Environmental Impact Assessment

(EIA) Report

2023

AYAN-ONE PAPER MILL

Sambaraial, Old Airport Road, Near Gataa Factory, Karnawali

SIALKOT

Prepared By

PROGREEN
ENVIRONMENTAL SERVICES

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EXECUTIVE SUMMARY

This report presents the findings of the Environmental Impact Assessment study conducted by Pro Green Environmental services on behalf of Ayan-One Papers Mills is located at Sambaraial, Old Airport Road, Near Gataa Factory, Karnawali. Project is Construction of Paper Manufacturing Unit falls in the category of B (5) mentioned in Schedule II. **Coordinates:** 32.506580, 74.351051

The proposed project Ayan-One Papers Mills will be involved in the paper manufacturing process through the following steps:

Raw Material Preparation: Wood, Rice Husk, Maize Cob and paper waste will be used as a raw material during the paper manufacturing process.

Pulping: Raw materials will be converted into pulp through mechanical or chemical processes. The used paper is mixed with water to form slurry. The mixture will be then subjected to mechanical forces, such as grinding or refining, which break down the paper fibers into pulp. Chemical pulping will be a process that uses chemical agents to dissolve and separate the lignin from the cellulose fibers in used paper materials. This method will be used to produce higher-quality papers, such as writing and printing papers.

Pulp Cleaning: The pulp will be screened to remove larger impurities like staples and other non-fiber materials. It will also be undergo cleaning to eliminate any remaining contaminants.

Pulp Coloring: Liquid dyes or pigments are mixed with water or other carriers to form a color solution. This solution is then added to the pulp, allowing the color to disperse more evenly.

Paper Formation: The prepared pulp will be mixed with water to form slurry. This pulp slurry will be then spread evenly onto a moving mesh screen or conveyor belt, allowing water to drain away and leaving a layer of fibers behind.

Pressing: Excess water will be squeezed out, and the fibers are compressed.

Drying: The partially dried sheet will be passed through heated rollers or a drying section to remove remaining water.

Finishing and Cutting: Paper reels will be trimmed, slit, and cut into appropriate sizes. The finished paper is packaged for distribution.

The total area of the proposed project will be 21760 sft, open area will be 14458 sft, covered area of ground floor will be 7302 sft, and the total covered area will be 7302 sft, Non Computable 102 sft, required Parking Covered area will be 7200 sft, area for car parking area will be 1200 sft,

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motor bike parking area will be 312 sft. The estimated cost will be 90 million. The production capacity will be 4 to 5 ton per day.

Project is Construction of Paper Manufacturing Unit falls in the category of B (5) mentioned in Schedule II. An Environmental Impact Assessment (EIA) study report has been prepared to identify and assess the significant environmental impacts likely to occur due this project along with environmental impact statement followed by appropriate Environmental Management Plan. EIA of this proposed project has been carried out in order to conform to the requirements of the Punjab Environmental Protection Act, 1997, amended in 2012 under section 12 of which no development activity can be initiated anywhere in Punjab without filing before the designated government agency an IEE or an EIA, as may be required and having an NOC for construction and operation. In the light of the EIA/IEE Regulations, 2022, the project in question required an EIA as guided in Schedule II, under the category B (5). The purpose of this EIA is to predict all the probable adverse environmental impacts and plan adequate mitigation measures for eliminating, controlling them and drafting the complete institutional framework for their implementation.

1- TITLE AND LOCATION OF PROJECT

The name of this proposed Project is "Ayan-One Papers Mills" is located at Sambaraial, Old Airport Road, Near Gataa Factory, and Karnawali.

NAME OF PROPONENT

The proponent of this proposed Ayan-One Papers Mills is Rashid Mushtaq Ahmad S/O Mushtaq Ahmad R/O Dak Khana Khas, Bamboo, Tehsil Shaker Garh, and District Sialkot.

NAME OF ORGANIZATION PREPARING THE REPORT

This Initial Environmental Examination report has been prepared by ProGreen Environmental services.

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2- OUTLINE OF PROPOSAL

Salient Features of Project:

1	**Project Title**	Ayan-One Papers Mills
2	**Proponent**	Rashid Mushtaq Ahmad S/O Mushtaq Ahmad
3	**Project Location**	Sambaraial, Old Airport Road, Near Gataa Factory, Karnawali.
4	**Coordinates**	32.506580, 74.351051
5	**Land Use in Surrounding of Proposed area**	
	East:	Open Land
	West:	Open Land
	North	Access Road
	South:	Unit
6	**Consultant**	Pro Green Environmental Services
7	**Total Area**	21760 sft
8	**Cost of Project**	90 million
9	**Raw Material**	Wood, Rice Husk, Maize Cob, Paper Waste
10	**Final Products**	Floating Paper, Craft Paper
11	**Production Capacity**	4 to 5 tons per day

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12	**Water Source**	Ground Water
13	**Nature of Area**	Open Area
14	**Source of Power**	WAPDA

WAPDA= Water and Power Development Authority

The proposed project Ayan-One Papers Mills will be involved in the paper manufacturing process through the following steps:

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Project is Construction of Paper Manufacturing Unit falls in the category of B (5) mentioned in Schedule II.

MAJOR IMPACTS

The study team reviewed the Project with the aim to determine the likely impacts of the project on the environmental and socio-economic conditions of the area. All the necessary elements of the project were reviewed and compared with the existing conditions in the vicinity of the Project Area. The EIA report identifies the adverse environmental impacts due to the construction and operational activities of the project and also suggests proper measures for their mitigation, as described in Environmental Management Plan (EMP).

There are no significant or well-shaped trees and shrubs on the project site. During the construction vehicles and machinery will be employed. These machines generate some dust and smoke temporarily which would be stopped on completion of the construction work. Safety issues could also arise for workers during construction phase of the project but strict HSE plan will be enforced

There can be few negative impacts by operation of the scheme on the surrounding environment and these impacts will rise due to:

- Solid Waste
- Wastewater generated

Impacts can also arise during operational phase due to vehicles movement as vehicles will be used by people.

1- RECOMMENDATIONS FOR MITTIGATION MEASURES

The potential negative impacts during construction and operational stage of the project will be mitigated to an acceptable level. Necessary mitigation measures are recommended in the report to make the proposed project Environment Friendly. Environmental Management Plan identifies

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monitoring needs and implementation on Environmental Management Plan is also recommended.

The following measures are recommended for operational phase of the project:

- Housekeeping process modification should be adopted to control impacts of solid waste and wastewater
- The solid waste should be disposed in TMA provided bins
- Traffic movement plan should be formulated to avoid any issue for locals

2- PRPOSED MONITORING

Environmental impact of a project is worked out using various factors and parameters, so that an Environmental Management Plan can be evolved to take mitigation measures, wherever these might be considered necessary in order of appropriateness of elimination, reduction and compensation as the goals. The development of the EMP is to make some person responsible for implementing the mitigation measures as identified so that smooth implementation of the mitigation measures can be assured. Monitoring plans have also been included to ensure the compliance of the EMP by contractors and other responsible authorities.

This is a proposed project hence regular monitoring will be required to check that the construction is not going to cause any adverse environmental impact; hence monitoring visit will be done once in a month during construction phase. During these visits samples will also be taken to check the quality of air, water and soil etc.

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Structure of the Report

This report comprises the following chapters in order stated

Chapter 1: (Executive Summery) Title and location of project, Name of proponent, Name of organization, outline of proposal, major impacts, recommendation of mitigation measures, proposed monitoring

Chapter 2: (Introduction) purpose of report, identification of project, details of consultaants, brief description of nature, size, and location of project

Chapter 3: (Screening) whether the project required IEE/EIA as per regulations

Chapter 4: (Scoping) Spatial and temporal boundaries of Environmental Assessment, important issues raised during consultation, significant impacts and factors to be determined

Chapter 5: (Consideration of Alternatives) Site alternatives, design/ technology alternatives, environmental alternatives, economic alternatives

Chapter 6: (Description of project) objectives of projects, location and site layout, land use on site, road access, vegetation features, cost and magnitude, schedule of implementation, description of project, restoration and rehabilitation

Chapter 7:(Description of Environment) states and specifies the present environmental settings and socio-economic values of the project area and the surroundings

Chapter 8: (Impact Assessment) Methodologies for impact identification, checklist, matrices, network, overlays, IS and computer expert system

Chapter 9: (Screening of Potential Environmental Impacts and Mitigation Measures) project location, design, construction phase, operational phase, potential environmental enhancement measures

Chapter 10: (Environmental Management and Monitoring Plan) throws a light on the authorities or individuals responsible to implement mitigation measures and monitor the environmental parameters against the environmental impacts

Chapter 11: (Stakeholders and Public Consultation)Public consultation plays a vital role in studying the effects of any development project on stakeholders and in its successful implementation and execution

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Chapter12: (Appendices) list of abbreviation, list of individual, source of data, terms of references of environmental reports, list of name of consulted team, approvals from other departments

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INTRODUCTION

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This chapter describes briefly the purpose of study, proposed project in the context of its nature, size, location, objectives and the objectives and methodology used for conducting it.

1-Purpose of EIA Study and Report

An Environmental Impact Assessment (EIA) study report has been prepared to identify and assess the significant environmental impacts likely to occur due to proposed project construction along with environmental impact statement followed by appropriate Environmental Management Plan. According to the Punjab Environmental Protection Act (PEPA) 2012, Section 12 - 1 "No proponent of a project shall commence construction or operation unless he has filed with the Government Agency or, where the project is likely to cause an adverse environmental effects an environmental impact assessment, and has obtained from the Government Agency approval in respect thereof." The proposed project fall in the **Schedule-II and category-B (5).** It is this legal requirement from the Government of Punjab that this Environment Impact Assessment (EIA) report has been prepared to get Environmental Approval (EA) from the Environmental Protection Agency (EPA), Government of Punjab, Lahore.

This report provides detailed basic site specific information and facts; including especially among others environmental, economic, social, etc., enabling its assessment and justification that the project will meet the requirements of environmentally sustainable practices; both during construction and regular production stages; as desired under the Punjab Environmental Protection Act, 1997 (amended 2012), the Punjab Environment Quality Standards and the rules and the regulations thereof.

2-Identification of the Project& Proponent

The proponent of this unit is Rashid Mushtaq Ahmad S/O Mushtaq Ahmad.

This project requires an Environmental Impact Assessment (EIA) the project fall in Schedule-II, Category B-(5) of EIA and IEE Regulations 2022. An Environmental Impact Assessment (EIA) study report has been prepared to identify and assess the significant environmental impacts likely to occur due to proposed project along with environmental impact statement followed by appropriate Environmental Management Plan. The proponent will also conform to the other applicable environmental laws, rules and regulations during both construction and operation of the proposed project.

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3-Detail of Environmental Consulting Firm

This EIA study has been carried out by Pro Green Environmental Services. This Firm comprises environmental engineers, environmental lawyers etc.

Name	Roles
Shahid Iqbal Environmentalist	Team Leader
Muhammad Hassan Chemist	Monitoring and Author
Gulzaib Afzal Environmental Engineer	Monitoring Assistant and Author
Ali Naeem Environmental Engineer	Monitoring Assistant and Author

Address:126,1st Floor Memona Center, Moj Darya Road, Lahore

Contact No. 0333-4041950

4-Brief Description of Nature, Size and Location of Project

The proposed project Ayan-One Papers Mills will be involved in the paper manufacturing process through the following steps:

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SCREENING

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Whether the project requires IEE/EIA as per regulation:

According to the section of the Punjab Environmental Protection Act 2012, no proponent of a project shall commence construction or operation unless he has filed an initial environmental examination or where the project is likely to cause adverse environmental effects, an environmental impact assessment, and has obtained NOC from the EPA Punjab.

Subject to provision of this Act, proponent Rashid Mushtaq Ahmad S/O Mushtaq Ahmad must get a NOC for Construction of the waste water treatment plant under section 12 of PEPA-2012 from provisional Agency in order to start Construction. This project requires an Environmental Impact Assessment (EIA) the project fall in Schedule-II, Category B-5 of EIA and IEE Regulations 2022. An Environmental Impact Assessment (EIA) study report has been prepared to identify and assess the significant environmental impacts likely to occur due to proposed project along with environmental impact statement followed by appropriate Environmental Management Plan. The proponent will also conform to the other applicable environmental laws, rules and regulations during both construction and operation of the proposed project.

The Director General, EPA Punjab is the authority to issue the requisite Environmental Approval after proper review of the project. The EIA report has been prepared under the format of guidelines issued by EPA. The applicable laws for the environmental study of the project are briefly given below

- Punjab Environmental Protection Act, 2012
- National Environmental Policy, 2005
- Review of EIA Regulations, 2022
- Guidelines for Preparation and Review of Environmental Report, 1997
- Solid Waste Management Rules , 2005
- National Environmental Quality Standards 2000
- Punjab Land use Rules 2009

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Scooping

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1- Spatial and Temporal Boundaries of Environmental Assessment:

The Natural Environmental setting, present industrial status and its future trends around the project site covering fairly large distance have been taken into consideration while taking stock of existing and expected conditions. Socio-economic condition, availability of basic infrastructure, availability of water, labor, raw materials, transport and means of communication, electricity and approach to the project site were the major considerations and spatial and temporal boundaries considered during this study.

2-Important Issues and Concerns rose during the Consultation:

Following issues were discussed during the stakeholder's consultation:

- Overall activities of the project.
- 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.

General:

Majority of stakeholders appreciated the project and taken it as a necessary steps towards the current situation of food.

Socio-Economic:

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

Strict traffic plan will be implemented. If the mitigation measures mentioned in later section of construction and operation phase are properly implemented, the proposed project with respect to location will be environment friendly and will not be involved in the deterioration of environment.

3-Significant impacts and factors to be determined:

Following factors have been taken in the account to assess the Environmental Impacts of the proposed waste water treatment plant:

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- Environmental impacts due to land use, location, waste generation, utility services consumption and emergency spillage etc.
- Environmental impacts physical resources i.e. soil topography, geology, climate, air quality etc. ecological resources i.e. flora as well as health and safety of workers.

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Consideration of Alternatives

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Alternative considerations and reasons for their rejection:

Location Alternatives

The proponent also considered other sites but those sites don't have easy access to roads. Furthermore those sites were the environmentally degraded and polluted lands, and lack of aesthetic beauty is the major factor which urges the proponent to find an alternative. The project area is devoid of any tree cover, so it doesn't involve cutting of trees for carrying out project activities. No species of plants and animals having significance ecological importance present on the proposed project site. Availability of land at the best convenient place and at reasonable price was yet the other considerations for the site selection. So, this is the best economically viable option for the proponent. Because of the availability of access roads, communication facilities, electricity, gas, basic infrastructure, sewer etc. was yet the other necessary requirements. Of course neat and clean environment was also the consideration. The project will also facilitate the people of area with increasing the opportunities of the employment, and other related facilities. Keeping these requirements and other feasibility and other basic infrastructural requirements, now the proponent considered other alternative site but the selected site is ideally suited for the said unit.

Reasons of rejection

- Cost of alternatives lands was very high.
- There is thick fields/vegetation at the site of project.
- Populated areas were present near the project site.
- Basic infrastructure was not there.
- There was no easy access to roads.

Site Selection

The proponent has selected this site due to the following reasons:

- Located on accessible road
- No settlements at a safe distance
- No watercourse within a safe distance
- There was no need of tree clearance for the said project

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- No ecologically sensitive or declared protected area within 10 km of the selected site
- In the light of above mentioned project Ayan-One Papers Mills considered the subject site as most suitable for this project.

2.3.2 TECHNOLOGY OPTIONS:

The machinery/technology which will be installed in Ayan-One Papers Mills is considered to be 'state of the art' in terms of being environment friendly, energy efficiency and modern plant & process design for similar units.

2.3.3 Environmental Alternatives:

The unit site is located in an area which is devoid of any biodiversity including forestry, wildlife, migratory birds, game reserves (flora and fauna), or protected species of fauna & flora; fishery or aquatic biology; watershed. There is no cultural or any other heritage in the project area.

Summarily, there is no environmental sensitivity in the project area. These factors are also strongly supportive of the proposed project site.

This location was determined to be the most convenient location in proximity to the market and domestic supply chain. This site has least environmental & social impacts.

Keeping these requirements and their availability, the present site is the best suited for the project. All the other basic infrastructural requirements are available at the selected site.
The site is ideal for this unit and this EIA report has also been prepared for getting the environmental approval for at this site. Availability of land at the best convenient place and at reasonable price was yet the other considerations for the site selection. Availability of access roads, communication facilities, electricity, gas, basic infrastructure, sewer etc. was yet the other necessary requirements. Of course neat and clean environment was also the consideration.

Economic Alternatives their selection and rejection criteria:

The proponent also considered other site which economically undesired to proponent. Furthermore those sites were the environmentally degraded and polluted lands, and lack of aesthetic beauty is the major factor. The project area is devoid of any tree cover, so it doesn't involve cutting of trees for carrying out project activities. Availability of land at the best convenient place and at reasonable price was yet the other considerations for the site selection. So, this is the best economically viable option for the proponent.

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PROJECT DESCRIPTION

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This section of the study concentrates on details of the project and its salient features, such as location, site layout, objectives, selection of alternatives, cost and magnitude of operation and various phases. Inputs and discharges relevant to different phases of the project, such as electricity & materials, etc. have also been examined as a response to possible environmental concerns.

1-Type and category of project

As per Review of Initial Environmental Examination (IEE) and Environmental Impact Assessment (EIA) Regulations, 2022 the Project of construction of Ayan-One Papers Mills falls in the category of projects mentioned in Schedule II, under the category B(5)

2-Objectives of project

The proposed project shall yield following benefits:

- To maintain continuity in supply of paper products.
- To help to overcome the scarcity Papers products due to huge gap between demand and supply.
- To increase the availability of products to local people
- To create job opportunities for locals
- To elevate the socio-economic status of the area

4-Location and Site layout of project

Location of the Project

Project is located at Sambaraial, Old Airport Road, Near Gataa Factory, and Karnawali.

The surrounding area detail of this project is given below

East	Open land
West	Open land
North	Access Road
South	Unit

Layout of the Project

Layout map of the project site is attached with the report.

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5-Land use on site

Land is currently open, and due to the Project, it will give employment opportunities which are positive.

6-Road access

Main roads and markets are in easy and close access of the project site.

7-Vegetation features of site

Land is clear and there are no plants or vegetation on site. Various local plants will be grown at the project site in the open areas and grounds.

8-Cost and magnitude of operation

Total cost of the proposed project is 90 million.

The project includes the town planning work, site survey, geotechnical investigations, site clearing work, infrastructure work, structural work, electrical and mechanical works and Activities of construction includes the following:

9-Schedule of Implementation

a- Phase-I (Start-up Phase)

Phase -1 is the start-up phase, which involves construction of boundary wall around the entire site. Most of the NOC's of construction from various departments has been approved, and this report has been prepared to obtain NOC of constructional phase from EPA Punjab. It can take 1 to 3 months.

b- Phase-II (Main implementation Phase)

In phase II, required machinery will be purchased, firefighting system, etc. During this phase, machinery will be brought on site and installed. It can take 1 to 3 months.

c- Phase-III (Wrap-up Phase)

Phase-III is the wrap-up phase. In this phase, all outstanding activities will be completed, required staff will be recruited, and contracts with suppliers and purchasers will also be signed after which the operational phase finally commenced. It can take 1 to 3 months

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10-Description of Project

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Drying: The partially dried sheet will be passed through heated rollers or a drying section to remove remaining water.

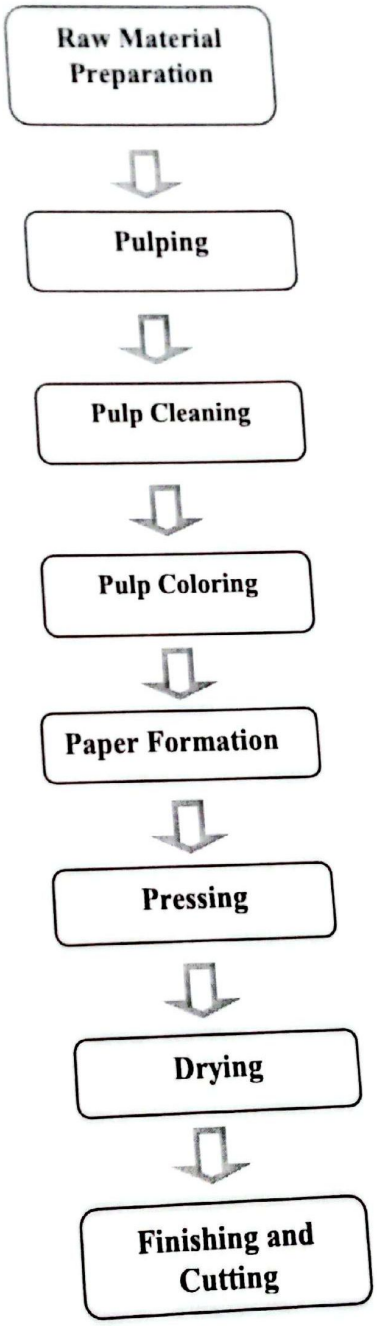
Finishing and Cutting: Paper reels will be trimmed, slit, and cut into appropriate sizes. The finished paper is packaged for distribution.

The total area of the proposed project will be 21760 sft, open area will be 14458 sft, covered area of ground floor will be 7302 sft, and the total covered area will be 7302 sft, Non Computable 102 sft, required Parking Covered area will be 7200 sft, area for car parking area will be 1200 sft, motor bike parking area will be 312 sft. The estimated cost will be 90 million. The production capacity will be 4 to5 ton per day.

Project is Construction of Paper Manufacturing Unit falls in the category of B (5) mentioned in Schedule II.

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Process flow chart of Papers Manufacturing:



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Manpower

On the proposed project site 15-20 workers will be present daily throughout the construction period of proposed project.

Area of Project

Total Area of the Project is 21760 sft.

Cost of project

Total cost of project is estimated PKR 90 million.

11-Restoration and rehabilitation plans

There exists no human settlement on the selected project site to be displaced owing to the commencement of the Project. No structure of any significance stands at the site to be relocated or dismantled. Land is already under proponent's ownership, and no fresh land is to be occupied; hence, no relocation or restoration and rehabilitation are required.

12-Government approvals

The NOC's from different government departments are in approval process. Now, Management has applied for Environmental Approval and after getting Environmental Approval

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DESCRIPTION OF THE ENVIRONMENT

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This chapter contains a brief description of the prevailing environmental state of the area. The main components of the environment include physical resources, ecological resources, cultural resources and socio-economic conditions of the area. A comprehensive detail of each is given below:

- **Physical Environment**

An account of different components of the physical environment of the area is given hereunder:

Topography

The project area is a part of the flat plain with very little slope. Hence, the topography is plain, unrelieved by any formations. The height of the area is nearly 761 feet above mean sea level. The natural slope of the land is towards south eastern side. The project area is located in the Mouza Lopo Wali, Wazirabad Sialkot Road, Tehsil Sambrial District Sialkot.

Soils

The soil of the area is formed of the alluvial sediments and is clayey in nature. The color of silt is brown; plasticity is low and nature is inorganic. The soil is humidified to a great depth and has relatively high natural fertility and is non-calcareous. The soil is thick and fairly homogenous in context. The top soil consists of brown soft to firm silty clay dissolved salts. The top layer is likely to extend 2.5 to 4 meters below ground followed by silty sand layer, which continues to deeper depths up to 10 meters. The second layer extending down to 28 feet depth is plastic, loose to medium silty sand. The third layer which extends from 28 feet to the bored depth of 50 feet is colored non plastic- dense sand. The ground water table (GWT) is encountered at depth of 90-100 feet.

Climate

A short description is given hereunder to present the climatic conditions of the area:

i) Temperature

The area is cold during winters and hot and humid during summer. The May, June, July and August are the hottest months of the year. The temperature during June rises up to 41.1°C and drops as low as 26.9°C. The summer season starts towards the end of April and continues till September. The winter begins in November and lasts till February. The spring season exists during March and April and is pleasant.

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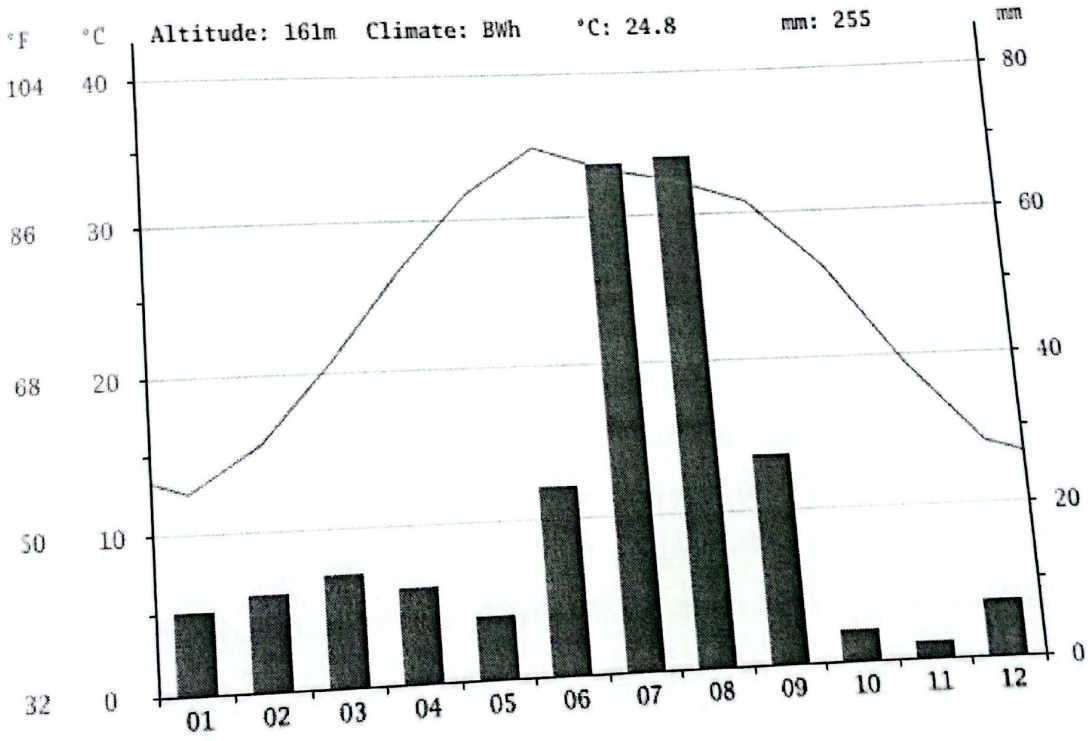
Climate data for Gujrat													
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Average high °C (°F)	19.2 (66.6)	22.1 (71.8)	27.4 (81.3)	33.7 (92.7)	39.1 (102.4)	41.1 (106.0)	35.2 (95.4)	34.6 (94.3)	33.1 (91.6)	33.1 (91.6)	27.2 (81.0)	21.2 (70.2)	30.6 (87.5)
Daily mean °C (°F)	12.4 (54.3)	15.1 (59.2)	20.3 (68.5)	26 (79)	31.1 (88.0)	34 (93)	31.4 (88.5)	30.2 (86.4)	29.4 (84.9)	25.3 (77.5)	18.7 (65.7)	13.5 (56.3)	24.0 (75.1)
Average low °C (°F)	5.6 (42.1)	8.1 (46.6)	13.3 (55.9)	18.4 (65.1)	23.2 (73.8)	26.9 (80.4)	26.6 (79.9)	25.8 (78.4)	23.8 (74.8)	17.6 (63.7)	10.2 (50.4)	5.8 (42.4)	17.1 (62.8)
Average precipitation mm (inches)	38 (1.5)	37 (1.5)	36 (1.4)	21 (0.8)	19 (0.7)	47 (1.9)	182 (7.2)	205 (8.1)	83 (3.3)	12 (0.5)	5 (0.2)	18 (0.7)	703 (27.8)

ii) Humidity Monthly relative humidity for this area has been worked out as 59.0%. The maximum recorded humidity for the district is 74.0% while the minimum humidity is 37.0%.

iv) Precipitation

The average monthly precipitation in the tract is 27.94 mm. Most of the rain occurs during monsoon in summer which often results in flooding of the nearby water drain and canal.

Climate graph is also given below:



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Ambient Air Quality

In the project area, Particulate Matter (SPM & PM10) and Oxides of Nitrogen (NOx), Sulphur Dioxide (SO2) and Carbon Monoxide (CO) are the major air pollutants. Traffic on road is the main source of air pollutants including NOx, SO2, CO, PM, HCs, smoke, etc.

Ambient Air Gases

As already explained, industrial units are far away from this project site. However, traffic activities are continuous source of contamination of ambient air within the project influence zone.

Ambient Noise

The existing noise pollution sources in the area include vehicles used for transportation and traveling purposes.

Water Resources

Ground Water

Ground water is the source of potable water in the area. Depth of water table varies between 90 to 100 feet. All the localities in the area with no exception utilize ground water for the drinking and cooking purposes mostly through hand pumps and private motors. Sufficient ground water resources are available within the site to meet water requirements

Geology

The project area is located in vast Indus Plain which was developed due to the continued deposition of terrestrial sediments derived from the Himalayas highlands. These unlithified sediments are post orogenic in nature and are generally invariably compacted. However, compaction of these sediments progressively improves with depth as the character of top soil changes from cohesive (clayey silt) to relatively non-cohesive (sandy silt) sub-soil. These predominantly fluvial deposits form a sedimentary cover over the basement rocks of Indian Plate and are believed to be tectonically under formed. The age of these deposits range from Upper Pleistocene to Recent and have a varying thickness from over 1000 to nearly 5000 meters. The proposed Project Area is located in seismic zone 2A (peak horizontal ground acceleration-0.8~0.16) and negligible damages were observed during the October 08, 2005, earthquake.

Land Use

Limited and its surrounding area fall in agricultural and semi-urban zone of area and mostly consists of industrial land with blend of rural and urban settlements. Different localities, connecting roads, fields and wastewater drain are other topographical features of the area. As the

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awareness and also national and international pressure has been increased a lot regarding the environment protection and conservation and sustainable development; therefore, many units have established Environmental Management Systems to control their emissions and to improve their working conditions to ensure the better worker's health and general public health and for the betterment of the Environment in and around their facilities.

○ Ecological Environment

A detail of ecological account of the Project and Study Area is given below:

Flora

The area in which the project site is located was once covered with native vegetation, mostly consisting of trees like Kikar (Acacia nilotica) and Shisham (Dalbergiasissoo). With the onslaught of civilization and industrialization, this vegetation was cleared for agricultural, commercial or industrial land use purposes. The current ecological details of the area in general and study area in particular are given below:

Trees

A field study related to the identification of tree species in the study area was also conducted. A vast majority of trees were observed in the localities visited as well as open fields. These are Tali/Sheeshum (Dalbergiasissoo), Kikar (Acacia nilotica), Safeda (Eucalyptus cinerea), Neem (Azadirachtaindica), Papaya (Carica papaya), Bottle Brush (Callistemonecitrinus) and Borh (Ficusbengalensis).

A tabular comparison is given hereunder to explicit frequency of each species in three zones of study area:

List of Trees Identified in the Project Area

Serial Number	Common Name	Scientific Name
1	Tali/Sheshum	Dalbergiasissoo
2	Kikar	Acacianilotica
3	Safeda	Eucalyptus cinerea
4	Neem	Azadirachtaindica

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5	Piple	Ficusreligiosa
6	Papaya	Caricapapaya
7	Shree	Acaciagreggii

Grasses

A number of grass species were identified. These are Crow Foot Grass (Dactylocteniumaegyptium), Dabri Grass (Dichanthiumannulatum) and Indian Dab (Cynadonedactylone).

Grasses in Study Area

Different types of grass species were also identified outside the project site during our visits to the nearer localities, these species include Dabri Grass (Dichanthiumannulatum), Lesser Bulrush (Typhaangustifolia) and Indian Dab (Cynadonedactylone).

Frequency (of occurrence) of these species in different zones of the study area is as under:

List of Grasses Identified in the Project Area

Common Name	Scientific Name
IndianDab	Cynadonedactylone
Dabri Grass	Dichanthiumannulatum
LesserBulrush	Typhaangustifolia

Herbs and Shrubs

A large number of herbs and shrubs species were identified in the area. Among these species, the most dominant were Jangli Booti (Partheniumhysterophorus), Bathu (Chenopodium album) and

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Ak (Calotropisprocera). Frequency of these species in different zones of the study area is as under:

List of Herbs and Shrubs Identified in and Around the Project Area

Common Name	Scientific Name
JangliButi	Partheniumhysterophorus
Puthcanda	Achyranthesaspera
Bathu	Chenopodiumalbum
Ak	CalotropisProcera
Bhang	Canibus sativa

Medicinal Plants

Medicinal Plants within project site

A number of medicinal plants in the area were identified which are AK (Calotropisprocera), Amaltas (Cassia fistula), Pilak, Janglikashni and Itsit (Boerhaviadiffusa).

List of Medicinal Plants Identified in the Project Area

Sr #	Study Area	
	Common Name	Scientific Name
	AK	Calotropisprocera
	Amaltas	Cassia fistula
	Itesit	Boerhaviadiffusa
	Ajwain	Hyoscyamusniger

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Ornamental Plants Project Site

During our ecological survey to the nearby localities, a number of ornamental plants were identified at some houses and Deras, which are listed in table below.

List of Ornamental Plants Identified in and Around the Project Area

Sr #	Study Area	
	Common Name	Scientific Name
1	Bottle Brush	Callistemonecitrinus
2	Araucaria	Araucariaheterophylla
3	Bouginvillea	Bougainvilleaspectabilis
4	Milkwood pine	Alostoniascholaris

Vegetables

Vegetables in around and Project Site

No vegetables are grown in or around proposed project site.

Vegetables in Study Area

Some important of these are PhoolGobhi/cauliflower (Brassica oleracea Ver. botrytis), Band Gobhi (Brassica oleracea Ver. capitate) Turnip, Raddish (Raphanussativus), Carrot (Daucuscarota), Bhindi, Tomato (Lycopersicumesculentum), Vegetable Marrow (Cucurbitapepo), Baingan, etc.

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List of vegetables Identified in and Around the Project Area

Sr #	Study Area	
	Common Name	Scientific
1	Bangun	Solanummelongena
2	Bhendi	Abelmoschusesculentus
3	Karela	Momordicacharantia
4	PhoolGobhi	BrassicaoleraceaVer. Botrytis
5	Raddish	Raphanussativus
6	Tomato	Lycopersicumesculentum
7	Marrow	Cucurbitapepo

Agriculture

The soil of the area is quite suitable for all kinds of vegetation including fodder, orchards, vegetables and other seasonal crops. The pattern mainly consists of wheat-rice system, while other agriculture practices include the cultivation of sugarcane, Maize, etc.

Farm Traction Power

Tractor is the sole source of farm traction power. No farmer was found using animal traction power. There was significant variation in tractor ownership across farm size groups. However, more than half of the farmers owned tractor while rest were hiring the services for land preparation.

Irrigation

The tube-wells and canal water are the main source of irrigation water for wheat, rice and other crops and fodder. Also, many farmers irrigate their fields with contaminated water of drain and also many studies have been conducted to assess the level of toxic heavy metals in the soil and vegetables irrigated by drain water and their ultimate impacts on human health. It has been

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highly recommended during these studies not to use the contaminated water of drains for agricultural practices. On the other hand plenty of ground water is easily accessible for agriculture use.

Crops and Fodder

Crops usually seeded in the area include Wheat (Trticumindicum), Potato, Maize, Rice, Sugarcane, Barley (Hordeumvulgare) and Jawar (Andropogan sorghum) along with other fodder.

Cropping Pattern

Rice and wheat are the major kharif (summer) and rabi (winter) crops, respectively covering more than 65 percent of the cropped area in both seasons. Two third of the cropped area is under paddy, a cash crop of the area. Also, the rice-wheat is the dominant sequential cropping system, yet fodders and sugarcane are the other important crops of the area in Kharif and Rabi seasons.

Forests

No natural or artificial forest exists in the project influenced area.

Fauna

The area provides healthy environment for the growth and reproduction of a diverse nature of fauna. A short description is given in the following paragraphs

Mammals

Mammals within project site

During our survey to the proposed project site, some mammals were identified evidently while some were reported by the workers like Cats (Feliscatus), Rats (Rattusrattus) and Squirrel (Sciuruscarolinensis).

Mammals in Study Area

The wild and common or domesticated mammals found in the study area are Dogs (Canisfamiliaris), Cats, House Rats (Rattusrattus), Bats, Horses (Equuscaballos), Donkeys (Equusafricanusasinus), Mules, Buffaloes, Cows (Heracleumlanatum), Goats (Copra hircus) and Sheep

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List of Mammals Presentin and Around the Project Area

Project Site		Study Area	
Common Name	Scientific	Common Name	Scientific
Cat	Feliscatus	Cats	Feliscatus
Rat	Rattusrattus	Dogs	Canisfamiliaris
Squirrel	Sciuruscarolinensis	Cows	Heracleumlanatum
		Goats	Copra hircus
		Horses	Equuscaballos
		Donkeys	Equusafricanusasinus
		Sheep	

Reptiles

Reptiles within Project Site

No reptiles were identified within the project site

Reptiles in Study Area

Above reptiles were also seen in study area in localities and field. The most common reptiles include Snakes, Pakistani Cobra (Najanajakarachiensis), Lizards, Varanis (Goh/large lizard), Spiders and Scorpions, etc.

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List of Reptiles Present in and Around the Project Area

Common Name	Scientific Name
Lizards	
Spiders	
Scorpions	
Pakistani cobra	Najanajakarachiensis
Goh/large lizard	Varanis

Amphibians

A number of Amphibians found in the tract include Common Frog (Ranatigrina), Common Toad (Bufobufo) and Tortoise (Chitraindica).

List of Amphibians Present in and Around the Project Area

Project Site		Study Area	
Common Name	ScientificName	Common Name	Scientific Name
Common Frog	Ranatigrina	Common Frog	Ranatigrina
Common Toad	Bufobufo	Common Toad	Bufobufo
		Tortoise	Chitraindica

Birds

Different types of birds' species were identified within the project site. The bird's species identified in these areas include House Sparrow (Passer domesticus), House Crow

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(Corvussplendens), Common Mynah (Acredotherestristis), Tatiri (Vanellusindicus), Cheel, Bagle, Bulbul (Pycnontuscafer), Parrots (Psittaculakrameri), Pigeons (Columbia livia), Dove (Stigmetopeliasenegalensis), Surkhab, Ullu, etc. are also seen in the area.

List of Birds Present in and Around the Project Area

Sr #	Project Site		Study Area	
	Common Name	ScientificName	Common Name	ScientificName
1	House Sparrow	Passerdomesticus	Parrots	Psittaculakrameri
2	HouseCrow	Corvussplendens	HouseSparrow	Passerdomesticus
3	Common Mynah	Acredotheres Tristis	HouseCrow	Corvussplendens
4	Tatiri	Vanellusindicus	Common Mynah	Acredotherestristis
5	Pigeons	Columbia livia	Tatiri	Vanellusindicus
6			Pigeons	Columbia livia
7			Dove	Stigmetopelia Senegalensis
8			Bulbul	Pycnontuscafer
9			Cheel	

Wildlife Sanctuaries and Game Reservoirs

No wild life sanctuary or game reservoir is located in the vicinity of the project area or in the project influenced area.

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Rare or Endangered Species

There are no rare or endangered species in the study area.

○ Socioeconomic Environment

Human settlements are symbol of typical haphazard rural growth based on ill planned developmental procedures showing common indicators of all the unorganized procedure of rural settlement of the province. These localities were developed on need oriented basis. No bye-laws, rules and obligations necessary for human settlement, construction or expansion and infrastructure development were considered. These localities are also the picture of stereotype rural residential areas which lack basic amenities, improper roads, and poor drainage system, deteriorating hygienic and sanitary conditions causing bad effects on human health.

Objectives of the Study

The main objectives of socio- economic study of the project area were:

- To furnish appropriate information about the baseline socio-economic conditions
- To identify and assess significant social impacts of the Project activities on the surrounding area and people
- To propose suitable means for probable mitigation of the significant adverse social impacts

An Overview of Socio-economic Conditions

This section describes the status of overall socio-economic baseline conditions prevailing in the study area. It deals with various socio-economic and cultural aspects of the community including income, employment, professions, basic facilities, education and health, social structure, culture, women's status, traditions, ethnics, sectarian status and residential needs of the local people.

Area represents lacking some basic amenities of an urban area. Improper social structure, deprived status of youth and aged are common social factors in the area.

Analysis of Socio-economic Conditions

This section presents a locality-wise analysis of existing status of various socioeconomic parameters such as income, employment, basic facilities, education, health, recreation, migration, conflicts, ethnic status, role of women, professions, residential conditions, etc.

A) Sources of Income

Due to low-income level and inconsistent income opportunities, majority of the people has to adopt seasonal occupation to supplement their income. Majority of the people were working as

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labors, farmers and many do their own common business (shopkeepers). A fair number of people, works as laborers in the nearby industries.

B) Basic Facilities

Basic facilities like electricity, roads, transport etc. are available but are disorganized and mismanaged. Civic amenities like markets are not available in some of the area.

C) Educational Facilities

Educational facilities up to primary level are available in almost all the localities and are easily approachable.

D) Medical Facilities

The proper health care facilities are not present in the area for both male and female population.

E) Recreational Facilities

Open and level fields of the localities are used as playgrounds by the youth. Urs and Melas are playing a vital role to provide some recreational opportunities to the locals.

Religious, ethnic, political and tribal conflicts do not exist among the people of the study area.

G) Types of Community

It was observed that being the members of a typical/traditional blend of rural and urban community, almost all the old people are very conservative in their life style. People practice their traditional, social and cultural values strictly in all walks of life.

H) Types of Family

The joint/extended family system is generally prevailing among people of the whole area; however, nuclear family system is also observable in the area.

I) Ethnic Status

An overwhelming majority of the people belongs to Arain, Mayo, Gujjar, Malik, Pathan, Changer, etc. tribes living together with peace and harmony. This shows social cohesiveness, solidarity and harmony among them.

J) Status of Women Literacy

A vast majority of the females of the Study Area are illiterate which shows very low educational trend among females; however, young females have high literacy rate showing positive trend in female education.

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K) Decision Making Authority

Majority of the females have no authority in decision-making process regarding their life. This shows non-participation of the females in decision-making process regarding the females and other issues.

L) Role of Women

Role of female is conventional and traditional. Most of the females are engaged in housekeeping. However, females also perform outdoor activities and duties. Females are supposed to be responsible to perform all the family activities and are involved in all types of family functions.

3- Quality of Life Values

Sahiwal district consists of mostly rural areas. If we specifically talk about the project area then majority of the people has to adopt seasonal occupation to supplement their income due to low-income level and inconsistent income opportunities. Majority of the people were working as labors, farmers and many do their own common business (shopkeepers). A fair number of people, works as laborers in the nearby cities. The locals of this are provided with basic facilities like electricity, roads, transport etc. but are disorganized and mismanaged. If we talk about educational facilities then education up to primary level are available in almost all the localities and are easily approachable. The proper health care facilities are not present in the area for both male and female population. Open and level fields of the localities are used as playgrounds by the youth. Urs and Melas are playing a vital role to provide some recreational opportunities to the locals.

It was observed that being the members of a typical/traditional blend of rural and urban community, almost all the old people are very conservative in their life style. People practice their traditional, social and cultural values strictly in all walks of life.The joint/extended family system is generally prevailing among people of the whole area; however, nuclear family system is also observable in the area.

4- Lab Reports of Environmental Analysis

Testing of different parameters has been done by proponent. The copies of lab reports of different environmental parameters are given in annexure.

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Site suitability:

- The proponent selected this site because it an open area where no human settlement
- This site which is selected for proposed construction is devoid of any tree cover and has no environmental sensitivity.
- The proponent selected the site because the site has the availability of basic human necessities such as roads and easy access to markets.
- The proposed site is best suited and economically viable option for the proponent. The proponent has no other land for carrying out his project.

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Impact Assessment

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8.1: Identification of Impacts:

For the identification of all the possible impacts such as social, economic and biological checklist are used.

8.1.1 Methodologies for Impact Assessment:

Checklist:

All types of impacts associated with the project of Royal Steel & Re-Rolling Mills (Iron billets Manufacturing and Re-Rolling unit) are covered in this checklist. All kind of impacts are organized to ensure that no potential impact is overlooked.

Activities	*Adverse effect*	*No Effect*	*Beneficial Effect*	*Minor Effect*
Land Use			✓	
Ground Water Resources			✓	
Air Quality				✓
Noise & Vibration				✓
Transportation System		✓		
Socio-economic			✓	
Surface Water Quality			✓	
Vegetation			✓	
Flora and Fauna		✓		

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8. This section discusses the potential environmental impact for the establishment of Royal Steel & Re-Rolling Mills (Iron billets Manufacturing and Re-Rolling unit). The impacts may include; soil contamination, water resources damage, air pollution, biological resources disturbance and socio-economic impacts and, where applicable, identifies mitigation measures that will reduce significantly, if not eliminate its adverse impact. The assessment carried out in this Section is based on potential impacts on overall environmental receptors within the project area.

5.1 Impact Assessment Methodology

The impact assessment methodology for the installation of unit is given below:

5.1.1 Screening of Potential Impacts

Based on site visit, observations, brain storming, provided information, studying related projects and social interviews, significant impacts were anticipated and evaluated. Then qualitative and quantitative (where possible) assessment of these anticipated impacts is to be carried out.

5.1.2 Identification of Mitigation Measures

After anticipation and screening of significant impacts, certain mitigation measures are to be provided in order to enhance benefits of said project and reducing the adverse environmental and social impacts. These measures can be classified as:

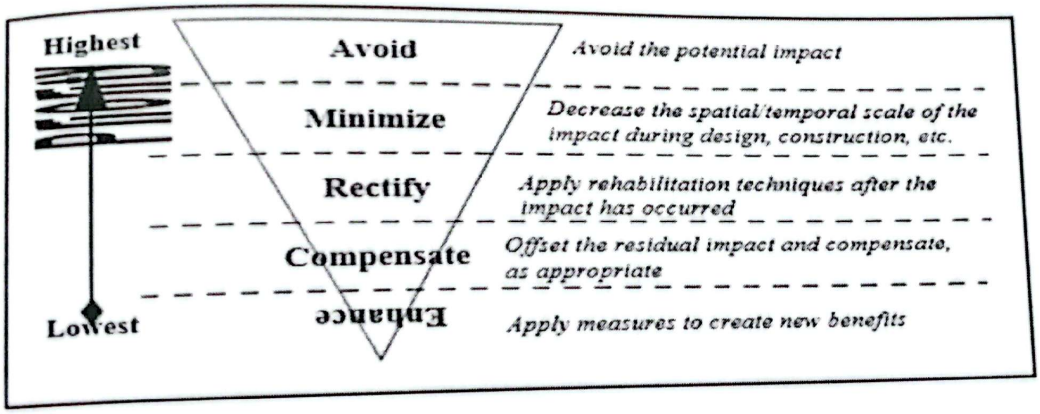


Figure 1: Hierarchy of Mitigations

5.6.3 Evaluation of the Residual Impacts

Incorporation of suggested mitigation measures may reduce the magnitude of the environmental impacts of aforesaid project but sometimes, it may fail in bringing them within the acceptable limits. This step refers to the identification of the anticipated remaining impacts after mitigation measures have been applied.

It can be concluded in view of these reasons that the selected site is best suited for project and the technology adopted for production of medicinal drugs & personal hygiene products is the

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most suitable and sustainable option. The aforesaid project will not pose any adverse impact or threat on any component of environment. The impact assessment criteria are given below along with their impacts:

Table 1: Impact Significance Criteria

Impact	
No Impact	When the proposed activity will have no impact
Long Term	When the impact is of high intensity with high spread and high duration or of high intensity with medium spread and medium duration
Moderate Term	When the impact is of moderate intensity with high spread and high duration or of high intensity with low/ moderate spread and low duration
Short Term	When the impact is of low intensity but with moderate spread and moderate duration or of moderate intensity
Insignificant	When the impact is of low intensity, low spread and low duration
Adverse	When the impact is of large intensity, spread easily and long-term
Beneficial	When the impacts are positive and improve the environmental conditions

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Table 2: Impact Matrix Checklist for Designing Phase

Environmental Sensitivities	Intensity of Impact						Impact Nature		ImpactSignificance				
	Low Intensity	Moderate Intensity	High Intensity	Local	National	Regional	Beneficial	Adverse	Insignificant	No Impact	Short Term	Moderate	Long Term
Physical Parameters													
Topography	✓			✓									
Land Acquisitions	✓			✓									
Seismicity													
Biological Parameters													
Land Environment	✓			✓									
Flora	✓			✓									
Fauna	✓			✓									
Social Parameters													
Local Economy	✓			✓									
Social Impacts	✓			✓									

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Table 3: Impact Matrix Checklist for Construction Phase

Environmental Sensitivities	Intensity of Impact						Impact Nature		Impact Significance				
	Low Intensity	Moderate Intensity	High Intensity	Local	Moderate	Regional	Beneficial	Adverse	Insignificant	No Impact	Short Term	Moderate	Long Term
Physical Parameters													
Air Quality	✓			✓									
Noise	✓			✓									
Water Quality	✓			✓									
Biological Parameters													
Land Environment	✓			✓									
Flora	✓			✓									
Fauna	✓			✓									
Physical Parameters													
Local Economy	✓			✓									
Social Impacts	✓			✓									
Health & Safety	✓			✓									

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Table 4: Impact Matrix Checklist for Operational Phase

Environmental Sensitivities	Intensity of Impact						Impact Nature		ImpactSignificance				
	LowIntensity	ModerateIntensity	HighIntensity	Local	Moderate	Regional	Beneficial	Adverse	Insignificant	No Impact	ShortTerm	Moderate	LongTerm
Physical Parameters													
AirQuality	✓			✓									
Noise	✓			✓									
WaterQuality	✓			✓									
Biological Parameters													
LandEnvironment	✓			✓									
Flora	✓			✓									
Fauna	✓			✓									
Physical Parameters													
LocalEconomy	✓			✓									
Social Impacts	✓			✓									
Health & Safety	✓			✓									

5.2 Identification of Monitoring Requirements

The last step in the assessment process is the identification of minimum monitoring requirements. The scope and frequency of monitoring depends on the residual impacts. The purpose of the monitoring is to confirm that the impact is within the prescribed limits and to provide timely information if acceptable limits are being breached.

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SCREENING OF POTENTIAL ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

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This section discusses the project's potential environmental impact on the area's geomorphology, soil, water resources, air, biological resources and socioeconomic condition and, where applicable, identifies mitigation measures that will reduce, if not eliminate, its adverse impact. The assessment carried out in this section is based on potential impacts on overall environmental receptors within the project area.

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.
- To ensure that residual adverse impacts are kept in acceptable limits

2- Impacts Associated with Project Location

The proponent has selected the site owing to the following reasons:

- The site is undisputed and under the ownership of the proponent
- There is no community or human settlement on the site
- There is no fauna flora (particularly belonging to an endangered species) on the site
- Main road network runs in front of the scheme
- There is no ecologically sensitive or declared protected area (PA) like forest, fish hatcheries, Territorial Waters, wildlife or game reserves, any structure of socio-cultural significance (historical or archaeological site or religious structures; Masjid, temples, etc.) within 10 km of the selected site

It can be concluded in view of these reasons that the selected site is best suited for the project, and will not pose any adverse impact or threat on any component of the environment.

3- Impacts Associated with Design Phase

At the design phase, no considerable impact will occur on land, soil, topography, ground water, and on people of the area. However in pre-construction phase a management system should be provided at design level so impacts can be reduced. Design of the scheme will adhere to all standard technical requirements in order to avoid adverse impacts on environment and human health.

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Mitigation Measures at Design Phase

At design phase special attention should be given to the design of the project in the sense that it has been designed in such a way as to cause minimum disruption and deterioration of environment and surroundings.

4- Impact during construction / development phase

The potential environmental impacts of the proposed project at site and surrounding area during development / construction phase are described as follows:

Physical Environment

The main impacts of the project during development / construction of the new roads, civil works, development of parks, installation / laying pipelines, sewer system and installation of utility and equipments will be the dust and noise from transportation of construction materials and equipments. Standard Engineering Practices will be enforced on the construction / development site.

Seismic Hazard

In this zone, distant earthquakes with fundamental periods greater than 1.0 second may cause damage to structures. This factor requires special consideration of the designers. This will be a moderate negative impact.

Mitigation

All the foundations of the structures (electric poles, sewer and other lines etc.) will be designed to withstand even moderate to large earthquakes. For seismic hazard analysis updated structural and seismic evaluations will be consulted.

Traffic Congestion and Disturbance to People

Due to the construction/development activities, the traffic in the project area will increase and may result in traffic disruption if proper parking facilities are not provided in the proposed Scheme. This will be a moderate negative impact.

Mitigation

Adequate parking facilities will be provided within the boundary of the project area for construction machinery and tractor-trolleys bringing the material into the project area.

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Impact on Soil

During construction phase the soil quality may be affected due to very small amount of discharges during vehicle and equipment maintenance and leakage from equipments and vehicles. The impact is not significant.

Impact on Geology

The geology of the area is flat. No hills, mountains and slopes are present so during construction phase there will be no impact on geology of area.

Impact on Topography

The topography of project area is nearly flat and remains unchanged during construction phase.

Ecological Impacts

The project area is devoid of any trees cover or any endangered or threatened animal species. The impact will be Nil.

Impact on Water Bodies

There will not be any deterioration of surface water quality due to this project.

Impacts on Air Quality

Following potential impacts on air quality may occur during construction phase.

Emission of Dust and Particulate Matter

During the development / construction vehicles and machinery will be employed. These will generate some dust and smoke temporarily which will stop on completion of the construction work. During construction phase due to continuous operation of machinery and movement of heavy trucks and vehicles can generate gaseous emissions and can have a slight adverse effect on the surrounding environment. Combustion exhaust from vehicles and construction equipments during construction phase can affect ambient air quality of project area.

This impact is classified to be short term, reversible and limited, as it will only occur during the excavation activities. Also these impacts are expected to be contained within the site boundaries.

Vehicular Exhaust Emission

During construction, the continuous operation of machinery and movement of cranes, heavy trucks and vehicles may generate gaseous emissions and may have an adverse impact on the surrounding environment. The overall impact on the quality of air during the construction stage will, however, be of less intensity. This will be of moderate negative impact.

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Health and Safety of Workers

During construction phase minor and severe injuries to workers due to operation activities may occur but if managed properly this impact can be mitigated.

Proposed Mitigation Measures during Construction / Development Phase

The potential negative impacts during construction and operational stage of the project should be mitigated to an acceptable level. Following environmental protection measures are adopted to eliminate adverse environmental impacts or to reduce them to an acceptable level within the legislative and regulatory framework. The proposed mitigation measures are listed below:

- Appropriate waste disposal mechanism should be followed during the construction phase. The construction waste would be disposed in a manner that does not contaminate surface or groundwater.
- The construction waste generated will be used for earth filling within the project site premises.
- The Contractor needs to make sure that their machinery and equipments are properly tuned and serviced and there is no leakage of oil from construction equipments and machineries.
- Contractor should give assurance of quality of machineries and equipments which will be used during excavation and construction process.
- All vehicles, machineries, equipment and generators used during construction activities should be in good working condition and be properly maintained in order to minimize exhaust emissions.
- Construction labor must be trained in safety procedures for all relevant aspects of construction
- Helmets or hard hats should be worn by workers at all time of work and everywhere on the Project Site.
- Regular checks should be carried out to ensure that the contractor is following safe working procedures and practices.
- Workers should be provided with personal protective equipments (PPE's) such as safety jackets, ear plugs or ear muffs, special boots and dust masks.
- Use of up-to-date and well maintained machineries or equipment with reduced noise level.
- Confining excessively noisy work to normal working hours in the day, as much as possible.
- Providing construction workers with suitable hearing protection like ear cap, or ear muffs and training them in their use.
- Ear muffs or ear caps should also be provided to those people living in nearby area.

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Disposal of Construction Waste/Excavated Material

Dumping of construction wastes/excavated material in the surrounding area of the proposed scheme may limit the use of land in the Project Area. This will be a moderate negative impact.

Mitigation:

Management of construction activities will ensure minimum degradation to the soil around the project area and dumping of excavated waste will be used for earth-filling and in the depressions within the project area. The administrator will be bound to take care of the waste generated from the construction activities.

Noise and Vibration

When the construction work is undertaken, constant rattle of heavy machinery will raise the noise level in the Project Area. This noise and vibration will affect directly the residents of nearby areas. Noise due to the construction will be a minor negative impact.

Mitigation

Mitigation measures mentioned below will be adopted to minimize the noise pollution. Those measures include, but are not limited to the following:

- Selection of up-to-date and well maintained plant or equipment with reduced noise levels ensured by suitable in-built dampening techniques or appropriate muffling devices.
- Confining of excessively noisy areas and limiting the work to normal working hours in the day;
- Providing the construction workers with suitable hearing protection like ear cap, or earmuffs and training them in their use; and
- Regular checkups and maintenance of the construction equipment, and oiling and greasing of the noise making mechanical parts.

Flora

Construction of the proposed Project will involve cutting of bushes and herbs. There are no trees in the vicinity of project area. This will be a minor negative impact.

Mitigation

After construction besides introducing new ornamental plants, local tree and plants species, as uprooted from the Project Site, will be planted for landscaping. In addition to providing a better view to the area, the proposed vegetations will help minimize the excess noise, vehicular emissions and dust pollution.

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Fauna

There is no wildlife present in the Project area. Also, the local animals and bird species of the area are very much domesticated and will not be adversely affected by the Project execution.

Mitigation

Not required

Relocation of Utilities

The construction of the proposed infrastructure will not involve relocation of any public utilities.

Mitigation

Not required

Traffic Congestion and Disturbance to People

During the construction phase, the movement of heavy machinery and transportation of raw material and equipment may cause traffic congestions. As a result the daily activities of the people of nearby localities as well as of the visitors may be disturbed, which will require proper mitigation measures. This will be a moderate negative impact.

Mitigation

During construction, following mitigation measures will be followed:

- Observation of timing by the vehicles carrying construction material of infrastructure to cause minimum disturbance to traffic on existing road. The construction equipment and machinery must be stationed in the boundary premises to avoid the traffic congestion on the main Road.

- Transportation of raw material and heavy machinery will be done early in the morning; and
- There will be coordinated planning of traffic movement by the Traffic Police and the Transport Department in accordance with the construction program with advance warnings to the affected residents and road users.
- All the machinery will stay inside the periphery of project so it will not cause disturbance in the traffic.

Poverty Alleviation

Construction of the proposed project will generate the employment opportunities for the population living in the surrounding areas. This will be a potential minor positive impact.

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Mitigation

Not required

Sanitation and Solid Waste Disposal

There will be a health risk of sanitation to the workers. This will be minor negative impact.

Mitigation

All the solid waste will be disposed off in accordance with the regulations of Tehsil Municipal Administration.

Workers' Safety and Hygienic Conditions

The construction activities impose certain negative impacts on health and safety of the workers and public in case of unsafe and/or unfavorable working conditions. Mitigation measures will be required to minimize health and safety related negative impacts of the project. This will be a minor negative impact.

Mitigation

Implementation of the following measures will ensure health and safety of the workers and the public during the construction phase:

- The Administrator will ensure that the construction workers/labors are trained in safety procedures for all relevant aspects of construction;
- Construction workers will be provided with proper safety equipment such as helmets, goggles, masks, etc.;
- Formal emergency procedures will be developed for construction site in case of an accident. First aid kits and other necessary equipment will be kept available at site along with the list of emergency phone numbers to be contacted in case of any emergency/accident;
- The safety of the public at all stages of the construction will be ensured through
- appropriate public education and safety measures such as use of sign boards, barriers and flags; and
- Proper illumination will be provided at night.

5- Impacts of operational phase

The anticipated impacts related to the proposed project have been studied for operational stage and is discussed as follows:

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PHYSICAL IMPACTS

Air Quality

During operational stage of the proposed project the continuous movement of vehicles may deteriorate the quality of air if not managed properly. The air emissions will also be produced during the operational phase.

Mitigation

In order to minimize air pollution, following mitigation measures are recommended:

- Plantation will be provided on the main entrance of the Estate which will generate fresh oxygen;
- An air quality monitoring and improvement plan will be developed to keep the air pollution levels from generators, air conditioners etc. within the limits of Punjab Environmental Quality Standards (PEQS);
- Level of air pollution (as specified in the PEQS) will be monitored on regular basis and appropriate mitigation measures will be implemented;
- Vehicles with excessive smoke emissions will not be allowed to enter the proposed project.
- Wet scrubbers/ cyclones will be installed in each of the industrial unit to control air emissions.

Noise

During the operational stage, Noise will be generated mainly due to movement of vehicles and machineries for which proper mitigation measures are required. This will be a moderate negative impact.

Mitigation

- Use noise-reducing technology and engineering controls, such as sound barriers, enclosures, and mufflers, to minimize noise at its source.
- Regular maintenance and lubrication of machinery will be reducing noise caused by worn-out or misaligned parts.
- Invest in machinery and equipment designed to produce less noise, such as low-noise motors and improved design features.
- Use of appropriate muffling devices
- Maintenance of the vehicles should be done on regular intervals.

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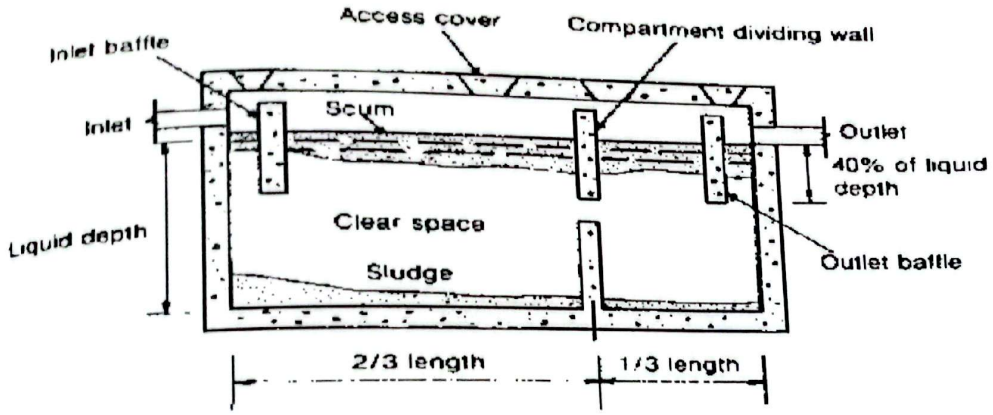
- There should be a selection of up-to-date generator

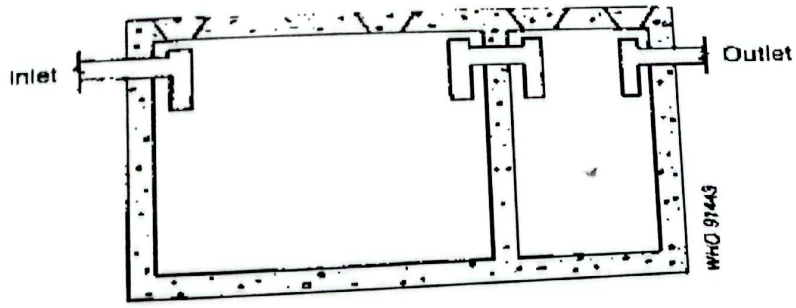
Wastewater

Domestic as well as process waste water will be generated during operation.

Mitigation

To get rid from domestic Wastewater septic tank will be present before drainage to nearby drain. The process waste water from unit during operation will be treated through waste water treatment plant. Proposed project will be Implementing water recycling systems allows to treat and reuse wastewater within processes. By reusing water, the overall demand for freshwater intake decreases, reducing the volume of wastewater discharged.





Solid Waste

There will be domestic solid waste as well as operational phase solid waste produces.

Mitigation

For domestic solid waste will be store in the small waste storage bins in of the proposed project from the storage bins the solid waste will be disposed off in the specified area for solid waste in

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proposed project site, after that the solid waste disposed off accordance with the procedures of TMA. The operational solid waste including sludge and waste trimming paper pieces will be mitigated in this way that the source separation of different types of waste within the mill will be promoted. This will be involves segregating various waste streams to facilitate recycling and proper disposal. Organic waste or sludge will be composted, turning them into a valuable soil amendment that will be used in landscaping or agriculture. The paper pieces will be recycled.

Maintenance of Infrastructure

During the maintenance of roads, gas pipelines and sewerage, the roads will be broken out. It causes difficulty for the resident to use roads. It may also cause dust and smoke.

Mitigation

It is a very limited impact which will be stopped on completion. It is not necessary that all these parameters are to be maintained together. The area will be properly cordoned off with barricade tape, after leaving a walking space for residents. If the work is done properly with the required manpower and machinery, it will be completed in 3 to 4 days. However, it is a necessity so the residents will be informed earlier about the maintenance. The residents will be encouraged to use alternatives. The sprinkling of water will be to done to avoid dust. The machinery and vehicles will be properly tuned and maintained to avoid smoke. Low permeable membrane will be placed at the bottom of machinery to avoid any leakage.

Socio-economic Impact

When a development project is launched in a community, it helps in boosting up the socio-economic conditions by providing the people different economic opportunities. The construction of Estate would have a great impact on the commercial activities of the locals.

The socio-economic impacts like employment, education, life, style and cultural uplift are the direct benefits during this stage for the people of the Project Area. Local people will be hired for different jobs, i.e. gardening, housekeeping, cooking, tuitions, driving etc. Facilities like commodity market and medication will also generate working opportunities for the shopkeepers of nearby communities. The human resources will be developed at local level for future development activities in the area. The institutional facilities like roads, dispensaries, proper drainage and sewerage will help improve the lot of the people. Operation of the project will also result in the increase land values. All the Project related job opportunities will ultimately improve per capita income of the population in the area. This is a major positive impact.

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Mitigation: Not required

6- Potential Environmental Enhancement Measures

Tree plantation and cropping within the premises have been planned by the proponent for environmental enhancement. The Proponent will also make arrangements for protection and maintenance of Trees.

Landscaping

Trees will be planted in the whole project site. The pattern of trees is given below:

1- Trees will be planted along the roads on both sides. These trees will be planted at the distance of 50 feet from other tree on main road.
2- Flower plants will be planted on 25 feet wide roads
3- Endangered species plants will be planted in park area
4- Landscaping will be done in the park

Names of Trees, Plants etc.

The following plants will be planted in this Estate, however other trees will be consulted with gardening experts and other endangered trees will also be planted.

Plant Name	Local Name
Conocarpieceo	Cone Tree
Arabic Gum tree (Acacia nilotica)	Kiker
Golden Shower tree (Casia Fistula)	Amaltas
Indian Beech tree (PongamiaPinata)	Sukh Chain
Camel's Foot tree (Bahunia Alba)	Kachnar
Jasminum	Jasmine
Lilium	Lilly

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NelumboNucifera	Lotus
Rosa	Rose

Excavation for planting shall include plant pits and planting beds. The minimum depths of plant pits or beds shall be measured from finished the grade. Plants beds and pits shall be tested for drainage before planting by filling with water twice in succession. Conditions permitting the retention of water in planting the beds or pits for more than 24 hours shell be brought to the attention of the Architect. If rock, underground construction, .obstructions, tree roots or other obstructions are encountered in the excavation of plant pits, alternate locations may be select by the architect. The contractor shall be responsible for all damages resulting from any neglect and failure to comply with this requirement.

Following excavation planting pits, the pits shall be back filled with the sweet soil mixture as specified. Three day prior to planting, the pits shall then be filled with water for consolidation of soil. The dimensions of the panting pits are as follows:

A. Trees: 3x3x3

B. Shrubs: 2x2x2

C. Hedges: trenching 2wide x'2 deep of required length.

D. Creepers and vines: 2wide x 2 deep of required length.

E. Edges and flowers beds: 'fill flower box with sweet soil as per the Architect's drawings.

For seasonal flowers, the beds are to have the minimum of 12" sweet soil and 4" 'manure.

Planting areas and plants shall be protected all times against trespassing and damage of all kinds for the duration of maintenance period. If any plants become damage or injured, they shall be treated or replaced. Protection shall also include all temporary protections fences and barriers. All signs and all other work incidental to proper maintenance

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ENVIRONMENTAL MANAGEMENT& MONITORINGPRO GRAM

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Description of proposed mitigation action:

Proposing the mitigation measures for the negative environmental (physical, biological and socio-economic) impacts arising from the various project activities is not the only responsibility of the proponent, rather the proponent is liable to provide a complete plan showing in-depth details of how the activities will be managed in a way to keep environment undisturbed or in a state receiving least burden from the project construction and operation. This plan; called as the "environmental management plan" not only states the mitigation measures of the negative environmental impacts but also makes some person or authority responsible for carrying out that mitigation measure. Having an EMP in an EIA binds the specified people for taking the indicated mitigation measure.

An environmental management plan is a project or site specific plan developed to ensure that all the necessary measures are identified and implemented in order to protect the environment and to meet the environmental legislations.

2.1 Institutional Capacity

It is the responsibility of the management of the project to ensure that monitoring of air, water, soil and noise are being carried out efficiently and properly maintain the records of monitoring in order to access the environment quality. There should be precise recording and maintenance of all information generated during the monitoring. The management must hire a person to look over the monitoring. It is also the responsibility of management to ensure that all mitigation measures are being implemented to eradicate the possible adverse environmental impacts. For capacity building, all the employs should be given awareness about the environment and what should be their roles to protect the environment. Hired workers should be aware of the safety procedures and what to be done in emergency situations. Lectures should be given on environment safety twice a year. Training should be conducted yearly or twice a year to cope with emergency situations. The management must ensure that environment management plan is properly carried out. The EMP aims to ensure that

- Site activities are well managed
- All environmental safeguards are carried out correctly
- Coordination is made with other trades
- Adverse impacts on environment are minimized

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- The biodiversity of the site is conserved or enhanced
- All relevant legislation is complied with
- The project is monitored for environmental impacts

Local workers will be hired during operation phase and one person from management should be there in order to implement EMP for construction phase. There will be 15-20 workers during construction phase and 15-20 workers will be hired during operational phase of the project. There will be a contractor who will head the workers in construction phase and supervisor will head the workers during operational phase. It is the responsibility of management that contractor and supervisor should implement safety procedures of health and environmental safety.

The environment management and monitoring plan will be implemented by the following;-

- Project Proponent
- Project Manager
- Supervisor

The proponent will also manage EMP during operational phase and at least one person (supervisor) should be given the task to work on EMP and check and monitor that all the activities are going in compliance. Furthermore, monitoring of different parameters will also be done on regular intervals to check the quality parameters related to environment.

The duty of that person (supervisor) from management side would be to:

- Describe how it fits into the overall planning process for the project
- Detail the activities that are to be carried out
- Identify the impacts those activities may have on environment
- Propose environmental control methods to be used to prevent or minimize those environmental impacts
- Assign responsibility for each control measure to specific staff members
- Identify key monitoring parameters and schedule of monitoring of these parameters

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- Identify training requirements at various stages of the development of the project
- Identify the resources required to implement the EMP and outline relevant expenses arrangements

2.2 Training Schedules

The whole staff will be given training on different things like:

1- Health Safety & Environment Awareness Session

This training would be for whole scheme staff and it would be done once in every 6 months.

2- Emergency Preparedness Training

This training would be arranged once in a quarter of every year by hiring consultant firm. This training would be helpful to ready the employees to handle any kind of emergency situation.

3- Fire Safety

This training would be for whole staff and it would be done once in every 6 months.

2.3 Summary of Impacts and Mitigation Measures

The summary of overall impacts and their mitigation measure is given below EMP

Aspects	Potential Impacts/ Risks	Proposed Mitigation Action
CONSTRUCTION PHASE		
Traffic Congestion due to construction phase of	Movement of vehicles may result in traffic disruption if proper parking facilities are not provided.	Adequate parking facilities will be provided for the construction machinery and tractor-trolleys bringing the material into the Project Area
Air Quality degradation due to construction phase of	Dust produced due to construction activity can affect the health of employees and	Use of dust suppression Techniques like water sprinkling etc. will be made to minimize the effect of dust. Construction workers will be provided with

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	residents in the surrounding areas	masks for protection against the inhalation of dust. Regular monitoring of all vehicles, equipment, and machinery used for construction. All vehicles, machinery, equipment and generators used during construction activities will be kept in good working condition and properly tuned and maintained in order to minimize the exhaust emissions.
Disposal of Construction Waste/Excavated Material produced in construction phase	Dumping of construction wastes / excavated material in the surrounding area may limit use of land	Management of Construction activities in a way to ensure minimum degradation to the soil around the Project area and dumping of excavated waste will be done at a designated site approved by TMA,
Noise and Vibration due to machinery being used for construction	Noise pollution due to increased construction machinery operation	Selection of up-to-date equipment and machinery with reduced noise levels ensured by suitable in-built damping techniques; Regular checkups and maintenance of the construction equipment; and use of appropriate muffling devices
Sanitation and Waste disposal facilities at Project site	Health risks to construction workers	All the solid waste will be properly collected and disposed off in accordance with the procedures of TMA.
Workers' Safety and Hygienic conditions	Health risks in case of unsafe and/or	Enforcement of work safety measures such as wearing safety goggles, protective masks and

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	unfavorable work conditions	boots and fixing of cautionary signs at designated sites. First aid box should be at the site in case of any injury or mishap.
OPERATIONAL PHASE		
Waste water Generation	Domestic wastewater as well as process waste water will be generated.	To get rid from domestic Wastewater septic tank will be present before drainage to nearby drain. The process waste water will be disposed off after proper waste water treatment and the proponent will be implemented water recycling systems allows to treat and reuse wastewater within their processes. By reusing water, the overall demand for freshwater intake decreases, reducing the volume of wastewater discharged.
Production of Sanitary Solid Waste and process solid waste (Sludge and paper waste pieces) in operational phase	There will be domestic solid waste and process solid waste (Sludge and paper waste pieces) produced during operational phase.	For domestic solid waste will be generated during the operation will be stored in the small waste storage bins in the Proposed project site, from the storage bins the solid waste will be disposed off in the specified area for solid waste collection in the project site, after that the solid waste disposed off accordance with the procedures of TMA. The operational solid waste including sludge and waste trimming paper pieces will be mitigated in this way that the organic waste or sludge will be composted, turning them into a valuable soil amendment that

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		will be used in landscaping or agriculture. The paper pieces will be recycled.
Groundwater Depletion	Prolonged water consumption may in the long run lower/deplete the underground water table.	People will be trained in water conservation measures such as use of water efficient/ economy appurtenances.
Air Quality	During operational stage of the proposed project the continuous movement of vehicles may deteriorate the quality of air if not managed properly. The air emissions will also be produced during the operational phase.	• Vehicles causing heavy smoke/emissions will not enter the premises. • Vehicles and generators (if any) should be properly maintained and tuned • Plantation will be provided which will generate fresh oxygen. • An air quality monitoring and improvement plan will be developed to reduce air pollution and to remain it within the limits of Punjab Environmental Quality Standards (PEQS) • Level of air pollution will be monitored on regular basis; and vehicles with excessive smoke emissions will not be allowed to enter. • Raw material Storage should be done properly and should be properly covered after using it • Wet scrubbers / cyclones will be installed in proposed project unit to control the air

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		emissions.
Noise & Vibration	Noise will be generated from transportation and generator and from machineries. It may affect the health of the people.	• There should be a sound proof roof room for generator. • There should be a selection of up-to-date generator (if any) and machineries with reduced noise levels ensured by suitable in-built damping techniques • Vehicles and generator should be properly tuned and maintained to control noise. • Only those vehicles should be used that are properly tuned and maintained and are equipped with silencers. • Also excessive use of horns should be avoided. Further tree plantation will be done as it acts as noise absorbers. • Use noise-reducing technology and engineering controls, such as sound barriers, enclosures, and mufflers, to minimize noise at its source. • Regular maintenance and lubrication of machinery will be reducing noise caused by worn-out or misaligned parts. • Invest in machinery and equipment designed to produce less noise, such as low-noise motors and improved design features.
Workers' Safety and Hygienic conditions	Health risks in case of Unsafe and/or unfavorable work conditions	Enforcement of work safety Measures such as wearing safety goggles, protective masks and boots and fixing of cautionary signs at designated sites. First aid box should be at the site in case of any injury or

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		mishap.
Emergency Response	There are always chances of earthquakes and manmade disasters, fire, road accidents etc.	• Emergency evacuation plan will be developed to evacuate the area in case of accidental fire • Emergency response and plan along with safety charts showing symbols and other necessary information will be displayed at various places for the awareness of workers • An Emergency Response Plan for earth quakes and manmade disasters will be developed by the Management. • Emergency Response Plan will be implemented in close consultation with the Fire Fighting Department, Bomb Disposal Squad and Paramedics • Firefighting equipment's should be installed or present in the unit.
Traffic Congestion	Movement of vehicles may result in traffic disruption if proper parking facilities are not provided.	Adequate parking facilities will be provided for the vehicles bringing the material into and out the Project Area

II. Schedule of Implementation & Environmental Budget:

The schedule of implementation for the commencement of the civil work involved for the construction is approximately 06 month and the detail timeline of the construction period is given in **Table 14:**

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Table 5: Timeline for Project Development

Sr#	Activities	1.5 Months			1.5 Months			1.5 Months			1.5 Months		
		2W	2W	2W	2W	2W	2W	2W	2W	2W	2W	2W	2 W
	Detailed Designing												
1	Mobilization of Contractors												
2	Lean Development Period												
3	Peak installation Period												
4	Plantation at Site												
5	Commissioning												
6													*

W=Weeks

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- **Environmental Budget**

A total of 350,000 rupees will be assigned for environmental budget. Tree plantation will be done from this budget. This budget can be increased in case of any requirement.

Sr.no	PROJECT ACTIVITIES	ALLOCATED BUDGET
1	Fire extinguishers	50,000 PKR
2	Water Sprinkling	10,000 PKR
3	Personal Protective Equipment's (PPEs)	30,000 PKR
4	Safety & awareness Board	30,000 PKR
6	Sanitation and Waste disposal facilities, Solid Waste Bins	80,000 PKR
7	Tree Plantation	150,000 PKR
8	**Total Amount**	**350,000 PKR**

III. Environmental Management Team along with their Roles and Responsibilities:

It is the responsibility of the management of the project to ensure that monitoring of air, water, soil and noise are being carried out efficiently and properly maintain the records of monitoring in order to access the environment quality. There should be precise recording and maintenance of all information generated during the monitoring. The management must hire a person to look over the monitoring. It is also the responsibility of management to ensure that all mitigation measures are being implemented to eradicate the possible adverse environmental impacts. For capacity building, all the employs should be given awareness about the environment and what should be their roles to protect the environment. Hired workers should be aware of the safety procedures and what to be done in emergency situations. Lectures should be given on

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environment safety twice a year. Training should be conducted yearly or twice a year to cope with emergency situations. The management must ensure that environment management plan is properly carried out. The EMP aims to ensure that

- Site activities are well managed
- All environmental safeguards are carried out correctly
- Coordination is made with other trades
- Adverse impacts on environment are minimized
- The biodiversity of the site is conserved or enhanced
- All relevant legislation is complied with
- The project is monitored for environmental impacts

Local workers will be hired during operation phase and one person from management should be there in order to implement EMP for construction phase. There will be 25-30 workers during construction phase and 30 workers will be hired during operational phase of the project. There will be a contractor who will head the workers in construction phase and supervisor will head the workers during operational phase. It is the responsibility of management that contractor and supervisor should implement safety procedures of health and environmental safety.

The environment management and monitoring plan will be implemented by the following;-

- **Project Manager**
- **Supervisor**
- **Contractor**

The proponent will also manage EMP during operational phase and at least one person (supervisor) should be given the task to work on EMP and check and monitor that all the activities are going in compliance. Furthermore, monitoring of different parameters will also be done on regular intervals to check the quality parameters related to environment.

The duty of that person (supervisor) from management side would be to:

- Describe how it fits into the overall planning process for the project

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- Detail the activities that are to be carried out
- Identify the impacts those activities may have on environment
- Propose environmental control methods to be used to prevent or minimize those environmental impacts
- Assign responsibility for each control measure to specific staff members
- Identify key monitoring parameters and schedule of monitoring of these parameters
- Identify training requirements at various stages of the development of the project
- Identify the resources required to implement the EMP and outline relevant expenses arrangements

Organizational structure & Responsibilities

The organizational structure for the Environment Management Plan is outlined below:

Primary Responsibilities

The administration is primary responsible for implementing EMP within this project construction and operational phase

Operational Management and Control

Conducting the operational activities in the environmentally sound manner will be the responsibility of the administration.

Supervision and Monitoring

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

Fire Fighting Plan

Fire can be of different types depending on the material which catches fire and every different type of fire has different method to handle it. The classification of fire is given below:

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Fire Classifications



Class A: Wood, paper, cloth, trash, plastics—solids that are not metals.

Class B: Flammable liquids—gasoline, oil, grease, acetone. Includes flammable gases.

Class C: Electrical—energized electrical equipment. As long as it's "plugged in."

Class D: Metals—potassium, sodium, aluminum, magnesium. Requires Metal-X, foam, and other special extinguishing agents.

During operational phase of this scheme, there is least chance of any case of fire incident. However, sand buckets will be provided to handle any kind of fire incident.

IV. Proposed Monitoring program to assess Performance or output of EMP:

The proposed monitoring program to access the performance of suggested mitigation measures and the output of EMP along with the role & responsibility of Environmental Management Team is discussed in detail.

Category	Impact	Project Activity	Monitoring Mechanism	Frequency	Monitoring Agency
Development and Operation Phases					
Land Resource	Solid Waste and By-Products	Implementation of SW* Management System	• Record keeping and timely transfer of SW from bins and its ultimate disposal • Incineration of chemical residues	Weekly and Annually	Contractor

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	Soil Contamination	Implementation of Management Plans	Visual monitoring and regular site inspection Incineration chemical residues	Daily, Monthly and Annually	Project Manager
Air Resource	Air Emission	Air quality will deteriorate due to transportation related activities and during the production of the final goods	Monitor of the air exhaust emissions as per SMART parameters	Monthly Monitoring	Project Manager/Self-Monitoring
Ecological Resource	Flora	Uprooting of trees during construction phase and maintenance of photographic record of the removed vegetation	Inventory of uprooted trees and re-vegetation plan during operation phase	During Baseline Survey, once in a year and after the completion of the project	Project Manager/Self-Monitoring
Wastewater		Wastewater will be generated mainly from domestic use and from the production of the final goods	The process wastewater will be treated through RO Plant and testing of the effluents will be carried out as per SMART parameters on regular basis before finally discharging	Monthly basis	Project Manager/Self-Monitoring
Noise		The noise will be produce during constructional and operational	Noise will be monitored through Digital Sound Meter	Monthly	Project Manager/Self-Monitoring

**SW= Solid Waste, **EA= Executive Agency*

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Proposed EMP Reporting and reviewing Procedures:

Environmental impact of a project is worked out using various factors and parameters, so that an Environmental Management Plan can be evolved to take mitigation measures, wherever these might be considered necessary in order of appropriateness of elimination, reduction and compensation as the goals. The development of the EMP is to make some person responsible for implementing the mitigation measures as identified so that smooth implementation of the mitigation measures can be assured. Monitoring plans have also been included to ensure the compliance of the EMP by contractors and other responsible authorities.

Regular monitoring will be required to check that the construction and operation is not going to cause any adverse environmental impacts; hence monitoring visit will be done once in a month during construction phase. During these visits samples will also be taken to check the quality of air, water and soil etc.

Parameter/ Receptor	Location	Monitoring	Mechanism Monitoring and Reporting Frequency
Water Quality	◦ Ground Water ◦ Surface Water	Discrete grab sampling and laboratory testing of water samples.	• Sampling andlaboratorytestingshould be done on monthly basis during the construction and annually during the operational stage. • Dischargesf r o m theconstructionsitess houldbetestedfortemperature, PH and turbidity. • Treated effluentdischargesfrom the worker's camp to be tested for PH TSS and BOD.
Dust Emissions	• Tracks along the roads during constructionperio d.	Ambient particulate matter monitoring.	• Sampling and laboratory testing should be done on monthly basis during the construction

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Noise Levels	• Camp sites, • Selected Locations alon the access.	Noise meter	Monthly during the construction Stage.
Air Quality	Silencers of heavy machinery, trucks and other vehicles.	Emissions monitoring system. Monitoringof ambient air quality.	• Monthlymonitoring of air pollutionparametersincludingPM$_{10}$,NO$_X$, SO$_X$;CO. Hydrocarbonsduringtheconstructionperiod, andquarterlymonitoringofPM$_{10}$,NO$_X$, SO$_X$; CO VOCs during the operation stage,
Cutting of trees	In all project area during the construction stageand operation stage.	Periodic visits site to ensure that trees cutting is prohibited.	Reported on monthly basis during the construction period, and once in a year monitoring and reporting during the operation period.
Socio-cultural Environment			

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inconvenience community	All around the projectarea	Consultations with community to get feedback about inconvenience due to the construction activities to perform their daily routine chores.	Monthly monitoring andreportingduring the construction period.

• Training Schedules

The whole staff will be given training on different things like:

1- Health Safety & Environment Awareness Session

This training would be for whole unit staff and it would be done once in every 6 months.

2- Emergency Preparedness Training

This training would be arranged once in a quarter of every year by hiring consultant firm. This training would be helpful to ready the employees to handle any kind of emergency situation.

3- Fire Safety

This training would be for whole staff and it would be done once in every 6 months.

• Equipment's Maintenance Plan

The project involves the processing & manufacturing of cephalosporin antibiotic medicine. The said Royal Steel & Re-Rolling Mills (Iron billets Manufacturing and Re-Rolling unit) maintains the records for Health Safety & Environment and will hire HSE manager to check and deal with the HSE issues. The unit shall maintained PPEs, medical facilities, firefighting Equipment's, SOPs, conduct trainings, design for proper fencing and records for their periodic fillings or replacement. All machines require routine cleaning and maintenance after every three months and an annual service which costs around 1% to 5% of the total cost depending upon the use of

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machine and operator's skill. The inspection should be done because inspection process will highlight any kind of disorder in them prior to its occurrence. All the mechanical equipment will be checked on regular intervals of time, like on a very seventh day, and necessary maintenance will be done.

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Involvement of Stakeholders/Public Consultation

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7. INVOLVEMENT OF STAKEHOLDERS/PUBLIC CONSULTATION

7.1 GENERAL

This section describes the regulatory policy, planning and current practices of project proponent pertaining to the stakeholder engagements and outcomes of stakeholder consultation process initially done as part of the EIA report. The feedback from communities and other stakeholders directly or indirectly affected by the project is collected so that it may be used to adjust and improve the project's design, planning, implementation and help the implementation structure ensuring that the project is both environmentally and socially sound. The consultation process was carried out in accordance with the requirements of the Punjab Environmental Protection Act and Government of Pakistan on public consultation.

The objectives of this process were;

- To disseminate information on the project and its expected impact, long-term as well as short-term, among primary and secondary stakeholders,
- To gather information on relevant issues so that the feedback received could be used to address these issues at an early stage of the project,
- To determine the extent of the negative impacts of different project activities and suggest appropriate mitigation measures.

7.2 IDENTIFICATION OF STAKEHOLDERS

There are two types of stakeholders, i.e.

a. Primary stakeholders
b. Secondary stakeholders

7.2.1 Primary Stakeholders

The primary stakeholders are the initial stakeholders, such as affected persons, general public and women residing in the project area. Accordingly, the consultations / focus group discussions were made with all primary stakeholders for sharing of information about the proposed project and expected impacts and understanding about the concerns by category of stakeholders.

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7.2.2 Secondary Stakeholders

The secondary stakeholders are the representatives of Government Departments/Agencies involved in the planning, design, implementation and operation of the project, including various government departments such as District Administration, EPA, WAPDA, and Agriculture including the Horticulture wing, Irrigation, Forest, and other relevant departments.

7.3 STAKEHOLDER MANGEMENTS PLANNING

A twofold stakeholder engagement is planned and carried out for the proposed project as following:

7.3.1 Stakeholder Consultation during the Preparation of EIA Report:

The consultation with the primary and secondary stakeholders has been conducted initially during the preparation of the EIA report.

7.3.2 Stakeholder Consultation / Public Hearing during the Approval of the project:

The proponent is bound to complete as a regulatory obligation by the Environment Protection Agency (EPA), Punjab to conduct such Consultative Event known as "Public Hearing" under Section 12(4) of Punjab Environment Protection Act, 2012. This process shall be carried out during the review of the project to get the Environmental approval from the EPA, Punjab, Pakistan.

During this process following activities shall be carried out.

i. The proponent shall cause to be published, in any English or Urdu national newspaper, a public notice mentioning therein the type of project, its exact location,

ii. The public notice issued shall fix a date, time and place for public hearing of any comments on the project or its EIA. The date fixed for public hearing shall not be earlier than 30 days from the date of publication of the notice.

iii. The EPA shall also ensure the circulation of the EIA to the concerned Government Agencies and solicit their comments thereon.

iv. All comments received by the EPA from the public or any Government Agency shall be collated, tabulated and duly considered by it before its decision for approval

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7.4 STAKEHOLDER CONSULTATION PROCESS

The overall strategy for stakeholder's consultation is as follows:

Table - 7.1: Process of Stakeholder Consultation

Stakeholders	Purpose of Consultations	Methodology	Stage
Primary Stakeholder	• Information gathering and data collection. • Information sharing about the project (disclosure) • Opinion seeking (concerns and expectations) • Grievance redress	• Focus Group Discussions • Household surveys • Formal and informal Community meetings	• Base line Study Impact Assessment
Secondary Stakeholder	• Participation in the development process • Information gathering • Authentication and validation of the development processes • Verification of the record	• One on one meetings • In-depth interviews	• During the IEE preparation • On need basis during the project implementation and

Stakeholder consultation for this project was planned during the preparation of EIA report. In first step during the scoping, which has already taken place, consisted of meetings with individuals, groups, relevant organizations and government departments, which are in some way linked to the project and therefore considered stakeholders. The meetings were conducted to inform stakeholders about the project and how it may affect their lives/activities, and to record

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their concerns, whether real or perceived. Through the use of various tools the study team tried to involve the stakeholders in active decision-making. The results of this exercise are described below, where mitigation measures have been developed addressing the pertinent stakeholder concerns.

7.5 PRIMARY STAKEHOLDERS CONSULTATION

Apart from gathering of quantitative data through household survey of the area of influence of the project and survey of local community to share the information about the project and record their concerns/ feedback associated with this project. In this context, nearest community shared their view point regarding the assessment especially procedure for entering their concerns/ grievances, employment opportunities, and implementation of the project.

Topics for Discussion

The topics discussed in the consultations were:

- Employment and livelihoods of communities.
- Gender and women issues
- Contractor's camp and access
- Environmental issues during construction and operation of project
- Company responsibility for employment, etc.

7.6. PROPONENT's ENVIRONMENT MANAGEMENT TEAM

All possible impacts and mitigation measure related to the project were discussed with the proponent and management. The proponent's management team which includes Health and safety officers, fire fighting staff, manager and assistant manager. They assured to take all suggested mitigation measures to control any discrepancy arose by the project and to make the project environment friendly.

7.7. THE RESPONSIBLE AUTHORITY

The proponent shall be the responsible authority to take all measures prior to start the project and during operation.

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OTHER DEPARTMENTS AND AGENCIES

.8 for the impact analysis detailed with the management, local community, educational institutes, health institutes, hospitals and NGOs. All issues were discussed related to implementation of the project. Scoping sessions, focused group discussion and way side consultations were held with the relevant stakeholders in the area.

7.9. ENVIRONMENTAL PRACTITIONERS AND EXPERTS

Team of Pro Green Environmental Services visited the project site, had discussion 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, 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.

7.10. Affected and Wider Community

There is no affected community present in the area of proposed project. Consultant's team has consulted with the inhabitants of different villages. The remarks of people are positive regarding the project and people foresee positive impacts like employment opportunities, business, development of the area etc.

7.11. COMMUNITY CONCERNS

7.11.1. Project Approval

The community consultations demonstrated that goodwill towards the project proponents indeed exists; approval for project activities by the communities was evident. The consultations were considered a good gesture and appreciated, especially by the men and women. This project will provide employments to the local as well as non-local poor community in its construction as well as in operational stages.

7.11.2. Resettlement/ Relocation

The proposed site is located on the land already owned by proponents of the project. Therefore, no issue of the resettlements is there.

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Local Employment

...ities in the project area emphasized that local poor community should be given priority ...employing people for various project-related works and activities according to their skills

Interaction with Local Community

...local work force coming in the project area that will not be aware of the local customs and ... may result in conflicts with the local community, keeping in mind the sensitive law and ...situation and culture of the area

MEETINGS WITH SECONDARY STAKEHOLDERS

...following stakeholders were consulted on different occasions during the preparation of EIA ...ook their inputs, feedback and opinion on the design and scope of the project. The offices and ...iduals who were consulted are as follows:

- Office of District Officer, Environment Protection Agency, Sialkot.
- Chamber Of Commerce & Industry
- Department of Social Welfare, Sialkot
- Department of Wild Life and Fisheries
- Sui Northern Gas Pipe Line (SNGPL),
- Human Federation Organization (Local NGO)

13. OUTCOMES OF CONSULTATIONS

The outcomes of the primary and secondary consultation are precisely briefed as below:

- All actions associated with the project should be taken through proper consultations.
- There should be a continuous community consultation program throughout the project implementation period.
- There should be employment opportunities for skilled and unskilled people, preference should be given to the local communities.

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- To include local people wherever possible in jobs during the construction of project. Thus, income generating activity of the area should be enhanced.
- Reduce the chances of environmental effects like noise/ vibration and dust emissions caused to the nearby community.
- Overall the project is good for the surrounding villagers in specific and the country in general.
- No serious concerns with the project because this project will increase the employment and enhance the production of medicine & availability medicine on affordable cost

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Appendices

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Appendices	Detail
1- Glossary	This is attached with this report.
2- List of Abbreviations	This is attached with this report.
3- List of individuals or organizations consulted along with their written feed back	This is attached with this report.
4- Sources of data and full list of all reference material used	This is attached with this report.
5- Terms of references for environmental reports and those given to individual specialists	This is attached with this report.
6- List of names, qualifications and roles of team members carrying out the IEE/EIA study	This information is given on page 20 of this report
7- Approvals from other concerned departments	

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GLOSSARY

Words	Dictionary
Anticipated Impacts	Expected Impacts
Low Permeable Membrane	Which resist the things to pass through
Magnitude of operation	Scale of carrying out project
Endangered species	Which will extinct in near future
Threatened species	Those in danger of extinction
Aesthetic Beauty	Scenic beauty of the area
Domestic wastewater	Wastewater from sanitary uses
Ambient	Surrounding of all sides
Topography	Physical features of the site
Yield	Productivity
Watercourse	Channel of water
Wildlife Sanctuary	A protected area within which wildlife is protected
Baseline	Conditions prevailing at the time of study or before initiation of any project
Environment Budget	Monetary assets reserve for Environmental activity
Evaluation	Assessment
Fauna	Variety of Animals found in an area
Flora	Variety of Plants found in an area
Million	10,00,000
Mitigation Measures	Measures aimed to curtail or entirely control an adverse impact or to compensate some loss or cause additional improvements

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Nuisance	Annoyance
pH	Negative log of hydrogen ion concentration
Potential Issue	Problems likely to arise
Proposed Project	Planned activity
Residual Impacts	Impacts left behind after implementation of the mitigation measures
Significant	Important
Statutory Requirements	Legal Requirements

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LIST OF ABBRIVIATIONS

CO	Carbon monoxide
CO_2	Carbon dioxide
°C	Degree Celsius
dB(A)	A weighted decibel scale
EIA	Environmental Impact Assessment
CSR	Cooperate Social Responsibility
CSR	Cooperate Social Responsibility
EMMP	Environment Management & Monitoring Plan
EMP	Environmental Management Plan
Engr.	Engineer
EPA	Environmental Protection Agency
EPD	Environment Protection Department
OGRA	Oil and Gas Regulatory Authority
HSD	High Speed Diesel
HSMS	Health Safety Management System
FM	Fire Monitor
FH	Fire Hydrant
HC	Hose Cabinet
GWT	Ground Water Table
PM_{10}	Particulate Matter >10
SPM	Suspended Particulate Matter
HC	Hydrocarbon

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BOD	Biological Oxygen Demand
TSS	Total Suspended Solid
VOC	Volatile Organic Compounds
ERP	Emergency Response Plan
BDS	Bomb Disposal Squad
HSE	Health Safety and Environment
SWM	Solid Waste Management
GDP	Gross Domestic Product
IEE	Initial Environmental Examination
Km	Kilometer
Ltd.	Limited
M/S	Masses
NEQS	National Environmental Quality Standards
No.	Number
NOC	No Objection Certificate
NO_x	Oxides of Nitrogen
O_3	Ozone
PA	Protected Area
PEPA, 1997	Pakistan Environmental Protection Act, 1997
PEPA, 2012	Punjab Environmental Protection (Amendment) Act, 2012
PEPO	Pakistan Environmental Protection Ordinance
PKR	Pakistani Rupees

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PM	Particulate Matter
PPEs	Personal Protective Equipment's
SFT	Square Foot
SOPs	Standard Operation Procedures
SO_x	Oxides of Sulphur
TMA	Town Municipal Authority
WAPDA	Water and Power Development Authority
WASA	Water and Sanitation Agency
WHO	World Health Organization

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REFERENCES

- Guidelines for Preparation and Review of Environmental Reports
- Guidelines for Public Consultation
- Labor Laws
- Pakistan oil (Refining, Blending, Transportation, Storage and Marketing) rules, 2016
- Oil and Gas Regulatory Authority Ordinance, 2002
- Oil and Gas regulatory Authority (amendment) ordinance 2009
- Meteorology Department Data (from website)
- National Environmental Policy 2005
- National Environmental Quality Standards (Self-Monitoring and Reporting by Industries) Rules, 2001
- Pakistan Biosafety Rules 2005
- Pakistan Environmental Protection Act, 1997
- Pakistan Environmental Protection Agency (Review of IEE/EIA) Regulations, 2000.
- The Land Acquisition Act, 1894
- The Punjab Local Government Ordinance, 2001
- Punjab Environmental Protection (Amendment) Act, 2012

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Schedule-IV

Application Form

Proponent Detail	i.	Rashid Mushtaq Ahmad S/O Mushtaq Ahmad
	ii.	Rashid Mushtaq Ahmad
	iii.	Sambaraial, Old Airport Road, Near Gatax Factory, Kamawali
Consultant Detail	i.	ProGreen Environmental services
	ii.	Letter of Authority from proponent in favor of consultant. (Attached with EIA Report)
Project Detail	i.	Location of project Sambaraial, Old Airport Road, Near Gatax Factory, Kamawali
	ii.	Alternative site ,If any
	iii.	Google or scale Map of the project(and alternatives) vicinity clearly showing the distance from nearest settlement, water bodies or other notable geographical features/ protected or reserved forests/ National Parks/ Environmentally sensitive Areas **(Attached)** Yes
	iv.	Objectives of the project. • Manufacturing of Papers • Job opportunities for locals
	v.	**Description of project:** The proposed project Ayan-One Papers Mills will be involved in the Manufacturing of Different Kinds of Papers like floating paper and craft paper by using the wood Pulp as a raw material. The total area of the proposed project will be 21760 sft, total covered area will be 7302 sft. The estimated cost will be 90

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	million and production capacity will be 4 to 5 tons per day. vi. Projects sub component that fall within the list of project enumerated in schedule I or II and, If so, detail of each
Project category	i. Mentioned Schedule of regulations ii. Attached : IEE [ ] EIA [Yes]
IEE/EIA Details	i. Baseline data on meteorology, ambient air quality and ground water quality ii. Assessment of potential environmental impacts iii. Identification of environmental impacts of the project through its life cycle iv. Assessments of social impacts of the project v. Identification and description of preventive, mitigatory and compensatory measures to be adopted vi. Environment Management plan vii. Monitoring Arrangements viii. Project construction labor details ix. Project operation details. **The above detail has been mentioned in EIA report.**

VERIFICATION: I do solemnly affirm and declare that the information given above and contained in the attached IEE/ EIA is true and correct to the best of my knowledge and belief.

Name and Designation of Proponent: Rashid Mushtaq Ahmad

Official Stamp/Seal _____

Signature _____

Date _____

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TERMS OF REFERENCE FOR IEE / EIA

Title of Project	Ayan-One Papers Mills
Title of Assignment	Preparation of Environmental Impact Assessment (EIA) Report
Proponent	Rashid Mushtaq Ahmad
Location of Project	Sambaraial, Old Airport Road, Near Gataa Factory, Karnawali.
Procurement Method	Formal Quotations

Project Description:

The proposed project Ayan-One Papers Mills will be involved in the Manufacturing of Different Kinds of Papers like floating paper and craft paper by using the wood Pulp as a raw material. The total area of the proposed project will be 21760 sft, total covered area will be 7302 sft. The estimated cost will be 90 million and production capacity will be 4 to 5 tons per day.

Objectives of Study:

- To assess and establish the existing environmental and socio-economic conditions of the area.
- To assess and evaluate the potential environmental and socio-economic impacts of the project activities and identify the issues of high concern.
- To implement and execute environmental safeguards.
- To propose mitigation measures and monitoring arrangements that can be incorporated into the operation of the project to remove or reduce any damaging effects as far as possible.
- To categorize the significant impacts requiring further consideration.
- To devise the Environmental Management Plan for the project.
- To prepare an EIA Report as per the relevant guidelines for submittal to EPA Punjab.

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Scope of Work for Consultants:

- Secondary Data Collection
- Field Survey and Primary Data Collection
- Scoping Meeting
- Baseline Monitoring
- Public Consultation
- Socio-economic surveys (Interviews + Questionnaires)
- Compilation of Data
- Preparation of EIA Report according to Regulation (6) of Review of IEE / EIA Regulations, 2000 and Guidelines for Preparation and Review of Environmental Reports, 1997.
- Responding to any queries by EPA Punjab

Key Deliverables:

- 10 Hard Copies of IEE/EIA Report shall be filed as per Regulation (8) of Review of IEE / EIA Regulations, 2000
- 2 Soft Copies of IEE/EIA Report shall be submitted along with report as per Regulation (8) of Review of IEE / EIA Regulations, 2000
- IEE/EIA Report shall be accompanied by;
  - An application, in the form set out in Schedule IV of Review of IEE / EIA Regulations, 2000
  - An undertaking as per Schedule VII of Review of IEE / EIA Regulations, 2000
  - Copy of receipt showing payment of the review fee
- Reply of Query Letter (will be submitted if EPA requires additional information)

Time Line:

- 16-06-2023 (Draft EIA Report)
- 19-06-2023 (Comments by proponent)
- 21-06-2023 (Final EIA Report)
- 23-06-2023 (Filing of EIA Report in EPA after incorporating changes Suggested by Proponent)

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- According to clause (a) of sub-regulation(1) of regulation 9, within ten working days of filing of IEE/EIA, EPA shall be responsible to confirm IEE/EIA is complete for the purpose of initiation of review process
- According to clause (b) of sub-regulation(1) of regulation 9, EPA require such additional information as may be specified
- According to clause (c) of sub-regulation (1) of regulation 9, return IEE/EIA to the proponent for revision, clearly listing the points requiring further discussion and consideration for make-up.
- According to sub-regulation (1) of regulation 11 of Review of IEE/EIA Regulations, 2000, EPA shall review IEE within forty-five (45) days and EIA within ninety (90) days, of issue of conformation of completeness under clause (a) of sub-regulation (1) of regulation 9.
- According to Section 12 (4) of Punjab Environment Protection (Amendment) Act 2012, "The Government Agency shall communicate its approval or otherwise within a period of four months from the date the Initial Environmental Examination or Environmental Impact Assessment is filed complete in all respects in accordance with the prescribed procedure, failing which the Initial Environmental Examination or, as the case may be, the Environmental Impact Assessment shall be deemed to have been approved to the extent to which it does not contravene the provisions of this Act and the rules and regulations."

Qualifications:

Personnel involved in the survey and preparation of EIA Report of the said project have the following qualifications;

- BS/MS/M Phil Environmental Sciences
- BS/MS Environmental Engineering

Responsibilities of the Proponent:

- Responsible to pay all the dues of the consultants as per the agreed terms and conditions.

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- According to regulation 7 of Review of IEE and EIA Regulations, 2000, proponent shall pay, at the time of submission of IEE/EIA, a non-refundable review fee to EPA, in accordance with rates specified in schedule III.
- Arrange transportation for the survey teams and laboratory
- Fulfill all pre-requisites of EIA Report
- Provide all documents / details required for completion of EIA Report
- Proponent shall be responsible for paying any fines / penalties levied by the EPA Punjab or Environment Tribunal
- Proponent shall be responsible for the validity and correctness of the information provided to the consultants
- Proponent shall be responsible to abide by all the conditions contained in the Environmental Approval accorded to him by EPA Punjab.

The area below will be used for signatures and stamp.

Proponent

Proponent

Rashid Mushtaq Ahmad S/O Mushtaq Ahmad

Address: Dak Khana Khas, Bamboo, Tehsil Shaker Garh, District Sialkot.

Consultation Firm

Pro Green Environmental Services

Address: 126,1st FloorMemona Center, Moj Darya Road, Lahore

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

The EIA study has been carried out by following team of Pro Green Environmental Services

Name	Roles
Shahid Iqbal Environmentalist	Team Leader
Muhammad Hassan Chemist	Monitoring and Author
Gulzaib Afzal Environmental Engineer	Monitoring Assistant and Author
Ali Naeem Environmental Engineer	Monitoring Assistant and Author

Address: 126,1st Floor Memona Center, Moj Darya Road, Lahore

Contact No. 0333-4041950

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Environmental Impact Assessment

(EIA) Report

202

AYAN-ONE PAPER MILL

Sambaraial, Old Airport Road, Near Gataa Factory, Karnawali

SIALKOT

Prepared By

PROGREEN
ENVIRONMENTAL SERVICES

126 1st Floor, Memona center, Moj Darya Road, Lahore.
Progreen82@gmail.com, Phone.03334041950

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PUBLIC CONSULTATION/ SOCIOECONOMIC SURVEY

Personal Information

1. Name: M. Dayed
2. Address: Coal
3. Age: 46 yes
4. Occupation: social worker
5. Gender: Male

Remarks

1. Do you know about this project? How were you informed?

Friend

2. What do you think about the project? Do you think it should be applied?

Yes

3. What do you think would be the positive/ negative effects of the project?

positive

4. Whatwill be the Health and Safety Issue due to this project in your point of view?

NO

5. Will the project affect the environment of the area?

NO

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PUBLIC CONSULTATION/ SOCIO ECONOMIC SURVEY

Personal Information

1. Name M. Rashid
2. Address Local
3. Age 35 years
4. Occupation Govt Employee
5. Gender Male

Remarks

1. Do you know about this project? How were you informed?

Colleague

2. What do you think about the project? Do you think it should be applied?

Yes

3. What do you think would be the positive/ negative effects of the project?

positive

4. Whatwill be the Health and Safety Issue due to this project in your point of view?

NO

5. Will the project affect the environment of the area?

NO

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PUBLIC CONSULTATION/ SOCIOECONOMIC SURVEY

Personal Information

Name: Nawaz Ahmad

Address: Local

Age: 45 years

Occupation: Farmer

Gender: Male

Remarks

1. Do you know about this project? How were you informed?

Neighbors

2. What do you think about the project? Do you think it should be applied?

Yes

3. What do you think would be the positive/ negative effects of the project?

positive

4. Whatwill be the Health and Safety Issue due to this project in your point of view?

/

5. Will the project affect the environment of the area?

/

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PUBLIC CONSULTATION/ SOCIOECONOMIC SURVEY

Personal Information

Name: M. Hanif Shakar

Address: Local

Age: 40 years

Occupation: Factory worker

Gender: Male

Remarks

1. Do you know about this project? How were you informed?

Collague.

2. What do you think about the project? Do you think it should be applied?

Yes

3. What do you think would be the positive/ negative effects of the project?

positive.

4. Whatwill be the Health and Safety Issue due to this project in your point of view?

NO

5. Will the project affect the environment of the area?

/

Scanned with CamScanner