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LIST OF ABBREVIATIONS

EIA	Environmental Impact Assessment
PEPA	Pakistan Environmental Protection Act
PEPA	Punjab Environmental Protection Act
NEQS	National Environmental Quality Standards
WAPDA	Water And Power Development Authority
WASA	Water and sanitation authority
EMP	Environmental Management plan
EMC	Environmental Monitoring Cell
WWTF	Wastewater Treatment Facility
NOC	No Objection Certificate
NCS	National Conservation Strategy
LAA	Land Acquisition Act
Pak-EPA	Pakistan Environmental Protection Agency
W.H.O	World Health Organization
LESCO	Lahore Electric Supply Company
SWM	Solid Waste Management
CSR	Corporate Social Responsibility
MSWs	Municipal Solid Wastes
TMA	Town Municipal Authority
dB (A)	Decibel

PPM	Part per million
$\mu g/m^3$	Microgram per cubic meter
KVA	Kilo Volt Ampere
PPEs	Personal protective equipment's
TDS	Total dissolve solid
TSS	Total suspended solid
SS	Suspended solid
COD	Chemical oxygen demand
BOD	Biological oxygen demand
HC	Hydrocarbons
PM	Particulate matter

EXECUTIVE SUMMARY

Title & Location of the project

It is the intention of Mr. Zubair Masud S/o Shahid Masud proponent of M/s Interloop Limited (Hosiery Division III), to get Environmental approval by submitting the Environmental Impact Assessment for proposed extension of Hosiery Division-III at the textile mills, located at 8-Km Manga Raiwind Road, Tehsil Kot Radha Kishan, District Kasur, aims to increase production capacity to 45,000 dozen hosiery products per day, along with the denim product development 5,000 garments per day. The project will include the construction of water storage tanks, HFO and diesel storage tanks, an engineering block, a canteen, and other associated facilities. The total project area spans 370 Kanal and 1 Marla, with a covered area of 226.2 Kanal. The estimated cost for the project is PKR 4 billion under section 12, PEPA, 1997 (Amended 2012).

According to the latter, the proposed project falls in Category B (Clause 6), Schedule II of Review of IEE and EIA Regulations, 2000 (Amended 2022). So, proponent is submitting an EIA Report.

Location

The proposed project is located at 8-Km Manga Raiwind Road, Tehsil Kot Radha Kishan District Kasur.

Project land coordinates are as follows:

Latitude: 31°15'30.48"N
Longitude: 74°9'9.44"E

Front ---------- Road.

Back ---------- Open Land

Left ---------- Industrial Unit

Right ---------- Industrial Unit

Land Coordinates	**31°15'30.48"N**	**74°9'9.44"E**

For further details, layout map of the project is attached as ***Annexure B*** with the report.

Figure 1: Google map of the project area M/s Interloop Limited HD-III

Name of the proponent

Name: Zubair Masud S/o Shahid Masud

Designation: Proponent

CNIC: 35202-9439229-3

For further details, CNIC of the proponent and other relevant documents are attached with this report as an **Annexure-C**

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Front ---------- Road.

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Left ---------- Industrial Unit

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For further details, layout map of the project is attached as ***Annexure-B*** with the report.

Name of organization preparing the report:

Pak Green Enviro-Engineering (Pvt.) Ltd, as independent consultants, has been appointed by the proponent to conduct Environmental Impact Assessment Study (EIA).

Company office address: 46-M, Gulberg III, Lahore

Contact: 042-35441444, 0303-4442335.

For detail company profile see the *Chapter # 1 "Introduction"*

A brief outline of the proposal

Name of the project:	Proposed extension of Hosiery Division-III at the textile mills, aims to increase production capacity to 45,000 dozen hosiery products per day, along with the denim product development 5,000 garments per day. The project will include the construction of water storage tanks, HFO and diesel storage tanks, an engineering block, a canteen, and other associated facilities. The total project area spans 370 Kanal and 1 Marla, with a covered area of 226.2 Kanal.
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Labor/ Workforce:	During Construction: 20-25 persons
Water Requirement:	During the operational phase of the project approx. 80 gallons/ year water is required for project process and domestic purposes.
Solid waste:	During operation: 0.75 kg/capita/day per person domestic waste will be produced that will be handed over to contractor Project related waste will be physical dry waste in solid form, that will be baled by bailing press for use by other mills.

The major impacts

In order to identify all the activities associated with the project during operation phase with potential to cause adverse environmental impacts and harm a thorough review has been conducted. Project will not have any significant adverse impacts on the nearby community and on environment. Overall, the project will have positive impacts on the local population and country as a whole. Moreover, area for plantation is also reserved for air purification within the project vicinity.

Table: Summary of Environmental impacts of the project during the Construction phase and their mitigation measures:

Potential Impact	Criteria for determining Significance	Key Mitigation Measures
Dust Emissions—Particulate matter emitted during construction activities and gaseous emissions from transportation vehicles can result in deterioration of ambient air quality in the vicinity of the project site, and be a nuisance to the surrounding workers.	An increase in visible dust beyond the boundaries of the construction site; or Concentration of PM_{10} in excess of 150 $\mu g/m^3$ PEQS for Ambient Air.	Sprinkling of water on unsealed surfaces is recommended Vehicle speed restrictions should be applied in the project area; Raw materials should be transported in covered trucks. Ensuring that no stockpile is within 250 m of the community.
Construction Noise- Disturbance to surrounding communities due to operation of construction machinery at the project site.	PEQS for Noise OSHA standards	Noise monitoring has been conducted at the project site before starting the construction activity. Reduce noise at source; Take noise levels in consideration during detailed design and construction planning; Reduce traffic noise.
Solid waste Management— Improper waste management may generate health and aesthetic issues	Generation of excessive waste; Recyclable waste and reusable waste is discarded; Improper	Development of a waste management plan; Constructional waste should be

	disposal.	utilized for road filling and maintenance. Domestic waste should be disposed of properly, handed over to contractors, placed in bins.
Vegetation Loss/ Soil erosion—Loss of vegetation as a result of land clearance for the construction purposes	Unnecessary or excessive removal of trees and shrubs.	Preparation of a Reinstatement Plan; Minimization of the felling of trees and clearing of vegetation; and avoidance of the use of fuel wood
Water Resources— The extraction of water for the project construction activities can affect the groundwater availability for the project area communities	Water extracted for the project can directly affected the ability of the community to meet their water needs	No impact on the community groundwater needs is envisaged as a result of the project.
Soil Contamination—Oil can contaminate the soil	Presence of visible amount of hydrocarbon in soil	Provision of spill prevention and control kits; Use of impermeable surfaces in workshops, and storage areas
Socioeconomic Issues **Workers Safety**— Safety hazards associated with the construction activity, particularly with the increase in traffic at the project site.	No specific guidelines exist. A significant impact will be interpreted if there are complaints from the community or the occurrence of any injury or loss	Speed limit of 10 km/h will be maintained on the access road; Traffic controller will be stationed on the access road; night driving will be kept to a

		minimum
Project and Community Interface—Inter-cultural differences between the project staff from other areas and the local community	No community complaints	Training of the non-local project staff on local culture and norms; Avoidance of unnecessary interaction of local population with the non-local project staff

Table: Summary of Environmental impacts of the project during the Operation phase and their mitigation measures

Potential Impact	**Criteria for determining Significance**	**Key Mitigation Measures**
Machinery Noise- Working of machinery can be a nuisance for the workers in the working area.	OSHA Standards	PPEs i.e. ear muffs should be provided to workers in case of high noise.
Health & Safety Issues- Health and Safety issues e.g. Cuts and Injuries may be caused during the machinery handling.	OSHA Standards	Proper training of the staff should be conducted to avoid the accidents. First aid measures should be provided at the workplace.
Solid waste management- Improper solid waste management may cause health problems and aesthetic issues	Exposure to potentially hazardous waste; Generation of excessive waste; Recyclable waste and reusable waste is discarded;	Waste bins should be placed at suitable places. Domestic and process related waste should be handed over to

	Improper disposal.	contractors.
Groundwater—The increased withdrawal of groundwater for the project will affect the groundwater resources of the project area	Water extracted for the project can directly affected the ability of the community to meet their water needs	No impact on the community groundwater needs is envisaged as a result of the project.

Proposed Environmental Monitoring

To oversee the environmental performance of the project through its lifecycle enforcing the PEQS an Environmental Monitoring Program should be formulated which ensures effective surveillance of the environmental parameters at various stages of the project development and compliances with PEQS and legal obligations. Monitoring for following Environmental Parameters is recommended:

- **Ambient Air**

Monitoring for ambient air should be conducted on quarterly basis during operational phase of the project and report should be submitted to EPA Punjab.

- **Noise**

Regular monitoring for noise level should be maintained periodically during operation phases of the project and report should be submitted to EPA Punjab.

- **Water quality**

Regular monitoring of water quality should be conducted on monthly basis during operation phases of the project and report should be submitted to EPA Punjab. Record should be maintained regarding the underground water pump and consumption.

Recommendation: Environmental Monitoring data log book should be maintained by the project proponent.

CHAPTER # 1

INTRODUCTION

This Section of the report provides an overview of the rational of the Project, objective of project, requirement of the project, purpose of the report and approach adopted to conduct the Environmental Impact Assessment Study.

Purpose of the report

Environmental Impact Assessment report is being submitted to the Environmental Protection Agency (EPA), Government of the Punjab, Lahore for the compliance of Section 12 of Punjab Environment Protection Act-1997 (Amended 2022) for obtaining No Objection Certificate (NOC)

The other relevant regulations and guidelines considered while preparing this EIA report include:

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

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

Identification of the project and proponent

The proposed project falls under Schedule II of Review of IEE and EIA Regulations, 2022.

Proponent:

Name: Mr. Zubair Masud S/o Shahid Masud

Designation: Proponent

CNIC: 35202-9439229-3

For further details CNIC of the proponent and other relevant documents are attached as with this report.

Details of Consultant

Pak Green Enviro-Engineering (Pvt.) Ltd is an independent company, who conducts EIA, EIA, EMP and other environmental investigations through its panel of environmental consultants, public participation practitioners and experienced environmental managers. The company has its own recommended instruments to check the baseline environmental data/PEQS and lab analysis facility for water, wastewater priority parameters.

Contact: Pak Green Enviro-Engineering (Pvt.) Ltd.

Office No. 46-M, Gullberg III, Lahore

Tel: 042-35441444, 03034442335

Email: info@pakgreen.pk; pak.green@hotmail.com

The current study was carried out by the following professionals:

Sr. No.	Designation	Name/Qualification	Experience
1.	Chief Environmentalist/ Lead Environmental Professional	Abdul Hafeez Nasir PhD Scholar Environmental Management	Ten Years' Experience as Environmentalist
2.	Senior Environmentalist/ Environmental Professional	Iftikhar Ahmed M. Phil Environmental Sciences	Seven Years' Experience as Environmentalist
3.	Associate Environmental Professional	Sabeera Tauheed M.Phil Environmental Science, PU	4 Year experience
4.	Environmental Engineer	Muhammad Imran BS Environmental Engineering	2 Years' Experience
5.	AEP	Nageen Qayyum BS Environmental Science	2 Years Experience

Brief description of Nature, Size and Location of Project

Subject project is the proposed extension of Hosiery Division-III at the textile mills, located at 8-Km Manga Raiwind Road, Tehsil Kot Radha Kishan, District Kasur, aims to increase production capacity to 45,000 dozen hosiery products per day, along with the denim product development 5,000 garments per day. The project will include the construction of water storage

tanks, HFO and diesel storage tanks, an engineering block, a canteen, and other associated facilities. The total project area spans 370 Kanal and 1 Marla, with a covered area of 226.2 Kanal. The estimated cost for the project is PKR 4 billion.

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Solid waste:	During operation: 0.75 kg/capita/day per person domestic waste will be produced that will be handed over to contractor Project related waste will be physical dry waste in solid form, that will be baled by bailing press for use by other mills.

Screening:

Subject project is the Proposed extension of Hosiery Division-III at the textile mills, located 8-Km Manga Raiwind Road, Tehsil Kot Radha Kishan, District Kasur.

Project falls under Schedule II, Clause 6 of Review of IEE and EIA Regulations, 2000. (Amended 2022) TORs of the study under clause 5 (f) of policy and procedure for the filing, review and approval of environmental assessment are annexed as ***Annexure – A.***

Scoping

Spatial and Temporal Boundaries of Environmental Assessment

This project spans at the area of 370 Kanal and 1 Marla. The existing land use is industrial as the project lies in an Industrial area in District Kasur. The surrounding plots are either a property of farmers with agricultural lands and will most probably be sold to industries in future, so currently they are open plots and industrial units. The main road along with the project site is Industrial Road. The following map shows the spatial and temporal boundaries of the project. For further details Google earth map of the project on A3 page is attached as ***Annexure- B*** with the report

Important issues and concerns raised during consultation

Important issue and concerns raised by the community during consultation include the impact of untreated wastewater released from the spinning mills that may be discharged into the drinking water supply. The Proponent ensured that to treat the wastewater coming out from the industry before final disposal into the nearby drain. The community was also concerned about employment to local people. The proponent ensured that maximum job opportunities will be given to residents of the area.

Significant Impacts to be determined

The major impact from this kind of facility will be dust and particulate matter pollution from the different process. For this purpose, the proponent has ensured to proper ventilation system in the facility so avoid suffocation and any health hazards from indoor air pollution. Solid waste produced will be in dry form that will be baled with balling press for use by other mills.

CHAPTER # 2

DESCRIPTION OF THE PROJECT

Objectives of the Project

Objectives of the operational phase of the subject project are:

- To establish the business for the proponent.
- To contribute to the national economy of the country.
- Compensate to help poverty by providing employment.

Location and Site layout of the project

Location

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Land Use on site

The land is designated as an Industrial area.

Road Access

Main Road is present at the side of the project which provides access to the project area/ unit.

Vegetation features of the project

There is no dense vegetation, only shrubs like Parthenium and grasses are present in scattered quantity.

Cost and magnitude of the operation

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Schedule of Implementation

Detailed feasibility studies and designing of the project have been completed. Necessary legal, administrative and financial formalities are being finalized. The project is expected to be completed within 11-12 months from the date of environmental approval. Subsequently the operational and maintenance aspects of the project is undertaken by the proponent.

Description of the project:

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ACTIVITIES OF THE PROJECT

1. **Production Capacity:**

- **Hosiery Products:** The facility will have a daily production capacity of **45,000 dozen**.
- **Denim Garments:** The facility will produce **5,000 garments per day**.

2. **Infrastructure Development:**

- **Water Storage Tanks:** Construction of dedicated water storage tanks to ensure a continuous water supply for production and other facility operations.
- **HFO and Diesel Storage Tanks:** Storage tanks for heavy fuel oil (HFO) and diesel will be constructed to meet the energy requirements of the facility.

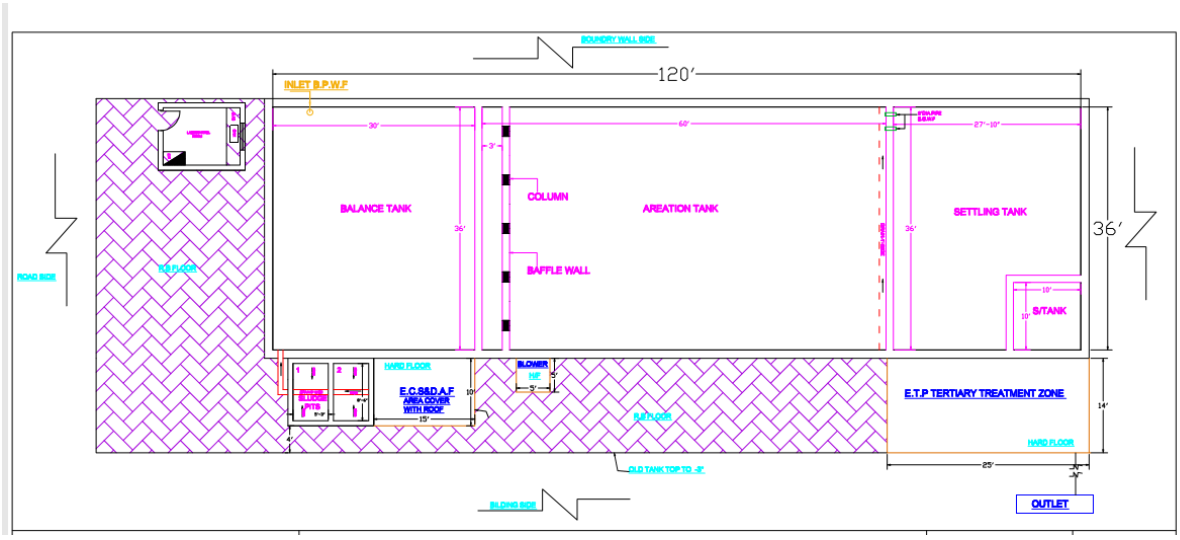
- **Engineering Block:** A block dedicated to engineering operations, maintenance, and technical support to streamline production.
- **Canteen:** The construction of a canteen will provide employees with dining facilities, promoting their welfare and well-being during work hours.
- **Associated Facilities:** Additional facilities such as administration offices, storage areas, and utilities infrastructure will be constructed to support the overall production process.

Water requirements:

During construction phase 80 gallons/day/hr. of water will be used per day.

Wastewater treatment:

60-70% of the used water will be the wastewater from the fabric processing and other related activities- washing, dyeing etc., this will be treated in the proposed wastewater treatment plant on site and then discharged in the industrial drain after the treatment in the premises of industrial area. Design of wastewater treatment plant is attached with this report



Design of wastewater treatment plant

Wastewater Drain:

Industrial drain is present near the project site, in which wastewater will be disposed of after treatment, it will be ensured that no wastewater will be disposed of without having been treated in ETP (wastewater treatment plant) throughout the project activities.

Solid waste:

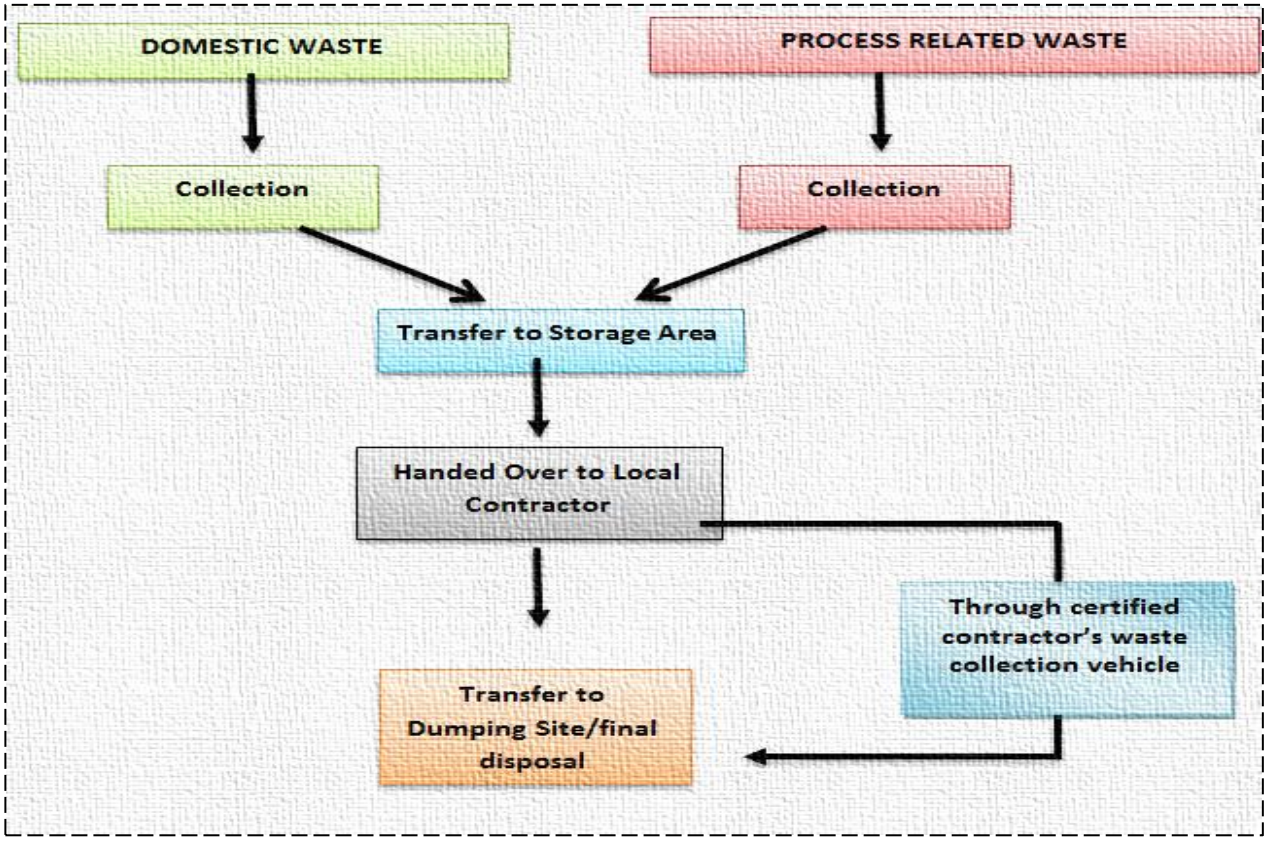
The project related solid waste will be produced during the operation phase of the project

Solid waste management system/practices

The Solid waste will be managed in proper way by following operations:

1. Placement of separate waste bins for domestic and project related waste in all working halls and designated points. Any waste generated will be segregated
2. Collection of waste from all the working halls at one designated point by the sanitary workers on daily basis.
3. Careful collection of waste on regular basis and temporary storage at designated point.
4. Collection of waste from designated area and handling to the solid waste contractors for its final disposal.

Flow chart of solid waste management plan:



All these measures will ensure the PEQS compliance of generators and emissions will not exceed the limits.

Plantation

Planation will be done within and outside the unit.

Parking Area:

Parking area will be made available within the unit for cars, motorcycles, trucks etc.

Occupational Health and Safety:

All the methods and procedures for machinery handling will be displayed and implemented at the project site. Health and safety rules for workers has been maintained.

Personal Protective Equipment:

Following PPEs is available for the workers in the proposed unit:

- Ear Plugs
- Ear muffs
- Safety Boots
- Safety Gloves
- Safety Belt
- Helmet
- Goggles

Types of PPEs used during operational phase and Operational activities.

Protection	Occupational Hazards	PPEs
Head Protection	Falling objects, inadequate height clearance, and overhead power cords	Helmets with or without electrical protection
Hand protection	Hazardous material, cuts or lacerations, vibrations, extreme temperatures	Synthetic or Rubber gloves, leather, insulating material etc.
Eye and face protection	Flying particles, molten metal, liquid chemicals, gases or vapors, light radiation	Glasses, shield protective, etc.
Hearing protection	Noise, ultra sound	Hearing protectors like ear plugs, ear muffs
Respiratory protection	Dust, fogs, fumes, gases, smokes, vapors, oxygen deficiency	Facemasks or air supply

Body protection	Extreme temperatures, hazardous materials, biological agents, cutting and laceration	Aprons, insulating clothing etc. of appropriate materials

Fire Protection System

An addressable fire protection system with detection and alarm annunciation and other installations etc. would be provided to protect against any fire hazards. Fire buckets and fire extinguishers will be installed at all sensitive places within the unit.

Emergency Exits:

Emergency exit points will be available for easy evacuation in case of any emergency.

Security:

The proposed unit/ industry will be constructed along with the presence of security guards round the clock which will improve the security of the project site and also in its vicinity.

Personal protective equipment:

Workers will be provided with dust mask, ear plug, ear muffs, safety boots, safety gloves, safety belt, helmet and goggles etc. during the working hours to ensure personnel health & safety. Implementation of PPEs will be ensured by the proponent for the proposed project also.

Power sources and transmission:

Power requirements for the project will be fulfilled by the National grid/WAPDA.

Restoration / Rehabilitation Plan

All possible precautions will be to prevent an untoward incident in terms of life and property losses. The demolition materials will possibly be reused and recycled. All excavated surfaces are termite proofed.

On completion of the project, the debris will be removed from the site in order to maintain aesthetics of the project. All measures are undertaken for ensuring occupational safety, security and clean environment in the project area. Ornamental trees and flower plants will be planted on inside peripheral of the unit premises to restore the land.

Government approvals required by the project:

All the approvals from concerned departments will be obtained after getting the approval from EPA Punjab.

CHAPTER # 3

DESCRIPTION OF ENVIRONMENT

This section describes the baseline conditions, which cover the existing Physical, ecological and socio-economic environment of the project as well as study area. Data was collected by reviewing secondary data and field survey.

Physical Environment/ Resources

History:

Kasur District, located in Punjab, Pakistan, covers a rich environmental profile that reflects its unique physical, ecological, and socioeconomic characteristics.

Baseline Physical Environment

Geography and Climate: Kasur District is located approximately 55 kilometers south of Lahore and borders the Indian state of Punjab. It spans across an area of around 3,995 square kilometers. The region's topography is predominantly flat and lies within the alluvial plains formed by the Sutlej River, a major tributary of the Indus River. This fertile plain allows extensive agricultural activities.

Kasur experiences a semi-arid climate, with scorching summers and mild winters. Average summer temperatures reach up to 45°C, while winter temperatures drop to 2-5°C. The monsoon season brings the bulk of annual rainfall, averaging around 500-700 mm, although the district often faces erratic rainfall patterns.

Soil Characteristics: The alluvial soils of Kasur are highly fertile, supporting a range of agricultural activities. However, soil contamination due to industrial waste, especially from tanneries, is a growing concern. Heavy metals such as chromium, lead, and arsenic are prevalent in the soil, particularly around industrial areas.

Water Resources: The Sutlej River is the district's major water resource, primarily used for irrigation. Groundwater serves as the primary drinking water source, but studies have shown significant contamination due to industrial effluents. Water table depletion is another concern due to extensive groundwater extraction for agricultural and industrial use.

Air Quality: Air quality data is limited in Kasur, but industrial emissions, particularly from tanneries, contribute to localized air pollution. **PM2.5 levels** are likely to exceed the **WHO guidelines** due to emissions from industrial operations and vehicular traffic.

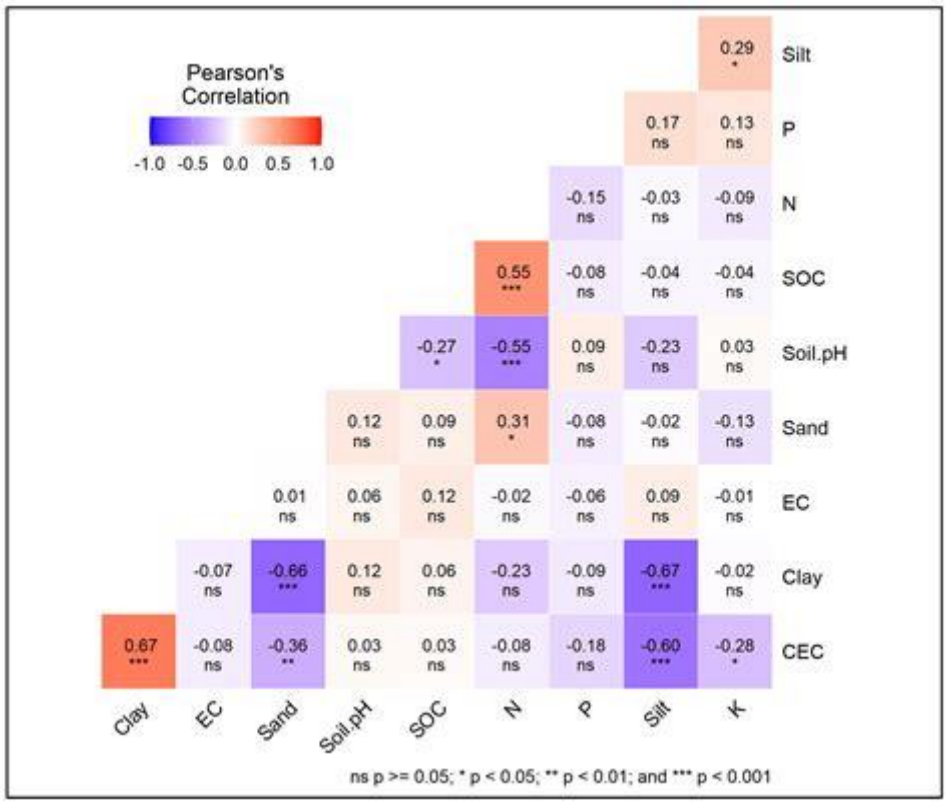
2**. Baseline Ecological Environment**

Flora: Kasur has a mixture of natural and cultivated flora. The fertile soils support various crops such as **wheat, rice, sugarcane**, and **vegetables**. The natural vegetation includes **Acacia** and **Dalbergia** species, though much of the native vegetation has been cleared for agriculture.

Industrial pollution, especially from tanneries, has contributed to reduced soil fertility and biodiversity loss. Heavy metals in the soil affect plant growth, reducing the overall quality of the agricultural yield.

Fauna: The wildlife of Kasur is sparse due to extensive agriculture and urbanization. Common animals include **jackals**, **foxes**, and various species of **rodents**. Bird species, such as **pigeons** and **crows**, are common in urban and rural areas. However, industrial activities have adversely impacted animal populations, particularly near tannery sites.

There are no protected areas or wildlife sanctuaries in Kasur, which limits conservation efforts for native flora and fauna.



Distribution of Flora in Kasur District

3. Baseline Socioeconomic Environment

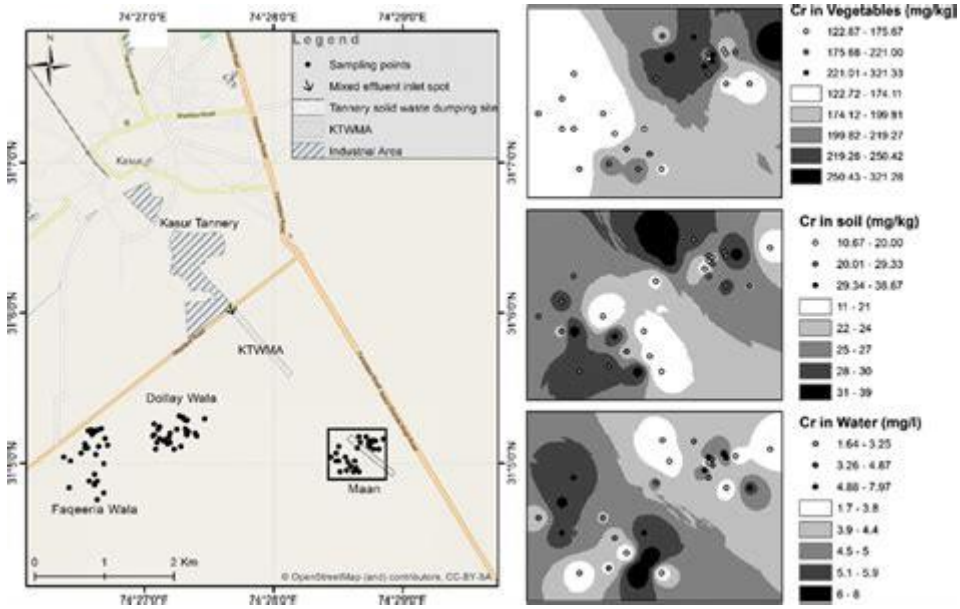
Population and Demographics: Kasur has a population of over **1.2 million people**, with a mixture of urban and rural settlements. The majority of the population is engaged in **agriculture** and **leather tanning**, which are the district's main economic drivers. The urban population resides mainly in Kasur city, while rural inhabitants are spread across multiple villages and smaller towns.

Economic Activities: Agriculture is the backbone of Kasur's economy. Crops such as wheat, rice, sugarcane, and maize dominate the agricultural landscape. However, Kasur is also known for its **leather industry**, particularly tanneries, which provide employment to thousands of local workers but also contribute significantly to environmental pollution.

Health and Education: The district has basic health and education facilities, though they remain underdeveloped in rural areas. Environmental health concerns are prevalent, particularly related to water contamination, with reports of **gastrointestinal diseases** and **dermatological issues** linked to the use of contaminated water.

4. Lab Reports of Environmental Analyses

Soil Tests: Soil samples collected from different parts of Kasur, particularly around industrial sites, show elevated levels of heavy metals like **chromium** and **lead**. These metals exceed the **permissible environmental quality standards** (PEQs) set by the Punjab Environmental Protection Department. Soil contamination is particularly high in areas surrounding tanneries, affecting agricultural productivity.



Heavy Metal Contamination in Soil

Water Quality Tests: Water samples from both surface and groundwater sources show alarming levels of contamination. **Chromium** levels in groundwater, particularly near industrial areas, far exceed the WHO's recommended limits for drinking water. **Fluoride** and **nitrate** concentrations are also elevated in some areas, posing health risks to the local population. The lab reports are attached with the report as **Annexure-D**

Air Quality Tests: While no comprehensive air quality testing has been conducted, data from industrial areas suggest that **volatile organic compounds (VOCs)** and **particulate matter (PM)** are present in higher-than-recommended levels, contributing to respiratory illnesses.

5. Suitability of the Site

Prohibited/Environmentally Sensitive Areas: Kasur does not have significant environmentally sensitive areas or prohibited zones, but industrial pollution, particularly

around tannery clusters, raises environmental concerns. Any new industrial development needs to factor in pollution control measures to prevent further environmental degradation.

Incompatibility with Surroundings: Kasur's industrial sector, especially tanneries, is often incompatible with its agricultural surroundings. The **effluent from tanneries** pollutes water bodies and soils, making nearby land unsuitable for farming. Residential areas located near industrial sites experience degraded air and water quality, affecting the quality of life.

Environmental Suitability: While Kasur's fertile soil and flat terrain make it suitable for agriculture, its **industrial sector poses significant environmental risks**. Future industrial projects must include comprehensive **environmental impact assessments (EIAs)** to mitigate pollution and ensure sustainability.

Conclusion

The environmental profile of Kasur District reveals a region rich in agricultural and industrial activity, but also one that faces serious environmental challenges. Soil and water contamination from industrial effluents, particularly from tanneries, has become a critical issue, affecting not only the ecological balance but also the health and livelihoods of local communities. Ensuring sustainable development in Kasur will require stringent environmental regulations, pollution control measures, and a shift towards more environmentally friendly industrial practices.

CHAPTER # 4

Consideration of the Alternatives

Site alternatives, their selection and rejection criteria

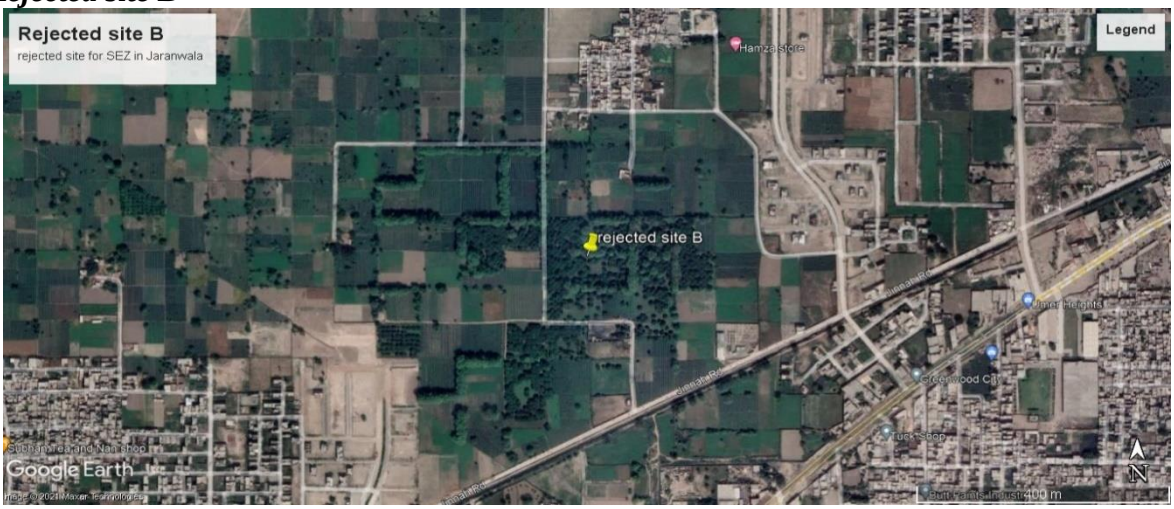
Rejected sites

Rejected site A

Alternative site that was considered was near to Gujranwala. Alternative site was not suitable because following factors:

i. Proponent was not owner of this land
ii. Site was adjacent to populated area

Rejected site B



Alternative site that was considered was near to Jaranwala. Alternative site was not suitable because following factors:

i. Available site was rich in nutrients and was best for agricultural purpose.
ii. Area was not large enough for establishment for the project
iii. Heavy traffic movement cause major issue of traffic management

Selected site

Subject project site is located at 8-Km Manga Raiwind Road, Tehsil Kot Radha Kishan District Kasur. The aim of proposed project is to extent Hosiery Division under the name of Interloop Limited HD-III as a world class multiuse space for fashion good manufacturing industries.

Reason of selecting existing site:

- Easy access of road, power supply and other basic facilities.
- Economically Feasible
- No vegetation clearance
- Land is plain
- Availability of water is plenty

Design/Technology alternatives, their selection and rejection criteria

The proposed project will consist of establishment of Hosiery Division under the name of M/S Interloop Limited HD-III. The final product is Hosiery and Denim products. The subject project will involve to get high quality product.

Hosiery Divisions are conventional methods and have some limitations. The preference is given to most advance and eco-friendly methods in all over the project process. State of the art technology will be installed so that it may not release any harmful chemicals or emissions into the environment.

Environmental alternatives, their selection and rejection criteria

The project is located in the outskirt of Kasur District. The site is located at an industrial zone. Construction of project in this area will have minimal impact on the daily life people living in Kasur. The project proponent is recommended to make sure that emission produced during the project operations are within the PEQS limits. The Proponent has ensured that that wastewater treatment is already installed within the project facility.

Economic alternative, their selection and rejection criteria

The project proponent intends to Extent the Hosiery Division by Interloop Limited HD-III. This project will provide employment 200 laborer during construction phase and 300 workers and managerial staff at operation phase. This project will accelerate the economic development of the district Sheikhupura and in turn Pakistan.

Chapter # 5

Screening of Potential Environmental Impacts & Their Mitigation Measures

Assessing Impacts

The following chapter describes the overall possible impacts of project on the physical, biological and socioeconomic environment because of operation phases and mitigation measures to minimize the significance of the possible impacts up to an acceptable level. The anticipated impacts related to operation of the said project have been assessed and mitigation measures have been suggested in this report.

Methodology for Impact Evaluation:

The methodology adopted for impact evaluation includes the Modified Leopold Matrix.

Leopold Matrix

The analysis is performed with the Leopold Matrix (LM). This matrix has

1. On the horizontal axis, the actions which cause environmental impact, and
2. On the vertical axis, the existing environmental conditions which may be affected by those actions.

This provides a format for comprehensive review of the interactions between proposed actions and environmental factors.

The most important blocks marked are evaluated individually, and a number between 0 and 10 is placed in the upper left-hand corner to indicate the relative magnitude of the impact (0 represents the least magnitude, and 10 the greatest). Likewise, a number between 0 and 10 is placed in the lower right-hand corner to indicate the relative importance of the impact (again, 0 represents the least magnitude and 10 the greatest).

Scale Table of Importance & Magnitude

Sr. No.	Type of Impact	Scale of Magnitude (0 – 10)	Scale of Importance (0 – 10)
1	No Impact	0	0
2	Low Impact	1 – 4	1 – 4
3	Medium Impact	5 – 6	5 – 6
4	High Impact	7– 10	7– 10

Construction Phase

Magnitude / Importance			Actions											Total Score of Impact	Average Score of Impact
			Transportation of raw material	Construction Activities	Operation of generators	Water consumption	Wastewater generation	Storage of raw materials	Social activities	Public welfare	Economic activities	Employment	Infrastructure improvement		
PHYSICAL ENVIRONMENT	Soil	Soil Quality	2 / 1	3 / 2	0 / 0	1 / 1	5 / 2	4 / 4	1 / 1	0 / 1	1 / 1	1 / 3	4 / 6	22 / 22	2 / 2
		Erosion	2 / 1	6 / 6	0 / 0	0 / 0	2 / 2	1 / 1	2 / 1	0 / 0	1 / 1	1 / 1	3 / 4	18 / 17	1.6 / 1.5
		Geomorphology	0 / 0	5 / 5	0 / 0	4 / 2	5 / 3	2 / 1	0 / 0	0 / 0	1 / 1	2 / 1	4 / 6	23 / 19	2.09 / 1.7
	Water	River	0 / 0	0 / 0	0 / 0	6 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	6 / 0	0.5 / 0
		Coastal Zone	0 / 0	0 / 0	0 / 0	6 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	6 / 0	0.5 / 0
		Subsurface Water	1 / 2	1 / 1	0 / 0	7 / 8	5 / 7	1 / 1	0 / 0	0 / 0	1 / 1	0 / 0	2 / 2	18 / 22	1.6 / 2
		Sea Quality	0 / 0	0 / 0	0 / 0	3 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	3 / 0	0.2 / 0
	Air	Air Quality	5 / 5	8 / 8	7 / 7	6 / 1	5 / 4	4 / 4	5 / 5	1 / 1	6 / 4	4 / 6	8 / 8	54 / 53	4.9 / 4.8
		Odors	1 / 1	1 / 1	3 / 3	0 / 0	5 / 7	4 / 6	1 / 1	0 / 1	0 / 1	1 / 1	1 / 1	17 / 23	1.5 / 2.0
		Noise	5 / 6	9 / 10	7 / 8	0 / 0	5 / 4	2 / 2	5 / 6	0 / 1	5 / 6	4 / 6	4 / 6	46 / 55	4.1 / 5
	Total Score of Impact		16 / 16	33 / 33	17 / 18	33 / 12	32 / 29	18 / 19	14 / 14	1 / 4	15 / 15	14 / 18	26 / 33	-	-
	Average Score of Impact		1.6 / 1.6	3.3 / 3.3	1.7 / 1.8	3.3 / 1.2	3.2 / 2.9	1.8 / 1.9	1.4 / 1.4	0.1 / 0.4	1.5 / 1.5	1.4 / 1.8	2.6 / 3.3	-	-

Construction phase

Magnitude / Importance			Actions											Total Score of Impact	Average Score of Impact
			Transportation of raw material	Construction Activities	Operation of generators	Water consumption	Wastewater generation	Storage of raw materials	Social activities	Public welfare	Economic activities	Employment	Infrastructure improvement		
BIOLOGICAL EVIRONMENT	Flora	Forest	2 / 1	3 / 5	2 / 2	5 / 1	5 / 1	2 / 0	3 / 1	0 / 1	3 / 1	4 / 1	1 / 2	30 / 16	2.7 / 1.5
		Crops	2 / 2	5 / 6	3 / 2	0 / 0	4 / 6	2 / 2	2 / 3	4 / 3	5 / 7	3 / 3	3 / 3	33 / 37	3 / 3.3
		Wetlands	0 / 0	0 / 0	0 / 0	3 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
		Sea Grasses	0 / 0	0 / 0	0 / 0	3 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	3 / 0	0.5 / 0
		River Flora	0 / 0	0 / 0	0 / 0	3 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	3 / 0	0.5 / 0
	Fauna	Mammals	5 / 4	6 / 7	2 / 2	2 / 1	4 / 3	2 / 1	3 / 3	0 / 0	4 / 3	3 / 4	3 / 3	34 / 31	3.3 / 2.8
		Birds	2 / 2	7 / 7	5 / 5	2 / 1	4 / 4	1 / 1	5 / 4	0 / 0	5 / 5	3 / 4	4 / 4	34 / 37	3.4 / 3.3
		Fishes	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
		Other Vertebrates	5 / 4	6 / 7	2 / 2	2 / 1	4 / 3	2 / 1	3 / 3	0 / 0	4 / 3	3 / 4	3 / 3	34 / 31	3 / 2.8
		Invertebrates	6 / 6	6 / 7	2 / 2	4 / 3	5 / 4	4 / 3	4 / 4	1 / 1	4 / 3	3 / 4	3 / 3	42 / 40	3.8 / 3.6
	Ecosystem	Ecosystem Quality	2 / 1	5 / 6	5 / 5	5 / 5	5 / 6	4 / 4	5 / 5	1 / 1	4 / 5	3 / 3	2 / 2	41 / 43	3.7 / 3.9
		Ecosystem Destruction	2 / 2	5 / 6	4 / 4	2 / 2	5 / 6	2 / 2	4 / 4	0 / 0	4 / 5	3 / 3	2 / 2	33 / 36	3 / 3.2
	Total Score of Impact		26 / 22	43 / 51	29 / 24	28 / 14	36 / 33	21 / 2	29 / 27	6 / 6	33 / 32	25 / 26	21 / 22		
	Average Score of Impact		2.1 / 1.8	3.5 / 4.2	2.4 / 2	2.3 / 1.1	3 / 2.8	1.75 / 2	2.4 / 2.2	0.5 / 0.5	2.7 / 2.6	2 / 3.1	1.7 / 1.8		

Construction Phase

Magnitude / Importance			Transportation of raw material	Construction Activities	Operation of generators	Water consumption	Wastewater generation	Storage of raw materials	Social activities	Public welfare	Economic activities	Employment	Infrastructure improvement	Total Score of Impact	Average Score of Impact
			Actions												
SOCIO-ECONOMIC EVIRONMENT	Land Use	Rural	2 / 1	5 / 6	5 / 5	5 / 4	5 / 7	2 / 3	5 / 4	5 / 6	4 / 5	7 / 8	7 / 7	52 / 56	4.7 / 5
		Fisheries	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	6 / 7	0 / 0	0 / 0
		Urban	3 / 4	6 / 6	7 / 7	5 / 5	7 / 8	5 / 5	6 / 5	4 / 4	5 / 6	7 / 8	6 / 7	61 / 65	5.5 / 5.9
		Industrial	5 / 6	7 / 7	5 / 5	4 / 6	6 / 7	4 / 5	6 / 6	5 / 6	8 / 8	9 / 9	7 / 7	66 / 72	6 / 6.5
		Recreational Use	2 / 3	3 / 4	2 / 3	3 / 3	3 / 3	1 / 1	3 / 4	4 / 5	4 / 5	2 / 1	4 / 3	31 / 35	2.8 / 3.1
	Patrimony	Landscape	3 / 3	6 / 7	1 / 1	4 / 3	5 / 5	4 / 2	3 / 3	3 / 3	6 / 6	3 / 2	4 / 4	42 / 39	3.8 / 3.5
		Historical / Cultural	2 / 2	7 / 7	2 / 2	2 / 1	4 / 4	1 / 1	5 / 4	4 / 4	5 / 5	3 / 4	4 / 4	39 / 38	3.5 / 3.4
		Heritage	2 / 2	7 / 7	2 / 2	2 / 1	4 / 4	1 / 1	5 / 4	4 / 4	5 / 5	3 / 4	4 / 4	39 / 38	3.5 / 3.4
		Wilderness Quality	2 / 2	2 / 1	2 / 2	2 / 1	4 / 3	1 / 1	3 / 3	1 / 1	4 / 3	1 / 1	2 / 2	24 / 20	2.1 / 1.8
	Social	Population Density	5 / 4	6 / 7	4 / 4	5 / 4	4 / 3	2 / 1	5 / 5	3 / 3	4 / 3	5 / 4	6 / 7	49 / 45	4.5 / 4.1
		Employment	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0
		Hazards	5 / 4	6 / 7	2 / 2	2 / 1	4 / 3	2 / 1	3 / 3	1 / 1	4 / 3	5 / 4	4 / 5	38 / 34	3.4 / 3.1
	Total Score of Impact		31 / 35	55 / 59	38 / 35	36 / 29	46 / 44	23 / 21	44 / 41	34 / 37	49 / 49	42 / 44	50 / 57		
	Average Score of Impact		2.8 / 3.1	5 / 5.36	3.4 / 3.1	3.2 / 2.6	4.1 / 4.4	2.1 / 1.9	4 / 3.7	3.1 / 3.4	4.5 / 3	3.8 / 4	4.5 / 5.1		

Operational Phase																		
Magnitude / Importance			Actions														Total Score of Impact	Average Score of Impact
			Transportation of raw material	Production Activities	Operation of generators	Water consumption	Wastewater generation	Storage of raw materials	Social activities	Public welfare	Economic activities	Employment	Infrastructure improvement					
PHYSICAL	Soil	Soil Quality	2 / 1	3 / 2	0 / 0	1 / 1	5 / 2	4 / 4	1 / 1	0 / 1	1 / 1	1 / 3	4 / 6				22 / 22	2 / 2
		Erosion	2 / 1	6 / 6	0 / 0	0 / 0	2 / 2	1 / 1	2 / 1	0 / 0	1 / 1	1 / 1	3 / 4				18 / 17	1.6 / 1.5
		Geomorphology	0 / 0	5 / 5	0 / 0	4 / 2	5 / 3	2 / 1	0 / 0	0 / 0	1 / 1	2 / 1	4 / 6				23 / 19	2.09 / 1.7
	Water	Surface Water	0 / 0	0 / 0	0 / 0	6 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0	0 / 0				6 / 0	0.5 / 0
		Subsurface Water	1 / 2	1 / 1	0 / 0	7 / 8	5 / 7	1 / 1	0 / 0	0 / 0	1 / 1	0 / 0	2 / 2				18 / 22	1.6 / 2
	Air	Air Quality	2 / 1	6 / 6	0 / 0	0 / 0	2 / 2	1 / 1	2 / 1	0 / 0	1 / 1	1 / 1	3 / 4				18 / 17	1.6 / 1.5
		Odors	1 / 1	1 / 1	3 / 3	0 / 0	5 / 7	4 / 6	1 / 1	0 / 1	0 / 1	1 / 1	1 / 1				17 / 23	1.5 / 2.0
		Noise	5 / 6	9 / 10	7 / 8	0 / 0	5 / 4	2 / 2	5 /	0 / 1	5 / 6	4 / 6	4 / 6				46 / 55	4.1 / 5
BIOLOGICAL	Fauna & Flora	Crops	2 / 2	5 / 6	3 / 2	0 / 0	4 / 6	2 / 2	2 / 3	4 / 3	5 / 7	3 / 3	3 / 3				33 / 37	3 / 3.3
		Birds	2 / 2	7 / 7	5 / 5	2 / 1	4 / 4	1 / 1	5 / 4	0 / 0	5 / 5	3 / 4	4 / 4				34 / 37	3.4 / 3.3
		Mammals	5 / 4	6 / 7	2 / 2	2 / 1	4 / 3	2 / 1	3 / 3	0 / 0	4 / 3	3 / 4	3 / 3				34 / 31	3.3 / 2.8
SOCIO - ECON	Social	Industrial	5 / 6	7 / 7	5 / 5	4 / 6	6 / 7	4 / 5	6 / 6	5 / 6	8 / 8	9 / 9	7 / 7				66 / 72	6 / 6.5
		Recreational Use	2 / 3	3 / 4	2 / 3	3 / 3	3 / 3	1 / 1	3 / 4	4 / 5	4 / 5	2 / 1	4 / 3				31 / 35	2.8 / 3.1

		Historical / Cultural	2 / 2	7 / 7	2 / 2	2 / 1	4 / 4	1 / 1	5 / 4	4 / 4	5 / 5	3 / 4	4 / 4	39 / 38	3.5 / 3.4

Overall, the impact of project is positive in term of employment and infrastructure improvement. Mostly the average values are falling in 0.2-6.5 range which means the overall impact will be low to moderate. Due to the construction activities dust and gases will generate which may affect ambient air quality, the biological environment will disturb at low level and socio-economic environment will disturb at low moderate level At operation phase any impacts will be managed through control technologies . To counter with the negative impacts Environmental Management plan is formulated which will be ensured by the project proponent. Beside this Environmental monitoring plan is also formulated for Environmental monitoring of various parameters which will be also implemented by the proponent.

Impact analysis and prediction:

In order to evaluate the socioeconomic and environmental impacts, filed surveys are extremely essential. In addition to the surveys, consultation with the community and their active participation plays a vital role in successful implementation of the project. For the impact analysis and predictions following methods were adopted:

Consultations/ case studies:

To study the impacts of the project on physical and biological environment, site visits were conducted by the environmental practitioners and experts and possible physical and biological impacts which may arise due to the subject project were identified through consultations and case studies and their mitigation measures were suggested accordingly.

Meetings:

For the identification of the social impacts of the project, meetings and group discussions were held with the local people, stakeholders, nearby residents and passerby because social acceptability of the project and the area is a key to success. Consultation with the stakeholders is a tool for managing two-way communication between the project proponent and the affected public. Its goal is to improve decision making and built understanding by actively involving individuals, groups and organizations, which have stake in the project. This involvement increases project's long-term viability and enhances its benefits to locally affected people and other stakeholders.

To identity the different types of stakeholders and ascertain their perceptions about the project. Informal group discussions were also held as an additional tool for obtaining feedback from the stakeholders that are being discussed in the following.

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

- Selection of the stakeholders for consultation, reconnaissance of the said project site and initial discussions with the neighboring factory workers, villagers, shopkeepers, drivers etc.
- Environmental consultants and social specialists and documenting the opinions of the stakeholders expressed during the meetings etc.

Characteristics of impacts:

Impact assessment criteria:

The impacts were assessed in the light of criteria given as under: -

- Magnitude or degree of impact
- Time and duration of impact
- Likelihood of impact occurrence
- Sensitivity of impact
- Risk related to impact

Environmental Parameters:

Environmental Impacts due to Project Location:

Project is present in the area of the District Kasur. This unit is being constructed in already allocated industrial area. The project is proposed extension of Hosiery Division unit; the site does not fall in the category of sensitive area and no environmentally sensitive localities exist within radius of study area. Access road network is available at the project site. If the project proponent

maintains HSE conditions and comply with the PEQS limits than, there will not be any significant impacts of the project on the environment.

If the mitigation measures are effectively implemented, the residual impact of the Subject project activities on the area's geophysical environment is expected to be insignificant.

Impact significance: Low to moderate

Nature of impact: Direct

Duration: Long-term

Timing: Construction & Operation phase

Reversibility: NA

Likelihood: Low

Consequences: Mild or may be positive

Mitigation Measures

- Project site will have good and efficient road infrastructure that already exists there at the project site.
- Location can be considered as the positive impacts due to enhanced infrastructure.
- The project will also have positive socioeconomic impacts because of provision of jobs to the local residents of the area.
- No human settlement within the radius of the study area
- There would be no issue of congestion of traffic due to presence of good road network in the area.
- Provision of embankments, designed by considering the Geotechnical investigation studies. Due consideration should be given to aesthetic improvement during the design phase.

Land Acquisition Resettlement:

One of the major impacts may include acquisition of land from the land owners and the resulting displacement of their families and disturbances in the livelihood of the affected persons (AP) in the project area. But present project land is ownership of M/S Interloop Limited HD-III and will not involve any type of land acquisition and resettlement activity.

Nature of impact: direct

Timing: Planning stage

Duration: not applicable

Likelihood: Nil

Consequences: no change

Impact significance: Not significant

Mitigation measures:

No resettlement will be involved.

Environmental Impacts due to the Project Design

Subject project is proposed Extension of Hosiery Division under the name of M/s Interloop Limited HD-III. Area for parking, wastewater treatment facility and solid waste management will be reserved within industry. Firefighting plan, health & safety plan, tree plantation plan, emergency response plan will be incorporated during the design phase of the project.

Following are the major Environmental impacts due to the development related to the design:

- Low utilization of available space
- Soil structure and soil bearing capacity
- Improper road infrastructure design
- Emergency exit in the proposed project
- Firefighting system

- Wastewater disposal system design
- Rain water harvesting capacity of the drainage system
- Electricity hazards
- Low social acceptability & functionality of design

Impact significance: moderate to high

Nature of impact: direct

Duration: Long-term

Timing: Constructional phase & Operation phase

Reversibility: NA

Likelihood: moderate to high

Consequences: moderate to high

Mitigation measures and recommendations

Following are the mitigation measures and recommendations to minimize the anticipated impacts:

- Industrial unit will incorporate all HSE measures regarding the design of project.
- Structure stability of the building should be ensured.
- Emergency exist points should be marked within the project building and in overall plan.
- Firefighting system should be designed for the emergency situations.
- Electricity system should be design safe and sound.
- Electricity wires should be covered by thick plastic/electricity resistant covers.
- Design should be professional which accommodate the maximum space and has high social acceptability & functionality

Environmental Impacts during Construction Phase:

Impacts on Physical Environment

Topography

Project has plan land and some digs. In the proposed area there are little trees and excavation and leveling is involved in this construction.

Impact:

- Change in topography due to excavation
- Land filling of the area
- Construction of roads

Impact significance: Low

Nature of impact: Direct

Duration: Short-term

Timing: Constructional phase

Reversibility: NA

Likelihood: moderate

Consequences: Very Low

Mitigation:

- Cuttings of trees will be avoided
- Use of existing paved tracks as many as possible.
- Working should be in such a way that minimum excavation is involved

Air Quality:

Air quality will be affected by fugitive dust emissions from construction machinery; dust from the unpaved surface and construction vehicles. The critical sources of dust pollution during the construction phase will be;

- Unpaved road surface
- Transportation of materials and other construction activities that create dust emissions

Impact significance: Low

Nature of impact: Direct

Duration: Short-term

Timing: Constructional phase

Reversibility: NA

Likelihood: moderate

Consequences: Very Low

Impact:
Air quality deterioration, particulate matter/dust emissions due to construction activities; stand by generator (if any), equipment's and vehicle.

Mitigation:

- Sprinkling of water on track will reduce dust pollution
- Provision of dust masks for workers.
- Air quality monitoring is recommended on regular base
- Proper paved road infrastructure is recommended
- All vehicles, machinery, equipment and generators used during construction activities should be kept in good working condition and be properly tuned and maintained in order to minimize the exhaust emissions
- Blowing of dust and particulate matter from stockpiled loose materials (e.g., sand, soil) should be avoided either by sheeting them with tarpaulin or plastic sheets or by sprinkling them with light shower of water
- Open burning of solid waste from the Contractor's should be strictly banned;

Noise
Noise is a by-product of human activity, and area of exposure increases as function of mobility and construction activities. Sources of noise during construction are heavy machinery such as bulldozers, excavators, stabilizers and other equipment. Noise generated by construction machinery is likely to affect sensitive receptors located within 50 meters of the proposed Project.

Impact

- Persistently higher noise levels can produce psychological effects of distraction of attention, irritation and short temperedness in the exposed persons
- Noisy settings and higher background levels can cause temporary threshold shift and the consequent habit of speaking loudly, which may cause damage to vocal cords in the persons exposed
- Noise produced from moving construction vehicles and blowing of pressure horns, at times, could be intolerable particularly during quiet hours of night

Impact significance: Low

Nature of impact: Direct

Duration: Short-term

Timing: Constructional phase

Reversibility: NA

Likelihood: moderate

Consequences: Low

Mitigation:

- Selection of up-to-date and well-maintained plant or equipment with reduced noise levels ensured by suitable in-built damping techniques or appropriate muffling devices
- Confining excessively noisy work to normal working hours in the day, as far as possible
- Providing the construction workers with suitable hearing protection like ear cap, or earmuffs and training them in their use
- Preferably, restricting construction vehicles movement during night time
- Vehicles and equipment used should be fitted, as applicable, with silencers and properly maintained
- Use of low noise machinery, or machinery with noise shielding and absorption

- Contractors should comply with submitted work schedule, keeping noisy operations away from sensitive points; implement regular maintenance and repairs; and employ strict implementation of operation procedures

Water Resources

There will be no significant surface water resource of the project area so there will be no impact on surface water quality during the construction of the project area. Persistent and prolonged withdrawal of groundwater higher than the safe yield limits of the aquifer can initiate early depletion of aquifer. This situation can result in reduced water supplies for other users who share the same groundwater resource. Abstraction of the groundwater over and above the safe yield limit can produce serious hydrological and environmental consequences.

Impact:

- Early depletion of the aquifer resources
- Persistent lowering of the water table
- Reduced availability or non-availability of the groundwater to the neighboring communities sharing the same aquifer

These impacts are temporary and minor negative in nature

Impact significance: Low

Nature of impact: Direct

Duration: Short-term

Timing: Constructional phase

Reversibility: NA

Likelihood: moderate

Consequences: Low

Mitigation:

- Water required for construction will be obtained in such a way that the water availability and supply to nearby communities remain unaffected

- Regular water quality monitoring according to determined sampling schedule
- Prohibit washing of machinery and vehicles in surface waters, provide sealed washing basins and collect wastewater in sedimentation/retention pond
- Continuous withdrawal and over pumping of groundwater should be avoided. Instead, intermittent pumping be carried out to conserve the groundwater resources
- Take precautions construct temporary or permanent devices to prevent water pollution due to increased siltation

Soil

The project area is open land with no paved area. Soil erosion and contamination may occur on site due to the following likely impacts:

Impact:

- Excavation of earth/cutting operations
- Land leveling activities
- If the excavated area will be left unfilled for long, which may lead to rainfall induced soil erosion;
- The unspent materials and debris produced from consumed up materials, if left as such and allowed to mix with soil underneath, can degrade the quality of receiving soils and may render them unfit for plantation later on
- Leakages of oils, lubricants, chemicals, and other similar substances from their storage sites and from engines of the generators, machines, equipment and vehicles can spoil the receiving soils and may undermine ability of the spoiled soils to support growth of vegetation and plants (if any)
- Non-provision of septic tanks with the temporary worksite toilets, constructed for the labor and others, can contaminate the effluent receiving soils because of raw nature of the effluents
- Washing of the gadgets, machinery and equipment without proper drainage of the washout water can adversely affect the soil quality. This impact is, however, temporary.
- Onsite storage of the construction materials such as sand, aggregate, crushed stone, cement, bricks, lubricants, fuels and iron bars on the land without an intervening barrier, can degrade soil quality and may smear them with fine particulates of the dumped material

Impact significance: Low to Moderate

Nature of impact: Direct

Duration: Short-term

Timing: Constructional phase

Reversibility: NA

Likelihood: moderate

Consequences: Low

Mitigation:

- Non-bituminous wastes from construction activities will be dumped in approved sites, in line with the legal prescriptions for dumpsites, and covered
- As applicable and needed, plantation of grasses and shrubs will be done at appropriate place where required
- Unnecessary excavations should be avoided
- Oils, lubricants, chemicals, and other listed hazardous materials should be stored safely at their designated spots, enclosures or store rooms, which should be safe from rainfall and away from any potential source of fire
- Septic tanks of adequate capacities should be constructed for receiving and treating wastewater from all temporary worksite toilets and at the temporary container offices, if any. The toilet wastewater should not be discharged untreated onto the adjacent lands
- All machineries and materials should be stored at the designated areas and compounds
- All the unspent and left-over materials should be completely removed offsite upon completion of construction
- Washout from washing of equipment and gadgets should be drained into either a septic tank or a sand-gravel bed for removal of the grit and contaminants

Wastewater

Impact:

Wastewater generation due to construction activities. Sources of wastewater during construction include;

- Construction site surface runoff
- Wastewater from vehicle washing
- Wastewater from boring works

Mitigation:

- Wastewater generated during construction and domestic activities will be stored temporarily in septic systems comprising of septic tanks from where it will be routed to local drain/ nallah present near the project.
- Waste segregation measures will be employed to minimize entry of solid waste into the wastewater stream.
- An appropriately designed septic tank will be used to treat sewage/wastewater to achieve PEQS
- Periodic cleaning of the septic tank is recommended.

Solid Waste

Due to construction activities waste will be generated at construction and contractors camp site. The construction waste will include wastewater, oil spillage from machinery, domestic waste and solid waste etc. The handling and storage of oil, asphalt/bitumen may be a source of environmental pollution as a hazardous waste. This will result in unhygienic conditions, health risk to work force and public at the camp site.

Impact

- Insecure and unhygienic disposal of the solid wastes generated at the worksite, particularly garbage and trash may cause degradation of soil and land
- Insecurely disposed off heaps of wastes containing kitchen garbage and food waste can serve as breeding grounds for the disease spreading vectors and rodents
- Throwing away of solid wastes into water channels and the wastewater network can result into choking of the latter.

Impact significance: Low

Nature of impact: Direct

Duration: Short-term

Timing: Constructional phase

Reversibility: NA

Likelihood: moderate

Consequences: Moderate

Mitigation:

- An efficient and responsive solid waste management system should be devised for the entire duration of the construction phase. Such a system should provide for separate collection of different categories of constructional wastes. The wastes which will be reusable/recyclable (iron bars, aluminum) should be sold to waste vendors and those which cannot be sold out (brick pieces) may be used as a filling material for leveling the depressions, subject to technical feasibility
- Training of working force in the storage and handling of materials and chemicals that can potentially cause soil contamination
- Solid waste generated during construction and camp sites will be safely disposed in demarcated waste disposal sites or handed over to the contractor

Health and Safety

Health risks and work safety problems may result at the workplace if the working conditions provide unsafe and/or unfavorable working environment and due to storage, handling and transport of hazardous construction material. Workers should be provided with safe and healthy working environment taking into account risks inherent to the particular sector and specific classes of hazards in project area. Mitigation measures will include:

Impact significance: Low to Moderate

Nature of impact: Direct

Duration: Short-term

Timing: Constructional phase

Reversibility: NA

Likelihood: moderate

Consequences: Moderate

Mitigation:

- Providing basic medical training to specified work staff and basic medical service and supplies to workers
- Layout plan for site, indicating safety measures taken by the contractor, e.g., firefighting equipment, safe storage of hazardous material, first aid, security, fencing, and contingency measures in case of accidents
- Work safety measures and good workmanship practices are to be followed by the contractor to ensure no health risks for laborer's
- Protection devices (ear muffs) should be provided to the workers doing job in the vicinity of high noise generating machines
- Provision of adequate sanitation, washing, cooking and dormitory facilities including light up to satisfaction
- Provision of protective clothing for laborers handling hazardous materials, e.g., helmet, adequate footwear for bituminous pavement works, protective goggles, gloves etc.
- Ensure strict use of wearing these protective clothing during work activities
- Instruct foremen to strictly enforce the keeping out of non-working persons, particularly children, off work sites
- Adequate signage, lightning devices, barriers, yellow tape and persons with flags during construction to manage traffic at construction sites, haulage and access roads.

Impact on Biological Environment

There is no any fauna or flora is present on the proposed project site. Few trees are there. On their behalf a complete plantation plan has been provided.

Impact on Socio-economic Environment

Economic Activity

Due to the construction of the proposed Project, economic activity will be generated in the project area as the laborers and semi-skilled staff will have an opportunity to work for the construction of the proposed project. This will help in developing their skills and capacities. This is a moderate positive impact.

Lifestyle and Culture

There are chances of arising of issues related to cultural differences/conflict between the Contractor's workforce and the local inhabitants, conflicts arising due to the mix of local and migratory job seekers as the use of local resources and products will be increased. In this situation, local residents may resist contractor's workforce attitudes, cultural clashes particularly when local/international contractors are engaged, social disturbance and dissatisfaction with employing outsiders may arise. This impact is temporary and minor negative in nature.

Mitigation

- Timely public notification and announcement of mobilizing equipment
- Local labor should be employed for construction works

Analysis of Impacts and Recommended Mitigations

Impacts during Operational Phase:

The positive and negative impacts of subject project, during its operation are discussed below:

Impacts on Physical Environments

Solid waste/ sludge management:

In the operation of said project proper solid waste management system will be adopted for the prompt, timely and efficient disposal of solid waste & sludge for the reduction of its impacts. Impacts due to solid waste & sludge may be temporary and minor in nature.

Nature of impact: Direct

Duration: Short term

Timing: operation

Reversibility: Not applicable

Likelihood: Low (unlikely) if mitigation measures are being ensured that Solid waste management in efficient way.

Consequences: Mild, as removed from site within few hours

Impact significance: Low, based upon low likelihood and mild to moderate consequence.

Mitigation measures: Devise plan & develop guidelines for the safe handling, storage & disposal;

- Sludge is placed at the site after cleaning of wastewater treatment facility;
- PPEs are strongly recommended for workers for the handling of sludge;
- Separate bins at various places must be present for solid waste collection and segregation;
- Process Waste will be handed over to Local waste contractor;
- Packaging waste will be recycled within the factory;
- Industrial ecology practices will be implemented wherever possible;

Wastewater

Wastewater produced only from domestic activities.

Nature of impact: Direct

Duration: Short term

Timing: Operation

Reversibility: Not applicable

Likelihood: Low

Consequences: Mild

Impact significance: Low.

Mitigation measure

- Wastewater that is finally disposed off, will be in limits of PEQS
- Septic tanks will be available.
- Water conservation approaches will be followed by industry to reduce its wastewater

Gaseous Emissions:

Emissions can be produced by boilers, generators, vehicles and equipment, similar to those produced by generators (if any) in terms of the resulting pollutants (SO_2, NO_X, PM, etc.). However, the extent to which they can produce should keep considerably lower, since much smaller engines will be used in vehicles.

Nature of impact: Direct

Duration: long term

Timing: operation

Reversibility: irreversible

Likelihood: moderate if mitigation measures are being ensured.

Consequences: moderate, if pollutants level in the ambient air will be controlled within acceptable limits by adopting proper mitigations.

Impact significance: moderate, based upon low likelihood and mild to moderate consequence.

Mitigation Measures

- None of the potential effects discussed will exceed to acceptable limits.
- The mitigation measures given below used to reduce their impact, and ensure that they remain within acceptable limits.
- All equipment and vehicles during the operation of project will be properly tuned and maintained in good working condition in order to minimize exhaust emissions.
- Speed limits will be imposed and encourage more efficient journey management worked to reduce the dust emissions produce by vehicular traffic. Water sprinkling will be done where necessary.

- The Industrial Unit will have proper ventilation system incorporated in their layout in order to mitigate indoor pollution like VOCs.
- PPEs will be provided to worker and shit rotation will be ensured to reduce exposure
- Management will make sure that process will be environment friendly

Dust/particulate matter

Particulate/Dust emission can be a major issue during the process of carding and roving which can be a cause of indoor air pollution.

Nature of impact: Direct

Duration: long term

Timing: operation

Reversibility: irreversible

Likelihood: moderate if mitigation measures are being ensured.

Consequences: moderate, if pollutants level in the ambient air will be controlled within acceptable limits by adopting proper mitigations.

Impact significance: moderate, based upon low likelihood and mild to moderate consequence.

Mitigation measures

- The Industrial Unit will have proper ventilation system incorporated in their layout in order to mitigate indoor pollution like dust and particulate matter
- PPEs will be provided to worker and shit rotation will be ensured to reduce exposure

Energy Requirement

Energy consumption in industrial area is usually very high. Machinery work runs all day in different industries. Energy conservation technique should be in mind.

Mitigation measures

- Do not waste the energy/electricity when there is no need of it.
- Use energy efficient machinery and equipment
- Use energy saving products
- Conduct and maintain records for energy audits

- Do not leave the machinery in running form when there is no working being done
- Machinery must never be left unattended

Noise level:
Noise will be the major concern during the operation phase. It can be generated from the traffic on the road and from the machinery used for operations.

Nature of impact: Direct

Duration: long term

Timing: operation

Reversibility: Not applicable

Likelihood: low

Consequences: slightly significant

Impact significance: moderate, based upon low likelihood and mild to moderate consequence.

Mitigation measures:
- Machinery and vehicles will be tuned and maintained
- Limits will be imposed on unnecessary use of horns
- Safety signs will be displayed. public & drivers will be aware of them

Employment opportunities:
Subject project will help in generating new jobs for the local population. The requirement of Managers, Engineers, Workers, technicians, skilled and unskilled labor etc. About 25-30 persons will be employed during operations phase. Hence, there will be large number of employment opportunities especially for the locals of District Faisalabad.

Potential Environmental Enhancement Measures

Following necessary measures should be adopted during operational phase of the project and most of them are being adopted:

- Sprinkling of water will be done on dusty roads and tracks.

- Machinery should never be left unattended.
- Efforts should also be made to discuss traffic conditions so that regular traffic is not disturbed. Transporters engaged for the project would be forced to adhere to the load specifications of the access road. No overloading should be allowed in any case.
- Machinery will be kept maintained.
- Wastewater will be treated through septic tanks that were installed within the premises of the subject project.
- Proper SOPs are being followed with proper schedule along with the HSE conditions.
- A proper tree plantation plan will be formulated to save the environment.
- Solid waste will be handed over to local contractors.
- Noise will be controlled by adopting proper measures.
- PPEs will be provided to workers during working.
- Hygienic conditions will be ensured and proper quality will be maintained by quality control testing.

Purpose of Mitigation measures

What is the problem i.e., in terms of "major environmental impacts" which may arise by the subject project activity?

The major impacts which may arise by the subject project can be air, water and noise pollution. Other impacts are of minor importance. These impacts may arise during operational phase of the project, during the operational phase of the subject project, it will be ensured that precautionary measures are being adopted, during the activity and post activity to cause minimum impacts to the environment.

When the problem will occur and when it should be addressed?

Negative impacts may arise during the operational phase of the project if proper precautionary measures and procedures will not be followed. If proper precautionary measures and procedures will be i.e., implemented, there should not be any major problem. If any impact would arise due to the subject project activity, it will be addressed on site. Trainings will be conducted on site while

other precautionary measures will also be adopted to make the project safe and environmentally friendly.

Where and how the problem should be addressed?

The problem should be address at the site and immediate response should be provided to address the problem which may arise. Institutional capacity responsible for the implementation of EMMP is responsible for addressing such problems if arise.

Whys of achieving mitigation measures

Improved monitoring and management practices:

Management of M/S Interloop Limited HD-III. will take appropriate measures to provide pollution free and safe environment during the said project activity by implementing improved management practices and monitoring techniques suggested in EMP.

Chapter # 6

Environmental Management and Monitoring Program

The primary objectives of the EMMP are to:

1) Facilitate the implementation of the mitigation measures identified in the EIA.
2) Define the responsibilities of the project proponent.
3) Define a monitoring mechanism and identify monitoring parameters in order to:
4) Ensure the complete implementation of all mitigation measures.
5) Ensure the effectiveness of the mitigation measures.
6) Provide a mechanism for taking timely action in the face of unanticipated environmental situations.
7) Identify training requirements at various levels.

Institutional Capacity

The overall responsibility for compliance with the environmental management plan rests with the project proponent. He will appoint an HSE/Project Manager of relevant qualification. HSE/Project Manager will be acting as Environmental Manager and is managing all HSE conditions at the PEQS at current stage of the project.

A certain degree of redundancy is inevitable across all management levels, but this is in order to ensure that compliance with the environmental management plan is crosschecked.

Following functionaries will be involved in the implementation of EMP:

- Project Proponent
- HSE Officer
- In-Charge Administration
- Supervisor of project

Organogram of authorities involved in the implementation of EMP.

Training Schedule

Training for the management and workers on environmental aspects of the project will be arranged during the operational phase of the project.

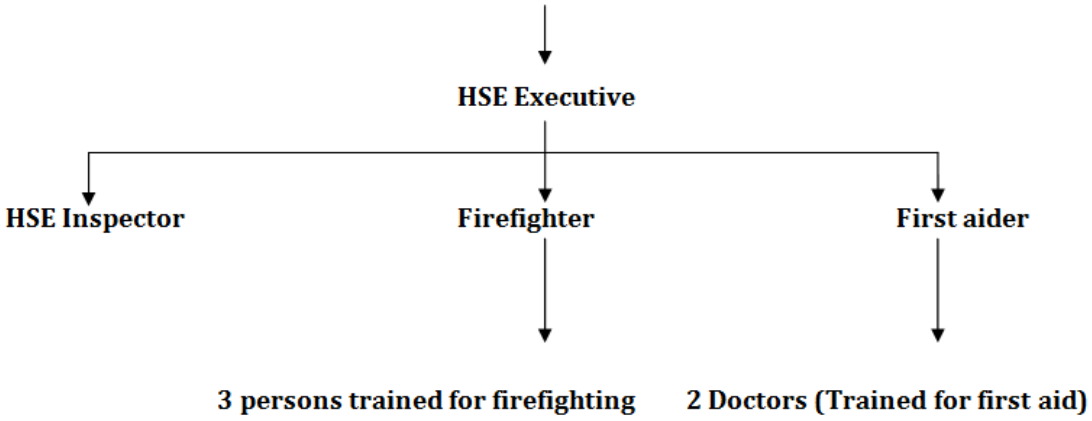


Figure 8: Institutional Capacity for the Implementation of EMP

Management of the unit will be hiring or appointing HSE officer. HSE officer will be responsible for conducting the training of the labor, which will be organized either by the management of Textile Spinning unit. Following schedules of training will be implemented:

Table 7: Training Programs

Sr. No.	Description of program	Labor/ Personnel involved	Time/ duration
1)	General HSE Training	Trainers and whole labor	Quarterly for 1 hour
2)	Instrument use/ workplace specific items	Trainers and whole labor	Quarterly for 1 hour
3)	PPEs use and safe work practices at work site.	Trainers and whole labor	Quarterly for 1 hour

4)	Reporting and investigating accidents/ incidents	Trainers and whole labor	Quarterly for 1 hour
5)	Emergency procedures	Trainers and whole labor	Quarterly for 1 hour
6)	Medical and first aid	Trainers and whole labor	Quarterly for 1 hour
7)	Health and safety promotion	Trainers and whole labor	Quarterly for 1 hour

In order to raise the level of professional and managerial staff, there is a need to upgrade their knowledge in the related areas. HSE/Project Manager should play a key role in this respect and arrange the training programs. HSE/Project Manager will provide training to staff and workers about the best environmental management practices. The training modules will include air, noise and water pollution monitoring, social awareness, Environmental Laws, Punjab Environmental Quality Standards (PEQS), Usage of personal protection equipment's, and health and safety related issues on the Project site.

The HSE/Project Manager will train all workers & staff in basic sanitation and health care issues (e.g., how to avoid malaria and transmission of Sexually Transmitted Infections (STI) HIV/AIDS and in general health and safety matters, and on the specific hazards of their work. Training should also consist of basic hazard awareness, site specific hazards, safe work practices, and emergency procedures for fire, evacuation.

HSE/Project Manager will be conducted Training on quarterly basis regarding health & safety, hygiene, firefighting and first aid

Equipment Maintenance Detail

Subject project is Proposed extension of Hosiery Division under the name of M/s Interloop Limited HD-III

The Company should maintain the records for Health, Safety & Environment and hiring HSE manager to check and deal with the HSE issues. The company is maintaining PPEs, medical facilities, firefighting Equipment's as fire buckets, fire hydrants and fire extinguishers and records for their periodic fillings or replacement.

Environmental Budget

The cost which is required to effectively implement the mitigation measures is important for the sustainability of the Project in operation stage of the Project. Proponent is allocating a specific amount of total cost of the project as Environmental Budget for meeting the following purposes:

Table 8: Allocation of Environmental Budget

HSE training	On quarterly basis
Maintenance and management of environment	On regular basis
Maintenance of equipment	On regular basis
Restoration	As per requirement
Plantation	During the operation phase
Strategic planning to cope with any emergency situation	As per policy
Formulate the disaster management plan to cope with natural disaster	As per policy

Implementation of all these parameters will be included in the environmental budget. Any equipment failure will not be included in this budget

ENVIRONMENTAL MANAGEMENT PLAN OF M/s Interloop Limited HD-III

Serial No.	Environmental Parameter/ Element	Mitigation measure to be taken during construction stage		
		Construction	Regular operations	Responsibilities
1.	Gaseous/ Dust emissions	1- Construction materials i.e. sand, clay shall be transported to the project site during night time and will be stored away from the road or foot path. They will be kept under cover to avoid any fugitive dust.	Management will ensure that PPEs i.e. masks will be provided to workers during the working hours.	**HSE/Environment Manager**
		2- The site proposed for the construction of Manufacturing Unit is located away from human settlements.	Vehicles to use for the transportation of raw materials Manufacturing Unit, should be properly tuned.	
		3- All equipment, generators, and vehicles used during the project will be properly tuned and maintained in good working condition in order to minimize exhaust emissions.	One diesel fired generator shall cater for emergency situation only. Their exhaust will be emitted through an adequately fabricated stack. It will also be kept in mind that the generators will only	

			function during emergency condition for limited period.	
		4- All project vehicles will be checked regularly to ensure that engines are in sound working condition and are not emitting smoke.	Monitoring should be conducted on Monthly basis as per EPA PEQS Rules.	
2.	Noise	1- All activities will be under PEQS level of noise during construction phase.	All activities will be under PEQS level of noise during operation phase.	**HSE/Environment Manager**
		2- Ear plugs will be provided & implemented (ensured by the management of **Interloop Limited HD-III**	PPEs i.e. ear muffs should be provided to workers in case of high noise.	
3.	Health & safety	1- Local people will be informed in advance when work is about to start in an area. This may result in people keeping young children away from work areas. 2- Machinery will never be left unattended.	1- The EMP guidelines will be followed strictly (committed by the management). 2- Training of workers will be conducted regarding health and safety. 3- PPEs will be provided and implemented.	**HSE/Environment Manager**

		3- Safe driving practices will be adopted, particularly while passing through settlements. 4- Basic health facilities will be provided to workers. 5- PPEs will be provided & implemented. 6- Electrical wires, D.Bs will be kept covered to avoid electrical hazards.	4- First aid measures will be provided to workers. 5- Shift Rotation, proper ventilation will be provided to workers in case of thermal stress. 6- Safety signs, safety boards, exit arrows etc. will be placed on site. 7- An Assembling point will be kept to gather in case of emergency situation such as fire hazards. 8- Floors will be kept clean without slippery to avoid any hazard. 9- Firefighting system will be installed to avoid any health hazards. 10- Electrical wires, D.Bs will be kept covered to avoid electrical hazards. **11-** Machinery will never be left in running condition.	

4.	Generation of domestic & project process related solid waste.	Construction Solid waste will be stored in solid waste bins and will be reused for land filling and maintenance purposes and domestic waste will be handed over to the certified contractors.	Domestic, process related solid waste and sludge will be stored in solid waste bins and will be handed over to certified contractors.	**HSE/Environment Manager**
5.	Waste effluents	Wastewater must be treated	The sewage to be generated shall be treated in current treatment facility of unit & then will be drained out in the nearby Sundar Industrial Estate drain.	**HSE/Environment Manager**
6.	Water supply	It shall be ensured that no activity tempers with the water supply system and water availability	It shall be ensured that no activity tempers with the water supply system and water availability	**HSE/Environment Manager**
7.	Soil erosion	The clearing of vegetation along proposed site will be minimized as far as possible.	Plants will be planted during operation phase of the subject Division.	**HSE/Environment Manager**
8.	Enhancement of aesthetic beauty of the building and the area.	---	1- Flower pots containing flowers and plants will be provided in front of the building to add to the improvement of the environment around.	**HSE/Environment Manager**

			2- All other necessary measures will be taken to maintain standards of cleanliness so that the building may add to the scenic/aesthetic beauty of the area around.	
9.	Staff for catering the Environmental Management Plan	---	**1-** Special staff will be recruited to implement this Environmental Management Plan on regular basis.	**HSE/Environment Manager**
10.	**Sludge from Effluent treatment plant**	**----**	Sludge will be handle properly and after successful removal from tanks It will hand over to contractors	**HSE/Environment Manager**

Proposed Environmental Monitoring

To oversee the environmental performance of the project through its lifecycle enforcing the PEQS an Environmental Monitoring Program should be formulated which ensures effective surveillance of the environmental parameters at various stages of the project development and compliances with PEQS and legal obligations. Monitoring for following Environmental Parameters is recommended:

- **Ambient Air**

Monitoring for ambient air should be conducted on quarterly basis during operational phase of the project and report should be submitted to EPA Punjab.

- **Noise**

Regular monitoring for noise level should be maintained periodically during operation phases of the project and report should be submitted to EPA Punjab.

- **Water quality**

Regular monitoring of water quality should be conducted on monthly basis during operation phases of the project and report should be submitted to EPA Punjab. Record should be maintained regarding the underground water pump and consumption.

Recommendation: Environmental Monitoring data log book should be maintained by the project proponent.

Proposed EMP Reporting and Reviewing Procedures

To oversee the environmental performance of the project through its lifecycle to enforcing the PEQS an Environmental Monitoring Program should be formulated which ensures effective surveillance of the environmental parameters at various stages of the project development and compliances with PEQS and legal obligations.

HSE manager is responsible for reviewing the performance of the project with respect to the guidelines mentioned in EMP related to following aspects:

- Health and safety
- fire safety arrangements,
- emergency evacuation plan
- emergency preparedness response
- provision of PPEs to workers

Internal audits should be done on biannual basis to check to the project performance with respect to the guideline proposed in EMP

Environmental Monitoring data log book should be maintained by the project proponent.

CHAPTER # 7

STAKEHOLDERS PARTICIPATION

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

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

Objectives of Consultation

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

The important general objectives of the consultation process are:

- Information dissemination, education and liaison;
- Identification of problems and needs;
- Collaborative problem solving;
- Reaction, comment and feedback on proposed project;
- Documenting mitigation measures proposed by the stakeholders;

Methodology of consultation:

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

- Selection of the stakeholders for consultation, reconnaissance of the proposed project site and initial discussions with the neighboring industry workers, villagers, shopkeepers, drivers etc.
- Environmental consultants and social specialists and documenting the opinions of the stakeholders expressed during the meetings etc.

Proponent's environment management team

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

Responsible Authority

Management of M/s Interloop Limited HD-III Limited is the responsible authority to take all measures prior to start the activity.

Environmental Practitioners and experts

Team of M/s Pak Green Enviro-Engineering Pvt. Ltd visited the project site, had discussions with stakeholders and consulted with the local people of nearby and other villages to evaluate the project socio-economic impacts. People provide the massive information about the project and have positive remarks regarding the project development.

Other departments and agencies

For the impact analysis detailed meetings were held with the management of M/s Interloop Limited HD-III, local community, education institutes, health institutes, hospital and NGOs. Issues were discussed that may affect the environment and also the implementation of proposed project. All possible mitigation measures were considered and incorporated in the Environmental Management Plan.

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

Affected & Wider Community

There is no affected community present in the radius of our study area. PGEE team has consulted with the inhabitants of the different nearby areas and Villages . They provided positive remarks regarding the subject project and in the favor of the subject activity for the proposed plant. Stakeholders participation Performa's and socioeconomic questionnaire were get filled by the inhabitants to evaluate the project socio-economic impacts. List of respondents and socioeconomic questionnaires are attached as **Annexure-E** with the report.

In addition to the above categories, authorities of administrative and educational institutions, commerce and Investment Department (C&I), Environmental Protection Department (EPD) etc. were also consulted for more effective participation and appraisal of the proposed project.

Issues Discussed:

Following issues were discussed during the stakeholder consultation:

- Overall activities of the project;
- Possible impacts on natural vegetation, air, land and properties;
- Possible mitigation measures;
- Benefits of the project specifically for the local people.

Sample size

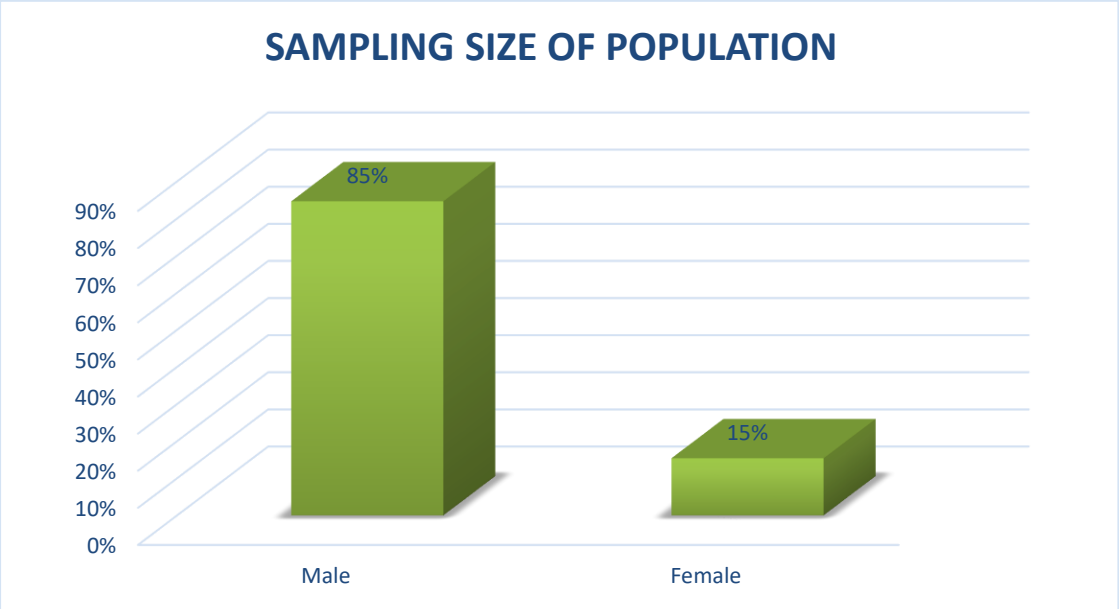
Sample size of 20 respondents was selected by the Team of consultants for conducting the socioeconomic survey. Women were also consulted for the said survey; some of their names are mentioned in the above list of respondents while most of them were not willing to give personal information.

Statistical Analysis

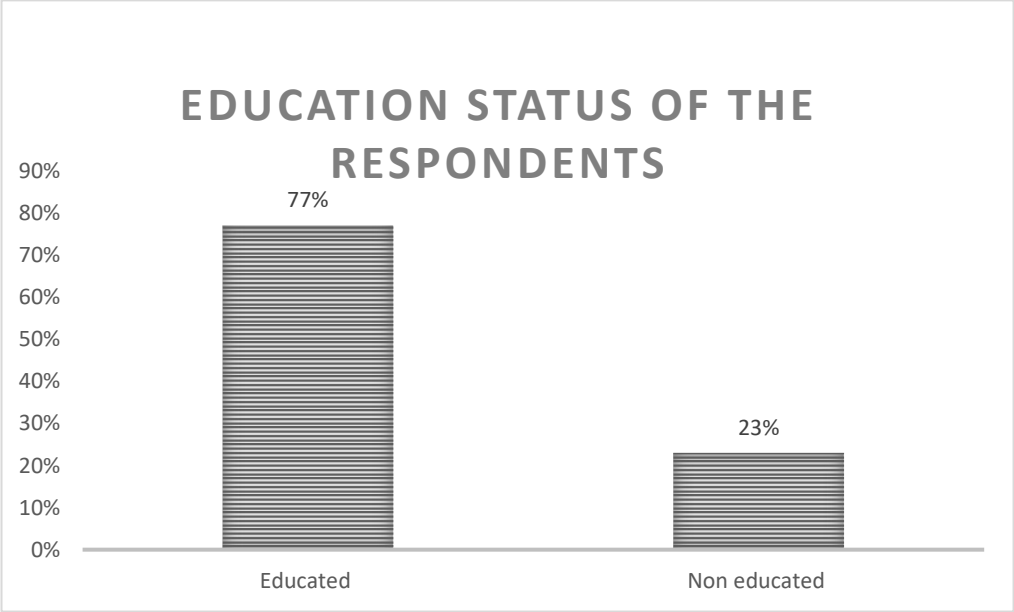
SPSS 19.0 has been used for the statistical analysis of the data collected during the visit of study site area through questionnaires.

Sr. No	Name	Status /Education	Age
1	Tashfeen Ul haq	Bachelors	30
2	Chaudry Hussain	Matric	25
3	Ghulam Ali	Matric	23
4	Afnan Asif	Bachelors	33
5	Sanwal Nadeem,	Intermediate	31
6	Zia Ur rehmam	Middle	29
7	Shakeel Afridi	Masters	27
8	Shumaila Nadeem	Bachelors	24
9	Qurat ul ain	Intermediate	36
10	Kinza Ishfaq	Nil	34
11	Mojtaba Ali	Matric	31
12	Samreen Chaudhry	Middle	39
13	Muhammad Shafique	Bachelors	41
14	Abdul Qadir	PhD	41
15	Naveed Sohail	Nil	19
16	Hasham Khurshid	Nil	42
17	Mustafa Wahab	Nil	36
18	Umair Ali	Matric	38
19	Abdul Ahad	Intermediate	41
20	Muhammad Ismail	Bachelor	36

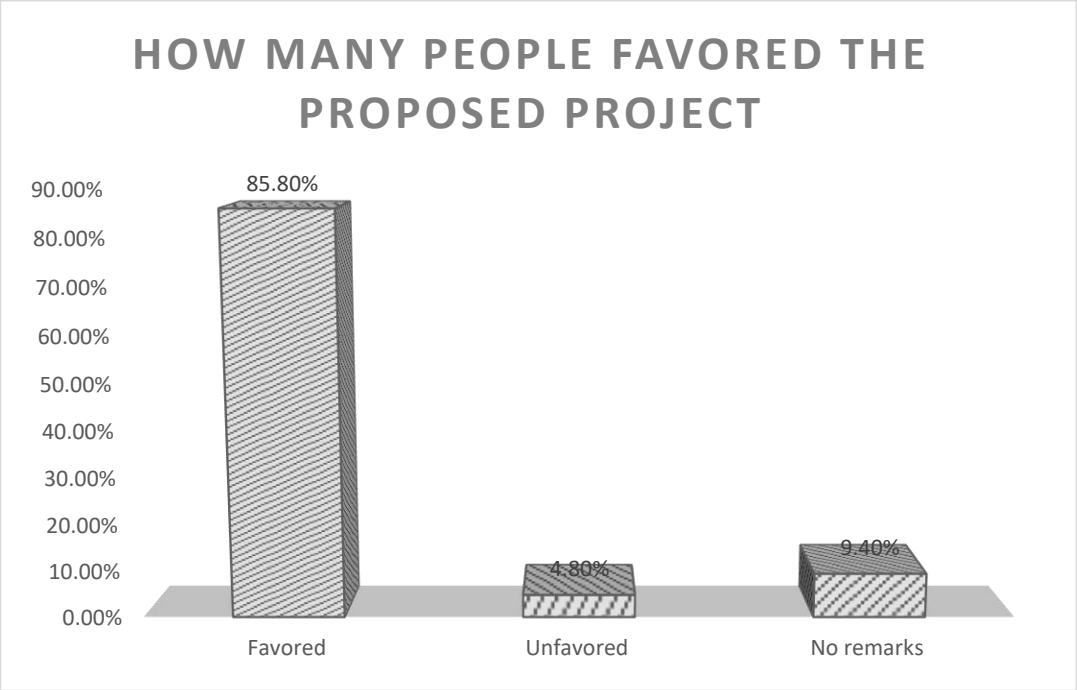
Graphical representation of analysis is given below:



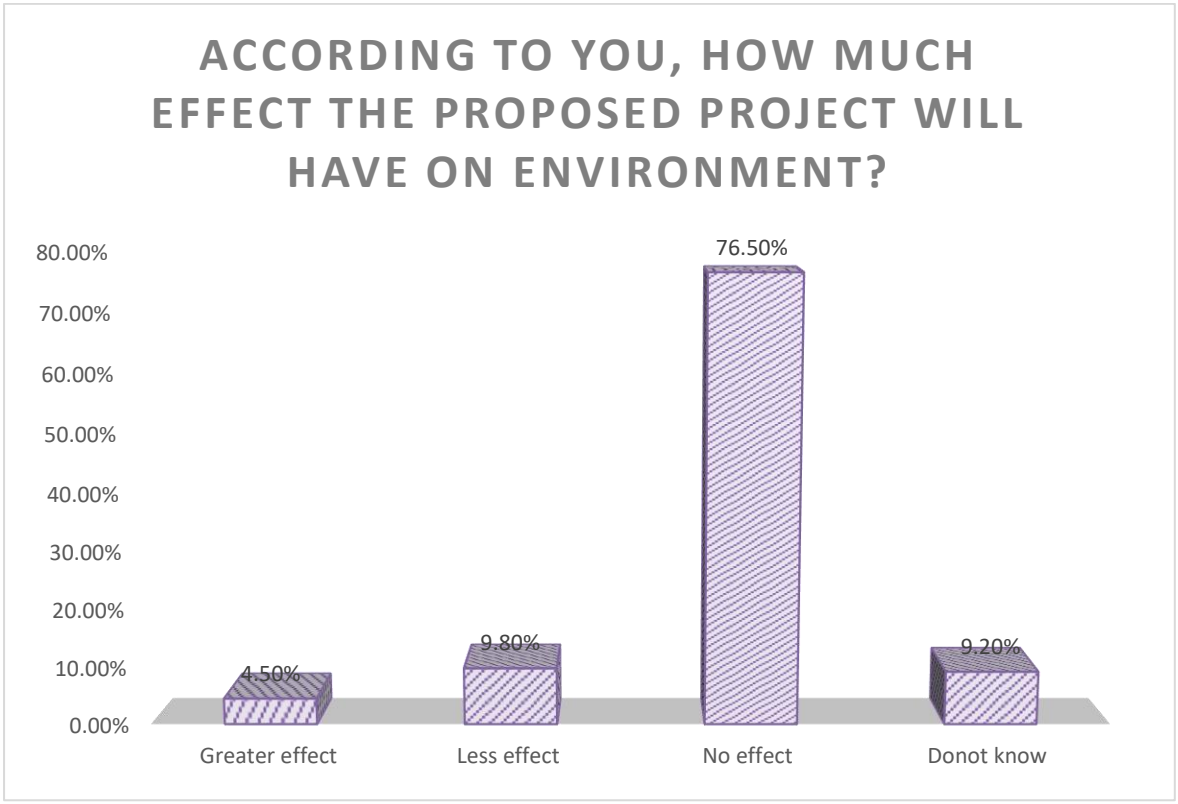
In the sampled population, 85% respondents were male while 15% respondents were female. The number of female respondents is less as compared to male respondents because according to the social binding female hesitates to respond or communicate comfortably.



In the sampled population, 77% respondents were educated while 23% were uneducated. Overall education status of the area is good.

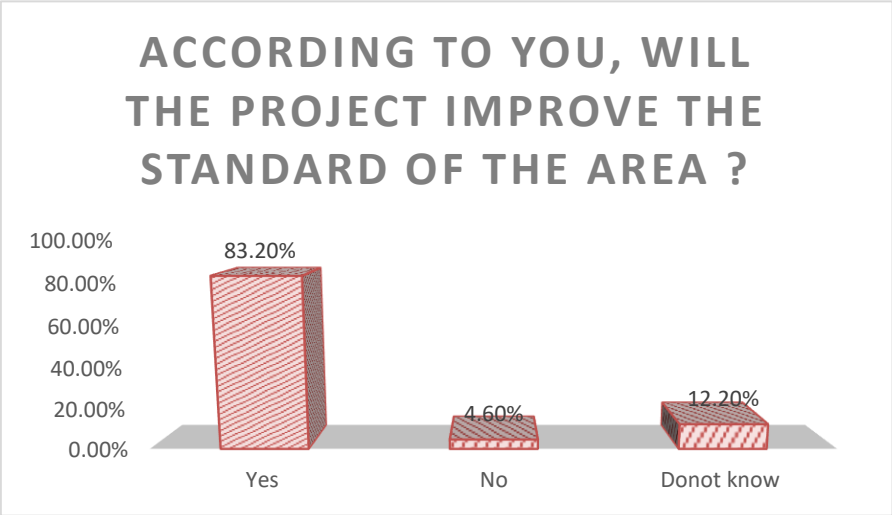


As per survey, 85.80 % people favored the proposed project and they gave positive remarks regarding the subject project. While 9.40% respondents had no opinion regarding the project and 4.80% respondents don't gave satisfactory remarks about the proposed project.



As per survey, 4.5% respondents said that subject project will affect the environment of the area, 9.8% said that there is less effect on the environment, 76.5% respondents said that the

project will not affect the environment and 9.2% said that they have no idea regarding the subject project. Most of the population was not aware about the environmental importance; they were giving their remarks according to their own knowledge.



As per survey, 83.2 % people said that the project will improve the standard of the area, 4.6% said that it will have no impact on the area while 12.2 % respondents gave no remarks.

Summary Findings of the Overall Discussion:

- After the completion of the proposed project the site will be used for industrial activities as the project is already present in the industrial area of the city.
- It will enhance the socio-economic conditions/values of the area.
- Project will increase revenue generation for the Government.
- It will create employment opportunities.
- Local people is given preference for employment in the proposed project.
- Operational phase of the proposed project is completed in the designated timeframe to limit adverse impacts of operational phase.
- There will be no significant additional load on the existing infrastructure i.e. utilities of water, telephone, electricity etc. due to the development of the proposed project.

Majority of people favored the proposed project in a sense that the operational phase of the said project will generate employment opportunities for local people and revenue for the government, will enhance the socioeconomic conditions of the area and automatically will contribute to the national economy of the country.

SUMMARY OF ISSUES RAISED BY STAKEHOLDERS

A summary of the key issues raised by stakeholders and how these are being addressed by Project Proponent is provided in Table below.

Table 1: Summary of issues and commitments by Proponent

Issue	Aspect/Concern raised by Stakeholders	Project Proponent Commitments
Employment Opportunities	Expectations of employment are very high. Job opportunities are less for herders as they generally have less skills and training.	Employment is the main priority of the industry. Mostly locally skill and unskilled labor will be prioritized and also there will be job in executive level. Around 20-30 person will be employed by the industry.
Training Opportunities	People are keen to consult with subject industry if the Project offers training and upgrading opportunities to enhance their trade or professional skills.	Development of the Training Strategy, including commitment of allocation of budget investment for training infrastructure, delivery and design. Installation of training facilities in for worker of the company and students will also be accommodating.
Health & safety	Truck traffic is a main concern because the road used by the Project passes through a number of small communities and different industries and there will be a high volume of trucks transporting concentrate.	Traffic safety training. Traffic advisory signs will be installed along project site and all nearby specific areas.
Local economy and business development	Local service providers are keen to participate in providing services to provide raw material and expect to receive in order to adjust their businesses to meet specific needs.	Proponent has main focus that they will all the material regarding construction and plant operation to buy from the local market.

	Local businesses want to receive support in terms of finance and facilities to diversify their businesses. Local/regional companies and entrepreneurs have limited understanding about meeting the high volumes required by the Project and the quality standard, but are keen to know these requirements so they can become suppliers.	This will help the local and small business and to people who are keen interested to become suppliers.
Environmental Issues	Dust and noise impacts, particularly from the construction activities and in operation of mechanically unfit machines, are of concern to herders and other residents. Environmental degradation during road construction and use. Loss and change of vegetation due to soil degradation. Increased waste along project boundary and around economic zone.	Implementation of controls under the Environmental Management Plans, including on and off-site dust and noise monitoring. A Participatory Environmental Monitoring Program will be launched to spread awareness.
Water quantity and quality	Water quality and quantity, and impacts from the wastewater disposal are all key concerns for nearby herders.	Implementation of consultation in relation to water use and development of the Participatory Environmental Monitoring Program.

CHAPTER # 8

CONCLUSION AND RECOMMENDATIONS

Based on the study conducted for Environmental Impact Assessment (EIA) for the subject project, the following conclusions are made:

Conclusions and recommendations

- The study reveals that the project is economically viable, socially acceptable and environment friendly.
- It will generate additional jobs during operational phase.
- The proponent has committed to implement the project in the environment friendly manner.
- M/s Interloop Limited HD-III intends to register the project with local Government.
- M/s Interloop Limited HD-III will prepare very comprehensive Emergency Preparedness and Response Standard Operating Procedures.
- M/s Interloop Limited HD-III will prepare very comprehensive Security and Fire Fighting Standards Operating Procedures. Recommendations
  - In view of the comprehensive screening process and findings of the present study there is no need of conducting further investigations.
  - Tree plantation inside the unit and near the unit is recommended.
  - The untreated wastewater will not be reused for irrigating the vegetation and lawns.
  - High standards of bio-security and safety will be enforced during operation stage. Safety of the workers is top priority for the management.
  - The management of M/s Interloop Limited HD-III will continue to assist the local communities as a corporate/social responsibility.