on single shift basis for 313 operational days. The starting operational capacity is assumed at 60% (i.e. 150,240 pieces), while maximum capacity utilization is assumed at 95% (i.e. 237,880 pieces). This production capacity is estimated to be economically viable and justifies the capital as well as operational costs of the project. However, continuous flow of export orders through aggressive marketing and establishing good working relations for repeat orders are extremely important for the success of the proposed venture

This section of the report provides an overview of the rational of the project, objective of project, requirement of the project, purpose of the report and approach adopted to conduct the Environment Impact Assessment (EIA).

1.2. Features of the Textile

Current initial environmental examination study was conducted for the development of Aziz Textiles (Pvt.) Limited, a textile project. The said project is a development of a textile comprising of 289935 Sq.Ft. area. The division is as follows,

Table 1- Land Breakdown Details

Sr.#	DETAILS	Area
1.	Total Area of Plot	289935 Sq.Ft.
2.	Open area of plot	130470 Sq.Ft.
3.	Ground Floor Covered Area	159465 Sq.Ft.

GPS Coordinates of project site are 31.619389N, 73.173056E. Site is approachable by one road.

1.3. Purpose of the Report

This report has been prepared to conform to the requirements of the Punjab Environmental Protection Act (Amendment) 2012, which states that.

"No proponent of a project shall commence construction or operation unless he has filed with the Provincial Agency an initial environmental examination or where the project is likely to cause an adverse environmental effect, an environmental impact assessment, and has obtained from the Provincial Agency approval in respect thereof."

The primary objective of this EIA study is to identify, screen out and evaluate those of the significant adverse environmental and social impacts of the project, which are likely to cause adverse impacts on the local and the general environment, at and around the project site. Viewing from this perspective, the potential sources of environmental impacts would be various activities related to both environmental and the later inhabitation stages of the project. Such activities will include transportation of materials to the project site, generation of wastewater and solid wastes, air quality concerns. The degree and quantum of the environmental and social impacts will depend on several influencing factors. Therefore, the focus of the study is to discern the important environmental and social impacts of the project and to suggest the ways and means for countering these likely adverse environmental impacts.

1.4. Identification of the Project and Proponent

I. Proponent

Proponent Name	Zeeshan Rasool
Designation	Owner of the Project
Address of the Proponent	Afzal Ahmad Gull Chaudhary R/O Salamat block H-P-34, Amin Town, Faisalabad, Tehsil & District Faisalabad

II. Nature and Size of Project

The development project is Aziz Textiles (Pvt.) Limited textile unit. The project spreads over an area of 289935 Sq.Ft..

III. Location of Project

The project site is located at Plot # 361, Phase II, M3 Faisalabad Industrial Estate Development & Management Company, Faisalabad. On Google map, it shows, 31.486806, 73.253472. The google map of the project site is attached.



Figure 1-Location of the Project

1.5. Consultant Details

The proponent has engaged M/s Enviro stewards Company (Pvt.) Limited to conduct the EIA Study of aforesaid project in accordance with guidelines issued by EPA, Punjab. For this purpose, M/s Enviro stewards Company (Pvt.) Limited has engaged the group of professionals which comprises of environmental specialists, environmental engineers, and chemical engineer. The details of the consultants are given below:

Sr.No	Consultant Details	
1	Consultant	Enviro Stewards Company (Pvt.) Limited
2	Address	1 st Floor Allied Bank A Block Commercial Market Canal View Housing Society Lahore.
3	Contact No.	03011199600

Team leader		
1	Name	Miss Sara Fatima
2	Designation	Senior Environmentalist
3	Contact No.	+92-301-1198600

1.6. Extent of the EIA study, scope of the study, magnitude of the efforts

This EIA study has been accomplished following the requirements serial 2.3 of the "Guidelines for the preparation and review of Environmental Reports, October 1997". In compliance of PEPA, 1997(amended 2012) requirements, an EIA report has been prepared by the team of environmental experts. This document covers all environmental impacts, due to the proposed project, in and around the project area comprising the physical, ecological, and socio-economic aspects together with identification of the potential positive and negative impacts. Any developmental activities outside the project area like rehabilitation of the road and establishment of the other factories outside the project vicinity have not been covered under this EIA study.

The EIA report covers the examination of the physical, biological, and environmental socioeconomic impact of the following:

- Construction activities including the leveling and marking of land division.
- Relevant off-site construction activities like construction of access road.

2 POLICY, LEGISLATION, LEGAL AND ADMINISTRATIVE FRAMEWORK

The project is development project of textile proposed project named as Aziz Textiles (Pvt.) Limited at District Faisalabad. The capital cost of the project is around 80 million. According to projects categorization for environmental assessment studies, the proposed project falls under **Schedule II (list of projects requiring IEE), Category (C) Manufacturing & Processing, sub sector (1) Apparel (including garments & leather textile unit), cotton, spinning mills, woolen mills, waving mills & manual carpets weaving units)** of the IEE Regulations 2022 made under section 12 of Punjab Environment Protection Act 1997 (Amended 2012) under which the initial environmental examination for textile proposed project (IEE) is mandatory for getting Environmental Approval.

The project proponent established contact with the Environmental Protection Agency (EPA), Government of Punjab for the grant of environmental approval before the start of the project. This requirement is under the regulation of Review of IEE and EIA Regulation 2022. According to the above-mentioned list this project falls in the category of projects requiring IEE.

2.1. Existing Regulation and Framework

This IEE study has been carried out in the light of the policy guidelines of the preparation of IEE/EIA Reports under the procedure and practices formulated by the Provincial Environmental Protection Agency (EPA).

2.2. Relevant Regulation and Framework

I. National Conservation Strategy, 1992

On March 1, 1992, the Cabinet of Pakistan approved the National Conservation Strategy. It describes the stark reality of the country's deteriorating resource base and its implications for what is still largely a natural resource-based economy. It sets forth the beginnings of a plan to integrate environmental concerns into virtually every aspect of Pakistani economic life. The strategy has three overriding objectives: conservation of natural resources, sustainable development, and improved efficiency in the use and management of resources.

II. PEPO, 1983 and PEPA 1997 (Amended 2012)

In 1983, the Government of Pakistan issued an Environmental Protection Ordinance (EPO), which was replaced by the Pakistan Environmental Protection Act (PEPA) 1997, through an Act

of Parliament. Now the PEPA 1997 has been replaced by Punjab Environmental Protection Act 1997 (Amended 2012) on 18th April, 2012.

Under Sec. 8 of Environment Protection Ordinance (EPO) 1983, it was necessary to carry out IEE for all development projects, but there were no EIA /IEE regulations under that ordinance.

Under section 12 of the Punjab Environmental Protection Act, 1997 (Amended 2012) it is mandatory to take an Environmental Approval Environmental Protection Agency for commencement of any of the project.

III. National Environmental Policy 2005

The Government of Pakistan (GOP) has notified National Environmental Policy 2005, for different aspects in which guidelines have been given, to commence the projects having significant environmental impacts.

IV. Review of IEE and IEE Regulations, 2000

The GOP has issued Review of IEE for Textile Proposed project Environmental Impact Assessment Regulations 2002, to review the (IEE) / Environmental Impact Assessment (EIA) reports.

V. Guidelines for the Preparation and Review of Environmental Reports, 1997

The GOP has also framed guidelines for the preparation and review of IEE of projects in various developmental sectors.

VI. National Environmental Quality Standards (NEQS)

According to Punjab Environmental Protection Act, 1997 (Amended 2012), National Environmental Quality Standards (NEQS) were established for municipal and industrial effluents and air emissions. The latest revision of NEQS carried out in 2001 is attached as annexure to this report.

VII. Guidelines for Sensitive and Critical Areas

GOP issued Guidelines for Sensitive and Critical Areas in October 1997. The objective of the guideline is to provide guidance to project proponents and other stakeholders in the environmental assessment process, so that the proposed projects are planned and sited in a way that protects the values of sensitive and critical areas.

2.3. Policy and Procedures for the Filing, Review and Approval of Environmental Assessments, November-1997

Environmental Assessment is the Primary means of managing the approval of new development proposals in Pakistan. Environmental Assessment allows for the systematic examination of proposals, clear procedures which provide for the interests of relevant Government Departments and other stakeholders to carefully consider.

I. Punjab Wildlife Protection Act, 1974

This act was framed in 1974 by the province Punjab and is about the protection and conservation of wildlife.

II. Forest Act, 1927

This act was framed in 1927. The Forest Act, 1927 is still the basic charter for the forest departments in Pakistan. This law empowers provincial governments to manage forest areas.

III. Explosive Act, 1884

This act deals with explosives in prohibiting either absolutely or subject to conditions, the manufacture, possession, or importation of any explosive which is so dangerous in character that, in the opinion of the appropriate Government, it is expedient for public safety to issue the notification.

2.4. Punjab Local Government Ordinance, 2001

Schedules 4 and 8 of these ordinances are to pertain to environmental pollution. Under the ordinance, the local councils are authorized to restrict projects causing pollution to air, water or land. They may also initiate proposed projects for improving the environment.

2.5. Mines Act, 1923

Mines Act, 1923 is a federal legislative framework empowering the provincial governments to make rules and regulations for their respective provinces for different categories of mines. The act emanates from the constitution which provides for 'Regulation of Labor and Safety in Mines'. Mines Act is a law relating to safety of mines and safety of health and welfare of mine workers.

2.6. Consolidated Mine Rules, 1952

These are set of laws subordinate to Act concerning the condition of employment; health, sanitary and welfare aspects of personnel employed at mines. They are, therefore, common to all types of mines.

2.7. Pakistan Penal Code, 1860

This defines the penalties for violations concerning pollution of air, water bodies and land. Sections 268 to 291 are about offences affecting public health. The offences relating to public health safety and environment are as under.

1. Sec 268: Public Nuisance
2. Sec 269: Negligent act likely to spread infection of disease dangerous to life:
3. Sec 270: Malignant act likely to spread infection of disease dangerous to life:
4. Sec 278: Making atmosphere noxious to health:
5. Sec 284: Negligent conduct with respect to poisonous substance:
6. Sec. 290: Punishment for public nuisance in cases not otherwise provided for:
7. Sec. 291: Continuance of nuisance after injunction to discontinue.

2.8. Punjab Land Use Rules 2009

In January 2009 the Punjab government notified Punjab Land Use Rules 2009 for the clarification of Lahore Master Plan. In these rules permissible land use according to area type is defined.

2.9. Antiquities Act 1975

The law relates to protection of antiquities, monuments, national and international heritage. The compliance of this act is mandatory for the installation of generators. Under section 22 of the act, no development plan or proposed project can be done within distance of 1500ft from the residence areas. There is no historical site or monuments in the proximity of the project.

2.9.1. Solid Waste Management Rules 2005

The solid waste management department, CDGL has notified these rules for proper waste management.

2.9.2. Labor Laws

The labor laws apply on child labor and measuring instruments.

2.9.3. Safety & Civil Defense Laws

The civil defense laws provide details about safety, fire protection and civil defense.

3. PROJECT DESCRIPTION

3.1. Type and Category of the Project

The project is development project of textile proposed project named as Aziz Textiles (Pvt.) Limited at District Faisalabad. The capital cost of the project is around 80 million. According to projects categorization for environmental assessment studies, the proposed project falls under **Schedule I (list of projects requiring IEE), Category (C) Manufacturing & Processing**, sub sector (1) Apparel (including garments & leather textile unit), cotton, spinning mills, woolen mills, waving mills & manual carpets weaving units) of the IEE Regulations 2022 made under section 12 of Punjab Environment Protection Act 1997 (Amended 2012) under which the initial environmental examination for textile proposed project (IEE) is mandatory for getting Environmental Approval Objectives of the Project

The main objective of initiating this project is.

- Provision of more and better textile to accommodate additional households.
- To provide all the basic communal services and facilities to the residents who choose to live in the proposed textile society.
- Minimization of environmental impacts by adopting best management practices and to meet the set national criteria for textile societies.
- To support the local economy through significant investment and upgrades to infrastructure
- To develop modern textile proposed project to provide residents a clean and green environment.
- Provide socially equitable and economically viable development to improve the quality of life.

4.1. Alternatives considered for Site Selection

Among the main considerations for selection of project site include:

4.3.1. Site Alternatives

No project alternative was considered as the proposed location selected for the establishment of the Aziz Textiles (Pvt.) Limited textile unit proposed project which is in the vicinity of already established textile unit. The selected site is owned by the proponent (Land Ownership documents are attached at **Annex-I**). So, no impact is envisaged due to proposed location of textile as the project is being established suburbs of densely populated textile societies All the communal services such as

Shops (grocery shops), Civic Center, Mosque are present in the vicinity of proposed project location. Keeping in view these requirements and the availability, this site is best suited for the development of the textile proposed project. There is no protected or environmentally sensitive area present in the vicinity of the selected site.

4.2. Description of the Project Site

Project site is not located in any sensitive/negative area.

Cost and Magnitude of the Operation

The cost of the project will be **PKR 80 million** approximately as per proponent and magnitude of operations will include:

Amenities	Cost in PKR
Land cost	60 million
Infrastructure development, machinery	05 million
Solid waste management:	02 million
Landscaping & tree plantations	01 million
Wastewater Treatment Plant	02 million
Total Cost	80 million

- Detailed site survey, planning and demarcation of the various regions during development of the textile.
- Construction of public and social amenities such as road construction, infra-structure development/public areas, installation of streetlights, demarcation of land.
- Plantation of various ecologically important herbs, shrubs, trees, and grasses on the designated green spaces
- Construction of the metaled road network

Land Use On-site

The land is industrial in nature. Currently there is no activity going on in the land.

Location of Project

The project site is located at Plot # 361, Phase II, M3 Faisalabad Industrial Estate Development & Management Company, Faisalabad. On Google map, it shows 31.486806N, 73.253472E. The google map of the project site is attached. The project site is surrounded by agricultural land and road on one side. Project Coordinates are the total area of the project is 289935 Sq.Ft..

Front- Road

Back-Industry

Left- Industry

Right- Industry

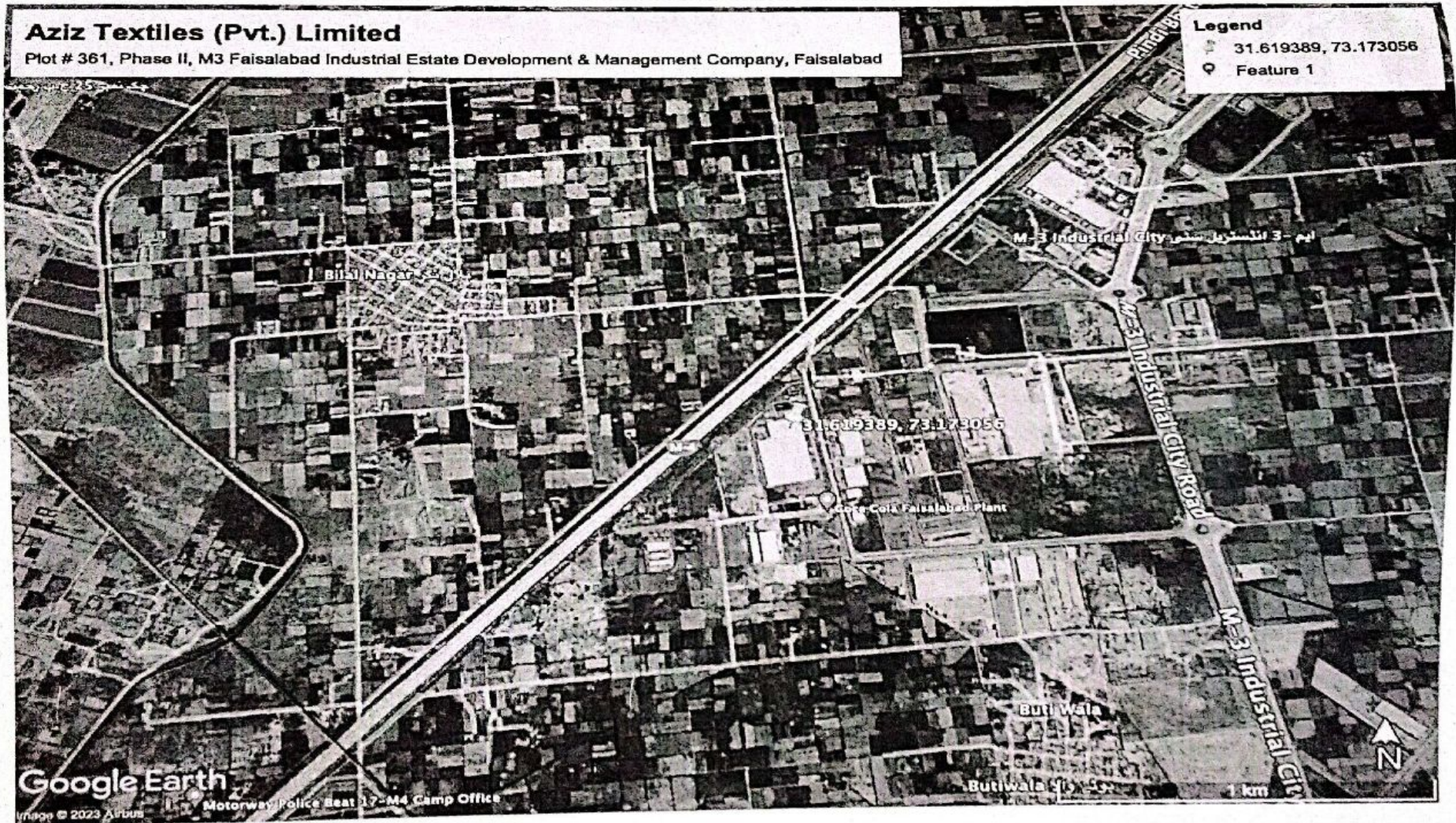


Figure 2-Google map

Road Access

There is paved road access to the project site. The road access is by the main Sahianwala road. Due to this main road availability, the access to project site is easy. All the commercial activities and basic needs provision will be made easy by the road access.

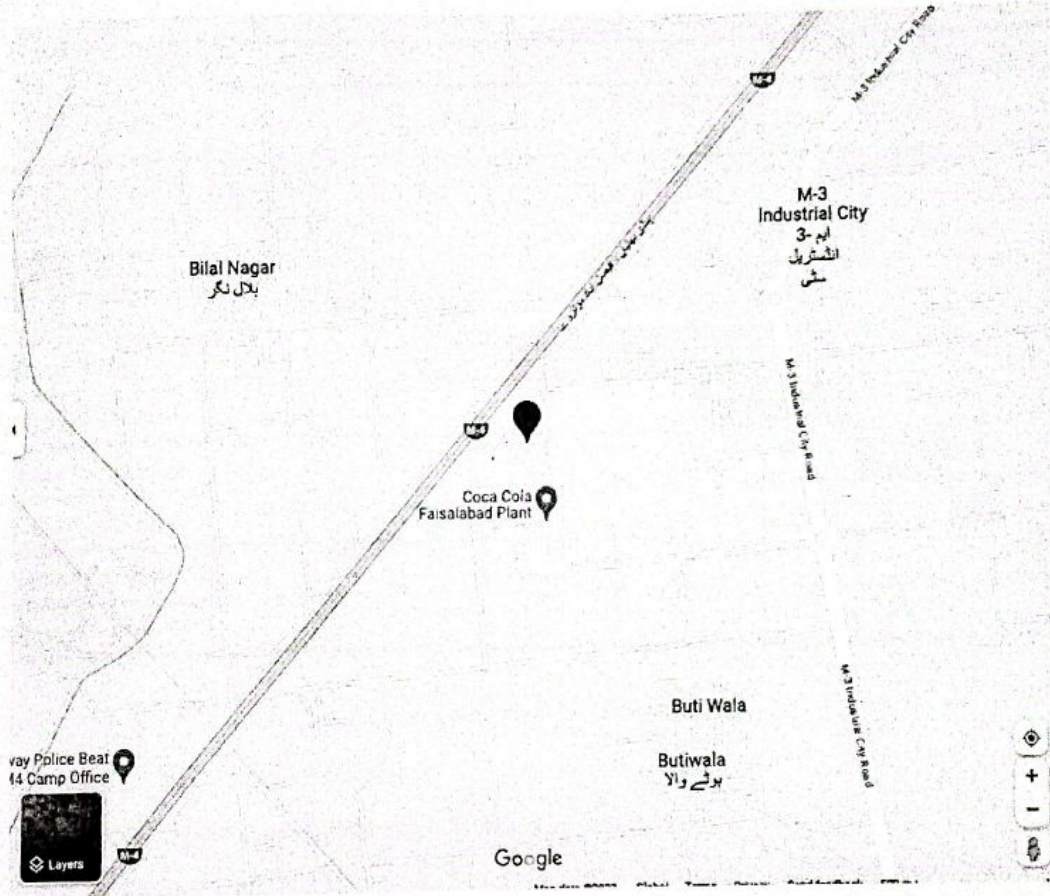


Figure 3-Road Access Map

4.3. Vegetation Features of the Site

Since land is agriculture in nature, there is no agricultural activity going on but there is jangli booti and some bushes are on the land.

4.4. Proposed Schedule for Implementation

Project schedule (tentative) is described hereunder.

Stage I: The clearing of land, preparation of land for construction activity.

Stage II: During this phase machinery will be brought to the site and installed.

Stage III: In this phase all the outstanding activities will be completed, construction activities will be initiated.

Stage IV: after completing construction, employees will be hired, and staff will be assigned their respective work. The operation activities will be initiated.

Activities	Times Frame									
	Four Week		Four Week		Four Week		Four Week		Four Week	
Preliminary Phase (Land Acquiring etc)										
Design Phase										
Pre-Construction Activities Finalization										
Construction Phase										
Purchasing Phase										
Machinery Installation										
Commissioning Phase										
Recruiting Of Staff										
Operation Phase										

Figure 4-Schedule of Implementation

4.5. Process Description

The proposed project is proposed project of textile unit named as Aziz Textiles (Pvt.) Limited, for the purpose of textile located at Plot # 361, Phase II, M3 Faisalabad Industrial Estate Development & Management Company, Faisalabad. Total area of the Project is 289935 Sq.Ft. The estimated cost for the subject proposed project will be about 80 million Pakistani Rupees.

Project Process description:

The subject project will not be involved in manufacturing or production but textile. It's the only textile project for plotting of land for residential purpose.

The process of textile starts with the receipt of specification / sample from the customer and / or design developed by the designing department. These specifications include quality and specifications of fabric, accessories to be used, design details, textile styles, packing instructions and all other necessary information. Based on the specifications received, a sample of men's dress trouser is prepared and sent to customer for approval.

Finishing and Final Product

To impart the required functional properties to the fiber or fabric, it is customary to subject the material to different types of physical and chemical treatments.

Packing & Dispatched

Final product will be packed and will be ready to be shipped in market to fulfill the market demand.

Activities relating to project.

Some aspects relevant to the project are listed below:

- Transportation and parking of mechanical instruments during construction phase
- Storage and handling of construction materials during construction
- Maintenance of records for safe handling, safe work methods, control PPEs etc.
- Measures for environmental management of the site including handling of materials, air & noise emissions.
- Proper placement of safety signs at the working area

Salient Features of the Project

The salient feature of the project is as under:

Table 2-Salient Features of Project

Total land area	289935 Sq.Ft..
Cost of the project	80 million
Total water usage during operation:	35 m ³ / day (0.014 cusec)
Total water usage during construction:	4-5 m ³ / day
Wastewater generation:	60 m ³ / day (Average)
Power requirement	400 KVA (fulfill by FESCO)
Number of transformers	2x 200 (400 KVA)
Status of the project	Proposed

No. of workers during construction phase	35-40
No. of workers during operational phase	25-30

Waste Products of Project Process

Waste products and emissions during the project are following.

Wastewater

In construction phase, 4-5 m³/ day water will be used for domestic & constructional activities and water source will be ground water.

Solid Waste

All raw materials will be recycled during the construction activities as road filling and maintenance purposes. Solid waste of about 30-35 kg by domestic sources will be generated during construction phase which will be placed in separate bins and about 1500 kg per day solid waste will be generated during functioning of the project from domestic sources. Domestic waste will be placed in solid waste bins which will be placed at appropriate places within subject proposed project. This domestic waste will be collected and transported to the nearest through EPA certified vendor.

Re-cyclable will be sold to the recycling market while other will be handed over to municipality.

Infrastructure of Project:

Piped water from the municipal water supply is not available to the project site. Water demand will be fulfilled by ground water. Proper sewage system is absent in the surroundings. Sewage system of Municipality passing in front of the society will be used which is ultimately connected to sewer line passing along road. Electricity will be supplied by the Water and Power Development Authority (WAPDA). Two generators of 200 KVA each have been got approved from FESCO. The electric poles will be fixed after granting of NOC from the EPA.

Power sources and transmission:

The power requirements of 272 KW. will be fulfilled by FESCO through two 200 x 2 KVA transformers No emission from the power sources is likely to emit.

Available Facilities

Available facilities in the area are given below:

- Electric supply from FESCO.

- Solid Waste Management (SWM) implemented by municipality.
- Water supply line at doorstep of the proposed project.
- Labor force will be available for construction phase.

4.6. Restoration and Rehabilitation

All possible precaution will be taken to prevent an untoward incident in terms of life and property losses. On completion of the project, solid waste will be removed from the site to maintain aesthetics of the area. All measures will be undertaken for ensuring occupational safety, security, and clean environment during the working hours. Vegetation and landscaping will be done by the proponent after the construction of project.

4.7. Government Approvals

With reference to section 12 of PEPA 1997 (amended 2012), the environmental approval from EPA is required prior to approvals from other relevant government departments. NOCs from other relevant departments will be shared with EPA after environmental approval.

4.8. Health, Safety & Hygiene

Health, Safety & Hygiene includes the following:

First Aid facility

At workplace, workers and employers should have enough information, knowledge, and training regarding first aid treatment in case of any emergency.

Safety Trainings

Workers and all the staff will be provided with proper training about the work and safety practices.

Use of Drugs and Narcotics

Drugs and narcotics are strictly prohibited during working hours in working area. Smoking will be only allowed in rest timings at properly isolated places.

Fire Protection System

No fire plan is there. Rescue 1122 will be relied upon in this case.

Emergency Exits:

There will be three exit points from the society in case of any emergency.

Safety Features for Exit Routes

- Keep exit routes free of explosives or highly flammable furnishings and other decorations.
- Provide lighting for exit routes adequate for employees with normal vision.
- Keep exit route doors free of decorations or signs that obscure their visibility of exit route doors.
- Post signs along the exit access indicating the direction of travel to the nearest exit and exit discharge if that direction is not immediately apparent.
- Mark doors or passages along an exit access that could be mistaken for an exit "Not an Exit" or with a sign identifying its use (such as "Closet").
- Renew fire-retardant paints or solutions when needed.
- Maintain exit routes during construction, repairs, or alterations.

Security:

The present site will be secured by means of boundary wall along with the presence of security guards round the clock which improves the security of the project site and in its vicinity.

4.9. Safety signs/Safety boards

At any workplace Safety signs and symbols are very important to avoid many accidents. They must be in easy and understandable language to all the workers. Workers should have the knowledge of sign wordings and they must be trained and aware about them. Safety signs, symbols and boards must be provided by every department to protect the workers and employees from the risks of hazards that has not been controlled by other means. Safety signs and boards give safety message, and they must be of different colors that workers could understand their meanings easily. At the subject project, safety signs and boards are placed to avoid the workers and staff from any risk.

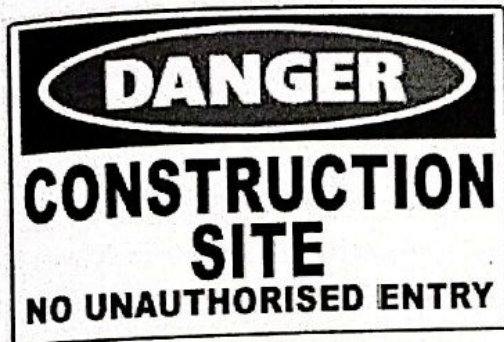
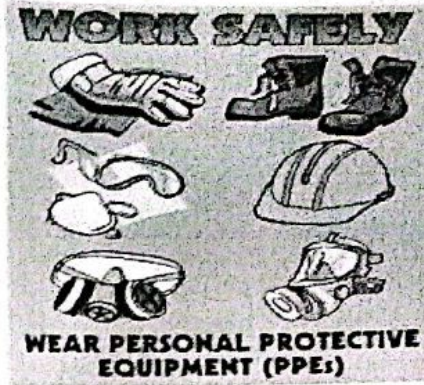


Figure 3 Safety Signs

5. DESCRIPTION OF THE ENVIRONMENT

An environmental baseline study is intended to establish a database against which potential impacts can be predicted and managed subsequently. The IEE of the proposed project covers a comprehensive description of the project area, including regional resources which are expected to be affected by the project, as well as those which are not expected to be directly affected by the construction and operation of the project.

A site visit was conducted to survey the field area for collection of relevant data. Interviews were conducted with the public and stakeholders of the project area to seek the public opinion on the implementation of the proposed project. Various Governmental and Non-Governmental Organizations (NGOs) were also visited for the collection of relevant data and their views on the proposed project were recorded for incorporation into the IEE report. The environmental impacts of any activity or process will be assessed based on deviation from the baseline or normal situation. The following components form part of the baseline:

- Physical Environment
- Ecological Environment
- Socioeconomic Environment

5.1. Physical Environment

The proposed project lies in Plot # 361, Phase II, M3 Faisalabad Industrial Estate Development & Management Company, Faisalabad where proponent intends to develop residential facility. There are different industrial units within the project area in operational, constructional, and planning phase. The project lies in district Faisalabad, and it has detail background history.

5.1.1. Geological Formation

Faisalabad previously known as Lyallpur was established as a Mandi Town in 1895 as a part of the program of colonization of West Punjab. It was formerly a part of Tehsil Jhang of Multan Division. Because most of the area was un-cultivated and there were no regular crops, it served the purpose of only a meadow for the cattle of the indigence. The opening of Lower Chenab Canal in 1892 and its extension to the area in the form of Rakh Branch, Jhang Branch and Gogerah Branch coupled with the introduction of a Canal Irrigation system, brought the whole area under regular cultivation. The city was named in honor of Sir James Lyall, the then

lieutenant Governor of the Punjab. The design of the Town was prepared by Mr. Young, and it was further improved by Sir Gunga Ram, a renowned Town Planner of the time. It was laid down on a parcel of land measuring 110 acres in a square form with eight bazaars radiating from the central Clock Tower. The district of Faisalabad is situated in the center of the lower Rachana Doab, the area between Chenab and Ravi rivers, which has a mild slope from North-East to South-West with an average of about 0.2-to-0.3-meter drop per kilometer or about 1 to 1.5 feet per mile. The city is situated at an elevation of about 183.35 meters above the Sea level. The topography is however marked by valleys, local depression, and relatively high ground.

5.1.2. Seismicity

Pakistan lies on an active seismic belt of earth. Seismic observations indicate that hundreds of shocks originate every year. Mostly, these seismic waves are of low intensity and do not have significant effect. According to seismic zones of UN- Habitat the project area falls under Zone 2A. The seismic zoning is shown in the figure.

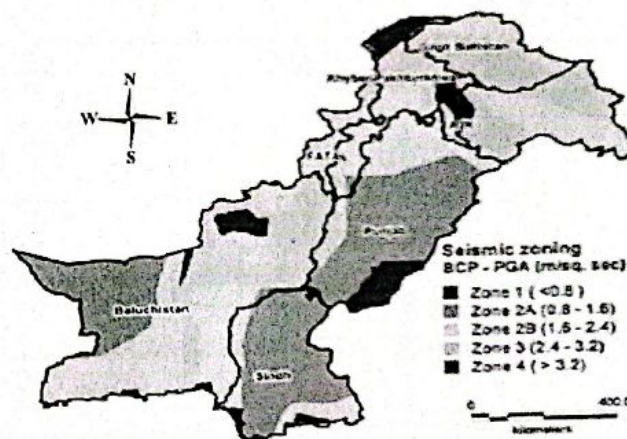


Figure-4 Seismic Zone Map

5.1.3. Climate

The meteorological data from Faisalabad has been used to identify the baseline climatic condition of the project area and surroundings. The proposed project lies in arid climate region. The last five years data was obtained from Pakistan Meteorology Department, meteorological station at Faisalabad to have an overview of the area's climatic regime. The metrology data of the site is briefly described below:

Table 3-Mean Temperature, Precipitation, Humidity

MONTH	MEAN TEMPERATURE MAX	MEAN TEMPERATURE MIN	PRECIPITATION	RELATIVE HUMIDITY
January	19.7	5.0	33.8	66.2
February	21.6	7.7	50.0	60.0
March	26.0	12.5	60.5	53.8
April	33.0	17.7	36.5	41.8
May	38.1	22.0	31.8	32.5
June	40.5	25.8	51.6	37.8
July	35.7	25.8	23.3	67.8
August	34.4	25.3	22.2	70.8
September	35.0	23.0	77.7	65.5
October	33.1	16.6	12.2	55.6
November	27.8	9.9	9.9	62.7
December	21.5	5.7	30.4	68.9
Annual mean	30.6	16.4	36.6	56.4

5.1.4. Seasons and Rainfall

The proposed project is situated in district Faisalabad which has hot summers and moderately cold in winter. It is in the region that encounters four seasons, the hot summer starts from May and continues till July, monsoon starts from July and continues to September while winter season end in February starting from November and spring season lasts for two months from March and

April. The last five years annual rain fall data from 2009 to 2013 shows variation between -1 – 243.1 mm.

5.1.5. Soils

The city is located on the “Bar Upland” which is relatively older alluvium deposit as found in the central part of the Doad. Because of its elevation above the bordering flood plains, the upland is generally beyond the reach of flood spills, which is the significant physiographic feature of the alluvial plan. Like other Punjab plains, the alluvium is quaternary and has been deposited on semi-consolidated tertiary rocks or on a basement of metamorphic and igneous rocks of Precambrian age. It emanates from the mountain ranges of the north and has been deposited by the present and ancestral streams. The deposition is predominantly fluvial sediments.

5.1.6. Temperature

The ambient temperature of proposed project region varies from summer to winter. The change in temperature has a direct influence on the environment of the project area. Hot and dry conditions during summer season changes the air quality by increase in particulate matters due to drying of road pavements and open soil. According to last five years data, mean monthly minimum temperature in the area varies from 3.5 to 28.6 C° and mean monthly maximum temperature were found 16.6 – 41.9 C°.

5.1.7. Water Resources

Water resources of the area are discussed under two broad headings, surface water resources and groundwater resources.

5.1.8. Surface Water

Surface waters resources are usually exposed to the surface of earth in the form of mobile and immobile situation which includes snow-clad mountains, rivers, non-river streams, rain, sleet, wetlands, and oceans. Surface resourced waters are highly susceptible to natural and anthropogenic derived contamination in terms of Chemical and Biological contamination and thus are not used for sensitive applications such as drinking directly unless it is pre-treated. Among surface waters, district & near the project extremities there is a distributor canal of Rakh Branch, which is used for the irrigation purpose etc.

5.1.9. Ground Water

Ground water resources are found hidden and camouflaged into the surface of earth in the form of mobile and immobile state and exist as shallow and deep wells, confined and unconfined aquifers, springs and watersheds. Ground resourced waters are not easily susceptible to natural and anthropogenic derived contamination caused by Chemical/Biological pollution and thus is directly used for sensitive applications such as drinking even it is un-treated. Main visible pollutants such as turbidity, color and odor usually remain absent in ground extracted waters. Invisible biological contaminants such as Bacteria, Protozoa and Viruses are also not expected in sub- surface water regimes unless it is contaminated by un-expected upheaval. Water constitutes an important section of Physical Environment of an EIA Study to define its magnitude, quality, and occurrence throughout the entire project corridor. On geo-sphereic earth water is amounting to 3% as freshwater resource of the total water reserve. Of this groundwater comprises 95%, surface water 3.5% and soil moisture 1.5%. Out of all the fresh water on the earth, only 0.36% is readily available for diversity uses and applications. The project area lies in the district of Faisalabad; the groundwater table normally exists 25 to 30 meters below the ground level and contains high level of salinity.

5.2. Environmental Baseline Monitoring

5.2.2. Noise Levels

Noise is described as an unwanted sound emitted from un-avoidable sources of anthropogenic activities. Daily based natural induced sources of noise are rare to none but human induced noise sources are plenty and un-avoidable. Physically, there is no distinction between sound and noise. Sound is sensory.

The perception and the complex pattern of sound waves is labeled noise, music, speech, low altitude aero plane flying etc. The noise pollution in the project area is source of pollution and nuisance. Among eight noise measurement locations in the cities, the study says, on average, the noise level ranged from 57-60 dB (A) in and around the project site.

5.2.3. Ambient Air Quality

Atmospheric pollution means the imbalance in the normal air chemistry. It can occur due to the addition of a new chemical into atmosphere or by the change in concentration of the chemicals already existing in the atmosphere. Atmospheric pollution particularly in urban area has a strong

impact upon daily life. The reasons of such changes can both be natural as well as anthropogenic. Ambient air quality is a key to measure the concentration of the various chemicals in atmosphere; especially of the chemicals which pose detrimental effects on health, safety, and environment, to have a comparison with their safe concentrations, as established in WHO Standards and NAAQS.

Table 4- Ambient Air Quality Monitoring Data

Parameters	CO	SO ₂	NO ₂	PM ₁₀	SPM	O ₃
Unit	mg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³
Front side	0.1	35.46	16.98	33.89	195	41.51
Central Point	0.1	35.46	16.98	33.89	195	41.51
Back side	0.1	35.46	16.98	33.89	195	41.51
NEQS	5	120	80	150	500	130

5.2.4. Surface Water and Ground Water

There are no surface water resources like canal or ponds, near the project area. The area surrounding the project site is poorly drained.

Ground water is the principal source of municipal water supply Faisalabad. This is also the case in the immediate vicinity of the site. The City's drinking water is obtained from groundwater aquifer by means of tube wells located throughout the area. Groundwater is pumped from 60-65 ft feet and is generally good for direct consumption.

5.3. Biological Environment

In this section, the baseline environmental conditions pertaining to biological environment are described. These conditions have subsequently been used to identify the potential impacts on the biological environment that are likely to arise from the project activities.

5.3.2. Fauna

The main fauna of the project comprises of mammals, birds, and reptiles.

Mammals Although most of the study area comprises agricultural lands, but due to presence of shrubs of grass, shrubs, and several agricultural crops like wheat in the surroundings 10 mammalian species have been recorded. Dense vegetation provides living shelter to the mammals like Asiatic Jackal, Five Stripped Palm Squirrel, Indian Crested Porcupine, Indian Desert Jird, Indian Gerbil, Cape Hare, Small Indian Mongoose, House Mouse, House Rat, and Jungli Cat. All the 10 species are commonly found in the project areas as well as in country and no significant threat can be expected from any activity.

Reptiles During the study several types of burros and droppings were found which indicate the presence of respected reptiles. None of the reptiles and mammalian species found here are listed under any category of the IUCN Red List. Ten species of reptiles were also recorded including snakes, lizards, and agamas.

Table 5- Type of Fauna at the Project Site

English Name	Scientific Name
Mammals	
Asiatic Jackal	<i>Canis auris</i>
Five Stripped Palm Squirrel	<i>Funambulus pennanti</i>
Indian Crested Porcupine	<i>Hystrix indica</i>
Indian Desert Jird	<i>Meriones hurrianae</i>
Reptiles	
Brilliant Agama	<i>Trapelus (Agama) agilisolepis</i>
Indian Cobra	<i>Najanajanaja</i>
Pakistan Ribbon Snake	<i>Psammophis leithii</i>
Saw scaled Viper	<i>Echiscarinatus</i>

5.3.3. Endangered Species

There is no floral or faunal species inhabiting the project area that are included in the Red Data Book of IUCN. The populations of birds are reported to be reduced over time due to excessive pesticide sprays in agricultural crops and loss of habitat.

5.3.4. Flora

Based upon observations during the field visit many species of plants were directly observed in the project area. List of the floral species in the project area are given in the following.

Table 6-Type of Flora in the Project Area

Tree Species	Species name
Kikar.	<i>Acacia nilotica</i>
Talhi.	<i>Alhaji maurorum</i>
Neem.	<i>Dalbergia sissoo Roxb</i>
Gaah	<i>Albizzia lebbek</i>
Jawar.	<i>Calotropis procera</i>
Gandum.	<i>Azadirachta indica (L.) Adelb.</i>
Makae.	<i>Triticum aestivum</i>
Kahi.	<i>Veazea nays</i>
Lawo.	<i>Tamarix indica</i>
Jhangoori Ber.	<i>Tamarixaphylla</i>

5.3.5. Archaeological Sites or Wetlands

It is envisaged that no building of archaeological, cultural, and historical importance is expected to be damaged due to the installation of said project at the selected site. Moreover, there is no wetland or surface water body reported to be affected due to the installation of the aforesaid project.

5.4. Socio Economic Assessment

Faisalabad is the third-most-populous city in Pakistan, and it is the second largest in the eastern province of Punjab. Historically, one of the first planned cities within British India, it has long since developed into a cosmopolitan metropolis. The total area of Faisalabad District is 5,856 km² while the area controlled by the Faisalabad Development Authority (FDA) is 1,280 km²

Faisalabad has grown to become a major industrial and distribution center because of its central location in the region and connecting roads, rails, and air transportation. It has been referred to as the "Manchester of Pakistan". Faisalabad's GDP in 2013 was \$43 billion (USD). The average annual GDP of Faisalabad is \$20.5 billion calculated by averaging GDP projections from 2015 to 2025.

5.4.2. Demographic Profile

The Demographic Studies are the major source of any city's Socio-Economic profile. Demographic Studies relate to population. Population studies are extremely important from Town Planning point of view. Until and unless we know about population in detail, we cannot do successful planning. All aspects of population, such as sex-age composition, trend of migration, social, cultural, political, economic, and administrative must be related to planning considerations and decisions. Individuals are the raw material of society; therefore, society is directly affected by size, growth, composition, and distribution of its population. The term population refers to the number of individuals living within a geographical area at a given time. The estimated population in the nearest Chaks of the project area is expected to be more than 50 thousand individuals.

Table 7-Demographic Profile of Faisalabad

Sr#	Parameters	Rural	Urban	Total
1	Population	4113582	3760328	7873910
2	Male	2102745	1931770	4034515
3	Female	2010623	1828231	3838854
4	Transgender	214	327	541
5	Household	631434	593832	1225266

5.4.3. Languages and Major Casts

There is no specific tradition on specific occasion and are same as other cities of Punjab. There are no clashes found in the area, people live peacefully however there is a combination of different cast and creeds and religions because district Faisalabad is industrial city and people from different cities live for the jobs and different business. Major casts dwelling there, are Sheikh, Araeen and Rajput

5.4.4. Religion

The population of Bahawalpur is over 99% Muslim. Islamic influences are evident in the fundamental values of various inhabitants including cultural traditions, marriage, education, ceremonies, and policies which may reflect stark differences in rural villages as compared to urban areas.

5.4.5. Dress

Majority of the people wear Qameez and Shalwar. English dress, shirt and Trousers are also common in Bahawalpur as well like other big cities of Pakistan.

5.4.6. Industrial Setup

Faisalabad contributes over **05%** toward Pakistan's annual GDP; therefore, it is often referred to as the "Manchester of Pakistan". Faisalabad's average annual GDP is **\$20.55 billion (USD)** of which **21%** comes from agriculture. The surrounding countryside, irrigated by the lower Chenab River, produces agricultural commodities such as; cotton, rice, sugarcane, wheat, fruit and vegetables. It is a producer of industrial goods and textile manufacturing including cotton and silk textiles, super phosphates, hosiery, dyes, industrial chemicals, clothing, pulp and paper, printing, agricultural equipment, ghee (clarified butter), and beverages.

The Faisalabad Chamber of Commerce and Industry monitors industrial activity in the city and reports their findings to the Federation of Pakistan Chamber of Commerce and Industry and provincial government. The city has a major dry ports and international airport.

Faisalabad is recognized as the center of the textile industry in Pakistan, contributing to half of Pakistan's total textile shipments. At the end of June 2012, Textiles employed **20%** of the nation's workforce and generated **1.3 trillion rupees (\$13.8 billion)** in textile products, most of which were exported to the US and Europe. While Punjab's economy is driven primarily by agriculture, the textile industry along with leather products and light engineering goods play an important role, with more than **48,000** industrial units spread across Punjab. To boost bilateral trade, Romania and Turkey have honorary- consulates in Faisalabad which enable trade links with the city.

Signature

5.5. Quality of Life Values

5.5.1. Health Facilities

Hospitals exist in the project area. There is a government hospital or Basic Health Unit (BHU) available in Tehsil Sahianwala. People also access to private hospitals in city and sometimes to nearby private dispensaries. Fever, malaria and chest congestion, Hepatitis-C were reported as the common diseases of the project area. In the project area, health conditions are much developed.



Figure 5-Health Facility Nearby

5.5.2. Customs

The peoples are very much concerned about castes and beliefs, visiting shrines is very common among them.

5.5.3. Electric Supply

Power supply line goes all along the project area, and approximately 90% of the community is able to acquire electricity. Gas supply has been provided to the area, but few of the houses cannot afford to avail the service, so these houses depend upon fuel wood. But majority of the people belong to business communities, government sectors and having small jobs in district Faisalabad.

PTCL telephone facility is available in all parts of the project area. Similarly mobile service is also available and is being used efficiently as mode of communication in the project area.

5.5.4. Educational Facilities

In the 1998 census Literacy was defined as the "ability of a person to read a newspaper or write a simple letter in any language". The Literacy is also measured in terms of literacy ratio and computed as percentage of literate persons among the population aged 10 years and above. The literacy ratio of the district Faisalabad is 60%, with a split of 60% for males and 56% for females. There are sharp differences in the literacy ratios by sex and areas. There are different government and private sector school near the vicinity of project area. People go to Faisalabad and other cities of Pakistan for university education.



Figure 6-Educational Facility Nearby

5.5.5. Agriculture

Major crops of the town are wheat, grain, peas, barley are the important crops of Rabi season, while Kharif crops are cotton, sugarcane, potato, bajra, oil seeds which are shipped by rail and road to other parts of the country.

3.4. Site of Physical, Cultural Heritage

There are no archaeological or protected sites of archaeological, cultural, historical & religious significance in the project area. The visible signs were observed at each site while conducting the field work.

6. ANTICIPATED IMPACTS AND MITIGATION MEASURES

This section provides the analysis of the potential impacts during development and operational phases of the proposed project on the physical, biological, and socio-economic environment of the project area. Environmental sensitivity of the project area is described through a thorough review of the project activities and the evaluation of significance of impacts is carried out through Environmental Matrices. This chapter then suggests effective mitigation strategies to help combat the adverse nature of these impacts and delivers a monitoring feed mill to manage them.

6.1. Anticipated Environmental Impacts related to Project Location

The location is well linked to the other parts of the city through a metaled road and the major roads connected to the site are Sahianwala Road. There will be no enduring, high and adverse impact predicted due to the establishment of the proposed Textile Proposed project at this location. The selected site is owned by the Client and there is no clash associated with the ownership of the land. The construction of the proposed project will not change the nature of the area as it is being constructed at the outskirts of densely populated residential areas. Moreover, the area is not inhabited by any ecologically important or protected flora and fauna specie as well as within 5.0 km vicinity of the project area no archaeology and historically important site is located.

6.2. Anticipated Environmental Impacts related to Project Design

The project design will follow the sustainability including green building, rain harvesting, and energy conservation to reduce its impact. Green building will help follow the maximum use of sunlight during day hours and buildings will be insulated to avoid excessive heat and avoid excessive electricity consumption. While all technical standards will be kept in mind while construction.

Solid waste management area has been reserved. It will ensure the effective management by solid waste door to door solid waste collection system.

6.3. Anticipated Environmental Impacts during Construction Phase

Environmental impacts due to proposed project of Aziz Textiles (Pvt.) Limited during development phase are as under:

I. Air quality:

Impacts

Due to the construction activities like excavation, clearing, leveling, compaction, etc., dust will be raised and due to slightly increased traffic, slightly emissions of SO₂, NO_x, CO and SPM are inevitable.

Uncovered vehicles for transportation of building materials as well as their storage, especially gravel, sand and cement on the construction site can lead to chance dispersal of materials during heavy rains or high winds during dry periods. This could have a negative impact on the workers of the nearby industries and the passers away. Also, the mixing of raw materials and blistering will generate solid waste composting of chemicals and when exposed to air can affect the environment and air as well.

Nature of Impact

The impact is short term, temporary, medium, and significant.

Mitigations

- Spray by water trucks to minimize the dust of construction areas and exposed terrain should be done regularly.
- The construction machinery and equipment must be kept maintained on a regular basis.
- Tuning of vehicles should be made mandatory to reduce emissions of SO₂, NO_x, CO and PM₁₀.
- Cover the vehicles with tarpauline carrying sand to avoid dust emission.
- Vehicles or trucks carrying cement, sand, aggregate and other materials shall be kept covered with sheets to help contain construction materials being transported within the body of each carrier.

II. Noise:

Impact

During construction process compaction, blistering and mixing of raw material machinery granulation Process, use of heavy machinery for clearing of the site and trolleys and trucks used for the transportation of construction materials will create some noise and vibration as well.

Acceptable level of sound is 40 dB (A) during night and 50 dB (A) during day.

Nature of Impact

The nature of impact is short term, low and significant.

Mitigations

- Noise related activities will be done during daytime only.
- Engines of vehicles visiting the project site should be properly tuned-up.
- Truck/tractor drivers should be instructed not to play loud music and stop use of horn.
- Noise control measures should be taken such as provision of silencers on the heavy construction vehicles.
- The green zone of plants will also help decrease sound levels.

III. Health and safety:

Impacts

Possibility of health and safety hazard of workers is always present during construction phases like laying of pipes, installation of scaffolding and machines installations. To avoid cuts and damages to the skin during sterilization, packaging of the medicines certain medical facilities must be present at the site during construction.

Nature of Impact

The impact will be temporary, significant, and high.

Mitigations

- To handle emergency medical situations, first aid facilities have already been made available for the workers at the site.
- Avoid all possible injuries during construction of the project.
- The contractor will ensure the availability of transport and driver to handle any emergency condition during construction activities at the project site.
- Safety equipment like belts, gloves and helmets should be strictly used by the labor at the work site.
- Implement training programs that support the achievement of the staff and personnel's competency in relation to health, safety and environment.
- Introduce methodology of motivating good safety and environmental performance.
- Wearing of personal protective equipment should be made mandatory. The supervisory staff and workers to the extent possible must.

Follow the messages and instructions displayed on HSE notice boards installed in the premises of the site.

- Be aware of emergency escape routes.
- Promptly report all accidents to the concerned environmental manager.
- Not smoke or produce flame in No Smoking Areas.

IV. Construction waste disposal:

Impacts

Disposal of construction debris produce shall be properly disposing of otherwise it would have negative impacts on the site and surrounding area. Material including concrete waste, wood, steel, plastics sheets, etc., may result in the drainage blockage.

Nature of Impact

The impact will be medium, short term, temporary, significant.

Mitigation

- A site waste management plan should be made the responsibility of the building contractor to provide for the designation of appropriate waste storage area on the site and a schedule for the timely collection and removal of construction debris to an approved dump site.
- The wastes should be properly segregated and separated to encourage recycling of some useful waste materials.

V. Change in drainage pattern:

Impacts

Excavation activities required for infrastructure installation (lying of water/sewage pipes, electrical cables, etc.) may adversely impact the existing drainage patterns in the area. Loss of topsoil due to soil erosion may remain a problem during clearing and construction phases of the project.

Nature of Impact

The impact will be medium, long term, significant.

Mitigation

Site clearing activities should be conducted in stages to minimize the area of exposed soil at any given time.

Flora & fauna:

Impacts

Previously, no plants or trees existed on the project site. Hence, no negative impact on the ecological environment will take place on account of cutting of any trees in the project area and clearing of vegetation from the site.

Nature of Impact

The impact will be below, short term, in-significant, and permanent.

Mitigation

- To reduce construction impacts on surroundings and workers, a tree plantation program has been designed by the project proponent as it would help in cleaning the environment during operational life of the project too.
- The landscape plan would assure that designated trees are planted and that areas suitable for planting are identified and landscaped using majorly local trees and shrub species used for feeding by local bird species.

VII. Socio-economic environment

Impacts

Several categories of employees will be required during the construction phase. This will include skilled and unskilled laborers, engineers, contractors, and a small number of other professionals. These levels of short-term employment would have a positive impact on the local economy and on regional unemployment.

Nature of Impact

The impact will be positive, short term, significant.

Mitigation

- Strong and comprehensive plantation plans also lessen the fear of the local people towards environmental issues.

Sustainable development approaches through conservation of natural resources would be the best strategy to compensate for negative socio-environmental impacts.

Environmental aspects of the project should be well taken care of through the implementation of the Environmental Management and Monitoring Plan (EMMP) as recommended in this report. Socially responsible attitude of the project management towards local people and resources can make project people friendly.

6.4. Anticipated Environmental Impacts during Development Phase

Major impact associated with the development of the Textile Proposed project is the transportation.

Dust Emissions

The site selected for development of sock knitting proposed project is around industrial area. The roads which connect different areas are metaled and development activities like excavation, leveling, filling etc. may cause clouds of dust in the vicinity. The impact will be in-significant due to metaled road.

Nature of Impact

The impact will be medium, short term, temporary, significant.

Mitigation

- Dust prone activities will be carries out at non windy days.
- Trapline will be used to cover loose material.
- Water sprinkling will be done to avoid dust emission.

Impacts on vegetation

The development phase of the project will be clearing of land, seasonal vegetation, and natural vegetation. At the end of the development phase, 3-5 times of the removed trees will be planted in the designated green areas for which environmental budget has been allocated.

Nature of Impact

The nature of the impact will be low, short-term, permanent, and insignificant.

Mitigation

- Following measures will be taken to avoid the impact of mitigation,
- Unnecessary removal of trees will be avoided.
- Native new trees will be planted to avoid vegetation loss, preferred to use ornamental plants.
- Trees will be planted along the roadside in the designated area.
- Proper maintenance of the planted trees will be done on regular basis.

Impact on Wildlife

Previously, no plants or trees existed on the project site. Hence, no negative impact on the ecological environment will take place on account of cutting of any trees in the project area and clearing of vegetation from the site.

Nature of Impact

The impact will be below, short term, in-significant, and permanent.

Mitigation

- To reduce construction impacts on surroundings and workers, a tree plantation program has been designed by the project proponent as it would help in cleaning the environment during operational life of the project too.
- The landscape plan would assure that designated trees are planted and that areas suitable for planting are identified and landscaped using majorly local trees and shrub species used for feeding by local bird species.

Impact on Water Resources

Construction phase of the proposed project will impose harmful impacts on water bodies of the

Nature of Impact

The impact will be below, short term, in-significant, and permanent.

Mitigation

Following measures will be adopted to avoid or minimize the impact on water resources.

- Avoid unnecessary consumption of water.

Awareness regarding water conservation techniques will be carried out
Watering the under-construction building will be done after proper training of the labor.

Socio-economic Impact

During development phase new opportunities for the people of the area. Construction activities create indirect opportunities of employment like raw material provision, loading unloading, food for the labor. Etc. after completion of the project, it will serve as permanent business opportunity. In this sense the proposed project will have positive impact on socio-economic environment.

Impact on historic sites

There are no adverse impacts anticipated due to the development of Textile proposed project in the area. no cultural historical sites seen in the study area hence no impact on the historical and cultural sites.

6.5. Anticipated Environmental Impacts during Operational Phase

I. Potential Positive Impacts:

The project is envisaged to have followed major positive impacts,

Employment opportunities:

Construction of The Aziz Textiles (Pvt.) Limited will help in generating new jobs for the local population. The requirement of Managers, Engineers, Workers, technicians, skilled and unskilled labor etc. will generate employment opportunities. It is estimated about 30-35 persons will be employed during operations phase and about 20-25 persons will work during construction phase.

Increase in Business:

With the influx of laborers for the proposed project, there will be more opportunities for small scale business such as small food cafes etc.

Improved Infrastructure:

Construction of The Aziz Textiles (Pvt.) Limited will improve the infrastructure of the area as proponent has incorporated aesthetic values and regeneration of site in its planning stage.

Economic benefits:

At Aziz Textiles (Pvt.) Limited will positively impact not only the local population. The shopkeepers in the town told that they will have a greater number of customers due to increase in population.

I. Potential Negative Impacts:

Land Acquisition Resettlement:

One of the major impacts includes acquisition of land from the landowners and the resulting displacement of their families and disturbances in the livelihood of the affected persons (AP) in the project area. But present project land is ownership of proponents of the textile unit do not involve any type of land acquisition and resettlement activity.

Solid waste management:

Proper solid waste management system is necessary for the prompt, timely and efficient disposal of solid waste & sludge for the reduction of its impacts. Impacts due to solid waste are expected to be temporary and minor in nature.

Air Quality Potential Impact:

Air emissions from project-related activities are likely to include:

- o Dust raised on dirt tracks by project-related vehicles.
- o Vehicular Exhaust (nitrogen oxides, sulfur dioxide, particulate matter, carbon monoxide, and volatile organic compounds) from vehicles used for project-related activities and residents of the area.

6.6. Potential Environmental Enhancement Measures

The proposed project will be installed with all precautionary measures to enhance and safe the environment. Following necessary measures will be adopted during construction and operation:

- Sprinkling of water will be done on dusty road and tracks.
- PPEs will be provided during construction activity.
- Constructional waste and domestic solid waste will be disposed-off or utilized properly.
- Local people will be informed in advance when work is about to start in an area
- Machinery will never be left unattended.

- Efforts should also be made to discuss traffic conditions so that regular traffic is not disturbed. Transporters engaged for the project would be forced to adhere to the load specifications of the access road. No overloading would be allowed in any case.
- Safety signs and boards will be placed during construction.
- Proper SOPs will be followed with proper schedule along with the HSE conditions.
- Area will be restored with native plants. A proper tree plantation plan will be formulated to save the environment.
- Solid waste will be handed over to contractors and agreement will be made.
- Noise will be controlled by adopting proper measures.
- PPEs will be provided to workers during working.
- Safety signs will be placed at all locations where required.
- First aid facilities will be made available.
- Any possible measure will be adopted to make the project safe and environmentally friendly.

7. ENVIRONMENTAL MANAGEMENT AND MONITORING PROGRAM

This chapter provides a detailed environmental management plan and strategies. The objective of the Environmental Management Plan (EMP) is to address all the major environmental issues and provide a framework for the implementation of the proposed mitigation measures during the operational phases of the proposed project.

7.1. Purpose of Mitigation

For the project to be running successfully and compliance with environmental regulations mitigation of impacts caused by the project is required. The purpose of the need of mitigation can be answered by various questions as follows:

1. What is the problem?

The proposed project is development of Textile Proposed project to provide excellent residential facilities to the people. These activities may cause some environmental impacts which are needed to be addressed.

2. When problem will occur and when should it be addressed?

The problem will occur during the development and operational phase of the project. The problem should be addressed during the planning phase and satisfactory mitigation measures will be proposed and described in the EMMP.

3. Where the problem should be addressed?

The problems should be addressed where they are originated i.e., at the project location.

4. How the problem should be addressed?

The problem should be addressed by applying appropriate engineering controls for all the environmental impacts that are likely to occur. Moreover, it can also be mitigated by creating awareness among the workers, staff and communities through conducting seminars and meetings etc.

7.2. Institutional Capacity

Following functionaries will be involved in the implementation of EMP:

Mr. Faisal Abbas S/o Mohammad Ashraf as the project proponent and owner of the EMP

1. Project excavation contractor(s) as executors of the EMP during installation phase of the project.
1. Transportation & Maintenance (O&M) and the health, safety, and environment team of the proposed project as an executor of the EMP during the transportation phase of the project.

I. Responsibilities of Proponent

The management of Aziz Textiles (Pvt.) Limited will be responsible for the environmental management and supervisory affairs during the installation and operational phase of the proposed project. An environment personnel designated by the management of Aziz Textiles (Pvt.) Limited will look after the environment related issues during the operational phase. The responsibilities of environmental personnel are as follows:

1. Monitoring progress of the project as per planned schedule of activities
2. Exercising oversight over the implementation of environmental mitigation measures by the contractor
3. Documenting the experience in the implementation of the environmental process
4. Preparing training materials and implementing programs
5. Maintaining interfaces with the other lined departments/ stakeholders
6. Reporting the status of EMP implementation to the management

II. Training Schedule

A training log will be maintained by Site engineer and contractors. The training log will include topic, date, time and location, trainer, and participants.

Table 8-Training Schedule

Staff	Training Content	Schedule
Selected management staff and contractor	• Introduction to project IEE and EMP. • EMP communication, documentation and monitoring and reporting requirements.	• Weekly
All site personnel	• Site induction training on Health Safety and Environment system and requirements at textile proposed project • Environmental sensitivities of the project area. • Communication of environmental problems to Appropriate officers. • Waste disposal. • First Aid • Emergency • Disaster Management • Fire Extinguishers • Emergency services	• Twice month
Drivers	• Road safety. • Road and vehicle restrictions. • Defensive driving.	• Monthly

III. Responsibilities of Project Contractor

Contractor appointed for the Aziz Textiles (Pvt.) Limited including the auxiliary facilities is responsible for:

1. Implementation of, or adherence to, all provisions of the EMP and with any environmental and other codes of conduct required.
2. Provision of proper Personal Protective Equipment (PPE) to the workers and train them for their proper use.

7.3. Training schedule

Proponent provides periodic Environmental and HSE trainings to workers working in their existing plants. The management of Proponent feels HSE is important for moral, legal, and

financial reasons. The management of proponent has developed strict SOPs for Health and Safety of workers. These SOPs includes SOPs for Personal protective equipment's, Risk Assessment, permit to work, SOP for work at height, Fire Safety and Prevention, Confined Space entry etc. A comprehensive annual training calendar has also been developed for training on topics of HSE for management as well as labors.

7.4. Equipment Maintenance Details

Equipment with high efficiency, good condition and reliability will be purchased by the Proponent. Maintenance of equipment will be done twice a year for the smooth development of Textile Proposed project. The management will maintain the records for Health Safety and Environment and will hire HSE manager to check and deal with the HSE issues. The management shall maintain PPEs, medical facilities, firefighting equipment, SOPs, conduct trainings, develop schedule for blasting, design for proper fencing and records for their periodic filings or replacement. Fully automated air pollution control system shall be kept in a proper working order.

7.5. Environmental Budget

Table 9- Environmental Budget

Environmental Component	Quantity	Amount Pak Rs.	Details/Basis
Green Belts/Tree Plantation	5k-10k	01 million	Cost includes plantation and maintenance up to three years
Solid waste management	L.S	02 million	Lump sum
Wastewater treatment	L.S	02 million	Lump sum
Health & Safety Measures PPEs	L.S	25,000	Lump sum
Miscellaneous Cost	L.S	12,000	Lump sum
Air Quality Monitoring	2	15,000	2 samples @ 7500/sample
Water Quality Monitoring	2	10,000	2 samples @ 6000/sample
Noise Level Monitoring	2	10,000	2 samples @ 5000/sample
Soil Tests	2	10,000	2 samples @ 5000/sample
Training		10,000	Lump sum
External Monitoring			50,000
Total Environmental and Social Management Cost			5.5 million

7.6. Change Management Plan

The IEE recognizes that changes in the operations or the EMP may be required during the operation and therefore a Change Management Plan has been provided to manage such changes. The management of changes is discussed under two separate headings, changes to the EMP and changes to the operation.

I. Changes in Planning and Design

The change management system recognizes three orders of changes.

First Order Change

A first order change is one that leads to a significant departure from the project described or the impacts assessed in the IEE and consequently require reassessment of the environmental impacts associated with the change. Examples of such change include change in location of the proposed plant.

In such an instance, the environmental impacts of the proposed change will be reassessed, and the results sent to the Punjab EPA for approval.

Second Order Change

A second-order change is one that entails project activities not significantly different from those described in the IEE, and which may result in project impacts whose overall magnitude would be like the assessment made in this report.

In case of such changes, the environmental impact of the activity will be reassessed, additional mitigation measures specified if necessary, and the changes reported to the Punjab EPA.

Third Order Change

A third-order change is one that is of little consequence to the IEE findings. This type of change does not result in impact levels exceeding those already assessed in the IEE; rather these may be made onsite to minimize the impact of an activity. The only action required in this case will be to record the change in the change record register.

7.7. Changes in Monitoring and Management

The IEE and the EMP have been developed based on the best possible information available at the time of the IEE study. However, it is possible that during the operation and transportation phase some aspects of the EMP may need to be changed owing to their non-applicability in a certain area

of transportation or the need for additional mitigation measures based on the findings of environmental monitoring during the transportation phase. In such cases following actions shall be taken.

1. A meeting will be held between management and the concerned contractor. During the meeting the proposed deviation from the EMP, planning and designing will be discussed and agreed upon by all parties.
2. Based on the discussion during the meeting, a change report will be produced collectively, which will include the original EMP clause/plan or design, the change that has been agreed upon, and the reasons for the change.
3. The report will be signed by all the parties and will be filed at the site office. A copy of the report will be sent to sand and contractor head offices.
4. All relevant project personnel will be informed of the change.

7.8. Compensation in Terms of Money

Changes in the EMP can be done upto 3% of the total development cost in case the Mitigation and Monitoring of the environment according to the prescribed plan does not render useful.

7.9. Replacement, Relocation and Rehabilitation

The estimated life of the first phase of the project is 20-25years.

7.10. Environmental Management and Monitoring Plan

The Environmental Management and Monitoring Plan (EMMP) will be used as a management and monitoring tool for implementation of the mitigation measures identified by the IEE. The EMMP matrix lists down:

1. The required mitigation measures recommended in the IEE.
2. The person / organization directly responsible for adhering to or executing the required mitigation measures and monitoring adherence to the mitigation measures.
3. The parameters, which will be monitored to ensure compliance with the mitigation measures.
4. The timing at which the mitigation or monitoring must be carried out.
5. Proponents of the project will hold primary and overall responsibility for ensuring full implementation of the EMP.

I. Objectives of EMP

The EMP provides a delivery mechanism to address potential impacts of the project activities, to enhance project benefits and to introduce standards of good practice to be adopted for all project works. The EMP has been prepared with the objectives of:

1. Defining roles and responsibilities of the project proponent for the implementation of EMP and identifying areas where these roles and responsibilities can be shared with other parties involved in the execution and monitoring of the project.
2. Outlining mitigation measures required for avoiding or minimizing potential impacts assessed by the IEE.
3. Developing a monitoring mechanism and identifying requisite monitoring parameters to confirm effectiveness of the mitigation measures recommended in the IEE.
4. Defining the requirements for communication, documentation, training and monitoring, management, and implementation of the mitigation measures.

INITIAL ENVIRONMENTAL EXA

ENVIRONMENT MANAGEMENT AND MONITORING PLAN FOR AZIZ TEXTILES (PVT.) LIMITED				
S. #.	IMPACT	MITIGATION MEASURE	RESPONSIBILITY	
			IMPLEMENTATION	MONITORING
A.	CONSTRUCTION STAGE			
1.	AIR QUALITY			
	Dust, SO ₂ , NO _x & CO emissions from trucks, cause health issues to workers.	Spray by water trucks to minimize the dust. Maintenance of construction machinery should be made mandatory to reduce emissions. Haul-trucks carrying earth, sand, aggregate and other materials will be kept covered with tarpaulin to reduce dust pollution.	Contractor	Proponent through Consultant
2.	NOISE			
	The impact of noise generated during construction.	Engines of vehicles visiting project site should be properly tuned-up. The green zone of plants will also help decrease sound levels.	Contractor	Proponent through Consultant
3.	OCCUPATION, HEALTH, AND SAFETY			

	There will always be the possibility regarding hazard to health and safety of workers to occur during construction stage, lying of piles, and machines installation.	First aid facilities should be readily available for the workers at the site. The contractor will ensure the availability of transport and driver to handle any misshape which may occur. Relevant safety devices like belts, gloves and testers should be strictly used by the Labor force at the work site. Implement training programs that support the achievement of the staff and personnel's competency in relation to HSE.	Contractor	Proponent through Consultant
4.	DISPOSAL OF CONSTRUCTION DEBRIS			
	Each phase of the development shall produce solid waste, disposal of which, if not managed properly could have negative impacts on the site and surrounding area.	A site waste management plan should be made the responsibility of the contractor. The wastes should be properly segregated and separated to encourage recycling of some useful waste materials. Train or educate the involved stakeholders on the importance and means of waste management and handling.	Contractor	Proponent through Consultant
5.	GROUND WATER QUALITY			
	No appreciable impacts on the ground water	Avoid accidental spills through good work practice.	Contractor	Proponent through

	quality are anticipated.			Consultant
6.	SOIL CONTAMINATION			
	Any improper storage or handling of materials including paints, fuels, solvents, oil, cement, etc. would result in soil contamination.	The contractor should be required to impart proper training to their workforce in the storage and handling of materials.	Contractor	Proponent through Consultant
7.	FLORA & FAUNA			
	No negative impact on the ecological environment will take place on account of cutting of any trees in the project area and clearing of vegetation from the site.	Trees and ornamental plants shall be planted along the project boundary which increase the aesthetic value of the site and will combat pollution. Landscaping is deemed to be a powerful mitigation activity with a positive impact.	Contractor	Proponent through Consultant
8.	SOCIO-ECONOMIC ENVIRONMENT			
	Several categories of employees will be required during the construction phase. This would have a positive impact on the local economy and on regional unemployment.	Socially responsible attitude of the project management towards local people and resources can make project people friendly. Awareness and educational programs introduced by the project management or e area can reduce the fear among the people regarding non-local people.	Contractor & Proponent	SIE

B.	OPERATIONAL STAGE			
9.	AIR QUALITY			
	The slightly increased traffic because of project operation will not result in the significant increase in concentrations of emissions of flue gases as the number of visiting vehicles shall be limited for transportation of materials and vehicles for staff per day.	Proper maintenance and tuning of the vehicles done by the proponent.	Proponent	EPA
10.	NOISE QUALITY			
	Noise due to movement of vehicles, during traffic of materials.	No Mitigations required except for keeping maintenance of vehicles. Plantation along with roads will make buffer zone to avoid noise.	Proponent	EPA
11.	OCCUPATION, HEALTH, AND SAFETY			

INITIAL ENVIRONMENTAL EXAMINATION

	There will always be the possibility regarding hazards to health and safety of workers to occur during the operational phase of the project.	All the workers involved in transport of the materials will be suggested to wear boots, gloves, safety cap to avoid injury. Plantation of trees along the boundary walls will help in reducing the noise levels to sufficient extent. Noise absorbing paint should be used on indoor walls to minimize its impacts on the outer environment. All the vehicles should be properly tuned up and regular maintenance and periodic monitoring must be done. Strict rules should be made by the project administration to control speeds of vehicles.	Proponent	EPA
12.	SOLID WASTE			
	The solid/chemical waste may negatively impact the site, the workers, the visitors, and the factory surrounding in different ways including aesthetically, occupationally as well as from health, safety, and environment point of view.	Solid waste will be collected by management, which will be managed by Aziz Textiles (Pvt.) Limited (Pvt.) Ltd. waste management.	Proponent	EPA
13.	WASTEWATER QUALITY			

AZIZ TEXTILES (PVT.) LIMITED

	The sewage effluents shall be discharged after primary treatment into the main sewerage tank.	The system for the primary treatment of the sewage effluent should be appropriately installed and maintained.	Proponent	EPA
14.	FLORA & FAUNA			
	Excessive plantation shall be done on the walls. This will act as a buffer zone and bring healthy change in the environment during the operational phase of the project.	The process of plantation should be kept sustainable throughout project life.	Proponent	EPA
15.	SOCIO-ECONOMIC ENVIRONMENT			
	A number of employees will be required in the operational phase, and this would have a positive impact on the local economy and on regional unemployment.	The management of the project can capitalize the positive attitude of people of the study area towards this project by offering them maximum employment opportunities. Measurements and steps should be taken to keep undisturbed the privacy of adjoining workplaces.	Proponent	EPA

7.11. Summary of Impacts and Mitigation Measures

The major positive impacts of the project include job opportunities and new business opportunities. The project will raise the people's income, enhance social infrastructure, and improve socioeconomic conditions in the area. The project is expected to stimulate the local economies around the Project area to a greater extent and to benefit people who have a low standard of living.

With reference to the activities being conducted such as excavation, major impacts will be related to noise, vibrations, increased rates of sediment deposition and minor dust pollution. To minimize these impacts, the mitigation measures for the stated issues that have been mentioned in the impacts and mitigation measures during the operation phase may be followed.

Negligible to low negative impacts can be foreseen during project implementation including Air Quality, Noise, Landscape and Visual Impact of Installation, Wastewater Generation and Disposal, Biodiversity, Odor, Dust, Water Supply and Land Spreading. Mitigation measures will be implemented to minimize environmental impacts. All the impacts can be managed cost effectively. Careful mitigation and monitoring, specific selection criteria and assessment procedures for subprojects have been specified to ensure that minimal impacts take place.

8. Stakeholder Consultation

Stakeholder's consultation is a tool used for communication with a diverse group of stakeholders having multifarious aims such as information dissemination, exchanging views, soliciting feedback and suggestions on issues pertaining to the project, plan future actions. This practice initiates a need assessment and identify areas of concern for all the parties that maybe affected by the project activities.

Stakeholders are all those people and institutions who have an interest in the successful design, implementation, and sustainability of the project. This includes those positively and negatively affected by the project.

Project can actively participate in decisions on planning and management. The stakeholders including regulators, government representatives and NGO's were met to appraise and discuss the environmental and social perspective of project activities related to the construction and operation of incineration unit. Their valuable concerns and suggestions were noted and thereafter incorporated in the IEE process and study.

During the field survey for this IEE study, meetings were held with the communities residing within the project area. The objective of these meetings was to solicit and record their views and concerns for inclusion in project design at the planning phase. In the same vein, meetings were held with the members of local and provincial government, NGO's, and district government representatives.

All the stakeholders were briefed about the project verbally. Their feedback was noted, and all the concerns voiced in the discussion were relayed to the management team of the project.

8.1. Benefits and Objectives of Stakeholders Consultation

Consultation with stakeholders leads to an overall better understanding of the project on the part of the communities and gives the proponent a clearer understanding of the stakeholders' perspective. Effective public consultation can add substantial value to the IEE process. The information gained through public consultation on the stakeholders' concerns, interests, and their ability to influence decision-making helps identify key cause of environmental problems.

This can be used to evaluate direct and indirect environmental impacts and assess short term and long-term resource use implications. The input from local communities and NGOs can help

evaluate alternatives and strengthen the management planning by incorporating local input and know-how.

An informed public will better understand the tradeoffs between project benefits and disadvantages; be able to contribute meaningfully to the project design; and have greater trust with the project proponent and support for the project, says the Asian Development Bank. These factors contribute towards improved project implementation sensitized to the human environment of the area. The objectives of stakeholders' consultation are to:

- Promote better understanding of the proposed operation through explaining its objectives and its potential positive and negative impacts.
- Identify and address concerns of all interested and affected stakeholders.
- Provide a mechanism to resolve issues identified by communities, before project plans are finalized and development begins, thereby, avoiding public outcry and resentment.
- Instill trust between various stakeholders and the proponent to promote cooperation.

8.2. Identification and Classification of Stakeholders

During the field survey, significant efforts were made to identify the possible categories of stakeholders and their stakes. Identification of stakeholders is important for the sustainability of a developmental project and helps to evaluate and envisage the role of stakeholders. The influence or impact of the project on stakeholders can be elaborated in the form of a matrix and the mitigation measures are proposed accordingly.

All the stakeholders had different types of stakes according to their professions. The stakeholders that are likely to be influenced by the project activities or would like to participate in the project include:

- **Industries/Residential Areas surrounding the project area.**

Stakeholders can be classified depending on the influence of the project activities on them. The stakeholders for the project are classified as follows:

- **Industries:** Industries, groups or institutions directly affected by the project and can influence the project outcome.
- **Local communities:** Residential areas around the project site.

8.3. Concerns and Suggestions of Various Stakeholders

The major socio-economic concerns and problems of the affected persons of various communities have been given in tabulated form along with their main concerns and remarks. Community showed a lot of concerns; a few are being mentioned here:

- Removal of shrubs and trees should be avoided to the extent possible in the case of clearance green zones should be established within the facility.
- Indigenous trees around the facility should be planted to control air pollution and as the compensation of construction activity.
- The project will become the source of income for local to earn their livelihood easily and honorably, so locals should be preferred.
- For the solid waste management and waste disposal, proper disposal techniques should be adopted.
- Water spraying/sprinkling should be done on the regular basis during construction phase to avoid dust emissions.
- Employment opportunities will be generated, and locals should be hired on the priority basis.
- The air pollution is one of the major impacts from which Punjab is being affected at the large scale. So, ambient air quality should be monitored regularly.
- Good relations with the local communities will be promoted by encouraging Contractor to provide opportunities for skilled and unskilled employment to the locals as well as on-job training.
- Noise generated activities should be carried out during day hours.

8.4. Methodology for Consultation

Stakeholder consultation is a two-way flow of information and dialogue between the project proponent and stakeholders, specifically aimed at developing ideas that can help shape project design, resolve conflicts at an early stage assist in implementing solutions and monitor ongoing activities. Various techniques are used worldwide to carry out the stakeholder consultation that includes discussions, meetings, and field visits. A series of scoping sessions and informal focus group discussions were carried out with local communities and local government representatives. The meetings were held at various locations.

Table 10-List of People Consulted

Table 9-2 Proponents management team

Sr.#	Name	CNIC #	Concerns
1	M. Iqbal	35301-7373586-5	During the survey in the study area following concerns of the local community were noted:
2	M. Ramzan	35301-1859064-3	
3	Mazhar Hussain	35301-8192591-1	- Locals should be preferred for the job opportunities. - Wastewater should be treated prior to final disposal in nearby drain. - Solid waste should be managed effectively by adopting the standard practices of the area. - Cleanliness of the area should be ensured. - An effective EMMP should be designed and enforced with true spirit. - Health of the workers should be ensured. - Planation should be carried out at extensive scale.
4	Sabir Ali	35301-9550973-3	
5	M. Rafique	35301-7596865-9	
6	Arif Hussain	35301-1349431-5	
7	Kashif Hussain	35301-4179920-1	
8	Umair Ahmad	35301-0473475-3	
9	Abdul Basit	35302-9644957-1	
10	Muhammad Rafiq	35302-5360959-3	
11	Zahoor Ahmad	36502-9571537-9	
12	Adil Mustafa	35302-1984663-1	
13	Mohammad Amin	35302-2359281-9	
14	Mohammad Wafa Ullah	35301-9268142-5	
15	Mohammad Ahmad	35301-0111083-7	

INITIAL ENVIRONMENTAL EXAMINATION

Sr.#	Managers	Responsibilities
1.	Contract Manager	• Implementation of EMP • Environmental issues identification during pre-construction phase. • Communication EMP to all employees.
2.	Contractor	• Ensure that the control measures identified during environmental surveys are implemented as they are relevant to their work/visit. • Ensure that the project management team is notified of any non-conformance of control measures or environmental incident where the environment has been put at risk.
3.	Site Manager	• Ensure site material and safe handling of hazardous waste. • Controlled access arrangement to avoid hazards. • Emergency egress arrangements to avoid any unfortunate incident. • First aid facilities/services should be readily available on-site.
4.	Site HSE Advisor	• Ensure good standards of workmanship. • Engaged health and safety to devise site waste management plan to be followed and implemented. • Daily checks & weekly checks. • Regular consultation with workers.
5.	Site Environment Advisor	• According to legislation and consent develop EMP. • Ensure application of EMP. • Carry out regular site inspection.
6.	Public Contact Officer	• First point of contact for members of the public. • Arrange and manage public forums. • Maintain relation with stakeholders. • Door to door surveys as appropriate. • Coordination with work.

8.4.1. Pictorial View of Consultation



Figure 7- Consultation with Nearby Community

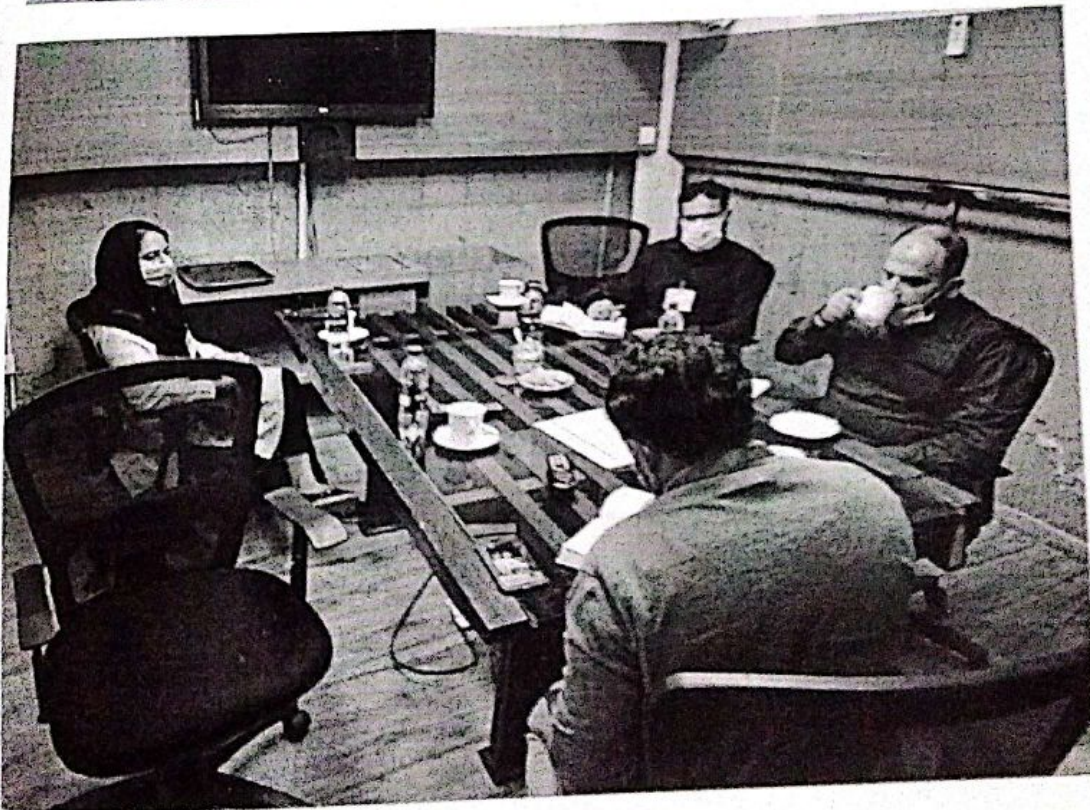
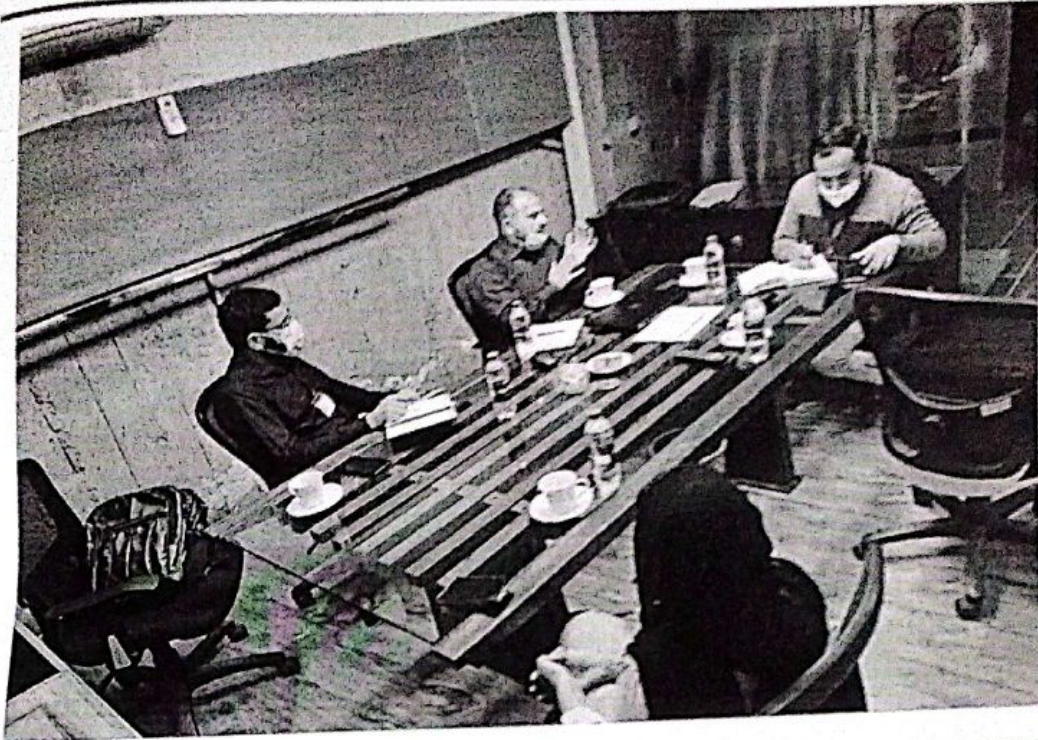


Figure 8-Consultation with nearby Industries



Figure 9-Affected and Wider Community

8.4.2. Study area:

The area of Plot # 361, Phase II, M3 Faisalabad Industrial Estate Development & Management Company, Faisalabad, was the part of our study boundaries but specifically, it included. The land for proposed unit is situated at Plot # 361, Phase II, M3 Faisalabad Industrial Estate Development & Management Company, Plot # 361, Phase II, M3 Faisalabad Industrial Estate Development & Management Company, Faisalabad.

8.4.3. Study schedule:

The composition and schedule to conduct the group discussions and interviews and impact location profile was prepared using the attached Performa in annexure.

8.4.4. Local community

Concerns of the locals of the project were solicited and collected in the following manner:

- A field visit was arranged to contact the communities within 5km of the project area.
- The team was completely aware of the processes and environmental issues related to the project.
- A brief description of the project was provided verbally to the local community, and they were asked to express their concerns regarding the project.
- Concerns, complaints, and suggestions were recorded in written form.

8.4.5. Local Communities Concerns

The issues and suggestions raised were recorded in field notes for analysis, and interpretation, by reaching out to a wider segment of the population and using various communication tools such as participatory needs assessment, community consultation meetings, and focus group discussions. The findings of the Community consultations have been addressed in various sections of the IEE report, and the mitigation plans have been incorporated into the EMMP.

8.5. Consultation with Affected and wider community

In addition, to the use of direct methods to evince the response of the various stakeholders in targeted population residing in study area was ascertained by conducting a sample survey, through specially formatted questionnaires. Questions posed to the public were related to creation of possible impacts, adverse impacts, and

beneficial impacts, including employment opportunities, income generation activities, change in living standards and provision of the basic amenity.

Personal views of the respondents on the establishment of Aziz Textiles (Pvt.) Limited by, possible disturbance to the residents near the AOI and infringement of their privacy were also recorded. The various rounds of public meetings and consultations were arranged in project and study area. The objectives of consultation with the affected persons are given in the table below:

- Disclose the proponent plan for the construction/operation of said facility.
- To share information on the design and specifications of project works.
- To analyze the expected impact on the socio-economic environment.
- To understand their concerns regarding various aspects of project commencement.

8.6. Environmental Practitioners and experts

Consultation with Environmental Practitioners and experts was done and following comments and suggestions were noticed.

Sr. No	Name	Designation	Comments/Suggestions
1.	Engr. Muhammad Bilal	Environmental Engineer	Following comments are summarized to control the air pollution generation during operational phase. • It should be ensured that the pollution abatement technique
2.	Sara Fatima	Environmentalist	• She said that commercial plaza will uplift the socio-economic life of the area. • During construction and operation emissions must be controlled properly • Basic facilities should be provided to local community

INITIAL ENVIRONMENTAL EXAMINATION

3.	Zia ur Rehman Farooqi	Ph.D. Scholar Environmental Sciences	Following mitigation measures should be adopted: • Tree plantation in designated green zones should be carried out. • Proper disposal of the solid waste • HSE management measures should be adopted and implemented effectively.
4.	Mr. Saffi Ahmed	Environmentalist	• He said that locals should be preferred for employment. • Value addition of area • In case of outsider's residence must be provided • Proper mitigation measures must be adopted while construction and operation of this project
5.		Environmentalist	• She said that in case of removal of vegetation trees must be planted after construction at designated green areas. • Water conservation strategies must be adopted. • Solid waste must be collected and dispose of properly
6	Hafiz Zeeshan Safdar	Environmental Engineer	• Wastewater should not mix with surface water channels it must be properly dispose off after meeting PEQS. • Avoid groundwater contamination
7	Miss Misbah Ali	Environmental Engineer	According to her following mitigation measures should be adopted during construction. • Site re-vegetation must be done. • Latest technology must be installed. • Residence must be provided to contractors and workers. • Locals must be preferred for employment

8.7. Key Findings of Study:

The study findings depict that people perceive overall positive social impacts by development of proposed project. Their attitude towards project development is highly positive with the expectation that locals are provided with jobs especially where unskilled labor is required. Majority of the people is convinced for positive sign for development in area and they correlate this change with the pace of their upward social mobility and progress. However, they want wastewater treatment plants to be installed.

8.8. The responsible authority

Overall responsibility for implementation of EMP will be that of project proponent. He will appoint a HSE/Project Manager of relevant qualification. HSE/Project Manager will act as Environmental Manager and will manage all HSE condition at the PEQS.

8.9. Other department and agencies

Following officers of government departments were consulted by the socio-environmental team of the consultants and concerned details about the project were noted down through personal interviews, group meetings, etc., in their offices, for instance,

Table 11- Views of Participants of Public Sector Stakeholders

Sr.#	CNIC/Designation	Concerns
1	Assistant Director (Field), EPA	Following comments are summarized to control the pollution: • Solid waste should be managed in environmentally friendly manner. • Wastewater should be treated effectively & approval should be acquired from concerned agency before disposing off in nearby drain. • HSE* at the site should be managed effectively. • No impact is being foreseen due to the selected location. • Locals should be given job opportunity. • Planation and landscape activities should be carried out on broader scale. • Indigenous species such as Arjam, Barna, Neem, Suhajna, Amaltas and Jaman should be planted. • Proper drainage system must be available at site.
2	Environmental Inspector	

3	Deputy Director Officer	Following comments are suggested by the Deputy Director on the behalf of Social Welfare Department: • The proposed product should facilitate locals and they should be economical. • Job opportunities should be given to the locals. • Wages should be given according to the work assign to them. • Life insurance of the workers should be given as well as all the facilities should be given as per labor laws. • Untreated wastewater should not be disposed off in the nearby drains without proper treatment. • Beneficial as job opportunities will be available to the local residents.
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8.10. Results of Survey

Following are the results of the survey with the local stakeholders:

8.10.1. Occupation of Respondents

Majority of the respondents (38%) belongs to the labor class, 16% associated with their own business, 13% were daily wagers, 13% of respondents were associated with agriculture, 7% were shopkeepers and remaining 7% were the private employees. During survey, efforts were made to interact with local stakeholders representing all walks of life. The detailed graphic representation of occupational status is given below,

8.10.2. Personal Income

Based on the sample survey results, as the figure shows that 5% of the respondents were earning less than 20,000 rupees, 24% of respondents fall within the income range of 20,000–25,000, 41% respondents earn 30,001–40,000 while only 16% of the respondents earn within the range of 40,001–45,000 and 14% of respondents were earning more than 45,000 rupees.

8.10.3. Facilities Available

Basic facilities available in the study area are depicted here. It shows that electricity, telecommunication, gas supply water supply, sewerage system and every other routine facility is available in study area.

8.10.4. Acceptance Level of the Project

The opinions of the respondents were noted during the public consultation. Most respondents (94%) of were in favor of aforesaid project. They expect that establishment of aforesaid project will also increase the economic value of local assets. According to them the proposed project will boost the employment opportunities, mobility access to resources and social amenities.

CONCLUSION

The project is aiming at development of textile unit as proposed project. The project falls under the category of the projects requiring Initial Environmental Examination.

At the end of this study, it has been found that:

1. There are no sensitive elements/segments of environment around the project site.
2. EMP -as recommended in this IEE Report, are to be put in place during all stages of the project.
3. To mitigate the adverse effect of construction/ population proponent will plant 2000 plants of shady/Fruit tree initial 500 will be plant within one month of EPA approval and the remaining 1500 will planted inn each subsequent planting season.
4. Environmental monitoring by the project proponent and a third party will also ensure that the project runs in accordance with the legal requirements.
5. Availability of water for the project will be ensured without affecting the needs of the people around the project area.
6. Based on these findings of the IEE Report, the project merits the issuing of Environmental Approval by the Environmental Protection Agency, Government of Punjab, and Lahore.
7. Construction activities will be managed on the maximum possible ways to avoid any disturbance to the environment. Solid waste will be managed. Water retention will be minimized at all levels.
8. The noise levels will be kept within the required limiting values of the NEQS Pakistan
9. Proper engineering controls e.g., bag houses will be applied for dust suppression. Also, water will be sprinkled periodically.

SOURCES OF DATA

- Punjab Environmental Protection (Amendment) Act 2012 (PEPA)
- Guidelines for the preparation and review of Environmental Reports, October 1997
- Review of IEE/ EIA Regulation, 2000
- The 2004 Baseline Survey on Millennium Development Goals in AACs, Pakistan
- World Weather Online.com
- Water and Sanitation Agency (WASA), Lahore.
- RED Data Book of IUCN
- Material Safety Data Sheet (MSDS) of chemicals
- /www.wsask.ca/Global/Water%20Programs/Water%20Conservation/SWA-Water_Efficiency_on_the_Farm_Booklet_WEB.pdf
- <http://www.madehow.com/Volume-2/Lead.html>
- http://www.ijirset.com/upload/2013/november/18_Disposal.pdf

GLOSSARY

EIA (Environmental Impact Assessment): It is the process of identifying, predicting, evaluating and mitigating the effects of biophysical, social and other relevant proposed projects and physical activities prior to major decisions and commitments being made.

EMP (Environmental Management Plan): An EMP is a site-specific plan developed to ensure that all necessary measures are identified and implemented to protect the environment and comply with environmental legislation.

ESIA (Environmental Social Impact Assessment): It is to identify the impacts of the project on social and environmental conditions.

FAUNA: Word used for combination of all the species of animals.

FLORA: Word used for combination of all the species of plants.

IEE (Initial Environmental Examination): Initial examination of projects for identification of hazards of project.

NCS (National Conservation Strategy): Three objectives of the National Conservation Strategy (NCS) are: (i) conservation of natural resources; (ii) sustainable development; and (iii) improved efficiency in the use and management of resources.

NOC (No Objection Certificate): It is a kind of clearance issued by EPA necessary for any project to be constructed.

PEPA (Pakistan Environmental Protection Act 1997): An act to provide the protection, conservation, rehabilitation, and improvement of environment, for the prevention and control of pollution and promotion of sustainable development.

Topography: Physical features of any area including soil, water and air are called topography.

LIST OF ABBREVIATIONS

AA	Ambient Air
APHA	American Public Health Association
AOI	Area Of Influence
BOD ₅	Biological Oxygen Demand
CMS	Convention On Migratory Species
COD	Chemical Oxygen Demand
dB(A)	Decibel
EA	Environmental Assessment
EHS	Environmental Health Safety
EIA	Environmental Impact Assessment
EPD	Environmental Protection Department
PEPA	Pakistan Environmental Protection Act
EPA	Environmental Protection Agency
ESIA	Environmental And Social Impact Assessment
ESA	Environmental And Social Assessment
ESMP	Environmental/Social Management Plan
EMP	Environmental Management Plan
EC	Electrical Conductivity
GIS	Geographical Information System
GOP	Government Of Pakistan
GPS	Global Positioning System
GRC	Grievance Redress Committee
GRM	Grievance Redress Mechanism
HSE	Health Safety & Environment
HWMS	Hazardous Waste Management System
IEE	Initial Environmental Examination
I & D	Irrigation And Drainage
IAIA	International Association For Impact Assessment
IWM	Industrial Waste Management
IUCN	International Union For Conservation Of Nature
KM	Kilometers
LGO	Local Government Ordinance
MW	Mega Watt
MEAS	Multilateral Environmental Agreements
MSDS	Material Safety Data Sheets

NEQS	National Environmental Quality Standards
PMD	Pakistan Meteorological Department
PPE	Personal Protective Equipment
PEQS	Punjab Environmental Quality Standards
NEAP	National Environmental Assessment Plan
NWFP	Northwest Frontier Province
Q&EHS	Quality, Environment, Health & Safety
O & M	Operation And Maintenance
PKR	Pak Rupees
PPM	Parts Per Millions
PAP	Project Affected People
PEPC	Pakistan Environmental Protection Council/Punjab
PSC	Project Steering Committee
QA/QC	Quality Assurance/Quality Control
RAP	Resettlement Action Plan
ROG	Reactive Organic Gas
SWM	Solid Waste Management
TDS	Total Dissolved Solids
TT	Technology Transfer
UNFCCC	United Nation FrameWork Convention On Climate Change
UNCC	United Nation Convention To Combat Desertification
UNEP	United Nations Environmental Programs
GOP	Government Of Pakistan
WHO	World Health Organization
R&R	Rehabilitation And Resettlement
WWTP	Solid waste Treatment Plant

Consultant Details

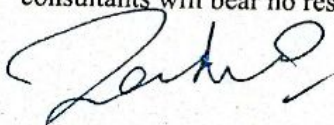
Sr. No.	Consultant Details	
1	Consultant	Enviro Stewards Company (Pvt) Limited
2	Address	40/8 New Civil Lines Regency Road Behind State Bank of Pakistan Faisalabad.
3	Contact No.	041-2619600
Team leader		
1	Name	Miss Sara Fatima
2	Designation	Senior Environmentalist
3	Contact No.	+92-301-1198600

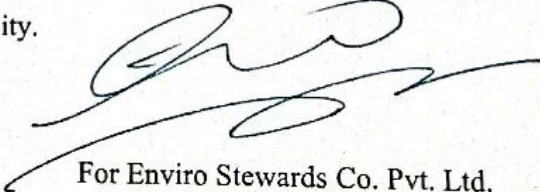
List of Experts

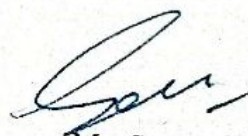
Sr. #	Name	Qualification
Team Leader		
1	Miss. Sara Fatima	M.Phil. Environmental Sciences
Environmental Scientist		
3	Mr. Zia ur Rehman Farooqi	Ph.D. Environmental Sciences (Scholar)
4	Hafiz Zeeshan Safder	M.Sc. Analytical Chemistry
5	Mr. Saffi Ahmed	M.Phil. Environmental Sciences
Environmental Engineers		
7	Miss Misbah Ali	B.Sc. Environmental Engineering
8	Engr. Muhammad Bilal	B.Sc. Environmental Engineering
Sociologist		
9	Qazi Muhammad Ahmed Raza	M.Phil Sociology

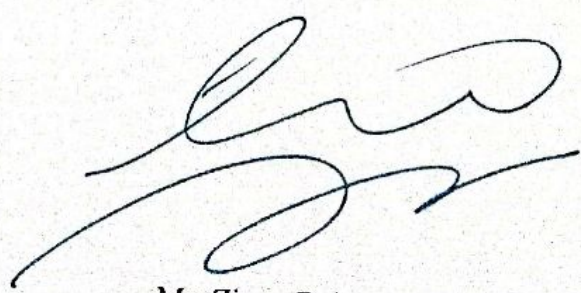
Terms of References

- * According to regulation 7 of Review of IEE and EIA regulations, 2022, proponent shall pay, at the time of submission of IEE/EIA, a nonrefundable review fee to EPA, in accordance with rates specified in schedule-III.
- * Provide all documents/details required for completion of IEA report
- * Proponent shall be responsible for paying any fines/ penalties levied by the EPA Punjab or Environment Tribunal.
- * Proponent shall be responsible correctness and validity of all information and documents provided to the consultant for onward submission to EPA Punjab and consultants will bear no responsibility.


In M/S Aziz Textiles (Pvt.) Limited


For Enviro Stewards Co. Pvt. Ltd.


Ms. Sara Fatima


Mr. Zia ur Rehman