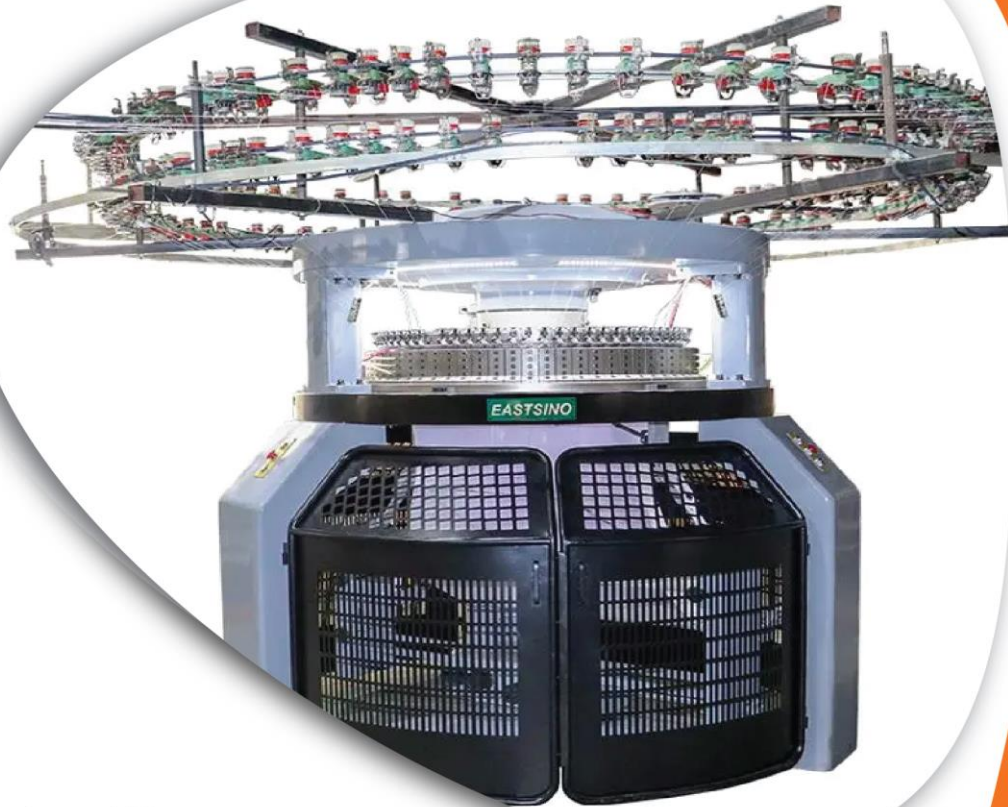


Environmental Impact Assessment Report of
Urban Premier Co. (Pvt) Ltd

Plot # 169, 170 Block B, Quaid-E-Azam Business Park, Sheikhpura



Submitted By:

Shahid Javaid Malik

Prepared By:


Enviro Stewards Co. (Pvt) Ltd

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DISCLAIMER

The data was based on the originality of project site shown by the project proponent/ stakeholders/ promoters, provided maps, verbal communications and all other related documents. The authenticity of supra-mentioned relies with the proponent/ stakeholders/ promoters, not with the environmental consultant. The EIA report can't be negotiated in any court of law.



A handwritten signature in blue ink, appearing to read "Sure", is positioned to the left of a circular blue ink stamp. The stamp contains the company logo "ES" in the center, with the text "ENVIRO STEWARDS CO. (PVT) LTD." around the perimeter and a small star at the bottom.

Representative: IEE & EIA Team

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EXECUTIVE SUMMARY

Introduction

The executive summary is an outline of the key outcomes in EIA (Environmental Impact Assessment). The proponent intends to establish a garment manufacturing unit to meet the demand of apparels by the **title** “Urban Premier Company (Pvt.) Ltd”, along with the installation of effluent treatment plant (ETP) for wastewater treatment, **located at** Plot # 169, 170 Block B, Quaid-E-Azam Business Park, Sheikhpura, over an **area** of 8.27 Acres. The **consultant** company for this project is Enviro Stewards Company (Pvt.) Limited.

This project specific EIA (Environmental Impact Assessment) presents a detailed account of environmental and social impacts likely to emanate from the establishment of desired unit. The Environmental 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 proposed project is the knitting and dyeing of casual wears including trousers and shirts. It falls under **Schedule II** (list of projects requiring an EIA), **Category B** (Manufacturing and Processing), **Sub sector 6** (Textile units comprising of Dyeing and Printing) of the IEE / EIA Regulations 2022 made under section 12 of Punjab Environment Protection Act 1997 (Amended 2012). Details of the process description are given in **Chapter 5** under heading process details. 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 Project

Name of the Project	Urban Premier Company (Pvt.) Ltd
Proponent	Shahid Javaid Malik
Total Area	08.27 Acres
Purpose of the Project	To fulfill the market demand of garments
GPS Location	31.7326345 N, 74.0562328 E
Cost of the Project	Approx. 02 billion PKR
Current Status of Site	Open Land
Current Status of Project	Proposed

Nature of Area	Industrial area
Raw Material	Yarn
Final Product	Casual wears, Sports outfit
Project Capacity	25 ton per day
Boilers	Thermo Oil Boiler
Ground Water	100-150ft
Man Power:	Construction: 20-25 Persons
	Operation: 70-80 Persons
Water Availability	Groundwater
Wastewater Generation	100 m ³ /hr.
Period of Construction	Approx. 01 Year
Assessed Environmental issues	Air, noise, solid and liquid waste will be environmental issues
Solid Waste Management	Will manage by EPA approved vendor
Waste water Management	ETP will be installed for wastewater treatment
Air Pollution Control	Wet Scrubbers will be installed
Consultant Name	Enviro stewards Company (Pvt.) Limited
Compliance	Punjab Environmental Quality Standard (PEQS 2016) and time to time guidelines by EPA and other enforcement Department / Agencies.

Legal and Administrative Framework

The national guidelines and legislations related to the environment considered for the project includes:

National Conservation Strategy (1992), National Environment Policy (2005), Pakistan Labor Policy (2010), Punjab Environmental Protection Act (PEPA 1997), amended PEPA, (2012), Punjab Environmental Quality Standards (PEQS), 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.

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) amended 2012 stipulates that no project involving construction or any change in the physical environment can be undertaken unless an IEE or an EIA is conducted, and approval (NOC) is received from the relevant provincial environmental agency.

Major Impacts

Since that, the project is garment manufacturing unit, it is therefore likely to produce effects onto the water quality, land, and air of the project site. Solid waste will also produce during activities. The impacts will be more unless appropriate mitigation measures are employed for balancing out the identified adverse impacts. Innumerable environmental and social impacts are expected during construction and operational phase, significant ones of which would be:

Impacts	Mitigation Measure	
	Construction Phase	Operational Phase
Air Pollution	- During the construction phase, transport vehicles must be covered with tarpaulin, and optimally loaded. - Regular sprinkling of water on sand or mud causes less spreading. - Proper maintenance of transport vehicles.	- Air masks, helmets and safety uniforms will be provided to the workers and proper monitoring will be made to check its compliance in the premises. - The engines of transport vehicles will be carefully monitored to control emission level. - Wet scrubbers will be installed to control emissions - Maximum number of tree plantation will be done.
Waste Water Pollution	- No water will be disposed of into sewer lines without proper treatment. - By keeping the solid waste away from sewerage so contamination will be less.	- The waste water will not dispose of without meeting PEQ's. - Sewerage system will not be contaminated with solid waste to avoid blockage in pipe lines. - Effluent treatment plant will be provided to treat wastewater.
Noise Pollution	- Noise control measures will take such as provision of silencers on the heavy construction vehicles. - Proper maintenance of machinery engines.	- Green belts will be provided to control noise pollution. - By avoiding the unnecessary use of horns.

Solid Waste Generation	• Solid waste generated will be disposed of on regular basis by appropriate means. • Avoid spreading of gravel, sand particles used in construction. • Provide waste handling facilities such as; waste bins in all sections of the factory.	• Proper solid waste handling and management practices will be adopted. • To avoid leaching solid waste will be dispose of on regular basis by appropriate means. • Separate bins will be provided in each section.
Socio Economic	• Positive impact due to generation of employment opportunity • Local people will also be preferred for the job	• Positive impact due to employment of job opportunities. • Economy rate will be increased.
Health & Safety	• Proper use of PPE's during construction activities. • Training program for the workers before the construction of said project.	• Proper use of PPE's during the operational phase. Use gloves, protective glasses and others. • Implementation of all safety rules and measures during the working hours.

Proposed Monitoring

It is the EIA project so the impacts will be long term, significant or adverse. These impacts can be reduced by regular monitoring and implementing all the mitigation measures. 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.

An environmental management and monitoring plan provide a delivery mechanism to address the potential environmental impacts of a project during its construction and operational phase, to enhance project benefits, and to introduce health and safety standards of good practice to be adopted for proposed project.

The proponent will ensure the proper implementation of mitigation measures for the concerned installation and operation and maintenance phase through adequate monitoring.

Conclusion and Recommendation

The impacts include wastewater, solid waste, air quality, noise and are manageable by applying all the mitigation measures and by complying with environmental laws of the country. The major positive impacts of the project include job opportunities for local people. The Project will raise the worker's income, and can improve social-economic infrastructure. 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.

It is recommended that the proponent should obtain an environmental approval (No Objection Certificate) from the Punjab-EPA before proceeding further into the construction activities as per regulatory requirements.

1. INTRODUCTION

1.1. General

The textile industry is Pakistan's largest and one of the oldest manufacturing industries. Textile is the most important manufacturing sector of Pakistan and has the longest production chain, with inherent potential for value addition at each stage of processing, from cotton to ginning, spinning, fabric, dyeing and finishing, made-ups and garments. The sector contributes nearly one-fourth of industrial value-added, contributes 8.5% of GDP and provides employment to about 40 percent (about 19 million) of countries workforce. Barring seasonal and cyclical fluctuations, textiles products have maintained an average share of about 62 percent in national exports.

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.

1.2. Purpose of 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.

According to EPA a detailed information is provided in this report for the issuance of environmental approval in compliance with the Punjab Environmental Protection Act - 1997 (Amended 2012) Section 12.

1.3. Identification of Project & Proponent

Proponent name	Shahid Javaid Malik
Address	House No. 20-S, Phase 2, Defence Housing Authority, Lahore Cantt, District Lahore
Designation	CEO
Project title	Urban Premier Company (Pvt.) Ltd
Project location	Plot # 169 & 170, Block B, Quaid-E-Azam Business Park, Sheikhpura

1.4. Consultant Details

Consultant Details	
Consultant name	Enviro Stewards Company (Pvt.) Ltd.
Contact No.	+92-301-1199600
Address	1st floor Allied Bank, A Block, Commercial Market, Canal View Housing Society, Lahore.
Team Leader	
Name	Miss Sara Fatima
Designation	Senior Environmentalist
Contact No.	+92-301-1198600

1.5. Nature and Size of Project

The project deals with manufacturing of garments. The total area of project is approximately 08.27 acres. Capacity of project is 25 ton per day. The land is industrial in nature. The current status of land is open area.

1.6. Location of Project

The project site is located at Plot # 169 & 170, B-Block, Quaid-E-Azam Business Park, Sheikhpura. The coordinates of project site are **31.7326345 N, 74.0562328 E**. The map is attached with it.

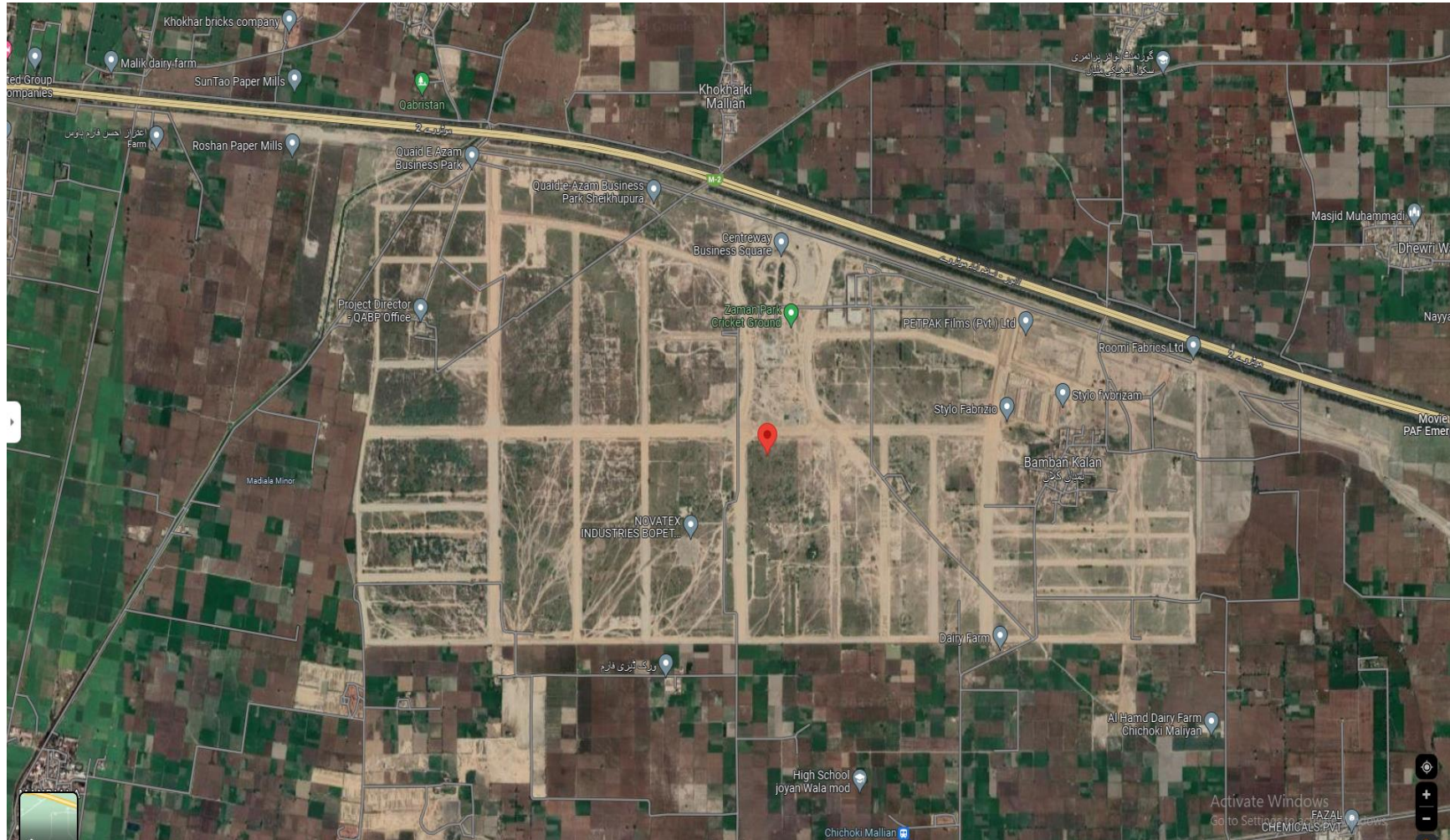


Figure 1 Location of Project Site

1.7. 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 caused due to the following activities:

- Installation of machines for the construction purpose.
- Transportation of raw material and goods.
- During project activities

2. POLICY, LEGISLATION, LEGAL AND ADMINISTRATIVE FRAMEWORK

2.1. General

This section deals with the current policy as well as legal and administrative framework related to carrying out EIA (Environmental Impact Assessment) of various projects. A number of laws exist in Pakistan, containing a number of clauses concerning protection of the environment. Like other Projects, this project is also required to go through an Environmental Assessment for getting a NOC under Section 12 of the Punjab Environmental Protection Act – 1997 (Amended 2012).

According to environmental laws of the country development projects have to undergo the process of Environmental Impact Assessment (EIA) or Initial Environmental Examination (IEE) in order to predict and mitigate the impacts of the development at an early stage.

2.2. Screening

The proposed project is the manufacturing of garments. It falls under **Schedule II** (list of projects requiring an EIA), **Category B** (Manufacturing and Processing), **Sub sector 6** (Textile units comprising of dyeing and printing) of the IEE / EIA Regulations 2022 made under section 12 of Punjab Environment Protection Act 1997 (Amended 2012). Details of the process description are given in Chapter 5 under heading process details.

2.3. Existing Regulation and Framework

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

2.4. Relevant Legal / Institutional Framework

The applicable laws for the environmental study of the project are briefly given below. The proponent of the project will abide by the applicable laws and regulations.

2.4.1. 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.

2.4.2. PEPO 1983, 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 EIA/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 construction of project.

2.4.3. National Environmental Policy 2005

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

2.4.4. Review of EIA and IEE Regulations 2022

The GOP has issued Review of Initial Environmental Examination and Environmental Impact Assessment Regulations 2022, to review the Initial Environmental Examination (IEE) / Environmental Impact Assessment (EIA) Reports.

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

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

2.4.6. Punjab Environmental Quality Standards (PEQS)

According to Punjab Environmental Protection Act, 1997 (Amended 2012), Punjab Environmental Quality Standards (PEQS) were established for municipal and industrial effluents and air emissions.

2.4.7. Guidelines for Sensitive and Critical Areas

GOP has 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 projects are planned and sited in a way that protects the values of sensitive and critical areas.

2.4.8. 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.

2.4.9. Guidelines for Public Consultation, Pakistan Environmental Protection Agency October 1997

This guideline is part of a package of regulations and guidelines which include:

- Punjab Environmental Protection Act, 1997 (Amended 2012)
- Policy and Procedures for filing, review and approval of environmental assessments
- Guidelines for the preparation and review of Environmental Reports
- Guidelines for sensitive and critical areas
- National Environmental Quality Standards (NEQS)

2.4.10. Punjab Wildlife Protection Act, 1974

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

2.4.11. 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.

2.4.12. 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.

2.4.13. Punjab Local Government Ordinance, 2022

Schedules 4 and 8 of this Ordinance 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 schemes for improving the environment.

2.4.14. 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;

Sec 268: Public Nuisance

Sec 269: Negligent act likely to spread infection of disease dangerous to life

Sec 270: Malignant act likely to spread infection of disease dangerous to life

Sec 278: Making atmosphere noxious to health

Sec 284: Negligent conduct with respect to poisonous substance

Sec. 290: Punishment for public nuisance in cases not otherwise provided for

Sec. 291: Continuance of nuisance after injunction to discontinue

2.4.15. 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.

2.4.16. Antiquities Act 1975

The law relates to protection of Antiquities, monuments, National & International heritage. The compliance of this Act is mandatory for the Installation of Generators. Under section 22 of the Act no development plan or scheme or new construction can be done within distance of 200ft from the boundary of the monuments/ National Heritage. There is no historical Site or monuments in the proximity of the project.

2.4.17. Solid Waste Management Rules 2005

The Solid Waste Management Department, CDGF has notified these rules for proper waste management.

2.4.18. Labor Law

The labor laws apply on child labor and measuring instruments.

2.4.19. Safety & Civil Defense Laws

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

2.4.20. Guidelines for Critical and Sensitive Area

These guidelines have been prepared under section 12 of Punjab Environmental Protection Act 1997 (Amended 2012) for protection and safety of critical and sensitive localities.

3. SCOPING OF PROJECT

The scoping in Environmental Impact Assessment involves a comprehensive assessment of the potential impacts of a project or activity, including direct and indirect impacts, cumulative impacts, and potential long-term effects. This assessment is carried out by a team of environmental and social experts, who analyze the proposed project or activity in detail and identify potential risks and impacts on various aspects of the environment, such as air quality, water quality, biodiversity, and cultural heritage. In this Environmental Impact Assessment, a public consultation process is involved, where members of the public and other stakeholders can provide feedback and raise concerns about the proposed project or activity.

3.1. Spatial & Temporal Boundaries of Environmental Assessment

Due to installation of current project land use will change from open land to garment manufacturing unit of M/s Urban Premier Company (Pvt.) Ltd. Within radius of 5-km, some industries can be seen in below figure but current project will be installed by adopting proper mitigation measures to avoid disturbance to surrounding industries and local community. In current project significant emissions will be observed because in proposed unit wastewater and air emissions will be significant. Wastewater will be treated before disposal to ensure PEQS. An effluent treatment plant will be installed. No environmental sensitive area is present within safe distance that could be impacted due to current project installation.

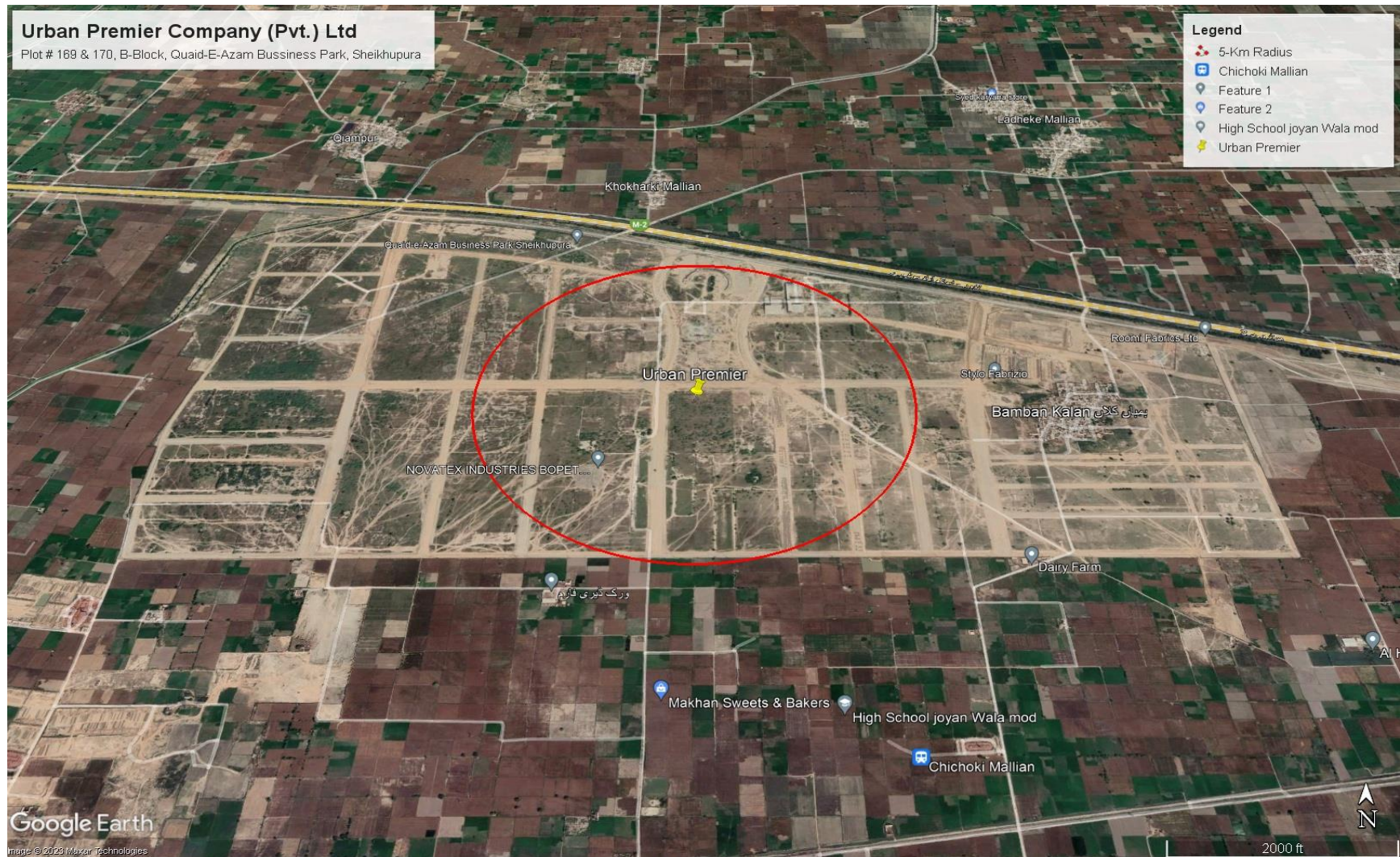


Figure 2: 5-Km radius

3.2. Important Issues and Concerns Raised during Consultation

During consultation it was observed that many people were in favor of the project but some of the issues and concerns were raised. During survey following concerns of local community, Government Departments, Environmental Practitioners and Experts, nearby industries were noted:

- Local should be preferred for the job opportunities
- Proper training should be given to workers
- Noisy activities should be confined
- Air pollution should be controlled effectively
- Wastewater should not dispose of without proper treatment
- Solid waste must be collected timely
- A proper wastewater treatment plant should be installed
- Ensure the tree plantation in the vicinity of area
- Health and safety of workers should be ensured
- EMMP should be designed and enforced with great spirit
- Respective team officers should be responsible for the implementation of management plan and actions
- Avoid the excessive use of groundwater. Limited amount of water should be use
- Cleanliness of area should be ensured
- To reduce or avoid air pollution transport vehicles should be covered in the construction phase
- Proponent shall work for betterment of community

3.3. Significant Impacts and Factors to be Determined

The factors and impacts to be determined around the project site are:

- Dust and Particulate emissions
- Wastewater generation and its treatment
- Control Air emissions
- Solid waste management
- Occupational Health and safety
- Site Security
- Traffic Management

- Hygiene management
- Community impacts
- Job opportunities for locals
- Confined noisy activities.
- Resource conservation
- Avoid excessive water consumption.
- Energy efficient techniques must be adopted.
- Proper site restoration after construction
- Tree plantation at designated green areas
- Emergency preparedness

4. ALTERNATIVE CONSIDERATION

Alternatives are examined to determine the best method of achieving project objectives and to reduce environmental impacts. Alternatives are recommended and examined to determine the best method of achieving project objectives, while minimizing environmental impacts (WB December 1996). The discussion and analysis of alternatives in an Environmental Impact Assessment (EIA) study should consider other practicable strategies that will promote the elimination of negative environmental impacts identified. Also, it is essential to develop most suitable technology or design option. This evaluation explains the selection of the most feasible alternative in terms of economics, environment and health & safety. It outlines the following options that were considered for this project: In particular most suitable options that were considered for this project are related to:

- Site alternative, their selection and rejection criteria
- Design / technology alternative, their selection and rejection criteria
- Environmental alternative, their selection and rejection criteria
- Economic Alternatives, their selection and rejection criteria

4.1. Site Alternative Consideration

The selected site is in **Industrial area**, and many industries are present around the project site. No project site alternative was considered as the proposed location is in industrial estate. The following factors are the main reason for selecting this land and **no any alternative** is considered due to:

- Land is owned by Proponent
- There is no environmental sensitive area is present near the site
- No need of resettlement around the location
- Watercourse is not present near the area
- Easy road access to the market
- Site is at a safe distance from sensitive receptors
- Availability of basic facilities (road, power, water, telephone etc.)
- Area is notified as an industrial area

By considering these values the selected site is a source of development in the area. Also, away from protected and sensitive areas. So, site is suitable for establishment of said project.

4.2. Design Alternative Consideration

For development of current project state of art technology will be selected to avoid long term environmental impact. Proponent will use up to date technology and new machinery to run the process. So, that emissions from processing or operational activities will be less and can work properly. Proponent is doing heavy investment for this project to ensure good quality of products and to increase the economy level.

Along with this, effluent treatment plant will also be installed for waste water treatment. This type of treatment plant will efficiently remove impurities from water and can be used further.

4.3. Environmental Alternative Consideration

Environmental considerations are extremely important for project sitting. The project site is situated in the area where no existence of environmental receptors is found. Settings around the project area do not show any sensitivity of the environment. There is no worth mentioning forestry, biodiversity, fishery, flora, fauna and heritage. The project will be regulated according to Punjab Environmental Protection Act 1997 (Amended 2012) and in compliance with the Punjab Environmental Quality Standards (PEQS). Even the Environmental Management Plan (EMP) and Environmental Monitoring Plan (EMP) will be operational. Taking into consideration all the above described factors the selected site is most suited for installation of the project.

After completion of construction, proper landscaping will be done. The proponent is going to install waste management facility and wastewater treatment facility to avoid water and solid waste pollution. Moreover, the proponent is very concerned and conscious about the quality and equally about the environmental protection and resource conservation. No any natural resource will be damaged.

4.4. Economic Alternative Consideration

Currently selected design is economically efficient. Tree plantation will be done that will reduce temperature of the area and act as noise barrier. Building design will be such that maximum use of day light and LED lights will be installed to minimize electricity consumption. Job opportunities for the local person as well as for the skilled person. The economy rate of the project site will also increase. The cumulative effect of this types project would result in noticeable economic growth. It helps in development of the area and improves the quality of an area. Due to this, there will be growth spurt in technological innovation.

5. PROJECT DESCRIPTION

5.1. Type and Category of Project

The project is establishment of garment manufacturing unit named as **Urban Premier Company (Pvt.) Ltd** located at Plot no 169 & 170, Block-B, Quaid-E-Azam Business Park, Sheikhpura. The cost of the project is around 02 billion. According to projects categorization for environmental assessment studies, the proposed project falls under **Schedule II** (list of projects requiring EIA), **Category B** (Manufacturing and Processing) and **sub sector 6** (Textile units comprising of dyeing and printing) of the EIA Regulations 2022 made under section 12 of Punjab Environment Protection Act 1997 (Amended 2012) under which the Environmental Impact Assessment for (EIA) is mandatory for getting Environmental Approval.

5.2. Objective of Project

The main objectives for the establishment of said project unit are:

- To meet the market demand, socially equitable and economically viable development to improve the quality of life
- To ensure the supply of best quality product
- To create job opportunities for locals

5.3. Location and Site Layout

The location of project is Plot # 169 & 170, B-Block, Quaid-E-Azam Business Park Sheikhpura. The coordinates of project site are **31.7326345 N, 74.0562328 E**. Total area of project site is 08.27 acres. Google map is attached with file.

5.4. Land Use On-Site

Project site land is **industrial** in nature and according to current status it is **open land** so no any activity is going on. After the issuance of NOC construction will be start.

5.5. Road Access

The project site is linked with service road and major road is Lahore-Islamabad motorway. Other interlinked roads are Gujranwala road, Sheikhpura-Sharaqpur road. Map showing these roads is also attached.

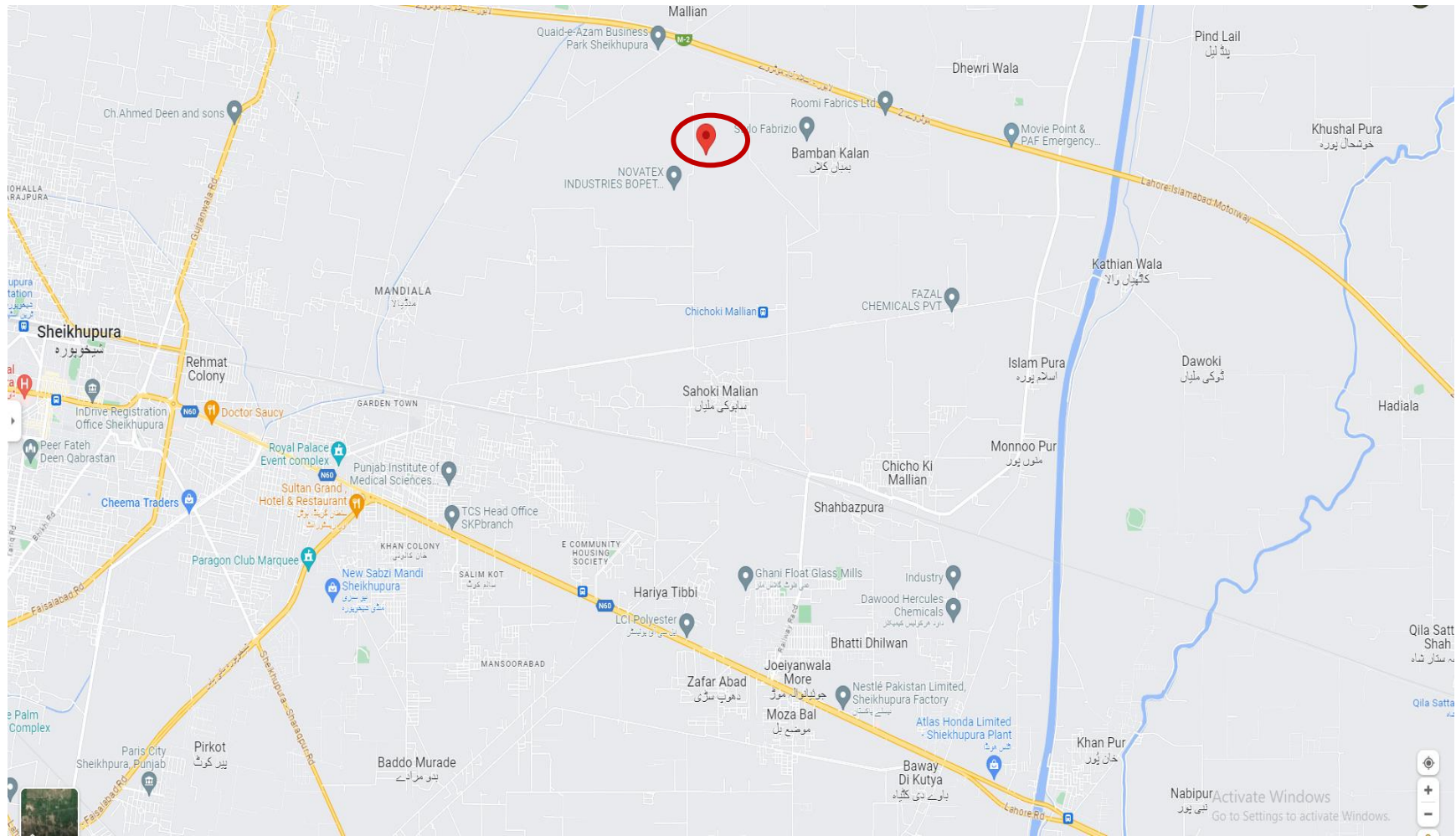


Figure 3 Road Access Map

5.6. Vegetative Features of Site

As site is industrial in nature, no rare species of plant or tree is present near project site. Some common trees are present there.

5.7. Cost and Magnitude of Project

The total cost of project is 02 billion and the coordinates are **31.7326345 N, 74.0562328 E**.

Amenities	Cost in PKR
Land cost	0.23 billion
Infrastructure development, machinery, EMP	0.8 billion
Solid waste management	0.36 billion
Effluent treatment plant	0.6 billion
Landscaping & tree plantations	0.002 billion
Total Cost	02 Billion

5.8. Proposed Schedule of 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												

5.9. Process Description

The purpose of proponent is to establish a garment manufacturing unit to fulfill the basic needs of garments for local community and to provide cost efficient products. The basic details of the process are given below:

Table 1 Cost Break-down

Features	Description
Raw Material	Yarn
Final Product	Casual wears, sports outfit
Production Capacity	Dyeing 25 ton per day

The following steps involved in this project are:

- Knitting and Weaving
- Dyeing
- Finishing

- Cutting
- Stitching
- Packing
- Dispatch

Yarn: Yarns are the continuous, strands produced from a short and staple fibers. These materials vary in their sizes and texture and form a suitable for knitting, weaving or otherwise intertwining to form textile fabrics. Yarns are usually twisted tightly by the rollers to hold the fibres together. The size, number and the weight of the yarn vary with the types of fibres from which they are produced.

Knitting & Weaving: It is a process of producing fabric by the joining or interlinking of loops of one set of yarn. Different fabrics including the shirts, trouser produced by the process of Knitting. Knitted fabrics are very popular and can be very easily produced from the yarn.

It is a process of producing fabric by the interweaving of warp and weft yarn. It is mainly used to make woven fabrics. All Trousers are produced by the process of weaving.

Dyeing: After knitting of yarn, the product is transferred to the dyeing hall. The dyeing process is aimed at giving knitted fabric its intended color, crucial to its ultimate use. This method grants a good color fastness since the dye penetrates the fibres and reaches the yarn core. Heat and chemicals are used to fix the dye in the fiber, and the stained textile substrate is washed to remove unfixed colors and chemicals. Materials are dyed in aqueous solutions together with dye bath additives such as salt, alkali, acids and other auxiliary chemicals. In any dyeing procedure, it is essential to transport dye molecules from the dye liquid to the fiber surface and then diffuse them to the fiber structure's interior. Because the dye liquor and the textile material must be moved relative to each other for optimal transfer, the system must be agitated.

Finishing: Provides the changes in prepared dyed yarn. It provides changes like texture, density, hardness, width, smoothness and brightness of fabric.

Cutting: The prepared material is further cut down into the desired length, width and shape of trouser and shirts. A number of pieces is produced from a large single piece of dyed product.

Stitching: After cutting the stitching process is done. The cut piece is stitched into the desired shape, size and length of trousers and shirts.

Packing and Dispatching: The stitched clothes are packed into the separate packing material. This packing material contain the company name, product name, characteristics of product like size, color and amount. Then it is dispatched for sale.

List of Dyes

The following dyes will be used in production unit:

- Vat Dyes
- Reactive Dyes
- Disperse Dyes

List of Machines

The machines included in operational phase are:

- Loom jet knitting machine
- Jet machine dyeing
- Cutting machine
- Thermo oil boilers

Other Facilities

Electricity: The main power source of electricity supply is LESCO.

Solid Waste Management: Area of 42250 Sq. Ft. is specified for solid waste bin for collection of solid waste.

Wastewater treatment: For the treatment of wastewater generated from operational activities Effluent Treatment Plant (**ETP**) will be installed. This treatment plant is operated for the treatment of 100 m³/hr. of wastewater generated. The specifications of ETP is attached as annexure.

5.10. Restoration and Rehabilitation Plan

As the selected project location is in industrial area there is no local community there. There is no structure of significance that needs to be relocated or dismantled due the operation of the proposed project. No fresh land is to be occupied. Hence no relocation or restoration and rehabilitation are required. Project site notified by govt. as an industrial estate. Open area will be covered by trees and plants after the project completion.

6. DESCRIPTION OF ENVIRONMENT

Environmental baseline data study is essential while preparing EIA reports. The basic purpose is to establish a clear understanding of existing environmental conditions in project area and to identify potential impacts of proposed project. It refers to the collection of baseline information on biophysical, social and economic aspects of project location.

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 EIA 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
- Socio-economic environment

6.1. Physical Environment

This part examines the physical resources such as topography, soil, climate, surface and ground water resources and quality, ambient air quality and geology of not only the project site but also the city to assess whether the project under assessment can or does have any impacts on any of these parameters.

Sheikhupura was established in 1607, and district was established in 1922. It is an agricultural and industrial city in the province of Punjab. Total area of Sheikhupura is 919620.96293 acres out of which 789019 acres is agricultural land. There are more than 789 unit of industries. Total population is about 3460426 approximately equals to 35 lacs.

6.1.1. Geological Formation

Sheikhupura is an industrial center, and satellite town, located about 38 km northwest of Lahore. It is also connected to District Kasur. Geographical coordinates of the city are

31°42'47" °N (latitude) and 73°58'41" °E (longitude). It is 774.27 ft. (236 m) above sea level. The city's total area is 75 km² (29 mi²) and the metropolitan is 3,030 km² (1,170 mi²) in length.

6.1.2. 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.

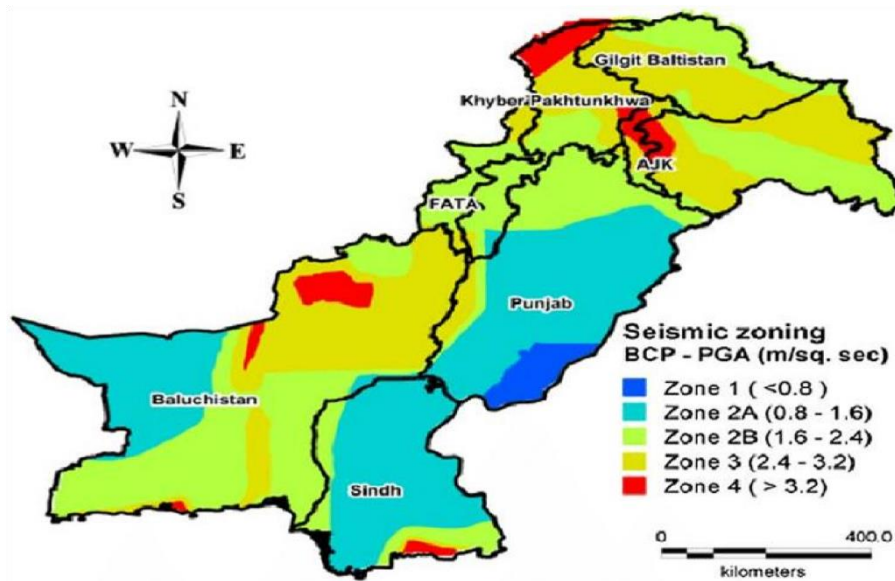


Figure 4 Seismic Zone of Pakistan

6.1.3. Climate

The District has extreme climate, the summer season starts from April and continues till October. During the summer season, temperature ranges from 30 to 45 degrees, the winter season starts from November and continues till March. December and January are the coldest months. The dust storms occur occasionally during the hot season, during June, July and August. Rainy weather alternates with oppressive weather. The rainfall is 500mm per year. The mean minimum and maximum humidity during winter is 37% and 84%.

6.1.4. Temperature

In Sheikhpura, the summers are short, sweltering, humid, and clear and the winters are short, cool, dry, and mostly clear. Over the course of the year, the temperature typically varies from 7.22°C to 39.44°C and is rarely below 4.44°C or above 43.88°C. The hot season lasts for 2.9 months, from April 24 to July 21, with an average daily high temperature above 35.5°C. The hottest month of the year in Sheikhpura is June, with an average high of 38.8°C and low of 27.7°C. The cool season lasts for 2.5 months, from December 6 to February 22, with an average

daily high temperature below 22.7°C. The coldest month of the year in Sheikhpura is January, with an average low of 7.2°C and high of 18.8°C.

6.2. Ecological Environment

In this 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. A variety of vegetables are also grown in the district.

6.2.1. Flora

The Floral species commonly found in the area are:

Table 2 list of plants

Local Name	Scientific Name
Sufaida	<i>Eucalyptus camaldulensis</i>
Toot	<i>Morus alba</i>
Sukh chain	<i>Pongamia glabra</i>
Pipal	<i>Ficus religiosa</i>
Babul	<i>Acacia nilotica</i>

Table 3 List of Fruit Species

Local Name	Fruit Species Name
Citrus	<i>Citrus sps</i>
Mango	<i>Mangifera Indica</i>
Guava	<i>Psidium guajava</i>
Lychee	<i>Litchi chinensis</i>
Mulberry	<i>Morus alba</i>
Banana	<i>Musa acuminata</i>
Jamun	<i>Syzygium cumini</i>

Table 4 List of Vegetables

Local Name	Vegetables Species Name
Chilies	<i>Capsicum frutescens</i>
Onion	<i>Allium Cepa</i>
Potato	<i>Solanum tuberosum</i>
Tomato	<i>Solanum lycopersicum</i>
Cabbage	<i>Brassica oleracea</i>
Water chestnut	<i>Eleocharis dulcis</i>
Bottle Gourd	<i>Lagenaria siceraria</i>

6.2.2. Fauna

Owing to industrialization, there is very little wildlife in the district. Wild boar, jackals, and hare, however, are still found in the riverine tracts. Fauna of the project area consists of:

1. Mammals
2. Reptiles
3. Amphibians
4. Birds

Table 5 List of Birds

Local Birds Name	Scientific Name
Falcon	<i>Falconiformes</i>
Eagle	<i>Accipitridae</i>
Quails	<i>Coturnix coturnix</i>
Doves	<i>Columbidae</i>
Ducks	<i>Anas Platyrhynchos</i>

Table 6 List of Mammals

Local Mammals Name	Scientific Name
Jackal	<i>Canis aureus</i>
Jungle cat	<i>Felis chaus</i>
Hog deer	<i>Axis porcinus</i>
House rat	<i>Rattus rattus</i>
Indian hare	<i>Lepus nigricollis</i>

Table 7 List of Reptiles

Local Reptiles Name	Scientific Name
Snake	<i>Serpentes</i>
Lizards	<i>Lacertilia</i>

6.3. Socio-economic Environment

The project site is in industrial land, hence direct disturbance to communities will be minimum from the project activities. However, the physical extent of the study area extends up to 5km surrounding the proposed site (referred as project area) considering the physical, ecological, and socioeconomic boundaries beyond which the project is not likely to significantly influence local communities, and also with a view of covering a substantial sample size for collection of reliable and authentic socio-economic data.

6.3.1. Study Objectives

The socio-economic study undertaken for the Environmental Impact Assessment (EIA) was designed and conducted to meet the following objectives:

- To assess the human environment of the area i.e., to determine the Quality of life of communities within the Region of Influence.
- To have an insight into the day-to-day activities of people especially focusing on their income generating activities viz., agriculture and labor.
- To assess the vulnerabilities of the local communities and the effects of project activities on their Quality of Life and Consultation with communities regarding the proposed project activities and to find out their concerns and aspirations.

6.3.2. Methodology

Data was collected from census reports, previous studies, and data from government departments as well as from field survey carried out in the surroundings of the Project area.

Our field survey methodology includes transect walks through villages, group interviews and focus group discussions with the local communities. The use of a semi-structured interview guide helped in the carrying out of the questioning process and recording of information. This activity was carried out with the objective of obtaining a clear and complete understanding of the social and economic conditions of the local communities; assessing the vulnerability of the local communities; identifying marginalized strata of the community; and gathering local concerns and inhibitions.

6.3.3. Religion, Caste and Language

Religion plays an important role in the social structure of the society. Approximately 95% of Muslims live there and other are Ahmadis and Christians. The most common language used in this area is Punjabi (97.7%). Other languages like Urdu, Pushto and Seraiki are also well-known.

6.4. Quality of Life

The project area is better as compared to the other rural areas of the province. A brief account of the education, health, infrastructure, and markets of the area is as follows:

6.4.1. Education

The level of literacy is 66% in which male literacy rate is 71% while female literacy rate is 62%. Though there are higher secondary government schools, private sector schools and colleges for girls and boys are also available near the vicinity of project area.

6.4.2. Health Facility

Basic Health Unit, Dispensaries and Private clinics exist in the surrounding of the project area. People also access to private hospitals in district and sometimes to nearby private dispensaries.

6.4.3. Economy of area

District Sheikhpura is an industrial and commercial city having multi-occupations. The population of the area is having different occupation including government and private services as well as agriculture. The women also assist their men in the economic activity in different fields of business, service, education, and other institutions. Women mostly serve in schools, colleges, and hospitals.

Sheikhpura is generating many employment opportunities for its locals and outsiders. Industrial areas are using manpower, while nearby towns are providing business opportunities to the residents. In this semi urban area, people are involved in daily wages jobs, while some are involved in small business. They normally travel to adjacent areas for work. Some work in the industrial area and in the surrounding universities and colleges. People are also involved in agriculture. Area having access to irrigation water is another source of income. As per the 1998 Census (2017 Census data has not been made public), the industrial sector employs nearly 9.5% of the district's total population. However, agriculture with its allied livestock breeding and fishing is still the main employer, with 29.6% of the total population employed in this sector.

6.4.4. Agriculture

Agriculture is one of the most important economic activities in the project area. Agriculture and its allied livestock breeding are the main occupation of the rural areas of the district, with nearly 35.9% of just the rural population engaged in this occupation.

Sugarcane, wheat, rice, bajra, barley, gram, cotton, groundnut, and tobacco are the main crops grown in the district.

Citrus, mangos, bananas, guavas, leeches, jaamun, phalsa, mulberry, and ber are some of the fruits grown in the district.

Chilies, onions, potatoes, tomatoes, coriander, turmeric, garlic, peas, carrots, cauliflower, cabbage, turnip, okra, garlic, radish, pumpkins, sweet potatoes, water chestnut, bitter gourd, bottle gourd, and brinjal are the vegetable crops of the district.

6.4.5. Irrigation Network

The Upper Chenab Canal (UCC) and Lower Chenab Canal (LCC) are the major perennial canals that supply irrigation water to the district. The Marala-Ravi Link Canal, Bambawali-Ravi-Bedian (BRB) Link Canal and LCC supply irrigation waters to Ferozewala tehsil. Some of the smaller canals in the district are Sikhanwala Distributary, Sheikhpura Distributary, Shahdara Distributary, Munianwala Minor, and Mohan Devi Minor.

6.4.6. Archeological and Cultural Sites

The important places in the district are:

- Hiran Minar
- Sheikhpura Fort
- Shrine of Syed Waris Ali Shah
- Sheikhpura Stadium

7. IMPACT ASSESSMENT

This section discusses the potential environmental impact for the establishment fabric knitting, dyeing & stitching unit. The impacts may include; soil contamination, water resources depletion, biological resources disturbance and socio-economic impacts and, where applicable, identifies mitigation measures that will reduce significantly, if not eliminate, its adverse impact.

7.1. Objectives

The objective of screening is identification of the adverse as well as beneficial impacts and then mitigating the effect of adverse impacts up to acceptable limits or within PEQS. Following are the objectives of screening out all significant environmental and social impacts:

- To find different alternatives and ways of carrying out the project activities, this
- May cause adverse environmental and social impacts on the surroundings.
- To enhance the Environmental and Social benefits of project.
- To ensure that residual adverse impacts are kept within acceptable limits.

7.2. Methodology

This Section discusses the project's potential environmental impact of establishment of garment unit. The adverse impact may occur on; the area's geomorphology, soil, water resources, air resource, biological resources and socio-economic condition and where applicable, identifies mitigation measures that will reduce significantly, if not eliminate, its adverse impact. The assessment carried out in the sub-sections below is based on overall environmental receptors within the project area. Impacts are evaluated on the basis of magnitude, immediacy and sustainability.

7.3. Characteristics of Impacts

The impact analysis is characterized as following:

- Positive and Negative Impacts
- Long- and Short-Term Impacts
- Direct and Indirect Impacts
- Continuous and Intermediate Impacts
- Wide and Local Impacts
- Large, moderate and minor Impacts

IMPACTS DURING CONSTRUCTION PHASE

Basic Components	Impact Characteristics												
	Duration		Location		Frequency		Extent		Significant			Nature	
	Long	Short	Direct	Indirect	Continuous	Intermediate	Wide	Local	Large	Moderate	Minor	Positive	Negative
Soil Erosion		*		*		*		*			*		*
Air Quality		*	*			*		*			*		*
Ground Water Quality		*	*		*		*		*				*
Noise Level		*	*			*		*			*		*
Wastewater Generation	*		*		*		*		*				*
Solid Waste	*		*		*			*		*			*
Aesthetic		*		*		*		*			*		*
Flora		*		*		*		*			*		*
Fauna		*		*		*		*			*		*
Employment Rate		*	*			*	*			*		*	
Economic Uplift		*	*			*	*			*		*	
Health and Safety		*	*			*		*			*		*

IMPACTS DURING OPERATIONAL PHASE

Basic Components	Impact Characteristics												
	Duration		Location		Frequency		Extent		Significant			Nature	
	Long	Short	Direct	Indirect	Continuous	Intermediate	Wide	Local	Large	Moderate	Minor	Positive	Negative
Soil Erosion		*		*		*		*			*		*
Air Quality		*	*			*		*			*		*
Ground Water Quality	*		*		*		*		*				*
Noise Level		*	*			*		*			*		*
Wastewater Generation	*		*		*		*		*				*
Solid Waste	*		*		*		*			*			*
Machine Installation	*		*		*			*		*		*	*
Generator Installation		*		*		*		*			*		*
Dyeing of Clothes	*		*		*		*		*				*
Aesthetic		*		*		*		*			*		*
Flora		*		*		*		*			*		*
Fauna		*		*		*		*			*		*
Economic Uplift	*		*		*		*		*			*	
Employment Rate	*		*		*		*		*			*	
Health and Safety		*	*			*		*			*		*

8. ANTICIPATED IMPACTS AND MITIGATION MEASURES

This section provides the analysis of the potential impacts during installation and operational phases of the proposed project on the physical, biological, and socioeconomic environment of the project area. Environmental sensitivity of the project area is described through a thorough review of the project activities. This chapter then suggests effective mitigation strategies to help combat the adverse nature of these impacts and delivers a monitoring scheme to manage them.

Impact Significance

As the project relates to garment manufacturing unit and can majorly impose impacts on water, land, air and on workers' health. The further detail is given under here:

8.1. Impact and mitigation measure related to Project Location

The location is well linked to the other parts of the city through motorway. There will be no enduring, high and adverse impact predicted due to the establishment of the 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. 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 are located. Also, the site is in industrial area, residential area is far away the impact will not impose on local public due to site.

8.2. Impact and Mitigation Measure related to Project Design

All technical standards will be kept in mind while construction and operational activities. The solid waste will be generated due to process of stitching, cutting and packaging. The proper handling of waste will be ensured. The technology will be updated and new machines will be used for processing. Advance and comprehensive method will be followed. The fuel used in machinery is eco-friendlier and will emit less emissions. The design proposed is latest and can be used easily. The transportation activities will be done through the main road except through the road near residential areas.

8.3. Impacts and Mitigation Measure During Construction Phase

The activities during construction phase will cause impacts on the factors like air, noise, land, water, health and on the economy. To reduce the adverse impacts the mitigation measures will be provided to meet better quality demand. The detail of impacts and mitigation measure is as follows:

Impact on Air Quality

Due to different activities during construction like leveling, compaction the dust particles raised and mix with air. Also, the increase in traffic load can emit the pollutant like CO₂, SO_x, NO_x, PM_{2.5}, CO. This pollutant will also contaminate the air and increase air pollution. The uncovered vehicles while transferring material like sand, mud, gravels on the construction site can spread out due to air/wind.

Mitigation Measure

The recommended mitigation measure to control air pollution are:

- Regular spray water on sand after every 2 hours on construction site to avoid spreading.
- Use the fuel that cause less pollution.
- The loaded trucks will be fully covered to reduce pollution.
- Turning of the vehicles to reduce toxic gas emissions.

Impact on Noise Quality

During construction process compaction and mixing of raw material 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.

Mitigation Measure

- Engines of vehicles visiting the project site will be properly tuned-up.
- Truck/tractor drivers will be instructed not to play loud music and stop use of horn.

- Noise control measures will take such as provision of silencers on the heavy construction vehicles.

Impact related to Health and Safety

During construction, the installation of machines, laying of pipes can affect workers health. There are more chances of cuts on skin that will cause damage to workers.

Mitigation Measure

- Proper training session will be provided before construction activity.
- Proper use of PPEs like gloves, shoe, and helmets can reduce the health risk and increase safety.
- Daily checking of workers is mandatory.
- Avoid all possible injuries during construction of the project.
- Be aware of emergency escape routes.
- Promptly report all accidents to the concerned environmental manager.
- Not smoke or produce flame in No Smoking Areas.

Impact on Solid Waste

If the solid waste of construction site will not be properly managed it can run into the drainage system and can block it. Also, it can contaminate the nearby areas and cause pollution. Leaching cause, the groundwater to contaminate.

Mitigation Measure

- Separate waste bins will be provided for solid waste collection.
- A proper waste management system will develop.
- Timely collection of solid waste.

Impact on Drainage System

Excavation activities required for infrastructure installation (lying of water/sewage pipes, electrical cables, etc.) may adversely impact the existing drainage patterns in the area.

Mitigation Measure

- Avoid the solid waste to spread in the drainage pipe.
- All activities will be done carefully without causing any damage.
- Keep the drainage system covered.

Impact on Land

Loss of topsoil due to soil erosion may remain a problem during clearing and construction phases of the project.

Mitigation Measure

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

Socio-Economic Impact

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.

Followed Measures

- In the construction process, un-skilled workers can also get the job.
- Sellers in the market, labors, transport drivers and many can earn.
- Unemployment rate decreases.

8.4. Anticipated Impacts during Operational Phase

Impact on Air Quality

Transportation is cause of gas emission. Vehicles used for raw material emit the flue gases that after mixing with air can increase the acidic components in the atmosphere. Burning of fuel is also a source of air pollution. Boilers are also a source of air pollution.

Mitigation Measure

- Use the new fuel in vehicle, black fuel emission will release high carbon concentration.
- Turned off vehicles timely to avoid emissions.
- Wet scrubbers will be installed to control emissions from the boiler.
- The maintenance of Boiler will be done on regular basis.
- Regular monitoring of air quality by air quality monitoring equipment.

Impact on Noise Quality

Due to operating machines, noise will be generated. The transport vehicles used for transporting raw material and products can cause noise pollution. Generators used at project site are also a source of noise pollution.

Mitigation Measure

- Avoid unnecessary use of horn on roads.
- Operate the machines in proper separate room so that the noise level may reduce.

Impacts related to Health and Safety

Due to sudden incident worker's health may affect. Improper use of machines during production, loading and unloading of raw material and product, any kind of negligence cause damage.

Mitigation Measure

- Proper use of personal protective equipment (PPE's) like gloves, goggles, mask, apron, shoe and other material.
- Must have training about the machinery operating system.
- Worker must be able to read the safety signs and symbols.
- Regular monitoring and implementation of safety measures.

Impact of Solid Waste

The solid waste produced during the operational activities if mixed with surrounding material cause the pollution. Raw material and packaging waste are a source of solid waste generation and effect the environment.

Mitigation Measure

Every process will generate waste that will need to be collected and disposed of in accordance with local regulations. Dyeing unit will have at minimum, a waste-specific procedure for proper:

- classification;
- collection;
- containment;
- transportation;
- disposal.

Hazardous waste will be disposed of by EPA approve vendor.

- Use special waste bins in case of disposal of packaging bags.
- Timely collection and disposal of solid waste.
- Proper space for solid waste collection far away from production unit and drainage system.

Impacts of Wastewater

Domestic wastewater will be produced. During operational phase a lot of wastewaters is produced. Direct dispose of can affect the drainage system. Improper or mismanagement of sewerage supply system can cause polluted water to spread out and can affect the land.

Mitigation Measure

- Provide proper drainage system.
- **ETP** will be provided.
- The water from process activities can be reused after treatment. Also treated waste water will be used to avoid more ground water consumption.
- Treatment plant will operate timely.
- Wastewater should meet the PEQS before discharging it to the drain.

Impact on Economy

Due to the production process, the employment rate increase. As job opportunities increase there will be the economic up-lift. The economy rate will also be increased by the supply of final product. Skilled and non-skilled workers both can get job.

Impact on Flora and Fauna

No significant species present there. Some of common trees and animals found there. No adverse impact imposes on it.

Mitigation Measure

- After construction trees will be planted.
- Avoid unnecessary cutting and damage to habitats.

Dyes Storage and Handling

Hazardous chemical will not be used in the process manmade dyes will be used and will be highly managed.

- Chemicals will be stored in cool and dry place
- Only relevant workers will be allowed to enter the storage
- All the containers/boxes will be completely labeled and fully marked with dates
- MSDS will be provided at the entrance to deal any emergency situation
- Workers with complete PPEs will be allowed to handle the chemicals
- Fire extinguishers will be provided at proper distance to control fire hazards
- Trainings will be provided to workers for the management of chemicals and its hazards

8.5. Potential Environmental Enhancement measure

The other measures that can improve the environment are:

- At workplace workers and employers have enough information, knowledge, and training regarding first aid treatment in case of any emergency. The project provides proper medical facilities to workers and staff to cope with any incidental accidents and tackle them.
- Workers and all the staff get proper training about the work and safety practices.
- Drugs and narcotics are strictly prohibited during working hours in working areas.
- To control any occupational health and safety impact a detailed planning for mitigation measures will be done.
- All employees will be trained for EHS policies and practices. The management will follow the environmental management plan to implement the mitigation measures further. Institutional measures such as occupational health & safety planning and environmental compliance monitoring for environmental parameters will be strictly followed.
- The staff / attendants of the machinery will use proper protective gears.

9. ENVIRONMENTAL MONITORING AND MITIGATION PLAN

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

9.1. Objective of Environmental Monitoring Plan

The EMP has been prepared with the objectives of:

- 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.
- Outlining mitigation measures required for avoiding or minimizing potential impacts assessed by the EIA.
- Developing a monitoring mechanism and identifying requisite monitoring parameters to confirm effectiveness of the mitigation measures recommended in the EIA
- Defining the requirements for communication, documentation, training and monitoring, management, and implementation of the mitigation measures.

9.2. Proposed Mitigation Actions

Mitigation planning is the process used by state, tribal, and local leaders to understand risks from natural hazards and develop long-term strategies that will reduce the impacts of future events on people, property, and the environment. It may refer to measures taken to reduce the harmful effects of hazards that remain in potential, or to manage harmful incidents that have already occurred. It is a stage or component of emergency management and of risk management.

Monitoring components

Baseline environmental monitoring will be carried out for the following essential parameters.

- Noise Levels
- Ambient Particulate Matter
- Ambient Air Gases
- Ground Water

- Wastewater
- Soil Contamination
- Solid Waste
- Vehicular Monitoring
- Flora & Fauna
- Health & Safety
- Machinery Maintenance

ENVIRONMENT MANAGEMENT AND MONITORING PLAN				
S. #.	IMPACT	MITIGATION MEASURE	RESPONSIBILITY	
			IMPLEMENTATION	MONITORING
A	CONSTRUCTION PHASE			
1.	AIR QUALITY			
	Dust, SO ₂ , NO _x & CO emissions from trucks, cause health issues to workers. Particulate matter will be generated during the Construction.	- 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.	OCCUPATIONAL HEALTH & 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 quality are anticipated.	Avoid accidental spills through good work practice.	Contractor	Proponent through 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 can reduce the fear among the people regarding non-skilled people.	Contractor & Proponent	SIE

B.	OPERATIONAL STAGE			
1.	AIR QUALITY			
	Air pollution due to transport and vehicle. Due to some fumes of chemical the toxic particles mix in the air	• Proper maintenance and tuning of the vehicles can reduce it. • Contain the air tight bottles and pack in which chemicals will be stored. • Wet scrubbers will be installed	Proponent	EPA
2.	NOISE QUALITY			
	Noise due to movement of vehicles, during traffic of materials	• Plantation along with boundary will make buffer zone to avoid noise.	Proponent	EPA
3.	OCCUPATION, HEALTH, AND SAFETY			
	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 enough extent. All the vehicles should be properly tuned up and regular maintenance and periodic monitoring must be done.	Proponent	EPA
4.	SOLID & HAZARDOUS 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.	• Domestic solid waste will be collected in waste bins. Hazardous waste will be stored in separate bins. • Must use protective gloves while carrying the containers to avoid any hazardous effect. • Expired or waste chemicals will be collected in non-reactive packs.	Proponent	EPA
5.	WASTEWATER QUALITY			

	Domestic wastewater will be produced. Also waste water will be produced during project activities including dyeing.	- Domestic wastewater will be disposed of after treatment. - Effluent Treatment Plant (ETP) will be installed. - Wastewater will meet PEQ's.	Proponent	EPA
6.	FLORA AND FAUNA			
	Excessive plantation shall be done on the walls. This will act as buffer zone and bring healthy change in environment during operational phase of project.	The process of plantation should be kept sustainable throughout project life.	Proponent	EPA
7.	SOCIO-ECONOMIC ENVIRONMENT			
	A few 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

9.3. Schedule for Implementation and Environmental Budget

Schedule of 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												

Environmental Budget

Table 8 Environmental Budget

Sr.no.	Environmental Components	Quantity	Pak. Rs.	Details/ Basis
1	Tree Plantation	100-500	0.002 billion	Cost includes plantation and maintenance up to three years
2	Solid Waste Management/ Mortality Pits	L.S.	0.36 billion	Lump sum
3	Wastewater management	L.S.	0.6 billion	Lump sum
4	Health & Safety Measures	L.S.	30,000	Lump sum
5	Miscellaneous Cost	L.S.	12,000	Lump sum
6	Air Quality Monitoring	2	15,000	Lump sum
7	Water & Wastewater Quality Monitoring	2	12,000	2 samples @ 6000/Sample
8	Noise Level Monitoring	2	10,000	2 samples @ 5000/Sample
9	Soil Tests	2	10,000	2 samples @ 5000/Sample
10	Training		10,000	2 samples @ 5000/Sample
11	External Monitoring		50,000	Lump sum
	Total Environmental and Social Management Cost		Approx. 01 billion PKR	

9.4. Environment Management Team

Responsibilities of Proponent

The project owner (proponent) 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 proposed project 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

Responsibilities of project contractor:

Contractor appointed for the commissioning of the project including the auxiliary facilities is responsible for:

- Implementation of all provisions of the EMMP and with any environmental and other codes of conduct required by the project.
- Provision of proper Personal Protective Equipment (PPE) to the workers and train them for their proper use.

9.5. Monitoring Program to Access Performance

Following functionaries will be involved in the implementation of EMP or to access output:

1. The project owner (proponent) as the project proponent and owner of the EMP.
2. Project excavation contractor(s) as executors of the EMP during installation phase of the project.
3. 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.

9.6. EMP Reporting and Review Procedure

Category	Impact	Project Activity	Monitoring Mechanism	Frequency	Monitoring Agency
Construction and Operational Phase					
Land Resource	Solid Waste	Implementation of Solid waste Management system	Record keeping and timely transfer of waste from bags to the disposal Site for disposal	Daily	Manager HSE/Project Proponent
	Soil Contamination	Implementation of Management Plan	Visual monitoring and complete soil analysis	Daily and annually	
Ecological	Flora	Uprooting of trees	Inventory of uprooted	During Baseline	
Air Resource	Air Emission	Dust emissions during Construction and Operation	Monitoring of the emissions as per applicable standards Water sprinkling will be done regularly to avoid dust emissions	Once before start of operation and after that as when required during operation	
	Dust				
Noise	Noise Pollution	Development/operational material transportation	As per applicable standards	Fortnightly	
Water Quality	Wastewater generation	Domestic wastewater, due to construction activities	Water quality testing	Monthly	
Health and Safety	Health risk	During construction and operational phase mainly due to more chemical usage	Keep record of workers as they use PPE's and follow safety signs and instructions	Daily	
Resource		During construction phase	Trees and vegetation during operation phase	Survey, once in a year and after the completion of the Project	

9.7. 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. A training log will be maintained by Site engineer and contractors.

Participants	Date, Time & Location	Training Topics	Schedule	Responsible Authority
Staff of team management and contractor	As specified	- Introduction to the project and EMMP. - EMMP communication, documentation, monitoring and reporting requirements.	Every month	Project manager
All site personnel	As specified	- Site induction training on HSE system and requirements - Environmental sensitivities of the project area - Communication of environmental problems to corresponding officials - Waste disposal	After every week	Project manager
Drivers	As specified	- Road safety - Road restrictions - Vehicle restrictions - Waste disposal - Defensive driving	After every 3 months	Project manager
Camp Staff	As specified	- Camp operations - Waste disposal - Good housekeeping	Monthly	Project manager

10. STAKEHOLDERS CONSULTATION

Social acceptability of the project and the area is a key to success. Consultation with the stakeholders is a tool for managing two-way communication between the project proponent and the affected public. Its goal is to improve decision making and built understanding by actively involving individuals, groups, and organizations, which have stake in the project. This involvement increases project's long-term viability and enhances its benefits to locally affected people and other stakeholders.

To evaluate the socioeconomic and environmental impacts, filed surveys are extremely essential. In addition to the surveys at the preliminary stage, consultation with the community and their active participation plays a vital role in successful implementation of the project. To identify the different types of stakeholders and ascertain their perceptions about the project, an initial environmental examination was conducted. Informal group discussions were also held as an additional tool for obtaining feedback from the stakeholders that are being discussed in the following pages.

10.1. Objective of Consultation

Public consultation plays a vital role in studying the effects of the project on the stakeholders and in the successful implementation and execution of the proposed project. Public involvement is a compulsory feature of environmental assessment, which leads to better and more acceptable decision making. The objective of the consultation with stakeholders is to help verify the environmental and social issues that have been presumed to arise and to identify those which are not known or are unique to the construction of the proposed unit.

10.2. Proponent's Environment Management Team

Sr. No.	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 arrangements to avoid any unfortunate incident. - First aid facilities/services should be available on-site. - Ensure good standards of workmanship.
4	Site HSE advisor	- 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.

10.3. The responsible Authority

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

10.4. Other Department and Agencies

For the impact analysis detailed meetings were held with the management of said project, local community, education institutes, health institutes, hospital and NGOs. Issues were discussed

that may affect the environment and the implementation of proposed project. All possible mitigation measures were considered and incorporated in the Environmental Management Plan.

Sr. No.	Designation	Concerns
1.	Environment Protection Department (EPD)	
	General Manager	To reduce environmental impacts following points are summarized: - 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
	Environmental Inspector	
2.	Social Welfare Department (SWD)	
	Deputy Director Officer	Following comments are suggested by the Deputy Director on the behalf of SWD: - Final goods should be affordable for the locals - 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
3.	Irrigation Department	
	Sub Division	Following comments were suggested: - Untreated wastewater should not be disposed of in the nearby drains without proper treatment - Beneficial as job opportunities will be available to the local residents.
	Executive Engineer	
4.	Forest Department	
	District Forest Officer	Following recommendation were suggested by the forest department: - Planation and landscape activities should be carried out on broader scale - Proper drainage system must be available at site

10.5. Environmental Practitioners and Experts

Sr. No.	Name	Designation	Comment/ Suggestions
1.	Sara Fatima	Senior Environmentalist	- She said that the project will have positive impact on economy but its construction should be done in environmentally friendly way - Basic facilities should be provided to local community
2.	Zia Ur Rehman Farooqi	Ph.D. Scholar Environmental Sciences	- 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
3.	Kanza Fatima	Junior Environmentalist	- Waste must be collected and dispose of properly - Ensure the use of PPE's during the operational activities. - Wastewater should be treated - Ensure the tree plantation
4.	Aleeza Kanwal	Environmentalist	- Health and safety department and trained people should be there in case of any emergency - Periodic monitoring of every dye, chemical used (expiry date, type)
5.	Mr. Saffi Ahmed	Environmentalist	- He said that locals should be preferred for employment. - Value addition of area. Proper mitigation measures must be adopted while construction and operation of this project
6.	Engr. M. 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

10.6. Affected and Wider Community

There is no affected community present in the radius of our study area. Enviro Stewards Company (Private) Limited team has consulted with the inhabitants of the different areas. They provided positive remarks regarding the subject project and in the favor of the subject activity for the proposed plant.

Stakeholders' participation Performa's and socioeconomic questionnaire were get filled by the inhabitants to evaluate the project socio-economic impacts. List of respondents and socioeconomic questionnaires are attached as Annexure with the report.

The stakeholder category involves nearby resident, different industries, shopkeepers. The issues discussed with them are mostly related to the following:

- Activities of project.
- Impacts caused due to certain activities during construction and operational phase.
- The proposed mitigation measures.

11. CONCLUSION

The aim of the project is to supply good quality product to end users. The project falls under the category of environmental impact assessment.

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

- Environmental monitoring by the project proponent and a third party will also ensure that the project runs in accordance with the legal requirements.
- There's no any sensitive area/element near the project site.
- The noise levels will be kept well within the required limiting values of the PEQS Pakistan.
- This project will create job opportunities during construction and operation stages leading towards reduction of poverty.
- EMP, as recommended in this EIA Report, is to be put in place during all constructional and operational stages of the project.
- All the protective measures for workers' health and safety will be followed.
- Availability of water for the project will be ensured without affecting the needs of the people around the project area.
- Wastewater treatment plant will be installed and treated wastewater will be disposed of.

GLOSSARY

Accommodate	(Of a building or other area) provide lodging or sufficient space for. "The cottages accommodate up to six people"
Assessment	The action of assessing someone or something. "The assessment of educational needs"
Aspects	A distinct feature or element in a problem
Adverse	Preventing success or development; harmful; unfavorable. "Taxes are having an adverse effect on storage"
Authorized	Having official permission or approval. "An authorized dealer"
Amendment	A minor change or addition designed to improve a text, piece of legislation, etc. "an amendment to existing bail laws"
Ambient Air	Ambient air quality refers to the quality of outdoor air in our surrounding environment. It is typically measured near ground level, away from direct sources of pollution
Archaeological	The scientific study of material remains (as fossil relics, artifacts, and monuments) of past human life and activities
Annunciation	A formal public statement
Baseline	The existing conditions against which impacts of the proposed action and its alternatives can be compared.
Crushing	Deform, pulverize, or force inwards by compressing forcefully. "You can crush a pill between two spoons"
Containers	An object for holding or transporting something. "The cakes will keep for up to two weeks if kept in an airtight container"
Compliance	Acting according to certain accepted standards
Discrepancies	A difference between conflicting fact, claims or opinions
Disposal	the action or process of getting rid of something
Dumped	Deposit or dispose of (rubbish, waste, or unwanted material), typically in a careless or hurried way

Effluent	Any material in solid, liquid or gaseous form or combination thereof being discharged from industrial activity or any other source and includes a slurry, suspension or vapor
Environmental impact statement (EIS)	A document prepared to analyze the impacts on the environment of a proposed action and released to the public for review and comment. An EIS must meet the requirements of NEPA, CEQ, and the directives of the agency responsible for the proposed action.
Emission	The storage and discharge of something, especially gas, or radiation.” The effects of lead emission on health”
Evaluated	Estimate or determine the nature, value, quality, ability, extent or significance
Graded	Arranged in a sequence of grades or ranks; "stratified areas of the distribution"
Generation	The storage or creation of something
Incinerator	A furnace or a container for burning waste materials
Inadequate	Not capable or competent; lacking
Implementation	The process of putting a decision or plan into effect; execution
Intends	To have in mind as something to be done or brought about; plan: to design or mean for a particular purpose, use, recipient, etc.
Landfill site	For the disposal of solid waste in which refuse is buried between layers of dirt so as to fill in or reclaim low-lying ground
Legislation	Law enacted by a legislative body
Mobilization	To release or make available, as cells or chemical substances
Mitigation	The action of lessening in severity or intensity
Noise	Loud, unpleasant, unexpected, or undesired sound that disrupts or interferes with normal human activities
Potential	Having or showing the capacity to develop into something in the future
Pedestrian	A person who goes or travels on foot; walker
Proponent	The person who proposes or intends to undertake a project

Sanitary	Relating to the conditions that affect hygiene and health, especially the supply of sewage facilities and clean drinking water
Segregate	Set apart from the rest or from each other; isolate or divide. "Disabled people should not be segregated from the rest of society"
Settlement	An official agreement intended to resolve a dispute or conflict. "Unions succeeded in reaching a pay settlement"
Ton	A short or net ton is equal to 2,000 pounds; a long or British ton is 2,240 pounds; a metric ton is approximately 2 to 205 pounds
Transportation	The action of transporting someone or something or the process of being Transported. "The era of global mass transportation"
Ultimate	Being or happening at the end of a process; final. "Their ultimate aim was to force his resignation"
Violations	the action of violating someone or something
Working place	From the out by side of the last open crosscut to the face
Flora	All the plant life in a particular region or period
Fauna	All the animal life in a particular region or period
Demarcated	Separately clearly, as if by boundaries
Screening	The display of a motion picture
Substitutions	An event in which one thing is substituted
Smelting	extract (metal) from its ore by a process involving heating and melting
Regulations	An authorized rule
Recycling	process of converting waste materials into new materials and objects
Stakeholders	A person or organization with an interest or concern in something
Rehabilitation	The conversion of waste land into land suitable for use of habitation or cultivation

LIST OF ABBREVIATION

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
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
IAIA	International Association for Impact Assessment
IWM	Industrial Waste Management
IUCN	International Union for Conservation of Nature

KM	Kilometers
LGO	Local Government Ordinance
MEAS	Multilateral Environmental Agreements
MSDS	Material Safety Data Sheets
NEQS	National Environmental Quality Standards
PPE	Personal Protective Equipment
PEQS	Punjab Environmental Quality Standards
NEAP	National Environmental Assessment Plan
Q&EHS	Quality, Environment, Health & Safety
O & M	Operation and Maintenance
PKR	Pak Rupees
PPM	Parts Per Millions
PEPC	Pakistan Environmental Protection Council/Punjab
QA/QC	Quality Assurance/Quality Control
RAP	Resettlement Action Plan
SWM	Solid Waste Management
TDS	Total Dissolved Solids
UNFCCC	United Nation Frame Work 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	Waste Water Treatment Plant

LIST OF PEOPLE CONSULTED WITH WRITTEN FEEDBACK

Sr.#	Name	Concerns
1.	Kamran Ali Khan	During the survey in the study area following concerns of the local community were noted: - Air pollution should be controlled effectively such as emissions generated from power generating activities. - Chemicals should be stored and handled properly only authorized persons should be allowed near the chemical storage area. - 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. - 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. - Construction activity should be carried out during day hours. - Noisy activities should be confined.
2.	Muhammad Waqas	
3.	Qaiser Farooq	
4.	Ghulam Mujtaba	
5.	Mehboob Alam Shahid	
6.	Muhammad Latif	
7.	Mazhar Hussain	
8.	Shahbaz Khan	
9.	Waseem Ahmed	
10.	Rab Nawaz	
11.	ALLAH Yar	
12.	Ahmed Saeed	
13.	Muhammad Jabbar	
14.	Muhammad Ramzan	
15.	Kamran Ali Khan	

SOURCE 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
- https://sheikhupura.punjab.gov.pk/district_profile
-
- 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

TERM OF REFERENCE

- * According to regulation 7 of Review of IEE and EIA regulations, 2000, 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.
- * Proponent shall be responsible for paying any fines/ penalties levied by the EPA Punjab or Environment Tribunal.
- * Provide all documents/details required for completion of IEA report
- * 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 URBAN PREMIER COMPANY (PVT.) LTD

For Enviro Stewards Co. Pvt. Ltd

Ms. Sara Fatima

Mr. Zia ur Rehman

List of names, qualifications and roles of team members carrying out the IEE/EIA study

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