

ENVIRONMENTAL IMPACT S (EIA) ASSESSMENT REPORT

M/S MISAQ PHARMACEUTICALS PVT LTD

Located at Plot No. 7-B, Value Addition City, FIEDMC, Khurrianwala, Faisalabad



REPORT PREPARED BY

REPORT SUBMITTED BY

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***M/S MISAQ
PHARMACEUTICALS PVT LTD
LABORATORIES (PVT) LTD***

*Azeem Imtiaz S/O Imtiaz Ahmad
(Proponent)
House No. Y-27, Street No. 106, Madina
Town, Faisalabad*

EXECUTIVE SUMMARY

Title and Location of the Project:

The Environment Impact Assessment (EIA) Report is for the “**M/S MISAQ PHARMACEUTICALS PVT LTD.**” for Manufacture of Health Care Products Unit. The location of the project is Plot No. 7-B, Value Addition City, FIEDMC, Khurrianwala, Faisalabad

Project Proponent:

The proponent of the proposed project is **Mr. Azeem Imtiaz S/O Imtiaz Ahmad.**

Organization Preparing the EIA Report

In order to comply with the IEE/EIA regulations, 2022 as per Punjab Environmental Protection Act (PEPA), 1997, the proponent has entrusted Evergreen Environmental Solutions to carry out Environmental Impact Assessment (EIA) Report for the proposed project named M/S MISAQ PHARMACEUTICALS PVT LTD.”

Actually the said proposed project is a pharmaceutical project and there is no such category mentioned in Schedule-I and Schedule-II, however it may fall in B (2) of (Manufacturing and Processing) of **Schedule-II** of Pakistan Environmental Protection Agency (Review of IEE and EIA) Regulations, 2022, the guidelines for preparation and review of environmental reports. So, an environmental impact assessment of the unit is required.

To establish the background environmental conditions of the project area, a detailed survey of the site was conducted. This included but not limited to topography, geology, hydrogeology, hydrology, climate, flora and fauna, socio-economic conditions, archaeology, present infrastructure. Information describing the existing environment was gathered from various sources including the client, statutory bodies, and local interest groups and published work.

The project is for the manufacturing of health care unit. The main objectives of the proposed project are:

- To provide better quality Health Care products.
- To provide employment to the people
- To upgrade the socio-economic conditions of the area

Guidelines for sensitive and critical areas were reviewed, so that the proposed project is planned and sited in a way that protects the values of sensitive and critical areas. The project site is not

located in these sensitive and critical areas.

There is no environmentally sensitive area in the macro environment. No trees or greenery would be removed and no significant impact would occur on the demographic pattern or on the social and cultural values of the settled population.

It was evident from the assessment of impacts that no significant damage to wildlife, vegetation or habitats is anticipated from the proposed project. Similarly, no cultural/historical or archeological sites would be affected by the project. Furthermore, no adverse socio-economic impact of the project is envisaged.

Different methods are used for the impact identification. These include: assessment through the stages of the project, checklists, matrices and networks. To minimize the effects of adverse impacts the EIA recommends mitigation measures. These mitigation measures include the use of alternative options, management and physical controls, or compensation in monetary terms. The proposed mitigation measures are based on the understanding of the sensitivity and behavior of environmental receptors in the project area, the legislative controls that apply to the project and a review of good industry practices while operating in sensitive environment.

For the effective implementation and management of the mitigation measures, an environmental management plan (EMP) has been prepared. The EMP satisfies the requirement of the Pakistan environmental protection act. The EMP outlines the aims and objectives, defines the responsibilities of the project owners and contractor(s), and lays down the required communication, reporting procedures and mechanism through which the proposed measures will be monitored.

The report also covers monitoring plan; it will help to ensure compliance with the relevant legislation, implementation of the mitigation measures and long-term minimization of negative environmental impacts. The monitoring plan present a schedule with a description of any proposed phasing of activities, recommended mitigation measures and proposed methods of compliance.

After screening of probable environmental impact, it can be concluded that;

- Project activities are environmental friendly.
 - Project activities will cause temporary impacts on local environment all of which are reversible.
- During operational stage the project will not pollute the environment in normal circumstances

except when an incident of spillage occurs. The impact of such incidents will be mitigated by surveillance, proper maintenance, immediate reports, safety and management plan

- No significant damage to wildlife, vegetation or habitats is anticipated from the proposed project.
- No cultural/historical or archaeological sites would be affected by the project.
- No adverse socio-economic impact of the project is envisaged
- By adopting recommended mitigation and safety measures minor environmental impacts of the project can be eliminated

Environmental Impact Assessment report concludes that the setting up of facility and the associated activities will lead to minor environmental effects which could be mitigated as illustrated in the report. The project will also help to overcome the need of health care products of the market. The project will not add to degradation of environment at the project area. Therefore, the proposed project is considered viable, of enormous potential benefits and environmentally friendly, as supported by this EIA report. Accordingly, the EIA in the present form may be approved.

1. Title of the project	“M/S MISAQ PHARMACEUTICALS PVT LTD.”
2. Description of the project	Health Care Products
3. Location of the project	Plot No. 7-B, Value Addition City, FIEDMC, Khurrianwala, Faisalabad
4. Name of the proponent	Azeem Imtiaz S/O Imtiaz Ahmad (Chief Executive/Proponent) Address: Plot No. 7-B, Value Addition City, FIEDMC, Khurrianwala, Faisalabad CNIC NO. : 33100-7699575-1
5. Contact Person	Mr. M Azeem Imtiaz S/O Imtiaz Ahma
6. Name of organization preparing the report	Ever green Environmental Solutions Address: Office No. 8, Chaudhary Arcade, Regency Road, Faisalabad. Tel: +923314117050 Email: miannawazepa@gmail.com
7. Nature & Present Status of Land	Open Land and The site is located on Industrial Land .

ENVIRONMENTAL IMPACT ASSESSMENT (EIA)

8. Google Coordinates	
9. Geo-Coordinates	Front: Road Back: Open Land Left: Open Land Right: Open land
10. Intended Use	Manufacture of Health Care Product Unit
11. Category of Project	Actually the said proposed project is a pharmaceutical project fall in B (2) of (Manufacturing and Processing) of Schedule-II of Pakistan Environmental Protection Agency (Review of IEE and EIA) Regulations, 2022.
12. Total Proposed Area	01 Acre
13. Estimated Cost of the Project	80 million
14. Details of Raw Material	The project involves the Manufacture of Health care Products.
15. Detail & Flow sheet of process	Attached at page no. 34
16. Finished Product	Tablets, Capsules, Ointments (Steroids Non Steroids), Lotion, Injections (veil & Impulse), External solutions Dry Syp.
17. By-Product (if any)	N/A
18. Detail of Boiler & Generators	A standby generators of 250 KVA will be Installed.
19. Detail of sources of air Emission	Steamer & Generator
20. Detail of Air/Pollution Control Devices to be installed	Steamer will use Natural Gas while Sound proof canopy and muffler will be installed in and around the generator. All possible effective measures will be adopted to control air emissions and to keep them within permissible limits of PEQS.
21. Source of Water	Ground Water – 4" pipe. 2 HP
22. Wastewater	• No Process waste water will be generated. • Domestic/Municipal Waste Water will also be generated from kitchen, washrooms and also from cleaning of floors. • The same will be collected in septic tanks and after screening will be disposed-off into sewerage system.
23. Name of wastewater receiving body	FIEDMC sewerage System
24. Solid waste Management	No Process Solid waste will be generated
25. Source of Power	630 KVA WAPDA Transformer & Standby Generator

26. Detail of Safety measures/plans to be adopted	Attached with the report
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1. Brief Summary:

Mr. Azeem Imtiaz S/O Imtiaz Ahmad as the proponent has planned to setup a facility under the company name “**M/S MISAQ PHARMACEUTICALS PVT LTD.**” for Manufacture of Health Care Products Unit. Total area of the project comprises of **01 Acre**. The project area is an open plot and construction will start after getting the NOC from the Environmental Protection Department. The total cost of the project is **80 million** including 2 lac environmental budget. Electricity will be used as an electric source, directed from WAPDA. A Generator of 250 KVA will also be installed. Groundwater will be used to cover water requirements, 2 water pumps will be installed. 400,000 gallons/year water will be used during construction phase while during operational phase water will only used for domestic purpose. This will pass through septic tanks and then discharged. This will pass through septic tanks and then after treatment will be discharged into sewerage system of FIEDMC.

There is no environmentally sensitive area in the macro environment. No trees or greenery would be removed and no significant impact would occur on the demographic pattern or on the social and cultural values of the settled population.

2. The Major Impacts & their Mitigation Measures:

The EIA report comprises baseline data on the existing condition of the physical and biological environment, the anticipated environmental impacts, and proposed mitigation measures. Field surveys were undertaken to assess the physical and biological environment. Data has been collected from secondary sources to supplement the findings of field survey. All the issues such as the ecology, management of construction, and sanitation, use of equipment and machineries, environmental health and safety, occupational hazards, social and environment management and monitoring plan have been dealt with in detail in the respective sections of the report. However, these are briefly enumerated below to have the quick assessment of the situation.

Potential Negative Impacts	Recommended Mitigation Measures	Monitoring Responsibility	Parameters for Monitoring
Dust emissions	On exposed construction surface during windy periods fugitive dust generation will be suppressed by spraying water.	Proponent/ contractor	Air quality
	The construction material will be covered with polyethylene sheets to prevent dust emissions.		
Soil erosion	Exposed surface will be Resurfaced and stabilized as soon as possible.	Proponent/ contractor	Soil
Solid waste generation	Solid waste may include waste/unused construction materials, which should be Disposed of properly.	Proponent/ contractor	Solid waste management
Vehicular Traffic and Noise	Vehicles and other noisy equipment will be kept in good conditions and their regular Maintenance will be done.	Proponent/ contractor	Noise level
	Noisy construction activities will be carried out only during normal working hours.		
Health and Safety of WorkForce	The contractor will ensure that the workers are trained in safety procedures for all relevant Aspects of construction.	Proponent/ contractor	Health and safety
Water supply	Water use will be planned depending upon the supply and timing to avoid and inconvenience.	Proponent/ contractor	Water supply

	Water conservation practices will be adopted.		
Surface and Groundwater	The water in the area is abundant due to the project area's proximity to the Canal. Groundwater is available in the majority of the area. at project site, the septic tank/water treatment plant will be installed the safe disposal of	Proponent/contractor	Surface and groundwater

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• **Operational phase:**

Following are the kind of hazardous elements during the operational period.

Potential Negative Impacts	Recommended Mitigation Measures	Monitoring Responsibility	Parameters for Monitoring
Soil Contamination	Maintain vehicle speeds. Avoid and control major spills.	Proponent	Soil
Air emissions	In operational phase, dust generation by vehicles will be suppressed by spraying water. Properly tune and maintain equipment to minimize air emissions. Enclosure of dust producing equipment, and use of local	Proponent	Air quality

	exhaust ventilation; Use of dust extraction and recycling systems to remove dust from work areas;		
	Construction of fabric filters to prevent outdoor emissions. Monitoring of Ambient air parameters (PM₁₀, SO₂, and Nox) emissions should be carried out to ensure compliance with the PEQS and World Bank emission guidelines No use of equipment and material containing asbestos, poly-chlorinated biphenyls (PCBs), and ozone depleting substances (ODSs).		

Noise Impacts	Apply proper engineering control to noise producing sources like generator (Canopy and muffler will be installed to reduce the noise impact on the surrounding) All on-site personnel's will use required personal protective equipment (PPE) in high noise areas that will be clearly marked Monitoring will be done on regular basis to ensure the compliance of noise quality.	Proponent	Noise Monitoring
Waste water	A waste management plan will be developed before the start of the project activities.	Proponent	Wastewater management
	No untreated wastewater will be discharge into open environment Records of all waste generated during the project activity period will be maintained. Quantities of waste disposed, recycled, or reused will be logged on a Waste Tracking Register. On-site audits of the waste management will be undertaken on a regular		

	basis during the project activity.		
Flora and fauna	The unit includes a plan of the green yard area which is a positive impact on the flora and fauna. There is no significant fauna in that area. However, it is suggested that maximum number of trees should be planted by the management inside and outside the boundary wall in order to enhance aesthetics of the area.	Proponent	Biodiversity
Social impacts	During the operation stage, there will be no social issue for the nearby localities. Moreover, the residents may get opportunities to work in the refining unit which is a major positive impact of the project.	Proponent.	Social impacts

Occupational health and safety	There may be occupational health and safety risks associated with different operational activities. Health risks may occur in case of unsafe and/or unfavorable work conditions The mitigation measures include: The workers should get trained in safety procedures for all relevant aspects of processes. Enforcement of work safety measures. Housekeeping around and inside the industry area will be ensured. Formal emergency procedures will be developed. First aid kits and other personal protective equipment (safety gloves, goggles, welding shields etc.) Should be kept available.	Proponent	Health & safety
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3. Proposed Monitoring:

The EMP is prepared to ensure that the activities are undertaken in a responsible & nondetrimental manner with the objectives of:

- i. Providing a pro-active, feasible and practical working tool to enable the measurement and monitoring of environmental performance.
 - ii. Guiding and controlling the implementation of findings and recommendations of the environmental assessment.
 - iii. Detailing specific actions deemed necessary to assist in mitigating the environmental impact.
- Ensuring that safety recommendations.

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CHAPTER-1

INTRODUCTION

1.1 Background

Mr. Azeem Imtiaz S/O Imtiaz Ahmad as the proponent has planned to setup a facility under the company name “M/S MISAQ PHARMACEUTICALS PVT LTD.” for Manufacture of Health Care Products. The final products will be Tablets, Capsules, Ointments (Steroids Non Steroids), Lotion, Injections (veil & Impulse), External solutions Dry Syp Actually the said proposed project is a pharmaceutical project and there is no such category mentioned in Schedule-I and Schedule-II, however it may fall in B (2) of (Manufacturing and Processing) of **Schedule-II** of Pakistan Environmental Protection Agency (Review of IEE and EIA) Regulations, 2022, the guidelines for preparation and review of environmental reports. So, an Environmental Impact Assessment of the unit is required. For this purpose, the proponent has entrusted Ever Green Environmental Solutions to prepare environmental impact assessment for the unit.

1.2 Purpose of the report

Environmental Impact Assessment (EIA) report is being submitted to the environmental protection agency (EPA), government of the Punjab, Lahore in compliance with the legal requirements for Punjab environmental protection act-1997 (amended 2012), section-12 for obtaining the environmental approval at the project site. The other relevant regulations and guidelines considered while preparing this EIA report will include:

- Policy and procedures for filling, review and approval of environmental assessments.
- Guidelines for the preparation and review of environmental reports.
- Guidelines for public participation.
- Guidelines for sensitive and critical areas.
- Detailed Sectoral guidelines.

Different environmental aspects like social, physical, biological etc and other related features of the project are highlighted in this EIA report. Measures necessary to be adopted to mitigate any environmental impacts on any part of the environment around are also described. All the important information is also provided as described under the format used to help decision makers, EPA Punjab in the present case, before issuing the desired environmental approval.

1.3 Details of the Proponent

Name: Mr. Azeem Imtiaz S/O Imtiaz Ahmad

Address: House No. Y-27, Madina Town, Faisalabad

CNIC No. : 33100-76955575-1

1.4 Brief Description of Nature, Size, and Location of Project

Mr. Azeem Imtiaz S/O Imtiaz Ahmad as the proponent, has planned to setup a facility under the company name -“M/S MISAQ PHARMACEUTICALS PVT LTD.” for Manufacture of Health Care Products. The final products will be Tablets, Capsules, Ointments (Steroids Non Steroids), Lotion, Injections (veil & Impulse), External solutions Dry Syp. Total area of the project is 01 Acre located at Plot No. 7-B, Value Addition City, FIEDMC, Khurrianwala, Faisalabad.

After getting NOC from EPA, the proponent will do the construction of the facility. The total cost of the project is **80 million** including 2 lac environmental budgets. Electricity will be used which will be directed from WAPDA. There will be one standby generator of 250 KVA. Groundwater will be used to cover water requirements and 2 water pumps will be installed. 400000 gallons/year water will be used during construction phase while during operational phase water will only used for domestic purpose which will pass through septic tanks and discharged. There is no environmentally sensitive area in the macro environment. No trees or greenery would be removed and no significant impact would occur on the demographic pattern or on the social and cultural values of the settled population.

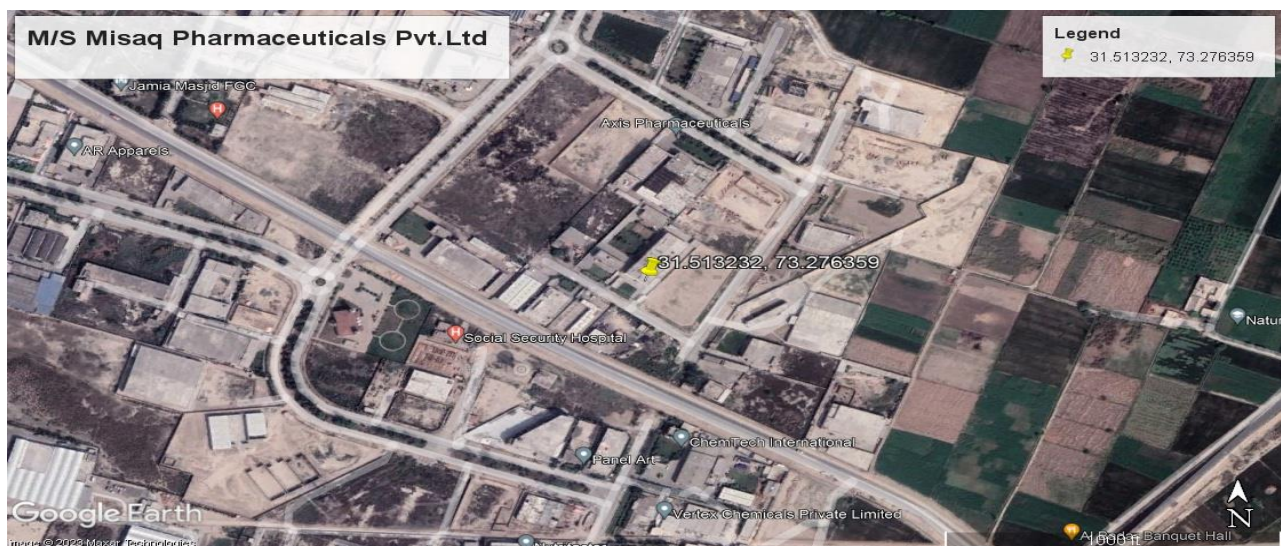


Figure 1-1: Project Location

1.5 Objective of the Report:

Objectives to conduct EIA are as following:

- ✓ A legal binding in accordance to Pakistan Environmental Protection Act (PEPA 1997).
- ✓ To identify the potential environmental issues pertaining to the proposed site.
- ✓ To evaluate the ability of the site in view of social acceptance and environmental soundness.
- ✓ To provide the maximum information to the proponent and other stakeholders about the existing environmental conditions and the implications of the proposed project.
- ✓ Collection of available data, reports, drawings and other relevant information about area of proposed project.
- ✓ Review of applicable existing environmental legislation and national environmental quality standards (NEQs).
- ✓ Propose mitigation measure to eliminate or to reduce the negative impact to an acceptable level.
- ✓ Development of well-resourced environmental management and monitoring plans to identify mitigation strategies targeted towards avoidance, minimization and rehabilitation of the impacts.

1.6 Scope of the Study

The scope of work encompasses the following aspects:

- Reconnaissance of the proposed project site
- Collection of available data, drawings and other relevant information about the area of site
- Assess and establish the potential environmental and socioeconomic impacts and identify the issues of concern
- Review of applicable existing environmental legislation and Punjab Environmental Quality Standards (PEQs)
- Propose mitigation measures to eliminate or to reduce the negative impacts to an acceptable level
- Categorization of significant impacts requiring further consideration
- Prepare Environmental Impact Assessment (EIA) report and describe environmental management plan (EMP)

1.7 Approach and Methodology

The methodology adopted to carry out the environmental Impact Assessment study is based on the guidelines of Pak-EPA.

1.8 Delineation of Area of Influence (AOI)

To conduct the EIA study, delineation of the study area is very important to decide the primary and secondary impacts of the project. The delineation of the study area normally depends upon the nature of the project like consolidated area etc. Keeping in view the potential impacts of the project; the study area is designated 0.5 km beyond the projects area's limits. However, in case of severity of impacts, e.g. impact on water quality, air and biological resources.

1.9 Reconnaissance Survey of AOI

Prior to start the detailed environmental and social survey of the project area, a reconnaissance survey was undertaken by a team of environmental and social experts to familiarize themselves with the local conditions. This trip also helped to plan the detail survey investigations. The main information regarding general topography of the area, social settings were recorded.

1.10 Environmental Baseline Survey

To conduct the study a multidisciplinary team comprising of engineers, environmentalists was deputed. Prior to start of the baseline environmental survey, a checklist was prepared based on the reconnaissance survey. The major items which were considered for physical, biological and social environment are discussed in the subsequent paragraphs.

- A. Physical environment
- B. Biological environment

In order to collect the baseline information about the water and air quality as well as noise levels, monitoring was carried out in the proposed area.

➤ Physical Environment

Under the physical environment, the following main parameters were covered

- a) Soils including type of soils, erosion, stability and contamination during project implementation.
- b) Buildings including commercial, residential and semi-commercial use for complete/ partial

relocation.

- c) Drainage aspects of the project area.
- d) Air quality.
- e) Noise quality.
- f) Climatic conditions.

➤ **Biological Environment**

Under the biological environment, the following main parameters were covered:

- a) Forests existing near the site
- b) Existing vegetation on the project site
- c) Trees to be cut due to project installation
- d) Wet lands within the vicinity of the area
- e) Migratory species specially migrating birds
- f) Endangered species of flora and fauna
- g) Wild life near the project site
- h) Beneficial plants and animals in the project site
- i) Aquatic life including fish resource.

1.11 Social Baseline Survey

The social baseline survey was carried out to accomplish the following specific objectives:

- To identify the potential project affected persons in the project demarcated area
- To identify poor and vulnerable groups, and strategies to ensure that such groups should get benefit from the project
- To identify the need for developing a resettlement policy framework for the potential affects

The social impact assessment was based on two surveys:

- A socioeconomic baseline survey to develop overall socio-economic conditions of the population settled along the project corridor.
- A survey to identify the number and status of potential projected-affected persons (PAPs) settled in that area.

1.12 Collection of Data from Primary Source

The primary data was collected by developing various study parameters keeping in view the nature of EIA study. The data was collected by applying the various study tools and techniques.

1.13 Collection of Data from Secondary Source

The available published information related to project area, relevant policies and guidelines prepared by various government organizations were obtained and reviewed. This review provided a base to go head.

1.14 Impact Assessment and Mitigation Measures

After thorough review of data collected, extent of proposed project activities and detailed discussion with stakeholders and design team, the potential impacts of the project were assessed and measures were proposed to mitigate the negative impacts and to enhance the positive impacts.

1.15 Preparation of Environmental Management Plan

An environmental management plan (EMP) depicting the mitigation measures and monitoring plan was also developed.

1.16 The Report Structure

This EIA document is structured as follow:

Section-1: Introduction: containing general information about the project and process of carrying out the study.

Section-2: The Project Description: describes an overall detail of the works to be done.

Section-3: The Description of the Environment: gives information on physical, biological and social conditions collected through survey of the project area.

Section-4: Environmental Impacts due to Project & Mitigation Measures: identifies various environmental impacts and their preventive actions. This makes the basis of the EMP.

Section-5: Environmental Management Plan (EMP): contains comprehensive prescriptions regarding environmental impacts and their mitigation measures. This also includes institutional arrangements and environmental management & monitoring plan.

Section-6: Stakeholders Consultations: explain the process of public consultation and disclosure

of the project in related stakeholder. It makes this document a legal public document.

Section-7: Conclusion and Recommendation: concludes the EIA report with some practical recommendations.

Chapter 2

Description of the Project

2.1 General

This section deals with project components. It describes the category of the project, cost & magnitude of the project, operation equipment's etc. The information presented in this section is based on project site survey.

2.2 Type and Category/ Screening

The project involves the construction of the manufacturing unit of Health Care Products. Actually the said proposed project fall in B (2) of **Schedule-II** of Pakistan Environmental Protection Agency (Review of IEE and EIA) Regulations, 2022, the guidelines for preparation and review of environmental reports. So, an Environmental Impact Assessment of the unit is required. For this purpose, the proponent has entrusted EVER GREEN consultants to prepare Environmental Impact Assessment of the unit.

2.3 Objectives of the Project

The main Objectives of the Project is To communicate and advance essential scientific, technical and regulatory knowledge and best practice, in the interest of **public health, covering Pharmaceutical, Bio-Pharmaceutical, Healthcare** and related areas of application, To promote high standards in **pharmaceutical product production**, quality assurance and preparation of compound medicinal prescriptions, pharmaceutical and other appropriate products.

“M/S MISAQ PHARMACEUTICALS PVT LTD.” Will have ability to produce high quality Tablets, Capsules, Ointments (Steroids Non Steroids), Lotion, Injections (veil & Impulse), External solutions Dry Syp

2.4 Alternatives Considered and Reasons for their Rejection

An analysis of available alternatives are necessary establish that most suitable management and

technology options will be adopted for the project while minimizing environmental impacts.

This section covers the project alternatives which were examined for the proposed project at Plot No. 7-B, Value Addition City, FIEDMC, Khurrianwala, Faisalabad. This evaluation explains the selection of the most feasible alternative in terms of economics, environment and health & safety. In particular it outlines the following options that were considered for this project:

2.4.1 The “No Development Option”.

2.4.2 Alternative Site Option.

2.4.3 Technology Alternatives

2.4.1 No Development Option

The ‘no-development’ alternative is basically a consideration of the original and undisturbed environment without any development from the proposed project. This option is considered to ensure that all possibilities have been taken into consideration before deciding on a final course of action and also to provide a baseline situation against which the other suggested alternatives can be measured. The installation of unit could have certain adverse impacts on the environment, if the effluents and emissions discharged from it go uncontrolled and un-treated, however. The ‘no- development’ alternative would have no significant alterations in the day-day lives of the residents living nearby, A the Proposed Project site is present in **Declared Industrial zone**, nor It would it have any further dampening effects on the physical or socio-economic environment of the proposed project area because the site is surrounded by many Pharmaceutical, Knitting, Hospital furniture Production etc Industries , however this project is being undertaken by “M/S MISAQ PHARMACEUTICALS PVT LTD” to Produce high quality health products, so it would be beneficial not only to the proponent as it would mean an increase **health care Products** in market also would also generate development and employment opportunities in the area.

2.4.2 Alternative Site Selection

Different sites were evaluated for the installation of the proposed unit in order to control and mitigate the environmental and socioeconomic impacts at an early stage. The evaluation of sites was based on following criterion:

- Sufficient land should be available for development.

- It should be easily accessible, thus avoiding additional transportation costs for the proposed project.
- Proximity of environmentally sensitive receptors should be avoided.

Since adverse impacts on the environment are often associated with construction and development activities, a site selection survey is often carried out to choose the best possible site for the project. After careful consideration, it was decided to install the Health Care products Unit at Plot No. 7-B, Value Addition City, FIEDMC, Khurrianwala, Faisalabad. This would not only ensure adequate area for construction but would also provide access to the resources required for maintaining the project operations. The proposed project site was selected primarily for the following merits

- Sufficient area is available for the proposed development
- The proposed project site is located near Plot No. 7-B, Value Addition City, FIEDMC, Khurrianwala, Faisalabad. It is a 2-hour drive from Lahore and about 4 hours from Rawalpindi-Islamabad, which will ensure easy access for the transfer of products and its treated finished product to nearby areas
- The project site is well connected to the rest of the country by a network of road and railway lines thus providing ease of freight and transportation of raw materials.

2.4.3 Technology/Process Alternative

“M/S MISAQ PHARMACEUTICALS PVT LTD” has the capacity to produce Tablets, Capsules, Ointments (Steroids Non Steroids), Lotion, Injections (veil & Impulse), External solutions Dry Syrup. Since the aim of this proposed project is to meet the current demand for the country for Imported Health Care Products, “M/S MISAQ PHARMACEUTICALS PVT LTD” will be making use of latest technologies like Automated Dispensing Units/Cabinet., Drug Monitoring Programs (PDMP), and all other possible available technologies.

2.5 Location of the Project

Plot No. 7-B, Value Addition City, FIEDMC, Khurrianwala, Faisalabad
Faisalabad.



2.6 Land Use

The land use is open land. No construction has started yet.

2.7 Road Access

The main access towards the project is through main Canal Road and Sahianwala road Faisalabad.

2.8 Vegetation Features of the Site

Tree plantation campaigns have motivated the farmers to grow trees along the field borders or along the water channels. A total of 1000 trees were estimated to be growing in the project area. *Amaranthus viridus* (Pig weed), *Achyranthus aspera* (Prickly chaff flower), *Boerhaavia diffusa* (Punarnava), *Convolvulus arvensis* (Fieldbindweed), *Mentha longifolia* (wild mint), *Euphorbia prostrata* (Prostrate sand mat), *Galium verum* (Lady's Bedstraw or Yellow Bedstraw), *Anagallis arvensis* (Scarlet Pimpernel), *Coriandrum sativum* (Coriander) are present in the area. Roadside plantations running parallel or across the project area include Shisham, Kikar, Farash (*Tamarixaphylla*) and Eucalyptus. Bohr (*Ficus bengalensis*), Neem (*Azadirachta indica*), Ber and Bakain are commonly planted at the farm houses. Other vegetation present is Mungbean, Maize, Brassica, Sunflower, Mulberry, Rice, and sorghum.

2.9 Cost and Magnitude of Operation

The total cost of the project is 80 million, including 2 lac environmental budget.

2.10 Schedule of Implementation

The construction of the building will be started after getting environmental approval from the environmental protection department. It may take upto an year for construction and installation of machinery.

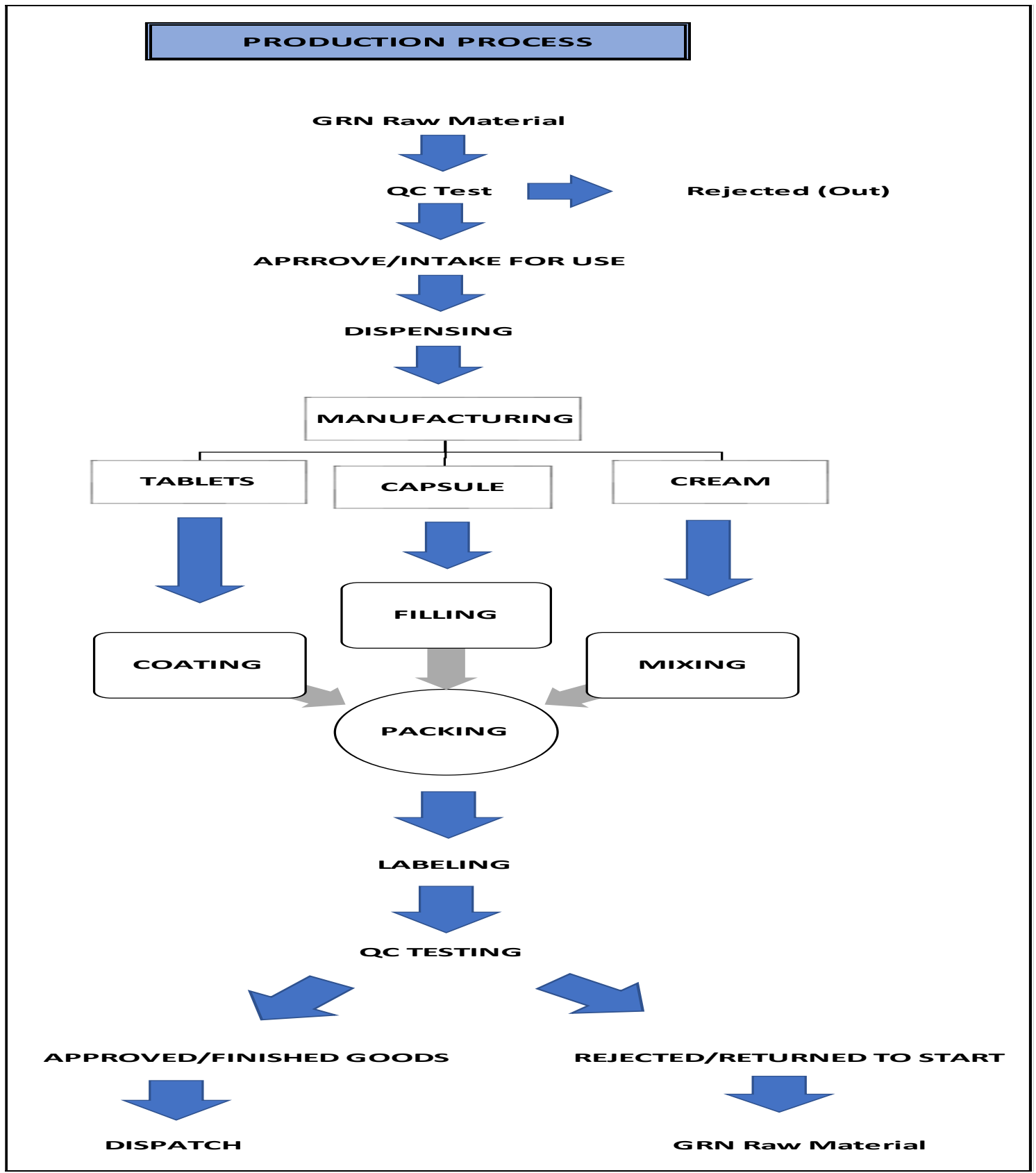
2.11 Description of the Project

“M/S MISAQ PHARMACEUTICALS PVT LTD” has the capacity to produce Tablets, Capsules, Ointments (Steroids Non Steroids), Lotion, Injections (veil & Impulse), External solutions Dry Syp. Actually the said proposed project fall in B (2) of **Schedule-II** of Pakistan Environmental Protection Agency (Review of IEE and EIA) Regulations, 2022.

2.12 Unit Process:

Our production line can produce a variety of products in different types and shapes to meet the consumer's different requirements.

Pharmaceutical Production can be broken down into a range of unit operations, such as blending, granulation, milling, coating, tablet pressing, filling, and others. The Pharmaceutical manufacturing process has precise requirements and manufacturing guidelines for quality. As a result, pharmaceutical manufacturing equipment must comply with good manufacturing practices. Pharmaceutical process development is from research and development, laboratory formulation to commercial production of pharmaceuticals.



Dispensing:

Each ingredient in the tablet formula is weighed and accurately dispensed as per dose. This is one of the critical steps in any type of formulation process and should be done under technical supervision.

Sizing:

Formulation ingredients must be in finely divided form, otherwise, size reduction should be carried out for better low property and easy mixing.

Powder blending:

Powders are mixed using a suitable blender to obtain a uniform and homogeneous powder mix. The drug substance and excipients are mixed in geometric dilution.

Granulation:

Here small powder particles are gathered together into layers, and permanent aggregates to render them into free-flowing states.

Drying and dry screening:

Screened wet granules need to be dried for a particular time period in tray dry or fluid bed dryer at controlled temperature not exceeding 55°C. Dried granules are screened through the appropriate mesh screen.

Tablet compression:

This step involves the compression of granules into a flat or convex, round, oblong, or unique shaped, scored or unscored tablets; engraved with an identifying symbol and/ or code number using tablet press.

Coating:

Tablets and granules are coated if there is need to mask the unpleasant taste/odour of some drug substance or to increase the aesthetic appeal of uncoated tablets as well as to modify the release or control the release of drug substance from tablets. This is achieved by enclosing or covering the core tablet or granules with coating solutions.

2.13 Raw Materials

The daily Raw material consumption is as follow:

Local	Imported
Stearic Acid	Butylene Glycol
Cetyl Alcohol	Extra Virgin Olive Oil
Mineral Oil (LP100)	Ethylene Glycol Distearate (EGDS)
Triethanolamine	Matryxl 3000
Glycerin	Gaba
Di Sodium EDTA	Grape Seed Oil

Phenoxyethanol	Nicotinamide
Argan Oil	Duraquench IQ
Vitamin E	Zinc PCA
Shea Butter	Vitamin A Palmitate
Vitamin E Beeds	Sodium LauroylSarcosinate (Softan LS-30)
Propylene Glycol	Sodium Cocoyl Glutamate (Softan CG-25)
Licorice Extract	Caster Oil Virgin
Keravis	Solaveil CTP 1
Emrapol TR-2	Sunflower Oil
Crodamol CAP	
Potassium Sorbate	
Polysorbate 20	
Emrapol ET-28	
Ceto Stearyl Alcohol	
Petrolatum	
Ceteareth-20	
Dimethicone 350	
BRB 1018	

2.14 Energy requirement

The electricity requirement will be fulfilled by WAPDA. One

Stand by generators will be used with the energy of 250 KVA each with sound proof canopy.

2.15 Water requirement

400000 gallons per year will be the required amount of water during the constructional phase.

During Operation Phase water will be used will be used in different mixtures of chemicals and for domestic use also

2.16 Wastewater Treatment:

The wastewater generates will be treated in wastewater treatment plant and then it will be discharged Value Addition city's sewerage system.

2.17 Restoration and Rehabilitation Plans

As the project site is outside the premises of city and it is in an open area so there is no displacement of any human settlement due to the installation and operations of the said project. No fresh land is to be occupied; hence no restoration and rehabilitation is required. Ornamental trees and flower plants will be planted on inside peripheral of the premises to restore the land.

2.18 Government Approval by Project

The Environmental Approval according to Section-12 of Pakistan Environmental Protection Act-1997 is the mandatory requirement of the project.

Chapter-3

Description of Environment

3.1 General

The existing environment in the project area has been studied with respect to the physical, biological and socio-economic resources. .

3.2 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 as a whole to assess whether the project under assessment can or does have any impacts on any of these parameters. The description of physical environment of Faisalabad and the project site is presented in the following:

3.2.1 Geography

The city of Faisalabad with latitude 31°-24' N and longitude 73°-05'E, lies on the Western side of Lahore (the Provincial Capital of Punjab). It is situated in the middle of the lower part of the Chenab river flowing at a distance of about 32.0 Kilometers (20 miles) to its west. The Faisalabad Urban area covers approximately 90.65 square kilometers (35 square miles). The city is linked with major urban centers by Roads, Rail and Airway.

3.2.2 Topography

Faisalabad city is situated in the center of the lower Rachana Doab, the area between Chenab and Ravi rivers, which has a mild slope from North-East to South-West with an average of about 0.2 to

0.3 meter drop per kilometer (about 1 to 1.5 feet per mile). The city is situated at an elevation of about 183.35 meters or 612 feet above the Sea level. The topography is however marked by valleys, local depression and relatively high ground.(Reference: The 2004 Baseline Survey on Millennium Development Goals in AACs Chapter 6 Faisalabad, Pakistan)

3.2.3 Geology and Soils

The city is located on the “Bar Upland” which is relatively older alluvium deposit as found in the central part of the Doad. Because of its elevation above the bordering flood plains, the upland is generally beyond the reach of flood spills, which is the significant physiographic feature of the alluvial plan. Like other Punjab plains, the alluvium is quaternary and has been deposited on semi-consolidated tertiary rocks or on a basement of metamorphic and igneous rocks of Precambrian age. It originates from the mountain ranges of the north and has been deposited by the present and ancestral streams. The deposition is predominantly fluvial sediments.(Reference: The 2004 Baseline Survey on Millennium Development Goals in AACs Chapter 6 Faisalabad, Pakistan).

3.2.4 Climate

Faisalabad is situated at a high elevation, which gives arid climate. Extremely hot summers give way to very cold winters, and there is very little rainfall throughout the year what rain there is tends to be concentrated in the months of July and August.

Temperature

The project area is semi-arid and characterized by large seasonal variations of temperature. The summer season lasts from April to September with an average temperature of 31.25°C (88.25°F). The extreme maximum and minimum temperature in Summer being 48.0°C (118.4°F) and 9.0°C (48.5°F) respectively. During the winter months, the daytime temperature generally ranges between 19.4°C (67.02°F) to 33.9°C (93.02°F) and night temperatures are generally in the range of 4.8°C (40.64°F) to 17.7°C (63.96°F). Extreme minimum temperature sometimes reaches to –2°C (28.4°F). It generally begins to be active from mid-December and has a tendency to concentrate over this region. In the fold of these disturbances sometimes well marked cold fronts are formed. (Reference:

The 2004 Baseline Survey on Millennium Development Goals in AACs Chapter 6 Faisalabad, Pakistan).

Rainfall

Rainfall also varies markedly and its predictably is not certain from year to year. A wet year may be followed by a dry year. Rainfall in the regions mainly occurs in July and August when the monsoon depression travels westward. Precipitation has marked seasonal fluctuation. The average annual rainfall based on the 32 years observation is 384.683 mm (15.145 inches), almost all of which occurs in the two months of July and August (Reference: The 2004 Baseline Survey on Millennium Development Goals in AACs Chapter 6 Faisalabad, Pakistan).

Humidity

July, August and September are the most humid months in the area, whereas May and June are the least humid months. Average monthly relative humidity values at various locations in the project area are 55% (EPD, Punjab November 2008).

3.2.5 Seismology

According to seismic zoning of Pakistan the project area lies in Zone-1 and represents minor damage. Earthquake with high intensity for a fundamental period of more than 1 second may cause damage to infrastructure. Seismic zoning map of Pakistan is given in **Figure 3-1**.

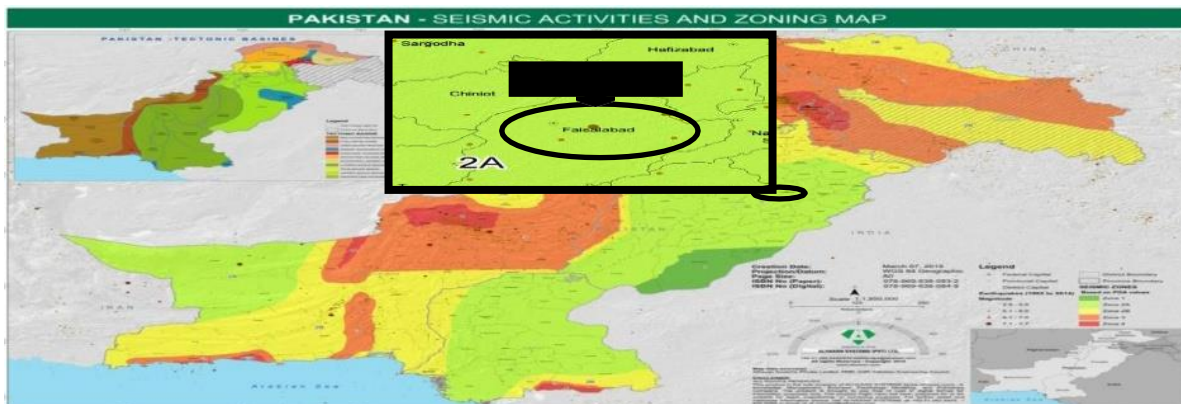


Figure 3-1: Seismic Zoning Map

3.2.6 Noise level

Noise levels were monitored with the help of a portable digital sound meter. The hourly average data was provided by global environmental lab test results. The minimum and maximum noise levels observed at the given locations. Noise levels monitoring report is attached as **Annexure**. It is evident from the noise monitoring data that noise levels are within limits.

3.2.7 Ambient Air Quality

The ambient air quality was monitored at different locations. The ambient air quality was monitored for priority pollutants such as CO, NO; NO₂, SO₂ and PM₁₀. Ambient air quality and particulate matter reports are attached as annexure. Results indicate that the concentrations of CO, SO₂, NO₂, NO & PM₁₀ are low at all points and well within limits specified by the USEPA standards. The average value of pm₁₀ was within limits.

3.2.8 Surface water or Ground water

Ground water resources are found hidden and camouflaged into the surface of earth in the form of mobile and immobile state and exist as shallow and deep wells, confined and un-confined aquifers, springs and watersheds. Ground resourced waters are not easily susceptible to natural and anthropogenic derived contamination caused by Chemical/Biological pollution and thus is directly used for sensitive applications such as drinking even it is un-treated. Main visible pollutants such as turbidity, color and odor usually remain absent in ground extracted waters. Invisible biological contaminants such as Bacteria, Protozoa and Viruses are also not expected in sub-surface water regimes unless it is contaminated by un-expected upheaval.

Water constitutes an important section of the physical environment of an EIA Study to define its magnitude, quality and occurrence throughout the entire project corridor.

The project area lies in the district of Faisalabad; the groundwater table normally exists approximately 100ft below the ground level and contains high level of salinity. A limited quantity of potable water is accessible to the citizens from different scarce resources. In the absenteeism of proper sweet water sources, the WASA Faisalabad has

to pump and bring the sweet water from the city district (Chiniot) where ample quantity

of drinking water is available (Source: WASA, Faisalabad). Chemical and Microbiological analysis results of surface and ground water are attached in **Annexure**.

4.3 Biological Environment:

Mainly a country's wilderness areas and scenic landscapes with their associated flora and fauna form natural capital of a country. Both collectively and within each level, the range or variety of the resources is referred to as the "biological diversity". The contribution of the "Natural capital" is recognized at three distinct levels including genera, species, and community -habitat and ecosystem. Pakistan comprises of a total of nine major ecological zones and the term has relevance for each of Pakistan's administrative units—district, province, and particularly country. The greater the number of genera, species and habitats and ecosystems present within these units, the greater is the biodiversity. It is in this background that the biodiversity of the area is discussed below:

Faisalabad is enriched with the presence of natural flora and fauna; although with the growing population and development activities, the presence of some has been somewhat affected.

There are however no significant or well-shaped trees and shrubs on the project site. There are some trees only along the main roads.

3.3.1 Flora

There are no natural forest trees, grassland or ecological important place. But the natural vegetation has been replaced by the agricultural crops. So, this sector consists generally of agricultural land irrigated by canals and tube wells. Some of the older stands of trees, especially fruit trees, still survive the onslaught of urbanization on this previously natural and agricultural area. There is wild growth of Mesquite bushes in the areas near the project area.

Floral species can be divided into following groups:

3.3.1.1 Fruiting Plants

3.3.1.2 Non-Fruiting Plants

3.3.1.3 Crops

Floral Species of the project area with their scientific names are given in **Table 3-1** to **Table 3-3** below. Pictorial View of the floral species is given in **Figure 3-2**.

Table 3-1: List of Common Fruiting Plants of the Project Area

Sr. No.	Plant Specie	Local Name
1.	<i>Mangifera indica</i>	Mango
2.	<i>Psidium guajava</i>	Guava
3.	<i>Morus</i>	Mulberry
4.	<i>Phoenix sylvestris</i> Roxb	Khajoor
5.	<i>Syzygium cumini</i>	Jambolan
6.	<i>Ziziphus mauritiana</i>	Beri

Table 3-2: List of Common Non-Fruiting Plants of the Project Area

Sr. No.	Plant Specie	Local Name
1.	<i>Acacia nilotica</i>	Kikar
2.	<i>Dalbergia sissoo</i> Roxb.	Talhi
3.	<i>Albizia lebbek</i>	Sharin
4.	<i>Azadirachta indica</i> (L.) Adelb.	Neem
5.	<i>Eucalyptus</i>	Sfaida
6.	<i>Melia azadirach</i>	Bakain

Table 3-3: List of Common Crops of the Project Area

Sr.No	Plant Species	Local Name
1.	<i>Sorghum bicolor</i>	Jawar
2.	<i>Triticum aestivum</i>	Gandum
3.	<i>Vegeta nays</i>	Makae
4.	<i>Allium cepa</i>	Peyaz
5.	<i>Lycopersicon esculentum</i>	Tamator
6.	<i>Saccharum officinarum</i>	Ganna

7.	<i>Oryza sativa</i>	Chawal
8.	<i>Zea mays</i>	Makai

3.3.2 Fauna

The project area, on account of nature of vegetation and topography, is rich in vegetation and wildlife. Fauna of the project area consists of:

- 3.3.2.1.1 Mammals,
- 3.3.2.1.2 Reptiles,
- 3.3.2.1.3 Amphibians
- 3.3.2.1.4 Birds

The details of fauna are given in following **Tables 3-4** to **Tables 3-7**.

Table 3-4: List of Mammals of the Project Area

Sr. No	Mammal Species	Local Name
1.	<i>Canisaurius</i>	Jackal
2.	<i>Lepuscapensis</i>	Cape Hare
3.	<i>Musmusculus</i>	House Mouse
4.	<i>Rattusrattus</i>	House Rat
5.	<i>Felissilvestris ornate</i>	Jungli Cat

Table 3-5: List of Amphibians of the Project Area

Sr. No	Amphibian Species	Local Name
1.	<i>Ranatigrina</i>	Frog
2.	<i>Bufobufo</i>	Common Toad

Table 3-6: List of Birds of the Project Area

Sr. No	Birds Species	Local Name
1.	<i>Acridotheresginginianus</i>	Bank Myna
2.	<i>Laniusvittatus</i>	Bay-backed Shrike
3.	<i>Phylloscopuscollybita</i>	Chiffchaff
4.	<i>Vanellusindicus</i>	Red Wattled Lapwing
5.	<i>Upupaepops</i>	Hoopoe
6.	<i>Corvussplendens</i>	House Crow
7.	<i>Passer domesticus</i>	House Sparrow
8.	<i>Coraciasbenghalensis</i>	Indian Roller
9.	<i>Egrettaagarzetta</i>	Little Egret
10.	<i>Pycnonotuscafer</i>	Red-vented Bulbul



Banana Tree



Date Tree



Mango Tree



Ziziphus Jujuba



Sugarcane Crop



Wheat Crop

Figure 3-2: Pictorial view of Flora



Bank Mayna



Little Egret



Dove



Black crow



Domestic Animals; Cows & Buffalo

Figure 3-3: Pictorial View of Fauna

3.3.3 Endangered Species

There are no faunal or floral species included in the red data book of IUCN.

3.4 Socio-Economic Environment

The project site is located at open area; 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 Industrial City (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.

The objectives of the given study are outlined as follow:

- To carry out the assessment of social impact.
- Acquire socioeconomic data to evaluate and identify the project interventions.
- Assess needs of community related environmental concerns.
- To assess adverse and beneficial socioeconomic and health impacts of the activity.
- To suggest remedial measures and solutions to improve socio economic conditions.
- To analyze socio economic conditions of community, with special reference to environment and conservation of natural resources.

3.5 Administrative Jurisdiction

The city of Faisalabad administered by the

- City district government,
- Six tehsils administrations

3.6 Demographic Profile

Chak 165-RB is located in tehsil Chak Jhumra district Faisalabad. The village is approximately 5.2 Km away, South-east from the project site. Three households were consulted during Public Consultation and the following information was gathered from the locals of the village:

- Total area of the village is approximately 30 Murabba.
- Total population of the village is approximately 1500-2000 and
- Number of households in the village is approximately 400-500.

Chak 157-RB is located in tehsil Chak Jhumra district Faisalabad. This village is approximately 5.45 Km, North West of the project site.

- Total area of the village is approximately 100 acres,
- Total population of the village is approximately 3500 and
- Numbers of houses in the village are approximately 450

3.7 Irrigation

Irrigation in the area is primarily sustained through canal and tube-well irrigation. The Jhang Branch, Rakh Branch and Gogera Canal are the major sources of water supply for irrigation in the area. Rice is prevalent in the tehsils of Chak-Jumra and Jaranwala while cotton is more commonly found in samundari.

3.8 Agriculture

Agriculture is one of the most important economic activities in the project area. Major crops of the area are:

In **Rabi**: Wheat, Fodder and some seasonal vegetables

In **Kharif**: Rice, Sugarcane, Fodder and Seasonal Vegetables

3.9 Economy

District Faisalabad 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.

Faisalabad is generating a large number of 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. Similarly, livestock is a secondary source of income. It is safe to assume that livestock farming is practiced uniformly in both types of areas. Economy of the project area is dependent primarily on two occupations i.e., agriculture (maximum) and livestock (limited extent), while some locals are also involved in manual labor.

3.10 Quality of Life Values

Guidelines prescribed by the federal government for preparation of environmental report stipulate that an environmental study must also address issues relating to socio-economic, cultural and aesthetic values of the community in the project area

3.11 Religion

The population of Faisalabad is over 99% muslim.

3.12 Ethnicity

The population is ethnically and linguistically heterogeneous, comprising are Jat, Rajput, Arain, Gujar, and Awan.

3.13 Language

The principal mother tongue of the district is Punjabi. The variety of Punjabi spoken in the urban centres of the district is known as Lyallpuri and is very closely related to the varieties spoken in Jalandhar, Lahore, Sahiwal, and Gujranwala. Urdu is the first language of only 1.2%, but it has official status and is used in education and administration.

3.14 Indigenous People

Although people living around the project areas belong to different races and tribes and have different cast pattern but there is no community identified who has close culture, close economy and close community (confined to a limited area). Therefore no any indigenous community exists and there is no danger of elimination or affecting negatively of any community by the proposed project execution.

Chapter 4

POTENTIAL ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.1 Environmental Impacts Due to Project and Mitigation Measures

This section identifies the potential impacts related with design, construction and operation of project on the physical, ecological and socio-economic domains of the environment. Accordingly, mitigation measures have also been proposed to manage the environment and for sustainable development.

Strict environmental management will be observed during the project operation phase. Legal requirements of the PEPA and NEQS Pakistan will be rating standard for the activities.

The project proponent is filling with the EPA Punjab, written affidavit and undertaking on judicial papers, that project throughout life will operate under environmental orders. The project activities will adversely affects neither the population nor the environment around the project site.

Evaluation of the anticipated impacts from the project activity and their mitigation measures are described below:

4.2 Environmental Screening of The Proposed Project

For the proposed project, an environmental screening matrix was developed as part of the present EIA study focusing on the potential environmental impacts of the project during construction and operation phases. The matrix examines the interaction of project activities with various components of the environment. The impacts are broadly classified as physical, biological and social, and then each of these broad categories further divided into different aspects. The potential impacts thus predicted are characterized as follows:

- High negative (adverse) impact,
- Low negative impact,
- Insignificant impact,
- High positive (beneficial) impact,
- Low positive impact and no impact.

The negative impacts predicted in this manner are the "unmitigated" impacts. Appropriate mitigation measures have been recommended as part of this EIA. The occurrence and severity of the potentially adverse impacts will be reduced as a consequence of the incorporation of these mitigation measures into the project design/management.

4.3 Objectives

Objectives of screening out all possible impacts and then providing their mitigation measures are:

- To find different alternatives and ways of carrying out the project activities.
- To enhance the environmental and social benefits of proposal.
- To avoid, minimize and remediate adverse impacts.

4.4 Environmental Impact Characterization

During the initial environmental examination, the predicted impacts were characterized. Various aspects of the impact characterization include:

- Nature (direct/indirect)
- Duration of impact (short term, medium term, long term)
- Geographical extent (local/regional)
- Timing (project phase)
- Reversibility of impact (reversible/irreversible)

- Likelihood of the impact (certain/likely/unlikely/rare)
- Impact consequence severity (severe/moderate and mild)
- Significance of impact (high/medium/low)

Subsequent to the characterization, appropriate mitigation measures were identified in order to minimize if not completely eliminate the adverse impact associated with project activities, finally, residual impacts were identified.

The impact characterization of the predicted impacts, mitigation measures and residual impacts are discussed below.

4.5 Environmental Problems due to Installation of Project at Present Location

There are no environmental problems related to the project location. The location is present in the industrial estates.

4.5.1 Project Design Related Environmental Problem

The design and infrastructure of the building is environment friendly with proper ventilation and does not have any adverse effect on the environment.

4.5.1.1 Recommended Mitigation Measures

As far a project location is concerned, it cannot be categorized, as being ecologically sensitive or environmentally sensitive. The proposed facility will cause no specific adverse effect on the existing landscape. Structures must be laid out as to blend with the natural settings and plant trees at regular intervals.

Proper access must be available to the unit.

Table 4-1: Anticipated impacts and mitigation measures

POTENTIAL IMPACTS	MITIGATION MEASURES
PRE-CONSTRUCTION \\DESIGN PHASE	
Project site, Land Use and Design	
Impacts on geology, soil and ecological resources	All structural, layout and engineering plans should be according to bylaws and engineering parameters. The soil type, vegetation and land use aspects should be considered and studied in detail during designing phase. The project should be designed in a manner to avoid deforestation as far as possible.
Access roads	
Inconvenience to people Business	The road condition should be improved before the mobilization of the contractor. A boundary wall along the project site should be constructed before the project goes on.
Visual Impacts	
	Prepare and follow an appropriate biodiversity and tree plantation plan in the project area including circular plantation technique, schedule maintenance and proper care. Adopt measures that will cause minimum changes in the topography, landscaping, and will least damage vegetation around the project area.
Water Resources	
There is no actual surface water source. Ground water is major water source.	Complete environmental monitoring should be ensured for water resource management before the contractor's mobilization.
Resource Conservation	

Water usage Community water supply problems	Wastage of water should be reduced by training the workers involved in water use, Source of water should be carefully selected. Water use should not disturb the existing community water supplies.
Physical and Cultural Resources	
There is no actual cultural heritage present and major community settlement is also away from the project site.	Incorporate technical design features to minimize the project construction activities to avoid any interference with public property as far as possible.
Public Utilities	
	All public utilities likely to be affected by the proposed project need to be relocated well ahead of the commencement of construction work.
Social Issues	
	Proper traffic diversion plans, appropriate sign boards, and timely completion of the project.
Flora and Fauna	
The impacts on the flora and fauna will start even before the commencement of construction process	Plan for compensatory planting for four trees against each fallen tree of similar floral function. Transplantation plan of maximum trees/plants to be affected. Provision of compensation in the project budget for the loss of fruit trees (if any) to the affected people.
CONSTRUCTION PHASE	
Water Requirements	
The water used on-site during the constructional	The quality of the drinking water should be

activity is divided into two main uses i.e. water required at the labor camp and for construction purpose.	monitored on the quarterly basis.
Wastewater	
Contamination of land used and ground water strata	Wastewater disposal by treatment is necessary. Untreated wastewater should not be disposed to any regulatory water body.
Access roads	
Construction vehicles cause inconvenience to people, school and colleges	There is need of proper route plan for movement of heavy transport during project construction to minimize local community's issues.
Soil Erosion/Contamination	
There is no major cutting and excavation involve in project site during constructional activity. Soil contamination only involve due to oil spillage from vehicles holding construction materials.	Good engineering practices will help in controlling the soil contamination both at the construction site and in peripheries.
Community Health and Safety	
Safety issues to neighborhood of the project site	Fencing around the camps should be strong enough so that it cannot be broken easily by local people for making passages. Efforts will be made to create awareness about road safety among the drivers operating construction vehicles.
Air Quality	
May cause problems to Worker, community	All vehicles, machinery, equipment used during construction activities should be kept in good working condition and be properly tuned and maintained in order to minimize the exhaust emissions.

	PEQS applicable to gaseous emissions generated by construction vehicles, equipment and machinery should be enforced during construction works.
Noise and Vibrations	
Noise pollution may cause harm to worker capability to work and inconvenience to the surrounding	The noise being generated during the construction activity should be controlled by contractor by maintaining and tuning of vehicles and by using mufflers/silencers or sound proof canopies. Confining excessively noisy work to normal working hours in the day, as far as possible.
Dust Generation	
Dust is the main impact on air quality primarily due to earthwork related activities and movement of construction machinery and equipment.	Frequent water sprinkling at the construction site and access roads should be ensured by the contractor as and when required. Hauling trucks carrying earth, sand and aggregates should be kept covered while transportation and storage of the material, to avoid the dust emission.
Flora & Fauna	
Flora and fauna of the project site may disturb	The tree plantation plan should be continued for the next five years after construction as consequential mitigation measures of tree and vegetation loss. Just to be at safer side tree plantation will be emphasized more. Vehicle speed should be controlled at the project area to avoid accidental mortality of mammals and reptiles. There should be clear orders to the staff and labor.

Social Environment	
There is no major community settlement near the project area. The only impacts due to construction are dust emission and movement of vehicles from road.	The socio-economic status of the community will rise because the job opportunities for the workers will increase significantly.
Livelihoods	
The socio-economic status of the affected community will rise due to the proposed project. There will not be any significant effect on the agricultural activities because most of the affected persons would have been started their livelihood activities at nearby places.	The local community should be hired as the semi-skilled workers and labors. They will get experience of the construction works.
OPERATIONAL PHASE	
Traffic management	
	Designating haul routes to and from the facility that avoid congested areas, residential areas, business districts, schools, hospitals and other sensitive areas. They should design safe intersections with public roads.
Noise Impacts	
Hearing loss problems	Environmental coordinator should confine noisy activities within buildings or other enclosures as much as possible, using landscaping, sound barriers, and earth beams to absorb exterior noise. All on-site personnel will use required personal protective equipment (PPE) in high noise areas.
Solid Waste	

Wastes specific to the industry include trials plastic drums and sludge from process wastewater treatment containing mainly fibers and grease.	Separate waste bins will be placed for different type of wastes-plastic, paper, metal, glass, wood and cotton. Recyclable material will be separated at source. The recyclable waste will be sold to waste contractors for recycling. No waste will be dumped at any location outside the plant boundary.
Surface and Groundwater	
	Direct runoff of wastewater will be prevented to water courses.
Air Emissions	
Fugitive emissions from vehicles. Emissions from the Generator	Proper vehicle maintenance and regular clearance of access roads. Generator and other equipments should be properly operated and carefully maintained installed . Installation of fabric filters to prevent outdoor emissions Guidelines for air quality to be respected. Substituting cleaning solvents with less toxic solvents, particularly chlorinated solvents Effective pollution control devices will be installed to comply with the PEQS. Gaseous and Particulate air emissions will be controlled with the help of scrubbers or fabric filters. Monitoring of air emissions should be carried out regularly to ensure compliance with the PEQS and IFC/World Bank emission guidelines.

Odor Impacts	
Impacts of Odor generated by waste.	First-in, first-out waste handling practices that keep waste on site only for short periods of time. Good housekeeping measures, including regular cleaning. Ensuring that the operation is carried out under best management practice.
Health and Safety Issues	
	Firms have a statutory and ethical obligation to protect the health and safety of workers at workplace. Provide information, instruction, training and supervision necessary to ensure the health and safety of employees. Proper machine guarding, which is critical for the prevention of injuries to workers by isolating them from moving machinery, will be provided. Head protection will be worn in appropriate plant areas, i.e., production areas. Open-toed shoes will be prohibited. Eye protection will be required during all maintenance activities involving dust exposure.
Electricity	
May cause fire hazards May cause electrocution	Necessary circuit breaker will be provided
Wastewater	
Disposal of wastewater used during operational activities	Wastewater disposal by treatment is necessary. Untreated wastewater should not be disposed to any regulatory water body. Adoption of low volatile organic compound (VOC) emitting solvent wash

	for removal of water insoluble oils. Integration of desizing and bleaching in a single step to reduce effluent generation (e.g. reuse of bleach rinse water in desizing) Water conservation practices provided will be followed to minimize the water usage.
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Table 4-2: Characterization of Environmental Impacts during Construction Phase

Environmental Components	Impacts		Nature of Impact		Duration			Location			Likelihood			Reversibility		Significance				Consequences
	Positive	Negative	Direct	Indirect	Short Term	Intermediate	Long term	Local	National	Global	Low	Moderate	High	Reversible	Irreversible	Major	Minor	Moderate	Beneficial	
Morphology & Soil		•	•		•			•				•		•				•		M
Water Resources		•	•			•		•			•			•			•			L
Ambient Air		•	•		•			•				•		•				•		L
Noise Pollution		•	•			•		•			•			•			•			L
Waste Discharges		•	•			•		•				•		•				•		M
Traffic		•	•		•			•				•		•				•		L
Wildlife Habitat		•		•	•			•				•		•			•			L
Social Impacts		•		•	•			•			•			•			•			L
Local Economy and Employment	•		•			•			•			•		NA					•	Positive

Levels of Negative Consequences:Positive		e Consequences:	
High	H	Positive	
Moderate	M	NA= Not Applicable	
Low	L	•Characterizes the Impact	

Table 4-3: Characterization of Environmental Impacts during Operational Phase

Environmental Components	Impacts		Nature of Impact		Duration			Location			Likelihood			Reversibility		Significance				Consequences
	Positive	Negative	Direct	Indirect	Short Term	e	Long term	Local	National	Global	Low	Moderate	High	Reversible	Irreversible	Major	Minor	Moderate	Beneficial	
Air Emissions		•	•		•			•			•			•			•			L
Water Resources		•	•			•		•			•			•			•			L
Hazardous Materials		•	•			•		•				•		•				•		M
Noise Pollution		•	•		•			•			•			•			•			L
Wastewater		•	•			•		•			•			•				•		M
Solid Waste		•	•		•			•				•		•				•		M
Occupational Health & Safety		•	•		•			•			•			•				•		L
Local Economy and Employment	•		•			•			•			•		NA					•	Positive

Levels of Negative Consequences:

High

H

Moderate

M

Low

L**Positive Consequences:****Positive**

NA= Not Applicable

• Characterizes the Impact

Potential Environmental Enhancement Measures

The proposed project has a number of positive impacts, which include:

- No residential and commercial structures will be affected.
- The project will help in economy growth of Pakistan.
- The land use will be done in an away that it will not create any threat to the privacy of adjoining buildings.
- It will increase the employment ratio of the area.

Chapter 5

ENVIRONMENTAL MANAGEMENT AND MONITORING PROGRAM

5.1 General

The Environmental Management Plan (EMP) is synthesis of all proposed mitigation and monitoring actions, set to a time frame with specific responsibility assigned and follow-up actions defined. EMP is a plan of actions for avoidance, mitigation and management of the impacts associated with construction and operation stages of the project. A detailed set of mitigation measures have been compiled in view of the likely impacts associated with the proposed project.

5.2 Objectives of EMP

The EMP consists of a set of mitigation, monitoring and institutional measures to be taken up during the design, construction and operation stages of the project. The EMP has been designed keeping in view of the regulatory and other requirements to ensure the following:

- Minimum disturbance to the environment and social components
- Compliance with the environmental acts, rules and guidelines of the GoI & maintaining the quality of air, water, soil and noise as per the prescribed norms by regulatory bodies.
- Compliance to the Operational Policies
- Conservation of natural resources to the extent possible
- Enhancement of Project benefits for Society & Environment
- Sustainable development and operation of project

5.3 Institutional Capacity Of The Unit:

The organizational structure for the environment management plan is outlined below:

5.3.1 Primary Responsibilities:

The primary responsibility for implementing EMP within the unit lies with the owner.

5.3.2 Operation Management & Control

Conducting the operational activities in environmentally sound manner will be the responsibility of the concerned manager for which he will be trained.

5.3.3 Supervision & Monitoring

Senior supervisor will be responsible for all environmental issues and for the implementation of EMP.

5.3.4 Communications & Documentation

An effective mechanism to store and communicate environmental information during the project is an essential requirement of an Emp.

5.3.5 Meetings

Two kinds of environmental meetings will take place during the project

- Kick-off meetings
- Weekly meetings

The purpose of the kick-off meeting will be to present the EMP to project staff and discuss its implementation and to discuss any event of environmental significance that has happened in the unit to investigate its root causes and develop its solutions.

The purpose of the weekly meetings will be to discuss the operational issues, environmental issues and their management. The proceedings of the meeting will be recorded in the form documents.

5.4 Staff and Training

5.4.1 Environmental Committee and Its Responsibilities:

The management will form up an Environmental Committee (EC), which will be responsible for the environmental management and supervisory affairs during the operational phase of the project. The responsibilities of the Environmental Committee (EC) are as follows:

- To ensure implementation of all the proposed mitigation measures during and after the operational phase of the project.
- To organize routine monitoring of motor vehicle emissions, air quality, noise etc. In case, the noise levels exceed the acceptable levels, a penalty or ban must be enforced.
- To develop operational guidelines and implementation schedule.
- Receiving complaints from residents and institutions and assisting the local environmental authority including liaison with Punjab EPA.
- To ensure that the proposed project is implemented in an environmentally friendly manner, causing least harm to the existing environment including flora and fauna, sites of religious and cultural significance etc.

5.4.2 Technical Training Programs

In order to raise the level of professional and managerial staff, they need to upgrade their knowledge in the related areas. The environmental committee would play a key role in this respect and arrange the trainings. A training program is proposed to train the staff who will be involved in the operational phase.

5.4.3 Environmental Technical Assistance and Training Plan

An Environmental and Social Training and Technical Assistance (TA) program will be carried out to implement the EMP, as well as to facilitate the improved environmental management of future projects by increasing the environmental and social awareness of staff in general. The

objective of the TA will be to help establish appropriate systems, and to train senior staff responsible for managing environment, operations, and planning, who can then impart training at a broader level within and outside the project site (i.e., the training of trainers). The TA consultant will organize training courses for the staff, train the staff in specialized areas such as air and noise pollution monitoring; develop environment operation manuals in consultation with the EPA.

5.4.4 Environmental Training Schedule

Environmental training will help to ensure that the requirements of the EIA and EMP are clearly understood and followed by all project personnel in the course of the project.

The primary responsibility for providing training to all the project personnel will be that of the IMC to formulate indicative environmental training program, which will be finalized before the commencement of the project. The IMC will train the project proponent's staff and other staff engaged for the project. Training will cover all staff levels, ranging from the management and supervisory to the skilled and unskilled categories. The scope of the training will cover the requirements of the EIA and the EMP, with special emphasis on sensitizing the project staff to environmental, ethnic, and social context of the area.

Table 5-1: Environmental Training Schedule

STAFF	TRAINER	CONTENTS	SCHEDULE
Selected management staff from the project proponents.	IMC	Environmental sensitivity of project area Key findings of the EIA mitigation measures EMP Social and cultural values of area Leadership dynamics	Prior to the start to the project activities
All employees	IMC	Environmental sensitivity of project area Mitigation measures contingency plan Community issues Social and cultural values	Prior to the start of the project activities
Drivers	IMC	Road safety Defensive driving	Before and during the project activities.

ENVIRONMENTAL IMPACT ASSESSMENT (EIA)

Environment Management Plan during Operational Phase

S. No	Environmental Component	Aspect	Management
1.	Air	• Spillage/leakage • Process emission • Dust emission • Flue gas emissions	• Transportation of raw material and finished product shall be done through covered trucks. • Control of fugitive emissions will be achieved through water spray. • All transfer points in material handling operations will be covered to minimize fugitive dust emissions. • A good housekeeping consisting of cleaning up spills, removing accumulations around processing equipment will be practiced. • Training programmes for handling of material and environment awareness will be arranged in plant for workers. • Periodic monitoring of work area will be carried out to check the fugitive emission. • Plant will be shut down during failure of APCs. • Regular monitoring shall be done by Environment management to adhere all norms in the plant. • PPE shall be provided to all labour. • Further the plant will be surrounded with the thick greenbelt which will include odour control.
2.	Noise	• Generation of Noise	• Boundary wall of 3m all around the project site and wide green belt will be provided. The same will reduce the noise level.

ENVIRONMENTAL IMPACT ASSESSMENT (EIA)

S. No	Environmental Component	Aspect	Management
			• PPE will be given to labour. • Earmuffs will be used while in high noise areas. • Acoustical Enclosures and Mufflers will be provided at all required locations. • Proper and timely maintenance of machineries and preventive maintenance of vehicles will be done. • Important Instructions will be displayed all over the plant area. • Regular Noise monitoring will be done to check the noise level and implement corrective action in case of high noise.
3.	Water	• Generation of Domestic Wastewater • Generation of Effluent • Requirement Fresh water • Water Contamination	• Wastewater from all sources shall be collected and flow through closed conduit or pipe network to the treatment schemes (Septic tanks). • Solvent recovery plant shall be installed to reduce the waste generation. • Online monitoring instruments shall be installed and connectivity will be established with online Servers. • The domestic wastewater will be treated in septic tank followed by soak pit. • In case of spills of chemicals, dry adsorbents/cotton will be used for cleaning instead of water. • Spillage during loading, unloading & storage will be channelized properly to drains. • All probable leakage areas such as pipelines, joints, pumps and structure of reactor/ storage vessel will be inspected and maintained proactively. • Plant will maintain all standards laid down by Govt.
4.	Waste	• Generation of	

S. No	Environmental Component	Aspect	Management
		Municipal Waste • Generation of discarded machinery and used oil • Generation of other waste	• The septic tank sludge and salt will be temporarily stored at site in separate room and sent for disposal. • Waste will be packed in ISO approved drums/HDPE bags and as per the specifications of internationally approved vendor. All measures will be taken to avoid littering. • Separate paved storage area for Non- Hazardous/Municipal will be provided within the plant area. • Measures will be adopted to minimize the waste. Waste audit shall be conducted annually at site. • Recyclable waste will be sold off to authorized vendors. Biodegradable waste will be sent to land fill through vendors. • Bio-medical waste from Health centre will be given to approved Bio-medical waste handler.
5.	Land/Soil	• Contamination in Soil and Land	• sludge and salt will be sent for final disposal. • All precautions will be taken to avoid spillage from storage and other activities. • Paved area will be provided near the process area to avoid soil contamination. • The loading unloading activity will be done within a safe zone defined and in a marked safe area. • Used oil shall be stored in ISO certified drums to reduce leakage chances • Drains will be provided near machinery area to collect spillage

ENVIRONMENTAL IMPACT ASSESSMENT (EIA)

S. No	Environmental Component	Aspect	Management
			or leakage and channelized to the treatment scheme. • Dry absorbent will be used
6.	Ecology & Biodiversity	• Tree Cutting • PM & gaseous emissions • Noise Generation • Disposal of untreated water in gardening.	• No tree cutting shall be done. • Water sprinkling shall be done at the site at regular intervals. • Wastewater shall be treated in STP and ETP for recycling within unit. • Green belt and boundary wall will be provided to reduce the impact of air and noise in nearby areas. 6-9 m wide green belt is proposed all over the boundary wall. Green belt planning shall be done as per guideline laid by CPCB. • An effort apparently will be made to increase the percent of survival in subsequent years.
7.	Socio-Economic	• Infrastructure needs • Accident and Noise problem	• Apart from Plant utility and manufacturing area, R&D lab, Canteen, admin, drinking water, Water treatment, etc facilities provided within the plant. • All the workers will be continuously trained for proper handling and transportation of hazardous materials as per Hazardous & Other Waste (Management and Transboundary Movement) Amendment Rules, 2021 • Hygiene conditions shall be maintained at site. • PPE will be given to labour working in noisy and risky area. Periodic inspection of PPE will be done to ensure that they are in proper condition by keeping the records. • All OSHAS guideline will be followed in the plant. • The greenbelt area will be developed which help in enhancing the aesthetics value of the area. • Health and safety officer will be deputed all the time at the plant. • MSDS and safety instruction will be displayed in working area • Regular health checkup of the workers shall be carried out.

3.0 ENVIRONMENTAL MONITORING

This section provides environmental monitoring plan that identifies the roles and responsibilities of project staff involved in environmental monitoring and list the parameters that will be used in the monitoring process.

7.10.1 Objectives

The main objectives of the pre-construction and construction phase monitoring plans will be to:

- Monitor the actual impact of the works on the project site physical, biological, and socio-economic receptors. This will indicate the adequacy of the EIA.
- Recommend mitigation measures for any unexpected impact or where the impact level exceeds the anticipated impact.
- Ensure compliance with legal obligations including safety on construction site; and
- Monitor the rehabilitation of borrow areas and the restoration of construction campsites as described in the EMP; and
- Ensure the safe disposal of excess construction materials.

The main objectives of monitoring during the operational phase will be to:

- Appraise the adequacy of the EIA with respect to the project's predicted long-term impacts of operation of the Plant on physical, biological, and socio-economic environment.
- Evaluate the effectiveness of the mitigation measures proposed in the EMP and recommend improvements, when necessary.

7.10.2 Monitoring Parameters

i. Construction Phase

a) Air Quality

Air quality monitoring will be carried out as per EPA requirement/Quarterly during the construction phase at the representative locations.

The following parameters will be monitored:

- CO
- NO_x
- SO_x
- PM₁₀

b) Groundwater Quality

Groundwater quality monitoring will be done on Regularly/Daily basis during the construction phase at the representative locations.

c) Noise Levels

The noise levels monitoring will be carried out on daily basis at representative locations in the project area.

d) Occupational, Health & Safety

This will be carried out on daily basis at representative locations in the project area.

e) Disposal of Construction Debris

This will be carried out on daily basis at representative locations in the project area.

f) Flora & Fauna

This will be carried out on daily basis.

g) Socioeconomic Environment

This will be carried out during hiring of employees.

ii) Operational Phase

a) Air Quality

Air quality monitoring will be done as per EPA requirement during the operational phase at the representative locations. The following parameters will be monitored:

- CO
- NO_x
- SO₂
- PM₁₀

b) Groundwater Quality

Groundwater quality monitoring will be done on Regularly/Daily basis during the

construction phase at the representative locations.

c) *Noise Levels*

The noise levels monitoring will be carried out on daily basis at representative locations in the project area.

d) *Occupational, Health & Safety*

This will be carried out on daily basis at representative locations in the project area.

e) *Solid Waste*

This will be carried out on daily basis at representative locations in the project area.

f) *Wastewater Quality*

This will be carried out on daily basis.

3.1 *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, handling of acid and chemicals etc. A comprehensive annual training calendar has also been developed for training on topics of HSE for management as well as labors. Important training under the spectrum needs to include:

- Training on firefighting and safety management.
- Training on environmental safeguards and compliance.
- Staff training on environmental monitoring and reporting.
- Training on occupational health and safety measures.
- Training on handling of chemicals

The details of this training program are presented in **Table 7.5**

Table 7-5: Environmental Training Schedule

STAFF	TRAINER	CONTENTS	SCHEDULE
Selected management staff from the project proponent.	IMC	• Environmental sensitivity of project area • Key findings of the EIA mitigation measure • EMP • Social and cultural values of area Leadership	Prior to the start to the project activities
All employees	IMC	• Environmental sensitivity of project area • Mitigation measures contingency plan - Community issues	Prior to the start of the project activities
Drivers	IMC	• Road safety • Defensive driving	Before and during the project activities.

Chapter No. 06

STAKEHOLDER CONSULTATION

Public discussions were held with the inhabitant of the surrounding area. They are quite positive to the project and see the project as growing business. The people observe strong positive impacts regarding employment, business and structural development due to this project. EIA findings depict that people perceive overall positive social and economic impacts by the project. Their attitude towards the project installation is highly optimistic. Majority of the people are convinced for development in the area and they correlate this progress with the pace of their social mobility but they were also concerned with scenic beauty of the area and employment which the proponent has ensured to maintain the aesthetics of the area, reclaim the land and also to provide jobs/employment during installation and at the time of functioning of the project. Moreover, project proponent admitted to adopt all the mitigation measures to control any impacts resulting from the subject project.

Public consultation refers to the process by which the concerns of various stakeholders and local community who have a plausible stake in the environmental management & associated impacts of the project or activity are ascertained with a view to considering all the material concerns in the project or activity design as appropriate. According to the Review of IEE and EIA Review Regulations, 2022 public consultation is mandatory for any socio- environmental study for the commencement of any project.

a. GENERAL

Impact assessment survey and public consultation sessions held with different stakeholder groups that may be impacted by the proposed project commencement were carried out. The consultation process was carried out in accordance with the guidelines laid by EPA, Punjab. The objectives of this process were to:

- i. Share information with stakeholders on proposed project establishment.
- ii. Assess the impacts on the physical, biological and socio-economic environment.
- iii. Understand stakeholder concerns regarding various aspects of the project commencement.
- iv. Note valuable suggestions of local stakeholders to improve the proposed project design.

- v. Understand the perceptions, assessment of social impacts and concerns of the affected people/communities of the project area.
- vi. Find out the awareness level and situation of acceptability to identify any issues for the implementation of the proposed project.
- vii. Invite people to express their views about the positive/negative impacts on their lifestyles and environment.
- viii. Disclose information about contact offices/officers for any complaints/queries.

It is envisaged, there will be no social impact being foreseen due to the commencement of aforesaid project at aforesaid location, the nearest community is located at safe distance from the project area. This EIA Report includes all the comments, which were considered during the social survey and preparing the definitive development concept for the installation and operation of proposed project.

b. OBJECTIVES OF CONSULTATION

Public consultation plays a vital role in studying the impacts of the proposed project on stakeholders in successful implementation and execution of project. It provides an opportunity to exchange knowledge with the beneficiaries and affected parties. Referring particularly to a project related to environmental assessment, involvement of the public is more essential, as it leads to better and more acceptable decision-making. The overall objective of consultation with stakeholders is to help verify the environmental and social issues, besides technical ones, that have been presumed to arise and to identify those which are not known or are specific to project. In fact, discourse with many who have thoroughly observed the site conditions in the pre-development phase, goes along way in updating the knowledge and understanding.

6.2.1 CONSULTATION PROCESS

Information disclosure, public consultation and discussion regarding the various aspects of project with the people of area are necessary. This process is intensified during the EIA Studies and separate rounds of public consultations were held with local community and various government departments as listed below. Surveys were carried out to investigate physical, biological and socio-economic resources falling within the immediate AOI of the project. Primary data collection included:

- Data collection regarding the socio-economic condition of study area.

- Pre-testing of socioeconomic survey tools in the field.
- To consult the locals for collection of information on biological environment.

Various meetings with the stakeholders were held the following objectives:

- Share information with stakeholders regarding said project and expected impacts on community in project vicinity.
- Understand stakeholders' concerns regarding various aspects of the project, including the existing condition of the upgrading requirements, and the likely impact of construction and operation activities.
- Provide an opportunity to the public to influence the project design in a positive manner.
- Obtain local and traditional knowledge, before decision making.
- Increase public confidence about the proponent, reviewers and decisionmakers.
- Reduce conflict through the early identification of controversial issues and work through them to find acceptable solutions.
- Dissemination of information through discussions, education and liaison.
- Documentation of information narrated by the stakeholders and mitigation measures proposed by the stakeholders.
- Incorporation of public concerns and their address in the EIA and eliciting their comments and feedback.
- Create a sense of ownership of the proposal in the mind of the stakeholders.

c. PROPONENT'S ENVIRONMENTAL MANAGEMENT TEAM

Consultation regarding Establishment of proposed project was done with Proponent's Environmental Management Team and anticipated impacts were discussed. Concerns of locals, Environmental Practitioners & experts and Government departments were discussed and asked to consider them while construction of above-said project. Locals will be preferred for employment after providing proper training. Mitigations measures mentioned in EMP will be truly implemented.

6.3.1 The responsible authority

Overall responsibility for implementation of EMP will be that of project proponent. He will appoint a HSE/Project Manager of relevant qualification. HSE/Project Manager will act as Environmental Manager and will manage all HSE condition at the PEQS. HSE Plan has been attached as **Annexure-X**.

6.3.2 Other department and agencies

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

Sr#	Participant	CNIC/Designation	Concerns/Remarks
Environmental Protection Department			
1	Mr. Farhat Abbas Kamoka	Deputy Director (Field), EPA	Following comments are summarized to control the pollution: - Hazardous 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.
2	Rana Muhammad Siddique	Environmental Inspector	- HSE* at the site should be managed effectively. - Safety signs must be displayed - No impact is being foreseen due to the selected location. - Locals should be given job opportunity.
Social Welfare Department			
3	Zill-e-Huma	Deputy Director Officer	Following comments are suggested by the Deputy Director on the behalf of Social Welfare Department: Final goods should be affordable for the

			locals. • The proposed product 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 labour laws.
Irrigation Department			
4	Malik Anwar	Superintendent Engineer	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 residents.
Forest Department			
5	Mazhar Masood	Divisional Forest Officer Faisalabad	Following recommendation were suggested by the forest department: • Planation and landscape activities should be carried out on broader scale. • Indigenous species such as Arjarn, Barna, Neem, Suharjna, Amaltas and Jaman should be planted. • Proper drainage system must be available at site.
* HSE= Health, Safety and Environment			

7.3.3. Environmental Practitioners and experts

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

Table 6-1: Environmental Experts and their Concerns

Sr. No	Name	Designation	Comments/Suggestions
1.	Engr. Abdullah	Environmental Engineer	Following comments are summarized to control the air pollution generation during operational phase • It should be ensured that the pollution abatement technique must be installed if needed • Operation should be carried out under controlled conditions
2.	Ms. Hafsa Imran	Environmentalist	• Installation of proposed unit will have positive impact on economy, but its construction should be done in Environmentally Friendly way • During construction and operation emissions must be controlled properly • Basic facilities should be provided to local community
3.	Ms. Sadia Batool	Environmentalist	Following mitigation measures should be adopted: • Tree plantation in designated green zones should be carried out • Proper disposal of the waste • HSE management measures should be adopted and implemented effectively.
4.	Mr. Adeeb	Environmentalist	• Locals should be preferred for employment. • Value addition of area • In case of outsider's residence must be provided • Proper mitigation measures must be adopted while construction and operation of this project

5.	Mr. Yahya	Environmentalism	• She said that in case of removal of vegetation trees must be planted after construction at designated green areas • Water conservation strategies must be adopted • Solid waste must be collected and dispose of properly • Wastewater should not mix with surface water channels it must be properly dispose of after meeting PEQS. • Avoid groundwater contamination
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6.3.3 CONSULTATION WITH AFFECTED AND WIDER COMMUNITY

In addition, to the use of direct methods to evince the response of the various stakeholders in targeted population residing in study area was ascertained by conducting a sample survey, through specially formatted questionnaires. Questions posed to the public were related to creation of possible impacts, adverse impacts and beneficial impacts, including employment opportunities, income generation activities, change in living standards and provision of the basic amenity.

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

6.3.3.1 Disclose the proponent plan for the construction/operation of said facility.

6.3.3.2 To share information on the design and specifications of project works.

6.3.3.3 To analyze the expected impact on the socio-economic environment.

6.3.3.4 To understand their concerns regarding various aspects of project commencement.

6.3.4 VIEWS, CONCERNS AND SUGGESTIONS OF VARIOUS STAKEHOLDERS

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

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

Public consultation was done within 4-5 km of project site. The views and the concerns of the local communities, direct and indirect stakeholders have been complied and are presented in Table 8.2 below:

Table 6-2: Stakeholders and their Concerns

Sr. No.	Main Concerns	Suggestions
1	People were concerned that the rising number of industries will degrade the environment.	- Every industry must ensure their working without any hazardous emissions. - Air pollution should be controlled effectively.
2	Construction activities might cause disturbances to the travelers using nearby routes.	- Construction should be completed in short duration. And special measures should be taken to cause minimum or no disturbance. - Safety signs must be displayed at appropriate locations.
3	Health concern due to industrial pollution that might be caused by industries.	- Proper laws must be enforced by the Government. - Health of the workers should be ensured.
4	Noise pollution is caused from the industries.	- Special measures should be taken to reduce and control noise pollution. - Construction activity should be carried out during day hours. - Noisy activities should be confined.
5	With the rising number of industries, resources will be used.	- Job creation, eradication of poverty, - This will also improve National Economy.
6	Industries produce large amount of waste and disposed of without treatment.	- Every industry should be forced to treat waste before discharging it. - Wastewater should be treated prior to final disposal in nearby drain. - Solid waste should be managed effectively by adopting the standard practices of the area. - Cleanliness of the area should be ensured.
7	Locals will be ignored during the project	Locals should be given priority in employment opportunities.

8	Number of industries are increasing at a quick rate.	Tree plantation should be done, and greenery should be increased for the better environment.
9	Proposed project will not be beneficial to the Communities that are present near the project area.	• The proposed project should increase its welfare activities so that economic and social condition of the communities can improve. • Workers should be hired from local community.
10	Major concern was environment for the respondents.	• An effective EMMP should be designed and enforced with true spirit. • Plantation should be carried out at extensive scale. • Indigenous trees around the facility should be planted to control air pollution. • Safeeda can be planted in the project area as the area is known to be affected by the logging and salinity. • Removal of shrubs and bushes should be avoided to the extent possible.
11	Construction of unit for production of Grey Cloth will be beneficial for us.	People said that we will get Products from industry rather than go to city for purchase.
12	Establishment of unit for production of Grey Cloth will be beneficial for the surroundings	People said they will get original Products from industry rather than locally manufactured fake Products from Suppliers.

d. SUMMARY FINDINGS

Socio-economic baseline conditions and Socio-economic status of the people of the project area are described hereunder.

- i. The people whose interviews were recorded as a part of the public consultations were local inhabitants.

- ii. In the project area, different sources of income are present, and the locals rely on more than one source.
- iii. Several concerns of the people related to environment are correct. All these will be well taken care of in the design, construction, and operation of the project. Complete EMP is a part of this EIA that takes care of all the people's concerns.

Pictorial Evidence of Consultation with Different Departments







Figure 6-1: Consultation with Department's Staff

Methodology of consultation:

The EIA team carried out public consultations at various locations around the Project Site and conducting group meetings with different group of stakeholders. The stakeholder's consultation during this phase of the work targeted the project area, administrative and private offices, Govt. offices, shops, etc. near the Project area:

- Selection of the stakeholders for consultation, reconnaissance of the project site and initial discussions with the local community, residents, education institutes, health institutes, hospital and NGOs, shopkeepers, drivers etc.
- Environmental consultants and social specialists and documenting the opinions of the stakeholders expressed during the meetings etc.

6.2 Stakeholder identification:

Stakeholders must be considered at all levels according to the importance of the project. They may be at provincial, district and village level. The process of consultation is an ongoing process which continues during the project life cycle and even after the submission of this environmental assessment report and so on. Therefore, three-tier approach was adopted. Stakeholders were identified, categorized and consulted at provincial (EPA Punjab, Irrigation department, Agriculture department, Wildlife department, mines and mineral department, metrological department etc.), district level (EPA, Irrigation department, Agriculture department, Wildlife department etc.) & village level (Direct & indirect concern persons) Consultations with government, provincial and district level departments were carried out through meetings and visits while consultations with locals, villagers, neighbors and directly.

6.3 Issues Discussed

Following issues were discussed during the stakeholder's consultation:

- Overall activities of the project and their possible impacts.
- Possible impacts on natural vegetation, flora and fauna
- Possible mitigation measures;
- Beneficial factors and involvement opportunities of the local people in the set of activities of project.

Majority of stakeholders appreciated the project and taken it as a necessary step towards the current

situation of food.

6.4 Socio Economic

Expectations about employment opportunities and community development were extremely high among all stakeholders.

6.5 Proponent

Possible impacts and mitigation measures related to the Spinning unit were discussed with the project proponent and management. They assured to take all suggested mitigation measures to control any discrepancy arose by the project and to make the project environmentally friendly.

6.6 Responsible Authority

Management of Construction of “**M/S MISAQ PHARMACEUTICALS PVT LTD.**” is the responsible authority to take all measures prior to the health Care Products unit process activity.

6.7 Other departments and agencies

For the impact analysis detailed meetings were held with the management of “**M/S MISAQ PHARMACEUTICALS PVT LTD**” community, education institutes, health institutes, hospital and NGOs. Issues were discussed that may affect the environment and also the implementation of proposed project. All possible mitigation measures were considered and incorporated in the Environmental Management Plan.

Scoping sessions, focused group discussion and way side consultations were held with the relevant stakeholders in the area. The purpose of such consultations is to obtain the feedback from the relevant persons.

6.8 Environmental Practitioners and Experts

Team of M/s Ever Green Environmental Solutions visited the project site, had discussions with stakeholders and consulted with the local people of nearby and other villages to evaluate the project socio-economic impacts. People of the area belong to different professions like mostly belong to employment, own businesses, doctors, in Army, teaching, in agriculture, etc. Women were also consulted for their point of view regarding the betterment of the area by this project, some of them

communicated but according to social value of the area they mostly hesitate to communicate comfortably and get pictured. People provide the massive information about the project and have positive remarks regarding the project development.

6.9 Affected & Wider Community

There is no affected community present in the radius of our study area. Ever Green Environmental Solutions team has consulted with the inhabitants of the different area. They provided positive remarks regarding the subject project and in the favor of the subject Health Care Unit for the manufacturing of various products. Stakeholders participation Performa's and socioeconomic questionnaire were get filled by the inhabitants to evaluate the project socio-economic impacts.

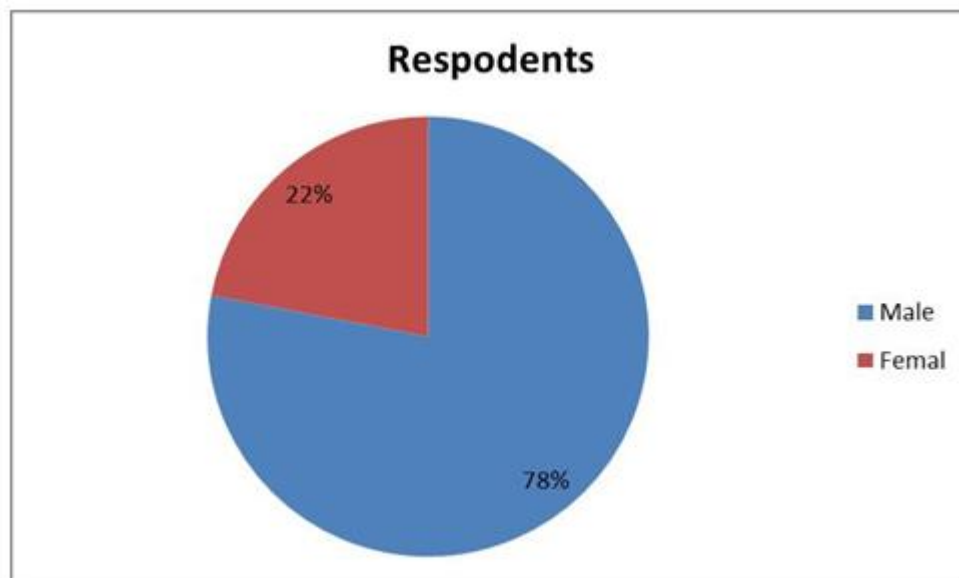
6.10 Sample size

15 sample sizes were selected by the Team of consultants for conducting the socioeconomic survey. Women were also consulted for the said survey; some of their names are mentioned in the list of respondents while most of them were not willing to give personal information.

6.11 Statistical Analysis

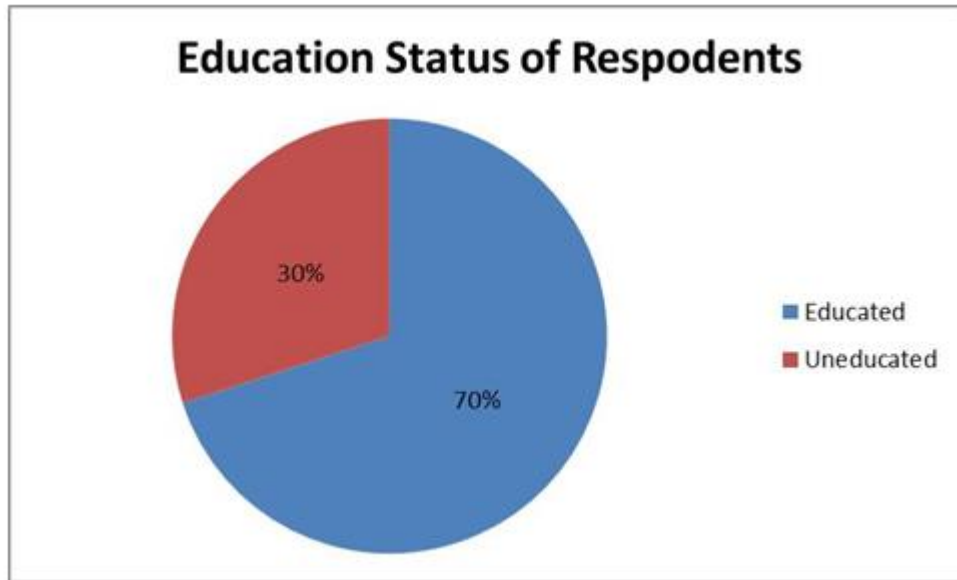
SPSS 19.0 has been used for the statistical analysis of the data collected during the visit of study site villages through questionnaires.

6.12 Results & Discussions



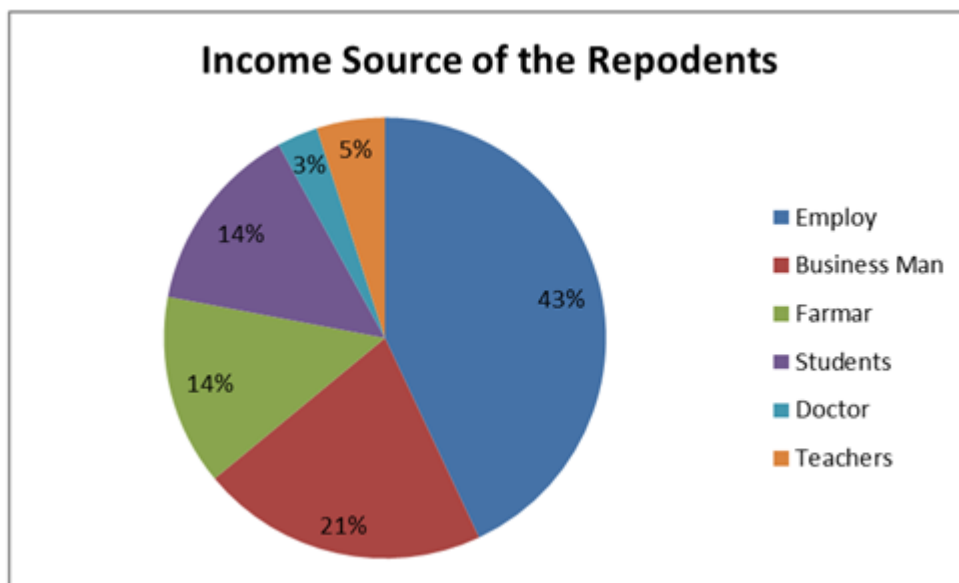
Discussion:

According to graphical representation, 78% respondents were male while 22 % respondents were female. The number of female respondents is less as compared to male respondents because according to the social binding female hesitates to respond or communicate comfortably.



Discussion:

According to above graphical representation, 70 % respondents were educated while 30 % were uneducated. So, according to the survey overall education status of the area is good.

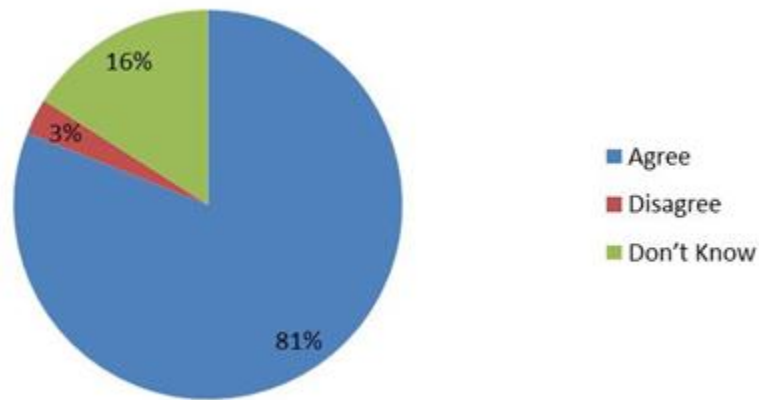


Discussion:

According to above graphical representation, source of income of majority of the respondents in the area was mainly employee in the private and government sectors while all other respondents' source of

income was business man, farmers, students, doctors and teachers.

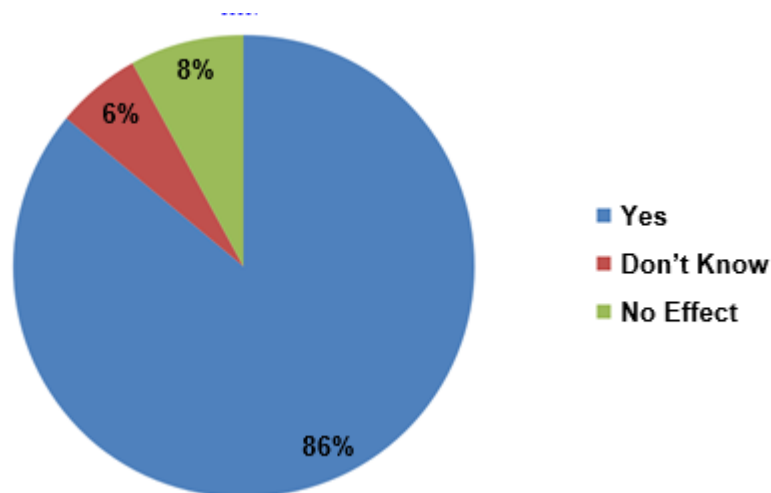
People in the favor of the Health Care Products Unit



Discussion:

As per survey, 81% people were in the favor of the Spinning unit and they gave positive remarks regarding the subject project while 16% respondents were have no opinion regarding the project and only 3% respondents were not in the favor of the subject project due to their concern regarding the aesthetic degradation of the land.

Effect of Health Care Products Unit on the Living Standard of the Area

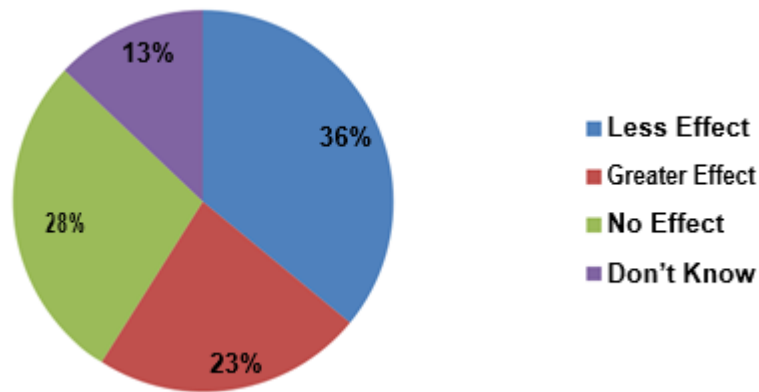


Discussion:

As per survey, 86% respondents said that Spinning unit will enhance the living standard and income level of the area, 8% said that there will be no effect on the living standard and income level while only

6% respondents had no remarks regarding the subject project.

**How much Effect Caused by the Health Care Products Unit
on the Plants Species of the Area**



Discussion:

As above graph indicates, 36% of the respondents remarked that there will be less effect caused on the plants species by the Spinning unit, 28% said that there will be no effect caused on the plants species by the subject activity and 23% said that greater impact will be caused by the subject project on the plants species while 13% respondents had no remarks regarding the subject project effect on the plants species.

6.3 Findings of the overall discussion:

- The proposed project land is open land.
- The project will enhance the socio-economic conditions/values of the area.
- It will increase revenue generation for the Government.
- It will create employment opportunities.
- Local people are given preference for employment in the proposed project.

Chapter - 7

CONCLUSION AND RECOMMENDATIONS

CONCLUSION

a. GENERAL

Conclusively, the establishment of M/S MISAQ PHARMACEUTICALS PVT LTD will be beneficial for economic growth and to improve the life style of the locals. The proposed action will have potential positive impacts on the physical and socioeconomic environment by saving the consumption of fuel and provision of jobs and business opportunities to local and transitive workforce both at construction and operation phase. The overall objective of this EIA is to carry out a detailed environmental assessment of the project area; to assess impacts caused by the different activities of the proposed project and to address measures to mitigate adverse environmental impacts arising from the execution of the proposed project.

The conclusions mentioned below are based on the findings of detailed environmental assessment, which has been carried out as per requirement of Punjab-EPA.

b. MAIN ISSUES AND CONCERNS

During the field surveys, significant efforts were made to identify the main environmental, ecological and social issues related to the implementation of the proposed project. Residents and stakeholders were also contacted for obtaining salient information of the project. Following temporary issues may occur during construction of proposed project:

- i. Noise and air pollution due to the operation of construction machinery during construction phase of the project may occur.
- ii. Health and safety problems of the workers may also arise during the construction and operation phases of the project.

All the adverse impacts of the proposed project have properly been mitigated and a comprehensive EMP has been formulated. The implementation of EMP will help to eliminate the impacts of the project.

c. RECOMMENDATIONS

- i. The construction activities shall be phased to confine the disruption of traffic. Traffic diversion/re-routing plans, if found necessary, shall be made with the help of traffic police for smooth flow of traffic. The vehicles carrying the construction materials will not be allowed to enter the town during rush hours which could be possible at night hours.
- ii. Noise measurements shall be carried out at locations and schedule specified to ensure the effectiveness of mitigation measures; and
- iii. Health and safety problems of the workers shall be ensured during the construction and operation phases of the project.

As a conclusion of the study, the proposed project will not cause potentially significant environmental and social adverse impacts on the local environment after implementation of the mitigation measures. Results of the EIA Study have shown that overall, the project is environmentally feasible. Most of the environmental impacts are low adverse in nature. However, these impacts can be mitigated by the implementation of Environmental Management Plan. Overall, the impacts related to construction phase could be minimized by the implementation of the proper mitigation measures. The proposed project will have a positive and healthy improvement in socio-economic environment of the proposed area.

LIST OF ABBREVIATIONS

BOD	Biological Oxygen Demand
°C	Degree Centigrade
CO	Carbon Monoxide
COD	Chemical Oxygen Demand
CC	Construction Contractor
dBA	Decibel
DC	Design Consultant
DCR	District Census Report
DO	Dissolved Oxygen
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
EMMP	Environmental Management & Monitoring Plan
EPA	Environment Protection Agency
EPD	Environment Protection Department
GOP	Government of Pakistan
HSE	Health, Safety & Environment
IEE	Initial Environment Examination
Km	Kilometer
M ³ /h	Cubic Meter per Hour
Mg/L	Milligram Per Liter
PEQS	Punjab Environmental Quality Standards
NEQS	National Environmental Quality Standards
NOC	No Objection Certificate
NO _x	Nitrogen Oxides
OHS	Occupational Health and Safety
PEPA	Pakistan Environmental Protection Act
PEPO	Pakistan Environmental Protection Ordinance
PPE	Personal Protective Equipment

PM	Particulate Matter
SC	Supervision Consultant
SO _x	Sulfur Oxides
SWM	Solid Waste management
TDS	Total Dissolved Solids
TMA	Town Municipal Authority
TOR	Term of References
TSS	Total Suspended Solids
WHO	World Health Organization
WAPDA	Water and Power Development Authority

GLOSSARY

Agency	A business or organization providing a particular service on behalf of another business, person, or group.
Biodiversity	The variety of life in an area, including the number of different species, the genetic wealth within each species, and the natural areas where they are found.
Climate	The weather conditions prevailing in an area in general or over a long period.
Control Shed	In Controlled Poultry Farm the day old chicks (DOCs) are raised on rich protein chemicals for about a period of six weeks.
Conservation	Official supervision of rivers, forests, and other natural resources in order to preserve and protect them through prudent management.
Consultant	A person who provides professional advice or services to companies for fee.
Construction Waste	Waste generated from the buildings and construction industry and includes material like bricks, concrete, tiles, debris, ceramics and more.
Cultural Heritage	Valued objects and qualities such as historic buildings and cultural traditions that have passed from previous generations.
Demographic	A single vital or social statistic of a human population, as the number of births or deaths.
Drainage	Natural or artificial removal of surface and sub-surface water from an area.
Ecology	The branch of biology that deals with the relations of organisms to one another and to their physical surroundings.
Endangered species	A species of animal or plant that is seriously at risk of extinction.
Environment	Relationship of natural world (human beings, animals and plants) with physical surroundings (air, land, water).
Environment Impact	Environmental Impact Assessment (EIA) is a process of evaluating the Assessment likely environmental impacts of a proposed project or development, taking into account inter-related socio-economic, cultural and human-health impacts, both beneficial and adverse.
Emission	The act of sending out gas, heat, light, etc.
Framework	A framework is a real or conceptual structure intended to serve as a support or guide for the building of something that expands the structure into something useful.
Fresh Water	Fresh water is any naturally occurring water except seawater and brackish water. Fresh water includes water in ice sheets, ice caps, glaciers, icebergs, bogs, ponds, lakes, rivers, streams, and even underground water called groundwater.
Groundwater	Subsurface water in the zone in which permeable rocks, and often the overlying soil, are saturated under pressure equal to or greater than atmospheric.
Hatchery	A hatchery is a facility where eggs are hatched under artificial conditions, especially those

of fish or poultry.

Impact	The action of one object coming forcibly into contact with another.
Monitoring	A systematic and objective observation of an organisation's activities and services conducted and reported on regularly.
Nature	The phenomena of the physical world collectively, including plants, animals, the landscape, and other features and products of the earth, as opposed to humans or human creations.
Preservation	Preservation is the strict setting aside of natural resources to prevent the use or contact by humans or by human intervention.
Proponent	A person who advocates a theory, proposal, or course of action.
Policy	A policy is a deliberate system of principles to guide decision and achieve rational outcomes.
Pollution	The result of the release into air, water or soil from any process or of any substance, which is capable of causing harm to man or other living organisms supported by the environment.
Regulation	Regulation is an abstract concept of management of complex systems according to a set of rules and trends.
Resource	A stock or supply of money, materials, staff, and other assets that can be drawn on by a person or organization in order to function effectively.
Seismic Hazards	A seismic hazard is the probability that an earthquake will occur in a given geographic area, within a given window of time, and with ground motion intensity exceeding a given threshold.
SWM	Solid waste management or waste disposal are all the activities and action required to manage waste from its inception to its final disposal. This includes amongst other things collection, transport, treatment and disposal of waste together with monitoring and regulation.
Stakeholder	A stakeholder is a party that has an interest in a company, and can either affect or be affected by the business.
Topography	Topography is the study of the shape and features of the surface of the Earth and other observable astronomical objects including planets,
Vegetation	Plants considered collectively, especially those found in a particular area or habitat.
Waste Water	Wastewater is any water that has been affected by human use. Wastewater is used water from any combination of domestic, industrial, commercial or agricultural activities, surface runoff or storm water, and any sewer inflow or sewer infiltration.

TERMS OF REFERENCE (TOR) OF **EIA OF M/S MISAQ PHARMACEUTICALS PVT** **LTD**

1. IEE/EIA Legal Requirement

IEE/EIA is mandatory according to the Punjab Environmental Protection Amended Act (PEPA-2012). Section 12 (1) of the PEPA-2012 which states that:

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

2. Actually the said proposed project is a pharmaceutical project it falls in category B(2) of (Manufacturing and Processing) of **Schedule-II** of Pakistan Environmental Protection Agency (Review of IEE and EIA) Regulations, 2022

3. Title

EIA of M/S MISAQ PHARMACEUTICALS PVT LTD

4. Project Overview

EIA is conducted for the construction and manufacturing of Health Care Products Unit. The main objective of the Project is to manufacture of Health Care products with the growing market demand.

5. Project Proponent

Mr. Azeem Imtiaz S/O Imtiaz Ahmad

Director Operations

Home Address: House No. Y-27, Street No. 106, Madina Town, Faisalabad

Plant Address: Plot No. 7-B, Value Addition City, FIEDMC, Khurrianwala, Faisalabad.

CNIC No.: 33100-7699575-1

6. Environmental Consultant and Client:

M/S MISAQ PHARMACEUTICALS PVT LTD has appointed Ever Green Environmental Solutions as the consultant for the subject project to conduct the EIA. M/S Ever Green Environmental Solutions will be called as “Consultant” and M/S MISAQ PHARMACEUTICALS PVT LTD will be called as “Client”.

7. Objective of EIA Study

The Scope of Work as envisaged by the consultant to carry out EIA for the captioned project is elaborated as under:

- a. Reconnaissance survey of the proposed site of the Project.
- b. Collection of available data, drawings and all relevant information about the proposed Project.
- c. Review of applicable existing Environmental Legislation and Standards
- d. Review of the available data, drawings and reports to ascertain its adequacy and need for collection of additional data (if any).
- e. Establishment of baseline environmental conditions.
- f. Evaluation of potentially positive and negative impacts due to the proposed Project.
- g. Propose mitigation measures to eliminate or reduce the negative impacts to an acceptable level due to proposed plant construction/operation.
- h. Preparation of Environmental Management Plan (EMP)
- i. Prepare Environment Impact Assessment (EIA) Report

8. Components of EIA Report

Chapter 1: Introduction

Chapter 2: Description of the Project

Chapter 3: Description of the Environment

Chapter 4: Environmental Impacts and Mitigation Measures

Chapter 5: Environmental Management Plan

Chapter 6: Stakeholder's Participation

Chapter 7: Conclusions

9. Compliance of Guidelines

The consultancy firm shall be responsible to prepare EIA report in compliance of following guidelines;

- a. Guidelines for preparing and reviewing environmental reports
- b. Guidelines for policy and procedures for the filing, review and approval of EIA
- c. Guidelines for sensitive and critical areas
- d. Punjab Environmental Quality Standards (PEQS).

10. Deliverables

Draft EIA Report and Final EIA Report

11. Time Schedule – Four (04) months



Signature by: Muhammad Nawaz

Environmental Consultant

Evergreen Environmental Solutions

Signature by: Azeem Imtiaz

Proponent

M/S Misaq Pharmaceuticals Pvt Ltd

TEAM COMPOSITION AND ROLE OF THE MEMBERS

Name of Staff	Area of Expertise	Position Assigned	Task Assigned
Mian Muhammad Nawaz	Project Management/ Environment Expert	Team Leader	To coordinate with the consultant staff on different project activities and issue instructions from time to time. Overall Management of the consultancy contract, Liaison with client and to ensure successful implementation and completion of work.
Ali Nawaz	Atomization Expert	Engineer	Responsible for Conducting Surveys, Collection of baseline data, identification of impacts on the collected data and proposing mitigation measures, environmental management plan studies relating environment, and Preparation of IEE Report.
Muhammad Azam	Baseline Environmentalist	Environmental professional	The responsibilities include site visit, and collection of baseline data, Conducting Surveys, studies relating environment, and Preparation of IEE Report.
Rabiya Nawaz	Compilation and Data Collection	Content Writer	The responsibilities include collection of baseline data, Conducting Surveys, studies related to environment, and Preparation of IEE Report.
Samir Ali	Legal Issues	Legal Advisor	Legal assistance to redress legal and social issues.

List of Respondents			
SR. NO.	NAME	QUALIFICATION	AREA
1.	Muhammad Ali	BA	Jaranwala
2.	Rizwan Ali	BS	Faisalabad
3.	Asifa Iqbal	MA	Jaranwala
4.	Imran Parvaiz	Fsc	Jaranwala
5.	Anwar Rasheed	Bachelors	Jaranwala
6.	Mahnoor Ijaz	BS (Hons)	Faisalabad
7.	Tayyiba	Unknown	Faisalabad
8.	Sajida Bibi	Unknown	Faisalabad
9.	Salman Shahbaz	Mphil	Faisalabad
10.	Abdullah Ikram	BA	Faisalabad
11.	Alina	Unknown	Faisalabad
12.	Rana Ali	BS	Faisalabad
13.	Moeen Akhtar	BS	Faisalabad
14.	Murtaza Jaffar	FA	Faisalabad
15.	Dur e Najaf	Unknown	Jaranwala

HEALTH, SAFETY & ENVIRONMENT PLAN

1. Underground Obstruction

Underground services that have the potential to affect the construction include:

- Underground electricity cables
- Gas mains
- Communication cables
- Water mains
- Sewer mains
- Council drains
- Traffic signal cables

Search would be undertaken to check for major services at least 30 m both upstream and downstream of the proposed works.

2 TRENCHING & EXCAVATION SAFETY

Excavation and trenching are among the most hazardous construction operations.

Dangers of Trenching and Excavation

Cave-ins pose the greatest risk and are much more likely than other excavation related accidents to result in worker fatalities. Other potential hazards include falls, falling loads, hazardous atmosphere and incident involving mobile equipment.

Key issues are:

a) Collapse of Excavations

- **Temporary support**-Before digging any trench pit, tunnel or other excavations, decide what temporary support will be required and plan the precautions to be taken. Make sure the equipment and precautions needed (trench, sheets, props, baulks etc.) are available on site before work starts.
- **Battering the excavation sides**-Battering the excavation sides to a safe angle of repose make also save the excavation safer .In granular soils , the angle of slope should be less than the natural angle of repose of the material being excavated. In wet ground, a considerably flatter slope will be required.

b) Falling or Dislodging Material

- **Loose materials**-may fall from spoil heaps into the excavation. Edge protection should include toe boards or other means, such as projecting trench sheets or box sides to protect against

falling materials. Head protection should be worn.

- **Undermining other structures**-Check that excavations do not undermine scaffold footings. Buried services or the foundations of nearby buildings or walls. Decide if extra support for the structure is needed before you start. Surveys of the foundations and the advice of the structural engineer may be required.
- **Effect of plant and vehicles**-Do not park plant and vehicles close to the sides of excavations. The extra loadings can make the sides of excavations more likely to collapse.

c) Falling into Excavations

- **Prevent people from falling**- Edges of excavations should be protected with substantial barriers where people are liable to fall into them achieve this, use: Guard rails and toe boards inserted into the ground immediately next to the supported excavation side, or fabricated guard rails assemblies that connect to the sides of the trench box the support system itself, e.g. using trench box extensions or trench sheets longer than the trench depth.

3. Protect Yourself

Do not enter an unprotected trench! Trenches 5 feet (1.5 meters) deep or greater require a protective system unless the excavation is made entirely in the stable rock. Trenches (6.1 meters) deep or greater require that the protective system be de-signed by a registered professional engineer or be based on tabulated data prepared and/or approved by a registered professional engineer.

4. Protective Systems

There are different types of protective systems. Sloping involves cutting back the trench wall at an angle inclined away from the excavation. Shoring requires installing aluminum hydraulic or other supports to prevent soil movements and cave-ins. Shielding protects workers by using trenches or other types of supports to prevent soil cave-ins.

Designing a protective system can be complex because you must consider many factors: soil classification, depth of cut, water content of soil, changes due to weather or climate, surcharge loads (e.g., spoil, other materials to be used in the trench) and other operations in the vicinity.

a) General Trenching and Excavation Rules

- Keep heavy equipment away from trench edges.
- Keep surcharge loads at least 2 feet (0.6 meters) from trench edges.
- Know where underground utilities are located.
- Test for low oxygen, hazardous fumes and toxic gasses.
- Inspect trenches at the start of each shift.
- Inspect trenches following a rainstorm.
- Do not work under raised loads.

5. Excavated Materials

All excavated material must be set back at least 2 feet from the excavation area to prevent possible cave-ins. When the proper setback cannot be provided, materials should be hauled away. Excavation

equipment should not be operated or stored where it can create a potential cave-in problem.

6. Construction of signposts, barricades and fencing

Barricades that are impenetrable shall be used to separate pedestrians from hazards on all sides of excavations that may be exposed to pedestrians. Use material and methods suitable to site conditions. Signs and fencing material shall not protrude into the clear pathways.

- A-frames used for defining path of travel (not barricading trenches) shall be placed end to end without spacing, shall be connected and maintained to ensure stability to help a person who is blind negotiate the safe path using a cane.
- Caution tape shall not be used by itself to delineate the path of travel or create a barricade.
- Signposts, scaffolding and fencing supports shall be entirely outside the pedestrian path of travel, minimum 4 feet wide and 80" high without obstruction.
- Construction barriers shall be maintained in a sound, neat and clean conditions.

7. Stockpiles

A stockpile must be planned, constructed, used and maintained so that no person working at the workplace is endangered by any instability of the stockpiled material.

The height of an unstable face of a stock pile must not exceed the maximum safe reach of equipment being used to remove material from stockpile.

8. Walkways

A worker must not walk upon the surfaces of structural members that have shear connectors, dowels or other protrusions unless suitable walkways and runways are provided to eliminate the tripping hazard.

9. Water Accumulation

Water must not be allowed to accumulate in excavation if it might affect the stability of the excavation or might endanger workers. Erosion of slopes by surface water must be prevented if workers maybe endangered.

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