F. 274(5/A)-23

ENVIRONMENTAL IMPACT ASSESSMENT (EIA) REPORT

M/S JIANI KITCHENWARE (SMC- PRIVATE) LIMITED

Plot No. 116 & 117, Allama Iqbal Industrial Estate , FIEDMC, Jhumra, Faisalabad

JIANGXIJIANI

REPORT SUBMITTED BY

Mr. Yang Guangwang
(Director /Proponent)
Address: 341-K Block, Wapda City, Faisalabad.

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EXECUTIVE SUMMARY

Mr. Yang Guangwang , as the Business Unit Head/proponent, has planned to setup a facility under the company name **"M/S JIANI KITCHENWARE (SMC- PRIVATE) LIMITED"** for the construction and installation of Cutlery Unit at Plot No. 116 & 117, Allama Iqbal Industrial Estate , FIEDMC, Jhumra, Faisalabad,

Faisalabad. This project location has been chosen mainly due to the availability of adequate land area to house the entire facility.

As the category of the project falls under the **Schedule-II-B(15)** of Punjab Environment Protection Agency's (review of IEE&EIA) regulations, 2022, the guidelines for preparation and review of environmental reports. So, an environmental impact assessment of the unit is required.

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

JIANI Kitchenware (SMC- Private) Limited (hereinafter called as "the company") was incorporated under the Companies Act 2017 in SECP, Islamabad on **21st Oct 2022**. 100 Thousand Rupees of initial authorized capital will be 100%: YANG GUANGWANG holds 100% of the shares. The paid up capital of the company will be renewed after completion of Work in progress and import of machinery. The main objectives of the proposed project are:

- To preserve a good user and technological properties of Cutlaries
- To provide employment to the local people
- To upgrade the socio-economic conditions of the area

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

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

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and cultural values of the settled population.

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

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

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

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

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

- Project activities are environmental friendly.
- Project activities will cause temporary impacts on local environment all of which are reversible. During operational stage the project will not pollute the environment in normal circumstances except when an incident of spillage occurs. The impact of such incidents will be mitigated by surveillance, proper maintenance, immediate reports, safety and management plan
- No significant damage to wildlife, vegetation or habitats is anticipated from the proposed project.

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- No cultural/historical or archaeological sites would be affected by the project.
- No adverse socio-economic impact of the project is envisaged
- By adopting recommended mitigation and safety measures minor environmental impacts of the project can be eliminated

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

1. Title of the project	M/S JIANI KITCHENWARE (SMC- PRIVATE) LIMITED
2. Description of the project	The project falls under the **Schedule-II-B(15)** of Punjab Environment Protection Agency's (review of IEE&EIA) regulations, 2022
3. Location of the project	Plot No. 116 & 117, Allama Iqbal Industrial Estate , FIEDMC, Jhumra, Faisalabad
4. Name of the proponent	Mr. Yang Guangwang (Business Unit Head/Proponent) Address: 341-K Block, Wapda City, Faisalabad. Email: jiani@jxjiani.com Mobile No.:18079313678
5. Contact Person	Mr. Yang Guangwang **Email: jiani@jxjiani.com**
6. Nature & Present Status of Land	Open Land and it is not a green area.
7. Any Deforestation/Tree cutting involved?	No.
8. Intended Use	Construction and Installation of Cutlery Unit
9. Category of Project	The projects falls under Schedule-II Category B (9) of IEE & EIA Regulations, 2022.
10. Total Proposed Area	5.3 Acre

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1. Google Coordinates	31.645417, 73.206167
2. Estimated Cost of the Project	Rs. 510 Million/-
3. Details of Raw Material	Carbon STeel
4. Detail & Flow sheet of process	Blanking, Pulling, Cutting, Spot welding, Coating enamel, Buring , Packing
5. Finished Product	Our main product includes enamel kettle, enamel soup pot and enamel mugs.
6. By-Product (if any)	Not Applicable
7. Detail of Boiler & Generators	Electric furnace 620 KV, hair motor 800 KV, boiler 200 kg coal burning.
8. Will the project generate hazardous waste, if yes please mention volume (kg/day)	NA
9. Detail of sources of Air Emission	Electric furnace , Boiler
10. Detail of Air/Pollution Control Devices to be installed	Wet scrubbers
11. Source of Water	Ground Water – 02 cusec turbine will be installed.
12. Wastewater	No wastewater will be produced from the process. Only Municipal Waste Water will be generated from washrooms and cleaning of floors, which will be collected in sedimentation tanks with screening and then treat it properly to bring the parameters within permissible limits of PEQS for industrial wastewater and then the same will use to irrigate own lands situated in and around the said site.
13. Name of wastewater receiving body	Not Applicable
14. Solid waste Management	Solid waste (packing material and municipal solid waste) will be collected, stored at a designated place and disposed-off properly through a contractor
15. Source of Power	WAPDA (2500) KVA
16. Detail of Safety measures/plans to be adopted	Attached with the report

1. **Brief Summary:**

Mr. Yang Guangwang , as the Business Unit Head/ proponent, has planned to setup a facility

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under the company name "M/S JIANI KITCHENWARE (SMC- PRIVATE) LIMITED" for the construction and installation Cutlery Unit.

Total area of the project comprises of **5.3 Acre.** The project area is an open plot and construction wi start after getting the NOC from the Environmental Protection Department. The total cost of the proj is **Rs. Rs. 510 Million/- /-.** Electricity will be used as an electric source, directed from WAPDA. Groundwater will be used to cover water requirements. Ground water will be used during constructi phase while during operational phase no wastewater will be produced from the process. Only Munic Waste Water will be generated from washrooms and cleaning of floors, which will be collected in sedimentation tanks with screening and then treat it properly to bring the parameters within permissi limits of PEQS for industrial wastewater and then the same will use to irrigate own lands situated in around the said site.

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

2. The Major Impacts & their Mitigation Measures:

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

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- **Construction Phase:**

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

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	• Regular checks will be made to ensure that the contractor is following safety working • procedures/safety measures. • Formal emergency procedures will be developed for construction site in case of an accident. • First aid kits and other necessary equipment will be kept available at site along with the list of emergency phone numbers to be contacted in case of any accident. • Waste produced during construction phase will be collected by vehicle for dispose of it at a particular dumping site from it will be reused. Waste segregation units will be provided. Recyclable items will be provided to recycling contractors.		
Water supply	• Water use will be planned depending upon the supply and timing to avoid and inconvenience. • Water conservation practices will be adopted.	Proponent/ contractor	Water supply

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Surface and Groundwater	The water in the area is abundant due to the project area's proximity to the Canal. Groundwater is available in the majority of the area.	Proponent/ contractor	Surface and groundwater

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- **Operational phase:**

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

Potential Negative Impacts	Recommended Mitigation Measures	Monitoring Responsibility	Parameters for Monitoring
Soil Contamination	Maintain vehicle speeds. Avoid and control major spills.	Proponent	Soil
Air emissions	Conducting Monitoring on a regular basis as per EPA PEQS Rules	Proponent	PEQS for Ambient Air
Noise Impacts	Apply proper engineering control to noise producing sources will be installed to reduce the noise impact on the surrounding All on-site personnel's will use required personal protective equipment (PPE) in high noise areas that will be clearly marked Monitoring will be done on regular basis to ensure the compliance of noise quality.	Proponent	Noise Monitoring
Waste water	A waste management plan will be developed before the start of the project activities.	Proponent	Wastewater management

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	No wastewater will be produced from the process. Only Municipal Waste Water will be generated from washrooms and cleaning of floors, which will be collected in sedimentation tanks with screening and then treat it properly to bring the parameters within permissible limits of PEQS for industrial wastewater and then the same will use to irrigate own lands situated in and around the said site. Monitoring is conducted as per EPA PEQS and reports are attached with the EIA.		
Flora and fauna	The unit includes a plan of the green yard area which is a positive impact on the flora and fauna. There is no significant fauna in that area. However, it is suggested that maximum number of trees should be planted by the management inside and outside the boundary wall in order to enhance aesthetics of the area.	Proponent	Biodiversity

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Social impacts	During the operation stage, there will be no social issue for the nearby localities. Moreover, the residents may get opportunities to work in the refining unit which is a major positive impact of the project.	Proponent.	Social impacts
Occupational health and safety	There may be occupational health and safety risks associated with different operational activities. Health risks may occur in case of unsafe and/or unfavorable work conditions The mitigation measures include: The workers should get trained in safety procedures for all relevant aspects of processes. Enforcement of work safety measures. Housekeeping around and inside the industry area will be ensured Formal emergency procedures will be developed. First aid kits and other personal protective equipment (safety gloves, goggles, welding shields etc.) Should be kept available.	Proponent	Health & safety

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3. Proposed Environmental Monitoring:

To oversee the environmental performance of the project through its lifecycle enforcing the PEQS an Environmental Monitoring Program is 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 are conducted on quarterly basis during constructional and operational phase of the project and report are submitted to EPA Punjab.

- **Noise:**

  Noise level are monitored at the project site on quarterly basis during constructional and operational phase of the project and report are submitted to EPA Punjab.

- **Water Quality:**

  Regular Monitoring of water quality are conducted on quarterly basis during constructional and operational phase of the project and report are submitted to EPA Punjab. Records will be maintained regarding the underground water pump and consumption.

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CHAPTER-1

INTRODUCTION

General

Mr. Yang Guangwang as the proponent has planned to setup a facility under the company name "M/S JIANI KITCHENWARE (SMC- PRIVATE) LIMITED for the construction and installation Cutlery Unit. As the category of the project falls under the Schedule-II-B(15) of Punjab Environment Protection Agency's (review of IEE&EIA) regulations, 2022, the guidelines for preparation and review of environmental reports. So, an Environmental Impact Assessment of the unit is required. For this purpose, the proponent has entrusted to prepare environmental impact assessment for the unit.

1.1 Background:

Pakistan is located in the south Asian subcontinent and bordering China. In recent years, Pakistan has been actively engaged in absorbing foreign investment and enhancing foreign cooperation. Its investment and cooperation environment has the following characteristics:

The relationship between China and Pakistan is particularly friendly. China and Pakistan enjoy all-weather traditional friendship and all-round cooperative relations. Friendship with China is the cornerstone of Pakistan's foreign policy, and China- Pakistan friendship is deeply rooted in the hearts of the people.

The market potential is large. With a population of 197 million, Pakistan is theworld's sixth-most populous country, with a per capita GDP of us $1,368 in the 2012-2013 fiscal year.

The economy is not yet developed. Pakistan's economy is dominated by agriculture, but in recent years its share of GDP has been declining and its share of industry growing year by year. Pakistan's GDP for the 2012-13 fiscal year was $238.2 billion, up 3.6%. Agriculture, industry and services accounted for 21.4%, 20.9% and 57.7% of GDP respectively. In the industry, the cutlery is the most important industry, followed by the food processing industry. In recent years, engineering, machinery, electronics, automobile, chemical industry and other industries have also gradually developed.

Exports

The location is superior. Pakistan is located in South Asia, bordering the Arabian sea in the south and India, China, Afghanistan and Iran in the east, north and west. The market is broad in scope.

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radiating to areas such as the Middle East and central Asia, with which it has close trade relations. Both the government and the private sector welcome investment. The Pakistani government has carried out economic reform, economic liberalization and privatization, and formulated looser and freer investment policies, hoping to enhance its competitiveness in attracting foreign investment by improving the policy system, providing preferential treatment and good investment services. Almost all sectors of the Pakistani economy are opening to foreign investment, with foreign and local investors being treated equally, allowing foreigners to own 100 per cent of the equity and allowing them to repatriate funds freely. In addition, foreign investors in Pakistan enjoy preferential policies in terms of equipment import tariff, initial depreciation escrow, copyright technology service fee and so on.

In terms of regional preferential policies, the Pakistani government encourages foreign enterprises to invest and set up factories in export processing zones and special economic zones. Pakistan has 21 export processing zones. In 2012, Pakistan promulgated the special economic zone act to encourage foreign investment in special economic zones.

Pakistan has investment protection agreements with 46 countries and avoidance of double taxation agreements with 52. In addition, more active participation in regional economic cooperation, has so far and Sri Lanka, China, Malaysia, SAARC free trade agreement, and other countries and regional organizations, but also with Iran, Mauritius, in the development of islamic g8 countries and organizations such as

signed preferential trade arrangements, most has begun to implement the trade agreement.

There are still many problems and bottlenecks in Pakistan's investment environment, such as power shortage and relatively backward infrastructure construction. High inflation and rising operating costs; From time to time, the political situation is unstable and the security situation is severe.

1.2 Purpose of the report

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

- Policy and procedures for filling, review and approval of environmental assessments.
- Guidelines for the preparation and review of environmental reports.

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- Guidelines for public participation.
- Guidelines for sensitive and critical areas.
- Detailed Sectoral guidelines.

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

1.3 Details of the Proponent

Name: Mr. Yang Guangwang
(Director /Proponent)
Address: WAPDA City Faisalabad

CNIC No. : 33102-1793439-7

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

Mr. Yang Guangwang , as the Business Unit Head/proponent, has planned to setup a facility under the company name -"M/S JIANI Kitchenware (SMC- Private) Limited for the construction and installation Cutlery Unit.

Total area of the project comprises 5.3 Acre, Plot No. 116 & 117, Allama Iqbal Industrial Estate , FIEDMC, Jhumra, Faisalabad

After getting NOC from EPA, the proponent will do the construction of the facility. The total cost of the project is **Rs. Rs. 510 Million/- /-**. Electricity will be used which will be directed from WAPDA. Groundwater will be used to cover water requirements. Ground water will be used during construction phase while during operational phase water will only used for domestic purpose which will pass through septic tanks and discharged.

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

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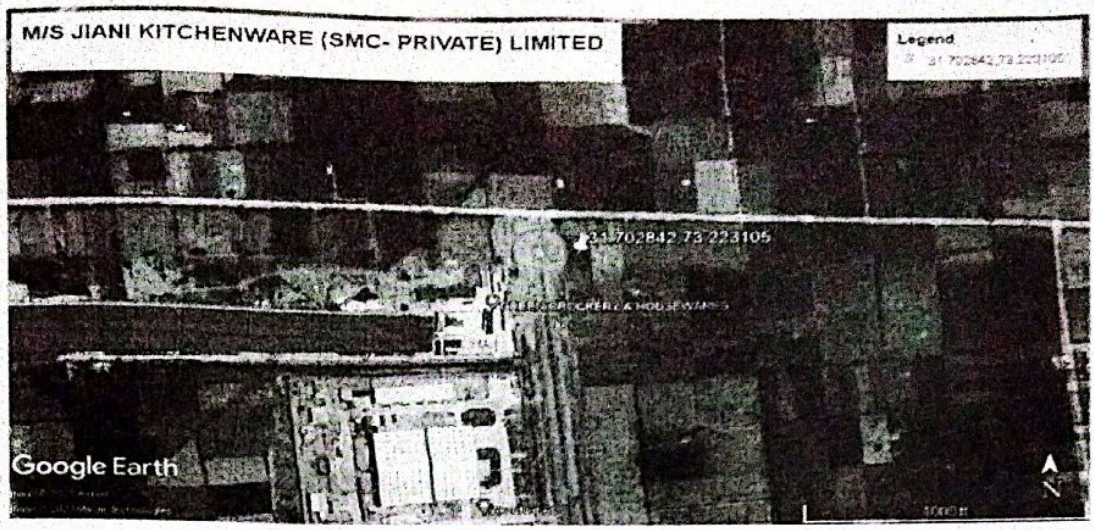


Figure 1-1: Project Location

1.5 Objective of the Report:

Objectives to conduct EIA are as following:

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

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1.6 Scope of the Study

The scope of work encompasses the following aspects:

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

1.7 Approach and Methodology

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

1.8 Delineation of Area of Influence (AOI)

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

1.9 Reconnaissance Survey of AOI

Prior to start the detailed environmental and social survey of the project area, a reconnaissance survey was undertaken by a team of environmental and social experts to familiarize themselves

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with the local conditions. This trip also helped to plan the detail survey investigations. The main information regarding general topography of the area, social settings were recorded.

1.10 Environmental Baseline Survey

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

A. Physical environment
B. Biological environment

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

- **Physical Environment**

Under the physical environment, the following main parameters were covered

a) Soils including type of soils, erosion, stability and contamination during project implementation.
b) Buildings including commercial, residential and semi-commercial use for complete/ partial relocation.
c) Drainage aspects of the project area.
d) Air quality.
e) Noise quality.
f) Climatic conditions.

- **Biological Environment**

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

a) Forests existing near the site
b) Existing vegetation on the project site
c) Trees to be cut due to project installation
d) Wet lands within the vicinity of the area

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e) Migratory species specially migrating birds
f) Endangered species of flora and fauna
g) Wild life near the project site
h) Beneficial plants and animals in the project site
i) Aquatic life including fish resource.

1.11 Social Baseline Survey

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

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

The social impact assessment was based on two surveys:

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

1.12 Collection of Data from Primary Source

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

1.13 Collection of Data from Secondary Source

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

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1.14 Impact Assessment and Mitigation Measures

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

1.15 Preparation of Environmental Management Plan

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

1.16 The Report Structure

This EIA document is structured as follow:

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

Section-2: National Environmental Policy, Legal and Administrative Framework: describes the national policy, laws and regulations governing this EIA.

Section-3: The Project Description: describes an overall detail of the works to be done.

Section-4: The Description of the Environment: gives information on physical, biological and social conditions collected through survey of the project area.

Section-5: Environmental Impacts due to Project & Mitigation Measures: identifies various environmental impacts and their preventive actions. This makes the basis of the EMP.

Section-6: Environmental Management Plan (EMP): contains comprehensive prescriptions regarding environmental impacts and their mitigation measures. This also includes institutional arrangements and environmental management & monitoring plan.

Section-7: Stakeholders Consultations: explain the process of public consultation and disclosure of the project in related stakeholder. It makes this document a legal public document.

Section-8: Conclusion and Recommendation: concludes the EIA report with some practical recommendations.

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Chapter-2

Description of the Project

2.1 General

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

2.2 Type and Category

The project involves the construction and installation Cutlery Unit. The project falls under th Schedule-II-B(15) of Punjab environment protection agency's (review of IEE&EIA) regulation 2022, the guidelines for preparation and review of environmental reports. So, an Environmenta Impact Assessment of the unit is required. For this purpose, the proponent has entrusted WELCO consultants to prepare Environmental Impact Assessment of the unit.

2.3 Objectives of the Project

Since the demand for cutlery products in the market keeps rising every day, M/S JIAN Kitchenware (SMC- Private) Limited plans to deal with this by the construction and installatio Cutlery Unit. The facility will have capacity of 30 Million pcs / year

- To preserve a good user and technological properties of cutlery products
- To provide employment to the local people
- To upgrade the socio-economic conditions of the area

2.4 Alternatives Considered and Reasons for their Rejection

An analysis of available alternatives are necessary establish that most suitable managemen technology options will be adopted for the project while minimizing environmental impacts.

This section covers the project alternatives which were examined for the proposed project at Pl 116 & 117, Allama Iqbal Industrial Estate , FIEDMC, Jhumra, Faisalabad

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evaluation explains the selection of the most feasible alternative in terms of economics, environment and health & safety. In particular it outlines the following options that were considered for this project:

2.4.1 The "No Development Option".
2.4.2 Alternative Site Option.
2.4.3 Technology Alternatives

2.4.1 No Development Option

The 'no-development' alternative is basically a consideration of the original and undisturbed environment without any development from the proposed project. This option is considered to ensure that all possibilities have been taken into consideration before deciding on a final course of action and also to provide a baseline situation against which the other suggested alternatives can be measured. The installation of unit could have certain adverse impacts on the environment, if the effluents and emissions discharged from it go uncontrolled and un-treated, however. The 'no-development' alternative would have no significant alterations in the day-day lives of the residents living nearby, nor would it have any further dampening effects on the physical or socio-economic environment of the proposed project area, however this project is being undertaken by M/S JIANI Kitchenware (SMC- Private) Limited to construct and install the Cutlery Unit to provide cutlery products in more quantity so it would be beneficial not only to the proponent as it would mean an increase in the sales and profits but would also generate development and employment opportunities in the area.

2.4.2 Alternative Site Selection

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

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

Since adverse impacts on the environment are often associated with construction and development activities, a site selection survey is often carried out to choose the best possible site for the project.

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After careful consideration, it was decided to install the Cutlery Unit at Plot No. 116 & 117, A Iqbal Industrial Estate , FIEDMC, Jhumra, Faisalabad This would not only ensure adequate ar construction but would also provide access to the resources required for maintaining the p operations. The proposed project site was selected primarily for the following merits

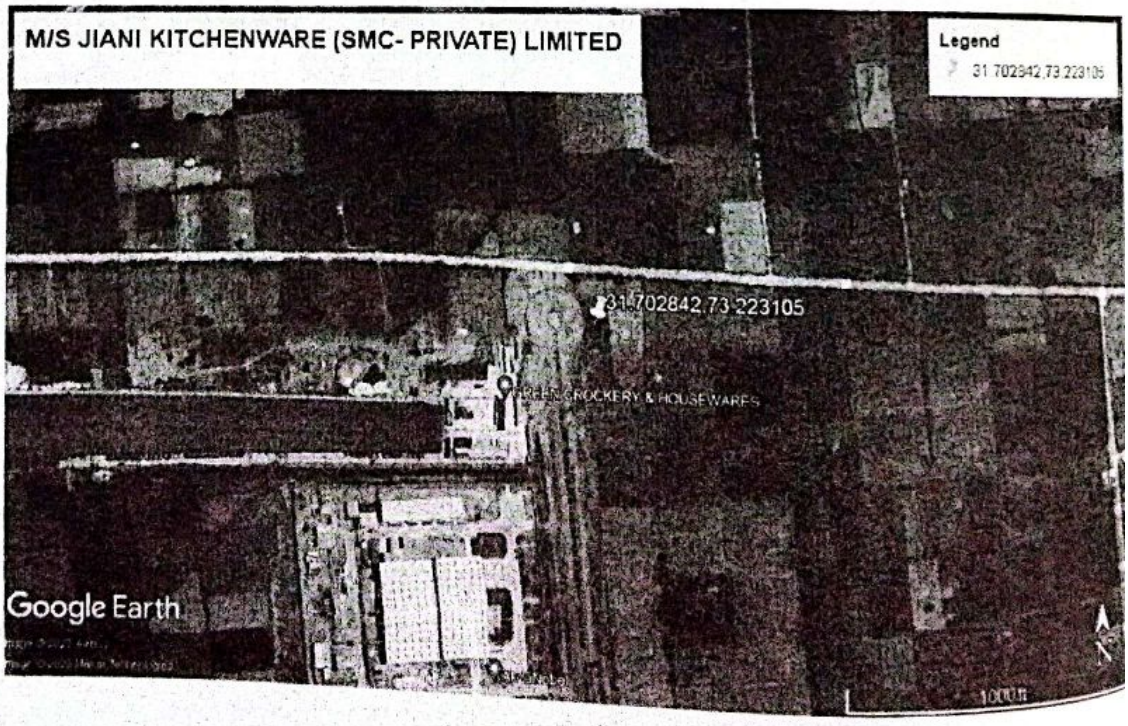
- Sufficient area is available for the proposed development
- The proposed project site is located near Plot No. 116 & 117, Allama Iqbal Industrial E FIEDMC, Jhumra, Faisalabad It is a 2hour drive from Lahore and about 4 hours from Rawal Islamabad, which will ensure easy access.
- The project site is well connected to the rest of the country by a network of road and ra lines thus providing ease of freight and transportation of raw materials.

2.4.3 Technology/Process:

M/S JIANI Kitchenware (SMC- Private) Limited (Cutlery Unit) has the capacity to process 3 Millior / Year Since the aim of this proposed project is to meet the current demand for the country for Cu the 'Technology/process alternative' option does not directly apply over here and M/S JI Kitchenware (SMC- Private) Limited (Cutlery Unit) is already making use of the latest, reso conserving technology for its processes.

2.5 Location of the Project

Plot No. 116 & 117 Allama Iqbal Indutrial City, FIEDMC Jhumra, Faisalabad



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2.6 Land Use

The total area of the project comprises of **5.3 Acre.**

2.7 Road Access

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

2.8 Vegetation Features of the Site

Tree plantation campaigns have motivated the farmers to grow trees along the field borders or along the water channels. A total of 500 Trees have been planted in and around the project site which contains various species and types such as popular, Fex, Terminal, Wall Bail, Fruit Plants, to make the environment neat and clean.

2.9 Cost and Magnitude of Operation

The total cost of the project is Rs. Rs. 510 Million/- /-.Estimated cost breakup is given below

	Land cost	55 Million
	Construction cost	285 Million
	Machinery cost	165 Million
	Environmental Budget	5 Million
	Total cost	**Rs. 510 Million/-**

2.10 Schedule of Implementation

The Proponent intended to complete construction within a period 01 year.

Sr. #	Activities	6 Months			6 Months		
		2M	2M	2M	2M	2M	2M
1	Detailed Designing						
2	Mobilization of Contractors						
3	Preparation of site						
4	Civil Works						
6	Installation of facilities						

2.11 Description of the Project

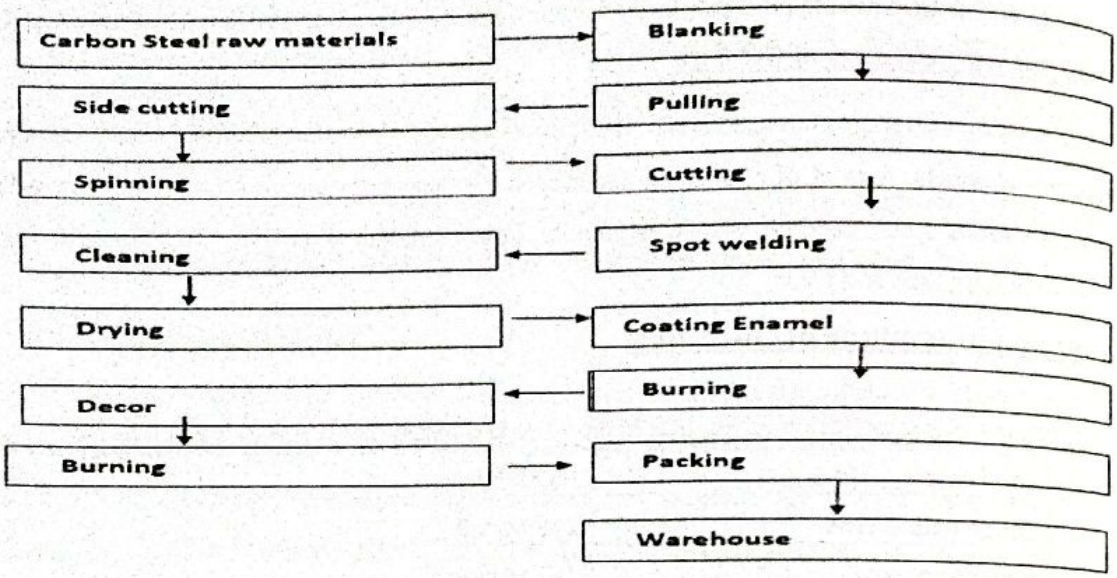
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The proposed project aims at the construction and installation Cutlery Unit. The project capacity

3 Million Pcs/ Year

2.12 Unit Process:

The unit process comprises of the following processes:



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ıameling steel products are used in a wide variety of applications. The excellent properties of enameling eel, and in particular its hygienic qualities, make it an ideal choice for cooking appliances. Oven cavities, oiler pans, stovetops, and grill covers are specific good examples.

gnage is another application that benefits from enameling steel. It is an ideal solution for indoor and outdoor gnposting and communication. The surface will not be damaged by the weather, pollution, or graffiti.

ıameling steel is often used in the architectural industry. It can be used in the interiors of public places, such stations, airports, and other buildings. Enameling steel can also be used as a cladding for exteriors of uildings, since it is weather and UV resistant, lightweight, and comes in an array of colors.

ıameling Process:

ıe enameling process produces an everlasting fusion between the steel and the enamel. The process consists the application and subsequent firing at high temperatures (~1,500 degrees Fahrenheit) of one or more yers of enamel applied by various methods (dipping, spraying, electrostatic) onto the carefully prepared ırface of the part. Rather than applying paint, this enamel is a very fine shard of glass that produces a strong, destructible fusion between the enamel and the steel.

ıamel:

ıamel is a mixture of non-organic vitreous materials (quartz, sands, clays, etc.) and fluxes (borax, soda ash, c.) colored with various metal oxides. The mixture is fused at a high temperature of approximately 1,300 egrees Celsius, cast, and then cooled rapidly and crushed, thereby forming "enameling frit" which is then ound to produce enamel.

orcelain Enamel Coatings:

ıere are two basic types of porcelain-enamel coatings. One is applied as a two-coat system, a ground coat us a cover coat. The ground coat is applied first and fired to develop a hard, fused coating; then the cover ıat is applied over the ground coat and provides the desired color and surface appearance.

ıe other type of porcelain enameling is called a one coat system, and as the name implies, this is a single- ıat, single-fire coating. This method of enameling requires the use of more selectively processed enameling eels.

ıameling Steel

is critical that the appropriate type of steel is used during enameling. ASTM A424 is the standard for the ree types of enameling steel. Steel for enameling must withstand the stress generated during firing and ıbsequent cooling of the enameled parts without deformation. Moreover, to obtain a good surface finish

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after enameling, humidity levels during firing should be carefully controlled and the steel should contain hydrogen traps to prevent the formation of surface defects such as fish scale. The defect known as the fi scale is what happens when the enamel pops off the surface of the steel. Fish scale can happen as soon a enamel is fired, or weeks later. It is critical that enameling steel be used during the enameling process to ensure fish-scale resistance.

There are three types of enameling steels: Type 1, Type 2, and Type 3. Type 1 is an ultra-low carbon ena steel produced during a process called open coil annealing. It has excellent enamel ability, formability fo applications that require more than one fire during enameling. Type 2 is a low carbon enameling steel th be used primarily for one-side-only enameling. Type 3 is an ultra-low carbon steel, produced via a specia chemistry as opposed to open coil annealing. It has excellent enamel ability, extra deep drawing capabili and titanium to prevent warpage on larger parts.

2.13 Raw Materials

The raw material use dis carbon steel.

2.14 Energy requirement

The electricity requirement which is 2500 KVA will be fulfilled by WAPDA.

2.15 Water requirement

Ground Water – 1 cusec turbine will be installed. This water will be used in Mixing, washrooms and toilets.

2.16 Wastewater Treatment:

No wastewater will be produced from the process. Only Municipal Waste Water will be generate washrooms and cleaning of floors, which will be collected in sedimentation tanks with screening then treat it properly to bring the parameters within permissible limits of PEQS for industrial was and then the same will use to irrigate own lands situated in and around the said site.

2.17 Restoration and Rehabilitation Plans

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

2.18 Government Approval by Project

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

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Chapter-3

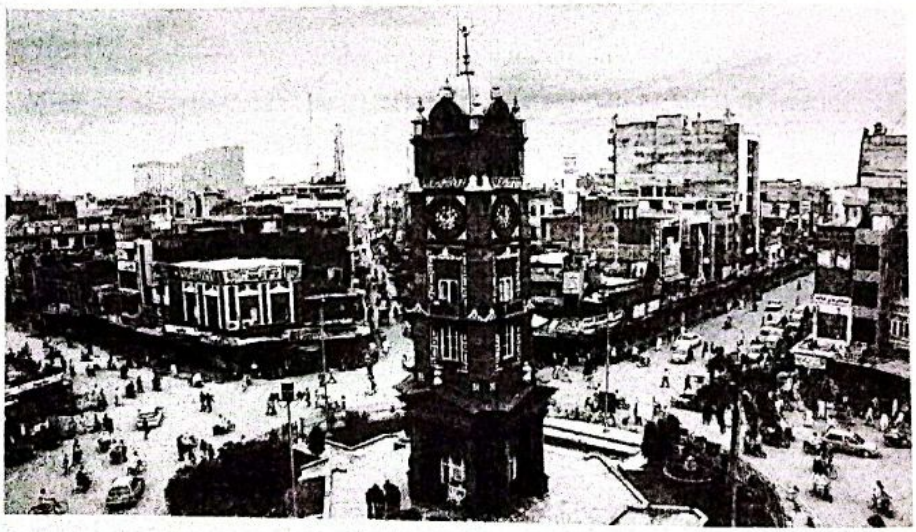
Description of Environment

3.1 General

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

3.2 Physical Environment

This part examines the physical resources such as topography, soil, climate, surface and ground water resources and quality, ambient air quality and geology of not only the project site but also the city as a whole to assess whether the project under assessment can or does have any impacts on any of these parameters. The description of physical environment of Faisalabad and the project site is presented in the following:



3.2.1 Geography

The city of Faisalabad with latitude 31°-24' N and longitude 73°-05'E, lies on the Western sic Lahore (the Provincial Capital of Punjab). It is situated in the middle of the lower part of the Ch river flowing at a distance of about 32.0 Kilometers (20 miles) to its west. The Faisalabad U

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area covers approximately 90.65 square kilometers (35 square miles). The city is linked with major urban centers by Roads, Rail and Airway.

3.2.2 Topography

Faisalabad city is situated in the center of the lower Rachana Doab, the area between Chenab and Ravi rivers, which has a mild slope from North-East to South-West with an average of about 0.2 to 0.3 meter drop per kilometer (about 1 to 1.5 feet per mile). The city is situated at an elevation of about 183.35 meters or 612 feet above the Sea level. The topography is however marked by valleys, local depression and relatively high ground.(Reference: The 2004 Baseline Survey on Millennium Development Goals in AACs Chapter 6 Faisalabad, Pakistan)



3.2.2 Geology and Soils

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

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3.2.3 Climate

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

Temperature

The project area is semi-arid and characterized by large seasonal variations of temperature. T summer season lasts from April to September with an average temperature of 31.25°C (88.25° The extreme maximum and minimum temperature in Summer being 48.0°C (118.4°F) and 9.0 (48.5°F) respectively. During the winter months, the daytime temperature generally ranges betwe 19.4°C (67.02°F) to 33.9°C (93.02°F) and night temperatures are generally in the range of 4.8 (40.64°F) to 17.7°C (63.96°F). Extreme minimum temperature sometimes reaches to –2°C (28.4° It generally begins to be active from mid-December and has a tendency to concentrate over t region. In the fold of these disturbances sometimes well marked cold fronts are formed. (Referenc The 2004 Baseline Survey on Millennium Development Goals in AACs Chapter 6 Faisalabad, Pakistan).

Rainfall

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

Humidity

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

3.2.4 Seismology

According to seismic zoning of Pakistan the project area lies in Zone-1 and repres minor damage. Earthquake with high intensity for a fundamental period of more than 1

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second may cause damage to infrastructure. Seismic zoning map of Pakistan is given in **Figure 3-1.**

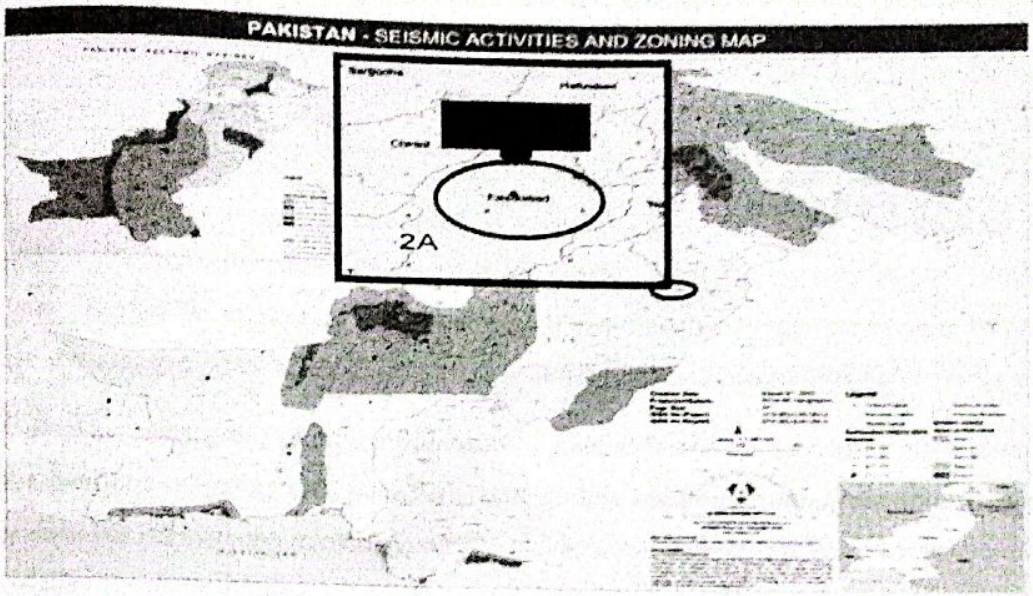


Figure 3-1: Seismic Zoning Map

3.2.5 Noise level

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

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3.2.6 Ambient Air Quality

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

3.2.7 Surface water or Ground water

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

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

The project area lies in the district of Faisalabad; the groundwater table normally exists approximately 100ft below the ground level and contains high level of salinity. A limited quantity of potable water is accessible to the citizens from different scarce resources. In the absenteeism of proper sweet water sources, the WASA Faisalabad has to pump and bring the sweet water from the city district (Chiniot) where ample quantity of drinking water is available (Source: WASA, Faisalabad). Chemical and Microbiological analysis results of surface and ground water are attached in **Annexure.**

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3.3 Biological Environment:

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

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

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

3.3.1 Flora

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

Floral species can be divided into following groups:

3.3.1.1 Fruiting Plants

3.3.1.2 Non-Fruiting Plants

3.3.1.3 Crops

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

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

Sr. No.	Plant Specie	Local Name
1.	Mangiferaindica	Mango
2.	Psidiumguajava	Guava
3.	Morus	Mulberry
4.	*Phoenix sylvestrisRoxb*	Khajoor
5.	Syzygiumcumini	Jambolan
6.	Ziziphusmauritiana	Beri

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

Sr. No.	Plant Specie	Local Name
1.	*Acacia nilotica*	Kikar
2.	*DalbergiasissooRoxb.*	Talhi
3.	*Albizzialebbek*	Sharin
4.	*Azadirachtaindica (L.) Adelb.*	Neem
5.	*Eucalyptus*	Sfaida
6.	*Meliaazedarach*	Bakain

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

Sr.No	Plant Species	Local Name
1.	*Sorghum bicolor*	Jawar
2.	*Triticumaestivum*	Gandum
3.	*Veazea nays*	Makae
4.	*Allium cepa*	Peyaz
5.	*Lycopersicomsesculeupum*	Tamator
6.	*Saccharumofficinarum*	Ganna

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7.	*Oryza sativa*	Chawal
8.	*Zea mays*	Makai

3.3.2 Fauna

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

3.3.2.1.1 Mammals,
3.3.2.1.2 Reptiles,
3.3.2.1.3 Amphibians
3.3.2.1.4 Birds

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

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

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

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

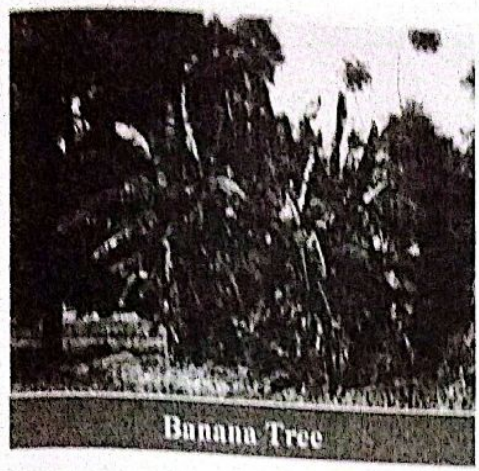
Sr. No	Amphibian Species	Local Name
1.	*Ranatigrina*	Frog
2.	*Bufobufo*	Common Toad

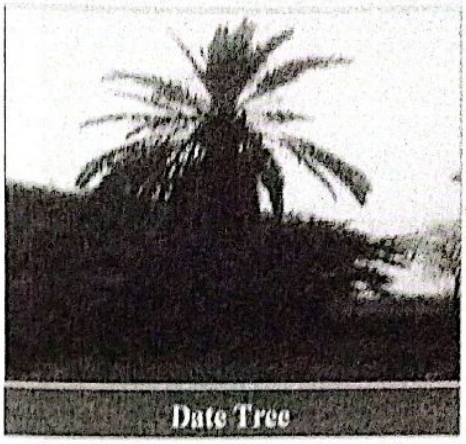
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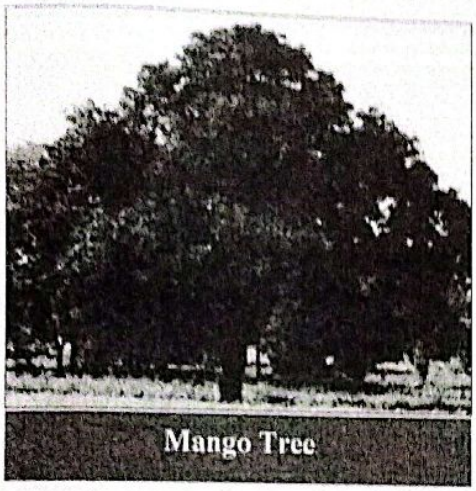
Table 3-6: List of Birds of the Project Area

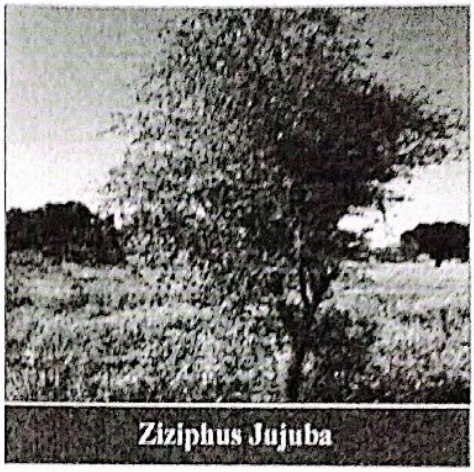
Sr. No	Birds Species	Local Name
1.	*Acridotheresginginianus*	Bank Myna
2.	*Laniusvittatus*	Bay-backed Shrike
3.	*Phylloscopuscollybita*	Chiffchaff
4.	*Vanellusindicus*	Red Wattled Lapwing
5.	*Upupaepops*	Hoopoe
6.	*Corvussplendens*	House Crow
7.	*Passer domesticus*	House Sparrow
8.	*Coraciasbenghalensis*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

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Banana Tree


Date Tree


Mango Tree


Ziziphus Jujuba


Sugarcane Crop

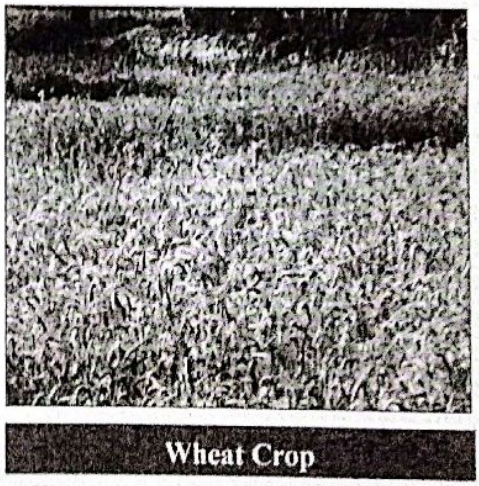

Wheat Crop

Figure 3-2: Pictorial view of Flora

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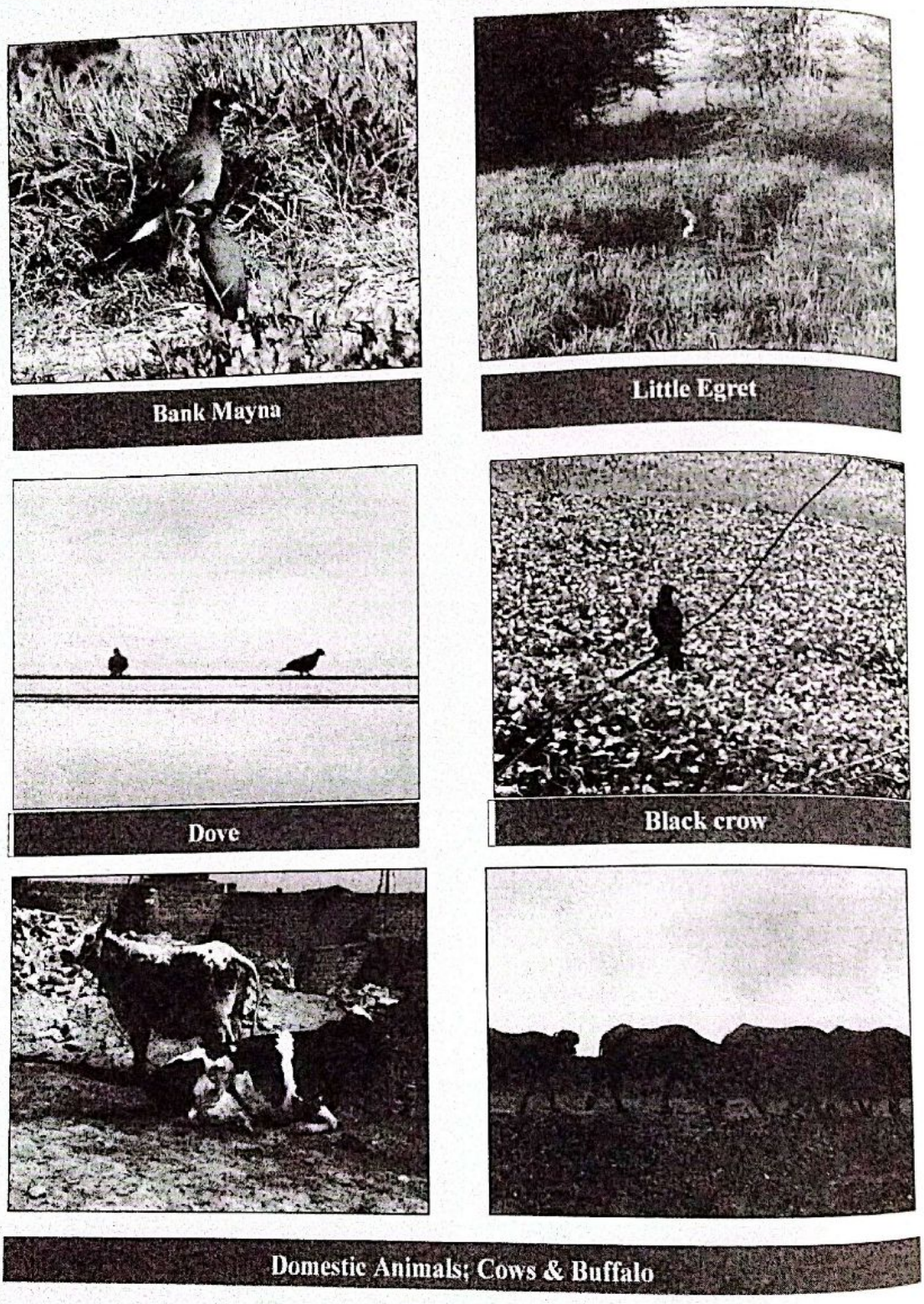


Figure 3-3: Pictorial View of Fauna

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3.3.3 Endangered Species

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

3.4 Socio-Economic Environment

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

The objectives of the given study are outlined as follow:

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

3.5 Administrative Jurisdiction

The city of Faisalabad administered by the

- City district government,
- Six tehsils administration

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3.6 Irrigation

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

3.7 Agriculture

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

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

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

3.8 Economy

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

Faisalabad is generating a large number of employment opportunities for its locals a outsiders. Industrial areas are using manpower, while nearby towns are providing busin opportunities to the residents. In this semi urban area, people are involved in daily wa jobs, while some are involved in small business. They normally travel to adjacent areas work. Some work in the industrial area and in the surrounding universities and colleg People are also involved in agriculture. Area having access to irrigation water is anot source of income. Similarly, livestock is a secondary source of income. It is safe to assu that livestock farming is practiced uniformly in both types of areas. Economy of the proj area is dependent primarily on two occupations i.e., agriculture (maximum) and livestock (lim extent), while some locals are also involved in manual lal

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3.9 Quality of Life Values

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

3.10 Religion

The population of Faisalabad is over 99% muslim.

3.11 Ethnicity

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

3.12 Language

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

3.13 Indigenous People

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

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Chapter 4
SCREENING OF POTENTIAL ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.1 Environmental Impacts Due to Project and Mitigation Measures

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

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

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

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

4.2 Environmental Screening of The Proposed Project

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

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

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

4.3 Objectives

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

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

Impact and Mitigation Management

Purpose of mitigation is to evade, reduce or balance the expected antagonistic effects in suitable way and to integrate these for devising environmental management strategy or plan. At every stage of project, mitigation plan for all the adverse impacts should be predicted to find out the best alternative. The objectives of mitigation are to:

- Invent of best substitution, better alternatives and ways to reduce the adverse environmental and social impacts in immediate surroundings.
- To improve the environmental and societal payback of project.
- To prevaricate, remedy/reduce and pro-vocative impacts.
- To certify that remaining negative influences are kept within permissible limits.

n this part of the EIA Report, a number of complications including; cleanliness, environmental health and afety, societal and environmental managing and inspection, industrial vulnerability, tools and apparatuses and luring operational activities, influx of workers and procurement of land have been deeply elaborated.

pproaches for Mitigation Measures

ollowing approaches may be used to mitigate the impacts of the project:

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Table 1: Approaches for Mitigation Measures

Avoid: Change of route or site details, to avoid damage important ecological or archaeological features.
Replace: Regenerate similar habitat of equivalent ecological value in different location.
Reduce: Filters, cyclones, noise barriers, dust, enclosures, visual screening, wildlife corridors and changed time of activities to reduce the impact.
Restore: Site restoration at the end of the operational activities.
Compensate: Relocation of displaced communities, facilities for the affected communities, financial compensation for the affected individuals, etc.

Expected Positive Impacts

Following are the expected outcome for installation of above stated project:

a) **Increase in Employment Opportunities**

Due to installation of aforesaid project, the employment opportunity will be slightly enhanced. construction and operation phase, skilled and un-skilled workers will be hired from local community include hiring of technical and non-technical staff. Locals will also have the opportunity to diversi income by being employed. Hence, there will be an increased employment opportunity for the local which will have a positive impact on the socio-economic status of the area.

b) **Tree Plantation**

At the end of the construction phase, 3-5 times of removed trees will be planted in the designated gree this will enhance the aesthetic beauty of the area.

c) **Adverse Impacts and Mitigation Measures**

This section identifies the potentially significant and in-significant adverse environmental and social anticipated during the operation phase of said unit. Appropriate mitigation and management measures applicable, have also been suggested to reduce the severity of anticipated impact up to the extent poss

8.1 Impacts and Mitigations due to Project Location and Design

During planning and designing phase most of the associated impacts will be associated with the sele appropriate location and design that would have minimal impact on the environment and society include:

i. Impacts of Location

The project site is located within designated and approved industrial estate. There is no human set heritage building, social structure, grassland or preserved area in the project vicinity that could be d dislocated or dismantled due to the project activity in proposed area. Hence, the impact of lo considered to be in-significant as the project site is away from the surface water body (within 2.0 km o

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area), residential area (at safe distance) and no protected area (is reported in 5.0 km vicinity of the project area).

Nature of Impact

The nature of proposed impact will be direct, low, short-term and hence in-significant.

Mitigation Measures

Following mitigation measures has been adopted to reduce the impact of said project location on sensitive receptors:

- The selected site located at adequate distance from the various sensitive receptors.
- The site is accessible through metaled road network.
- The selected site is located in industrial area and due to establishment of aforesaid project no change in the land use of area is being envisaged.
- The site is owned by the proponent and no dispute is associated.
- No significant air emissions from proposed project.
- The generated solid waste will be disposed off through the standard practices of area.

It is envisaged that no mitigation measures will required as the said project had been constructed in industrial area and no adverse impacts on its surroundings due to significant distances from all sensitive receptors.

ii. Designing

During designing phase of aforesaid project optimized the use of best available technology in order to prevent or minimize potentially significant environmental impacts associated with the project as well as to ensure high level business and environmental performances were adopted. In pre-construction/design phase, a management system was provided at design level to control all anticipated impacts.

The aforesaid project will adhere to all standards, technical and legal requirements in order to avoid adverse impacts on the socio-environment and human health. Efficient infra-structure has been developed. Construction materials have been procured from approved dealer. The technology adopted for the current project is the state of the art. This process is employed because of the following reasons:

- Construction material has been procured from approved dealers.
- For the protection of workers PPEs (dust masks, gloves & shoes) has been provided during construction and it will be provided during operational phase too.
- The proposed emergency system is semi-automatic which is being control through computerized systems and it is connected with smoke alarms.
- In this process almost 98% of raw-material will be converted into the final good.
- Through the selected system high quality of goods will be produced.
- The generated wastewater will be treated prior to final disposal.
- The Proponent intends to reduce the environmental and social issues up to practically possible safe limit. The Client will adopt SOPs for Emergency Reponses Plan, Fire Fighting Plan and Disaster Management Plan

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- Planning principles and design considerations have been reviewed and incorporated into the planning process to the extent possible. The concepts considered in the design of the proposed proj are:
- No additional land acquisition will be required.
- Substantial reduction of environmental degradation in project area.
- Augmentation in adequacy of sanitation conditions at the user end enhancing the efficiency of exist infrastructure.

Nature of Impact

The nature of the proposed impact will be direct, low, short-term and hence in-significant.

Mitigation

No additional mitigation measure will be required as state of art technology is being adopted for the afore unit.

8.3 Impacts and Mitigation during Construction Phase

Project construction phase will be of 01 year whose activities will surely show effects on land environme water, air, noise level, soil quality, socio-economic trend of area, etc. These impacts had been contro effectively by adopting best management practices.

By the implementation of said project, a positive impact on the socio-economic culture for the people has be observed. The chance for local employment, fabrication, brick masonry, painting and machinery erection wo had been increased.

The construction phase of aforesaid project will include activities associated with the site leveling, construc of civil structures, architectural works and building services. The construction phase would bring in immedi but short term changes on various components of environment near the project site. This section explains h aforesaid project will affect different environmental aspects and its mitigation measures to manage impact. The impacts during construction phase will be temporary and localized. Even though, the meas proposed to minimize such impacts.

8.4 Impacts & Mitigation during Operational Phase

This section delineates the potential impacts during operation phase of the project and the mitiga measures to counteract these impacts. The summary of the impacts and possible mitigation measures ar follows:

i. Impact on Ecology

Currently, the site is open plot and located in designated and approved industrial estate. After the compl of said project different native and ornamental plants species will be planted in designated green spaces along boundary of project site. The overall aesthetic beauty of the area will be enhanced and it will ha significant impact on the overall ecology, aesthetic and landscape of the area.

Nature of Impact

The nature of proposed impact will be direct, low, short-term and hence in-significant.

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Mitigation Measures

This impact is considered to be positive, long-term and significant. Hence, it doesn't require any mitigation measure.

ii. Impact on Air Environment

This would be the source of air emissions that would deteriorate the project area air quality. Moreover, dust will be generated due to the frequent movement of vehicles carrying the raw-material and finished goods. During operational phase, suspended particulate matter and gaseous emissions will be the main pollutant. As most of the construction equipment will be mobile, the emissions are likely to be fugitive and not concentrated on a single source or place. As the impacts will be localized in nature, the areas outside the said project boundary are not likely to face any significant adverse impacts with respect to ambient air quality.

Nature of Impact

The nature of proposed impact will be direct, low, short-term and hence in-significant.

Mitigation Measures

Following mitigation measures will be adopted:

- For dust suppression regular sprinkling of water will be carried out.
- Vehicles used for transportation of raw material as well as finished product and the utility vehicles will be regularly serviced and maintained in order to keep the environmental impact on account of their exhaust emissions to its minimum level.
- Native tree would be planted along the boundary of project area to keep environment healthy. For removal one tree, 3-5 trees will be planted.

ii. Noise Environment

Noise, an unwanted sound, affects human being. Excessive exposure to noise produces varying degree of damage to hearing system. It leads to headache, fatigue, etc. Continuous exposure of increased level of noise will have an adverse impact on the health of workers as well as the people residing in surrounding area.

ature of Impact

The nature of proposed impact will be direct, low, short-term and hence in-significant.

itigation Measures

General the following methods will be adopted to control the noise pollution from the proposed units;

- Residential area is located at safe distance from project site.
- Proper encasement of noise generating sources will be done to control the noise levels within prescribe PEQS limits.
- A thick greenbelt will be developed all around the plant which will be acting as noise barrier.
- The use of concrete and masonry walls & barriers keeping in view the benefits of stiffness weight & cavity construction & the need to provide well sealed sound attenuating doors & windows.
- The use of complete or partial enclosures, as and if required.
- Attenuation by use of sound absorbents on walls and fixed or suspended ceilings.

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- The use of mufflers, sound attenuation and acoustic louvers in air flow paths, taking particular ca direct inlet and discharge an opening away from critical areas wherever possible, so as to advantage of direct effects.
- All the workers will be provided with ear plugs/ear muffs, masks, gloves and safety shoes.
- All the transporters will be advised to carry out regular maintenance of their vehicles

iv. Solid Waste Management

The key solid wastes and by-products that is recyclable matter (such as; containers, waste papers, materials, waste packaging materials and polypropylene) will be recycled or reuse. The domestic solid w will be handled as per practices of area.

Nature of Impact

The nature of impact will be direct, low, long-term and significant.

Mitigation

Following mitigations should be adopted to manage generated solid waste:

- Waste bins will be placed in the facility at the strategic position for the collection of solid waste.
- The installed bins will be covered in order to reduce the chances of the disease vector production.
- Record of generated waste during the project activity should be maintained on the regular b Quantity of the waste disposed, recycled or reuse will be logged on a waste tracking register.
- Regular training will be given to the workers dealing with the waste management it will incl identification, segregation and management of waste.

v. Water Environment

Wastewater will be generated from chillers. This generated wastewater has no impact on surface & gr water quality.

Nature of Impact

The nature of impact will be direct, low, long-term and significant.

Mitigation

Following mitigations should be adopted to manage generated wastewater:

- The domestic wastewater will be treated through septic tank prior to disposing off in sewerage sy of FIEDMC.
- Water conservation activities will be adopted for the preservation of water.
- Wastewater will be reuse for horticultural activities.
- Water conserving methods will be applied by placing taps and toilets.
- All faults will be monitored and fixed.
- Freshwater conservation techniques should be adopted to ensure sustainable development
- Monitoring of effluents shall be carried out as per requirement of Self-Monitoring and Reporting (SMART) to ensure compliance with the PEQS.
- It will be ensured that no solid waste will be entered in the wastewater.

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Health & Safety of Workers

Improper handling of machinery may cause various health issues. It can cause of severe accidents. To ensure the safety of workers these impacts need to be managed effectively.

Nature of Impact

The nature of impact will be direct, low, long-term and significant.

Mitigation

Following mitigations should be adopted to improve the health and safety:

- Regular inspection and maintenance of the plant will be carried out to eliminate the risk and associated hazards of any unfortunate incident.
- Workers will be trained on the regular basis regarding personal safety, disaster management and physical hazards.
- Operators operating the plant should be fully trained and equipped.
- Training regarding HSE should be given on the regular basis.
- Workers will be given PPEs such as; helmets, mask, ear-plugs/muffs, safety boots, etc.
- It should be strictly enforced to wear PPEs while working.
- Incidents should be reported directly to the concerned authority.
- Spillage prevention plan should be adopted and it should be implemented effectively.
- Floor surfaces shall be maintained and cleaned on regular basis.
- Floor should be kept clean and free of oil spills, other slippery fluids or materials and obstructions.
- The effective use of hearing-protection devices shall be ensured.
- Protective measures and emergency rescue procedures should be followed strictly.
- Only authorized persons shall be allowed in the processing areas.
- Unloading of the raw-material and loads of the final products should be controlled, supervised, slow and smooth.

iii. Security Risks

Large number of workers will be hired including; skilled and un-skilled laborers. The increase in the number of the individuals residing in the area, may lead to an increase in crime and violence in surrounding areas. The nature of the impact is considered to be low as the locals will be preferred for hiring.

ature of Impact

The nature of impact will be direct, low, long-term and significant.

igation Measures

llowing mitigation measures will be adopted:

- Proper security will be provided to the workers working in the premises of proposed project.
- Before hiring any worker and his criminal record may be checked.
- CNIC of all the workers will be kept by the proponent.
- Strict law will be enforced to control the crime at site.
- Security to the workers should be provided.

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ix. Emergency Response

Emergency response preparedness committee will be formulated consisted of heads of all the departm
Emergency Response Leader will be the head of the team assisted by safety team and safety superv
Emergency Response Leader along with his team will ensure that in the case of emergency, team is prep
for fire-fighting and the first aid kits will be provided which may include; blankets, hot water bo
stretchers, benches, sterilized dressing, snake bite kit, cotton and iodine (2% alcohol).
Incidents and accidents may take place unexpectedly during project operations no matter how effe
strong and efficient the mitigation measures for all adverse impacts; especially the safety issues ma
adopted. These may include; accident and natural disasters.

Nature of Impact

The nature of impact will be direct, low, long-term and significant.

Mitigation

Following mitigation measure will be adopted:

- Site in-charge should be responsible to ensure that fire-fighting plan has been implemented
  true spirit.
- Safety team will be responsible to monitor the activities and to act on the approved firefighting
  in the case of fire.
- Designated area fire marshals will be responsible to monitor their respective areas and ac
  firefighting plan in case of fire.
- Workers should be given adequate training of handling machinery.
- Emergency call service must be made available.
- The drills to check the response of the workers against any emergency situation will be carrie
  on the regular basis.
- Safety and hazards signs will be displayed with the facility to avoid any unfortunate incident.
- Only authorized persons will be allowed for the handling of the machinery.

Socioeconomic Impact

It is envisaged that the adverse impacts associated with the operation of said project includes; local comm
will be disturbed due to increase in the traffic load (i.e., vehicles carrying raw material and final prod
wastewater management, solid waste management & disposal, soil pollution, etc. The intensity o
aforesaid project will be quite low. The commencement of the aforesaid project will have a beneficial ir
on the surrounding community such as; increase in employment opportunity, increase in the wages of the
area employees, increase in revenue generation, provision of social welfare funds of the employee
appreciation of land value.
The aforesaid impact is considered to be positive and will have a direct, medium, long-term and signi
impact.

Mitigation Measure

No mitigation measures will be required.

Environmental Enhancement Measures

The said project will be result in following benefits:

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- Direct and indirect employment opportunities,
- Gains in the local and national economy,
- Industrial development in region
- Business spin-offs in the factory area,

Tree plantation along boundary of project will act as environmental enhancement measure. Trees including; Shatoot, Jaman, Moor Pankh, Fish Paam, Trysenia, etc. will be grown on all open spaces and along boundary of project.

4.4 Environmental Impact Characterization

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

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

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

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

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

4.5 Environmental Problems due to Installation of Project at Present Location

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

4.5.1 Project Design Related Environmental Problem

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

4.5.1.1 Recommended Mitigation Measures

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

Proper access must be available to the unit.

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Table 4-1: Project related impacts and mitigation measures

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

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

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

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

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

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	Solid waste (packing material and municipal solid waste) will be collected, stored at a designated place and disposed-off properly through a contractor
Surface and Groundwater	
	Direct runoff of wastewater will be prevented to water courses.
Air Emissions	
Nil	
Odor Impacts	
Impacts of Odor generated by waste.	First-in, first-out waste handling practices that keep waste on site only for short periods of time. Good housekeeping measures, including regular cleaning. Ensuring that the operation is carried out under best management practice.
Health and Safety Issues	
	Firms have a statutory and ethical obligation to protect the health and safety of workers at workplace. Provide information, instruction, training and supervision necessary to ensure the health and safety of employees. Proper machine guarding, which is critical for the prevention of injuries to workers by isolating them from moving machinery, will be provided. Head protection will be worn in appropriate plant areas, i.e., production areas. Open-toed shoes will be prohibited. Eye protection will be required during all maintenance activities involving dust exposure.
Electricity	

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May cause fire hazards May cause electrocution	Necessary circuit breaker will be provided
Wastewater	
Disposal of wastewater used during operational activities	No wastewater will be produced from the process. Only Municipal Waste Water will be generated from washrooms and cleaning of floors, which will be collected in sedimentation tanks with screening and then treat it properly to bring the parameters within permissible limits of PEQS for industrial wastewater and then the same will use to irrigate own lands situated in and around the said site.

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Table 4-2: Characterization of Environmental Impacts during Construction Phase

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

Levels of Negative Consequences: Power of Consequences

High

Moderate M

Positive

NA - Not Applicable

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Table 4-5: Characterization of Environmental Impacts during Operational Phase

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

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

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Potential Environmental Enhancement Measures

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

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

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Chapter 5
ENVIRONMENTAL MANAGEMENT AND MONITORING PROGRAM

General

This section provides brief description of environmental issues, mitigation measures to eliminate and reduce environmental and social impacts to an acceptable level. Institutional arrangements for the implementation of the mitigation measures are also provided.

Objectives of EMP

The objectives of EMP are:

- To outline functions and responsibilities of the particular person.
- To state standards and guidelines, which are required to be achieved in terms of environmental legislation.
- To outline mitigation measures and environmental specifications which are required to be implementation for all phase of the project.
- To prevent long term or permanent environmental degradation.

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- To identify training requirement at various levels.

Proposed Mitigation actions

It lists all the mitigation measures identified in the EIA and the associated environmental or social aspect in line during operational phase with the administrative framework involving all the responsible implementing authorities who are required to take the planned actions/measures and monitor it accordingly. It enhances project benefits by reducing its impacts and making it environmental friendly.

Environmental Management Plan

Category	Impact	Project Activity	Monitoring Mechanism	Frequency	Monitoring Frequency
Construction and Operation Phases					
Land Resource	Solid Waste	Implementation of SW* Management System	Record keeping and timely transfer of SW from bins to the disposal site for composting	Daily	Regularly
	Soil Contamination	Implementation of Management Plans	Visual monitoring and complete soil analysis	Daily and annually	
Air Resource	Air Emission	Dust emissions during construction and operation.	Monitoring of the emissions as per applicable standards Water sprinkling will be done regularly to avoid dust emissions	Once before start of operation and after that as when required during operation	
	Dust				
Ecological Resource	Flora	Uprooting of trees during construction phase and	*Inventory of uprooted trees and vegetation*	*During Baseline Survey, once in a*	

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		maintenance of photographic record	during operation phase	year and after the completion of the Project	
Noise		Plant operation & material transportation	As per applicable standards	Fortnightly	
**SW= Solid Waste, **EA= Executive Agency*					

Schedule for Implementation of Environmental Budget

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Environmental Management Team along with their roles and responsibilities

The organizational roles and responsibilities of the key players are summarized below:

Table 2: Responsibilities of Management

Sr.#	Managers	Responsibilities
1.	Contract Manager	• Ensure EMP development. • Maintenance of EMP • Environmental issues identification within .pre construction phase. • Communication of EMP with other employees.
2.	Contractor	• Ensuring that the control measures identified from environmental surveys are implemented as they are relevant to their work/visit. • Ensuring that the project management team is notified of any non-conformance of control measures or environmental incident where the environment has been put at risk.
3.	Site Manager	• Ensure site material is safe • Controlled access arrangement to avoid hazards • Emergency egress arrangements to avoid dangerous situation. • Provide first aid facilities.
4.	Site HSE Advisor	• Ensure work is carried out in safe manner • Ensure good standards of workmanship • Health and safety advisor to complete the site waste management plan to be followed. • Ensure EMP implementation • Daily checks • Weekly checks • Consultation with workers
5.	Site Environment Advisor	• According to legislation and consent develop EMP • Ensure application of EMP • Carry out site inspection
6.	Public Contact Officer	• First point of contact for members of the public • Arrange and manage public forums • Maintain relation with stakeholders • Door to door surveys as appropriate • Coordination with work

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Proposed Monitoring Program

Proposed monitoring has been mentioned in Environmental Management Plan. Moreover, during construction, monitoring of ambient air, noise and water quality will be done by EPA certified Lab as per requirement/condition of Environmental Approval/NOC.

Proposed EMP reporting and reviewing procedure

During construction, EMP reporting and reviewing will be done by the contractor/HSE department. Regular monitoring will be done and reports will be submitted in EPA as per condition of Environmental Approval of construction phase.

Monitoring reports will be reviewed by EMP team and HSE department of M/s Monitor Health Int. (Pvt) Ltd and then will be shared by EPA.

Photographic records will also be maintained

Recorded data will be reviewed by supervisory contractor/proponent so that it can be further improved if required.

Environmental Training

Training is an integral part of a preventive strategy. Environmental and disaster management training will be required to ensure proper implementation of effective environmental management and monitoring plan; and disaster management plan. However, training could be organized by proponent involving relevant staff. As a trainer, competent Consultant can be outsourced. Important training under the spectrum needs to include:

- Training on fire fighting and safety management;
- Training on environmental safeguards and compliance;
- Staff training on environmental monitoring and reporting;
- Training on occupational health and safety measure.

Table 3: Training Schedule

STAFF	TRAINER	CONTENTS	SCHEDULE
Selected management staff from the project proponents.	IMC	Environmental sensitivity of project area Key findings of the EIA mitigation measures EMP Social and cultural values of area Leadership dynamics	Prior to the start to the project activities

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All employees	IMC	Environmental sensitivity of project area Mitigation measures contingency plan Community issues Social and cultural values	Prior to the start of the project activities
Drivers	IMC	Road safety Defensive driving	Before and during the project activities

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Institutional Capacity Of The Unit:

The organizational structure for the environment management plan is outlined below

Primary Responsibilities:

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

Operation Management & Control

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

Supervision & Monitoring

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

Communications & Documentation

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

Meetings

Two kinds of environmental meetings will take place during the project

Kick-off meetings

Weekly meetings

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

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

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documents.

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Staff and Training

Environmental Committee and Its Responsibilities:

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

To ensure implementation of all the proposed mitigation measures during and after the operational phase of the project.

To organize routine monitoring of motor vehicle emissions, air quality, noise etc. In case, the noise levels exceed the acceptable levels, a penalty or ban must be enforced.

To develop operational guidelines and implementation schedule.

Receiving complaints from residents and institutions and assisting the local environmental authority including liaison with Punjab EPA.

To ensure that the proposed project is implemented in an environmentally friendly manner, causing least harm to the existing environment including flora and fauna, sites of religious and cultural significance etc.

Technical Training Programs

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

Environmental Technical Assistance and Training Plan

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

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

Environmental Training Schedule

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

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

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Table 5-1: Environmental Training Schedule

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

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5.1 Summary of Impacts & Their Mitigation Measures:

Table 5--2: Constructional Phase Impacts

Potential Negative Impacts	Recommended Mitigation Measures	Monitoring responsibility	Parameters for Monitoring
Dust emissions	On exposed construction surface during windy periods fugitive dust generation will be suppressed by spraying water.	Proponent/ contractor	Air quality
	The construction material will be covered with polyethylene sheets to prevent dust emissions.		
Soil Erosion	Exposed surface will be resurfaced and stabilized as soon as possible.	Proponent/ contractor	Soil
Solid Waste Generation	Solid waste may include waste/unused construction materials, which should be Disposed-off properly.	Proponent/ contractor	Solid waste management
Vehicular Traffic And Noise	Vehicles and other noisy equipment will be kept in good conditions and their regular maintenance will be done.	Proponent/ contractor	Noise level
	Noisy construction activities will be carried out only during normal working hours.		

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Health And Safety of Work Force	The contractor will ensure that the workers are trained in safety procedures for all relevant aspects of construction.	Proponent/ contractor	Health and safety
	Regular checks will be made to ensure that the contractor is following safety working procedures/safety measures.		
	Formal emergency procedures will be developed for construction site in case of an accident.		
	First aid kits and other necessary equipment will be kept available at site along with the list of emergency phone numbers to be contacted in case of any accident.		
	Produced during construction phase will be collected by vehicle for dispose of it at a particular dumping site of the industrial estate from it will be reused. Waste segregation units will be provided. Recyclable items will be provided to recycling contractors		
Water Supply	Water use will be planned depending upon the supply and timing to avoid and inconvenience.	Proponent/ contractor	Water supply

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	Water conservation practices will be adopted.		
Surface and Groundwater	No wastewater will be produced from the process. Only Municipal Waste Water will be generated from washrooms and cleaning of floors, which will be collected in sedimentation tanks with screening and then treat it properly to bring the parameters within permissible limits of PEQS for industrial wastewater and then the same will use to irrigate own lands situated in and around the said site.	Proponent/ contractor	Surface and groundwater

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Table 5-3: Operational Phase Impacts

Potential Negative Impacts	Recommended Mitigation Measures	Monitoring Responsibility	Parameters for Monitoring
Air emissions	Nil. Monitoring of ambient air parameters will be done on quarterly basis to ensure compliance with the punjab standards.	Proponent	Air quality
Waste water	No wastewater will be produced from the process. Only Municipal Waste Water will be generated from washrooms and cleaning of floors, which will be collected in sedimentation tanks with screening and then treat it properly to bring the parameters within permissible limits of PEQS for industrial wastewater and then the same will use to irrigate own lands situated in and around the said site.	Proponent	Wastewater management

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Flora and fauna	The unit includes a plan of the green yard area which is a positive impact on the flora and fauna. There is no significant fauna in that area. However, it is suggested that maximum number of trees should be planted by the management inside and outside the boundary wall in order to enhance aesthetics of the area.	Proponent	Biodiversity
Solid Waste	Solid waste (packing material and municipal solid waste) will be collected, stored at a designated place and disposed-off properly through a contractor	Proponent	Solid waste Management
Social impacts	During the operation stage, there will be no social issue for the nearby localities. Moreover, the residents may get opportunities to work in this facility which is a major positive impact of the project.	Proponent.	Social impacts

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

Emergency Plan

In order to cope with emergency due to major fire hazards a proper fire escape plan has been designed. A proper **Emergency Escape** is present in the building along with **Fire Extinguishers** at each appropriate place.

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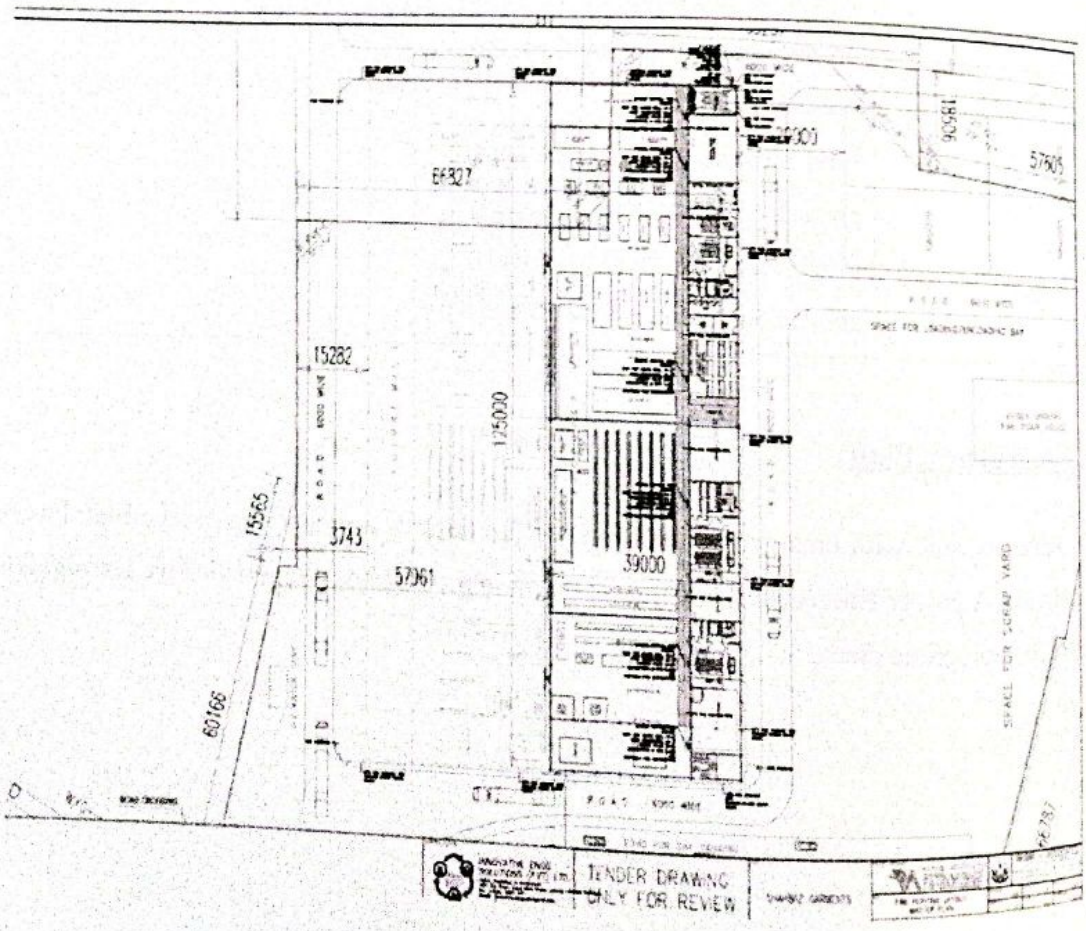
Fire Alarm And Detection System

Fire alarm system will also be installed. The occupants/security guards who detect the fire must inform the others in the shortest possible time. They may operate fire alarms, shout and use telephone (line and cellular).

The system comprises the following.

- Smoke detector
- Call points
- Control panel in security room
- Fire signs
- Calling the fire brigades

The contacts (telephones, call and fax numbers) of local fire brigades will be boldly written at prominent place and on the notice boards so that any person may call them for immediate assistance.



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Medical aid

Information be immediately passed to the nearby medical hospitals and centers for recovery of the wounded persons. Also first aid boxes should be kept in the factory area.

Change Management Plan

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

Changes to the EMP

The EIA and the EMP have been developed based on the best possible information available at the time of the EIA study. However, it is possible that during the construction and operation phase some aspects of the EMP may need to be changed owing to their non-applicability in a certain area of operation or the need for additional mitigation measures based on the findings of environmental monitoring during the construction and operation phase. In such cases following actions shall be taken.

A meeting will be held between M/S JIANI Kitchenware (SMC- Private) Limited (Cutlery Unit) and the cerned contractor. During the meeting the proposed deviation from the EMP, planning and designing will be cussed and agreed upon by all parties.

Based on the discussion during the meeting, a change report will be produced collectively, which will include original EMP clause/plan or design, the change that has been agreed upon, and the reasons for the change.

The report will be signed by all the parties and will be filled at the site office. A copy of the report will be to M/S JIANI Kitchenware (SMC- Private) Limited (Cutlery Unit) and contractor head offices.

All relevant project personnel will be informed of the change.

5.1.1 Changes to the Operation

The change management system recognizes three orders of changes.

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First Order Change

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

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

Second Order Change

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

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

Third Order Change

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

Equipment Maintenance:

Equipments will be regularly checked. Oiling and maintenance of the machines and equipment will be done properly.

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Environmental Management Cost:

The project includes 5 lacs Pak rupees for the environmental management. The estimations are as followings:

Table 5-4: Environmental Management Cost

Environmental Component	Quantity	Amount (Pkr)
Tree plantation	3000	100,000
Health & safety measures and provision of PPE's	L.s.	50,000
Air and water quality & noise monitoring	L.s.	150,000
Stack Emissions Monitoring	L.s.	100,000
Environment , Health and Safety Specialist/third-party environmental consultant visit /Environmental trainings	L.s.	100,000
Total Environmental Management & Monitoring Cost.		**5,00,000**

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6. STAKEHOLDER'S PARTICIPATION

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

PUBLIC CONSULTATION AND INFORMATION DISCLOSURE

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

a. GENERAL

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

i. Share information with stakeholders on proposed project establishment.

ii. Access the impacts on the physical, biological and socio-economic environment.

iii. Understand stakeholder concerns regarding various aspects of the project commencement.

iv. Note valuable suggestions of local stakeholders to improve the proposedproject design.

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v. Understand the perceptions, assessment of social impacts and concernsof the affected people/communities of the project area.

vi. Find out the awareness level and situation of acceptability to identify anyissues for the implementation of the proposed project.

vii. Invite people to express their views about the positive/negative impacts ontheir lifestyles and environment.

viii. Disclose information about contact offices/officers for any complaints/queries.

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

OBJECTIVES OF CONSULTATION

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

CONSULTATION PROCESS

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

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

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

Various meetings with the stakeholders were held the following objectives:

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

c. PROPONENT'S ENVIRONMENTAL MANAGEMENT TEAM

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

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6.3.1 The responsible authority

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

6.3.2 Other department and agencies

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

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

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		locals. • The proposed product should be economical. • Job opportunities should be given to the locals. • Wages should be given according to the work assign to them. • Life insurance of the workers should be given as well as all the facilities should be given as per labour laws.
Irrigation Department		
Malik Anwar	Superintendent Engineer	Following comments were suggested: • Untreated wastewater should not be disposed of in the nearby drains without proper treatment. • Beneficial as job opportunities will be available to the residents.
Forest Department		
Mazhar Masood	Divisional Forest Officer Faisalabad	Following recommendation were suggested by the forest department: • Planation and landscape activities should be carried out on broader scale. • Indigenous species such as Arjarn, Barna, Neem, Suharjna, Amaltas and Jaman should be planted. • Proper drainage system must be available at site.

HSE= Health, Safety and Environment

3.3. Environmental Practitioners and experts

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

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Table 6-1: Environmental Experts and their Concerns

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

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Mr. Yahya	Environmentalist	• She said that in case of removal of vegetationtrees must be planted after construction at designated green areas • Water conservation strategies must be adopted • Solid waste must be collected and dispose of properly • Wastewater should not mix with surface water channels it must be properly dispose of after meeting PEQS. • Avoid groundwater contamination

CONSULTATION WITH AFFECTED AND WIDER COMMUNITY

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

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

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

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

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

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

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6.3.4 VIEWS, CONCERNS AND SUGGESTIONS OF VARIOUS STAKEHOLDERS

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

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

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

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Table 6-2: Stakeholders and their Concerns

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

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

d. SUMMARY FINDINGS

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

i. The people whose interviews were recorded as a part of the publicconsultations were local inhabitants.

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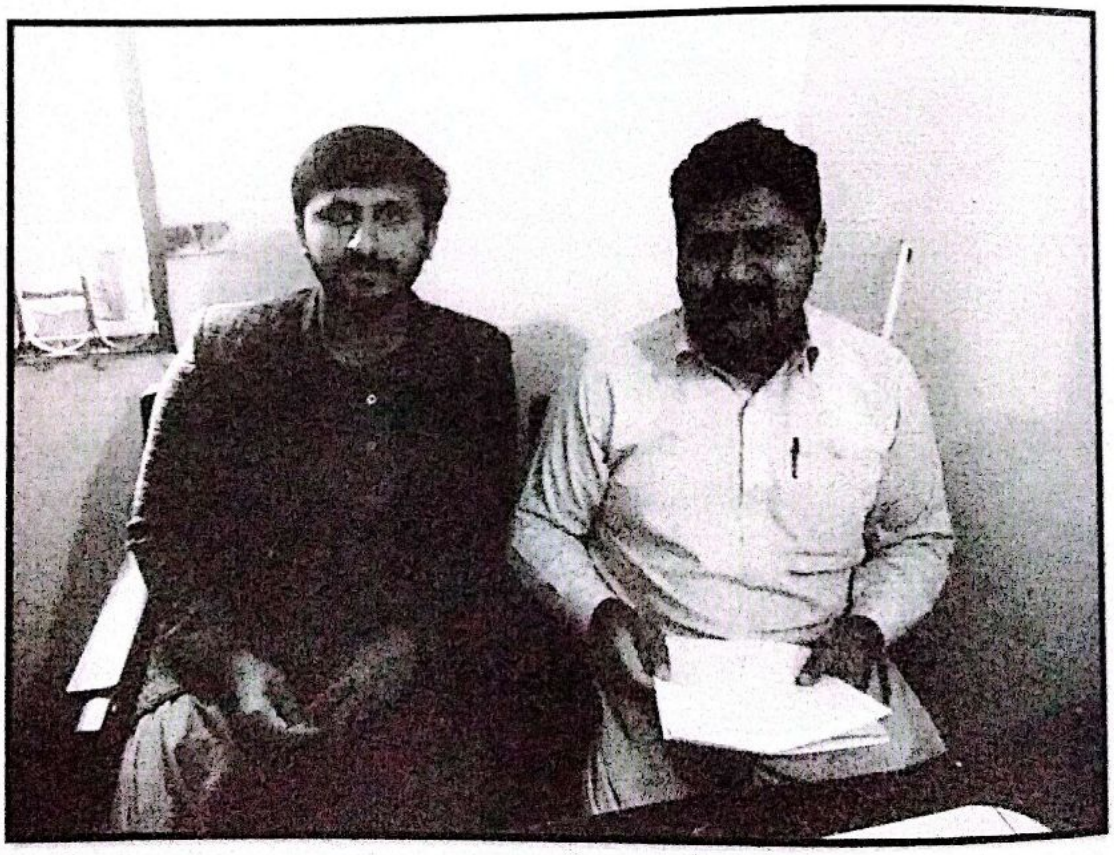
ii. In the project area, different sources of income are present, and the locals rely on more than one source.

iii. Several concerns of the people related to environment are correct. All thesewill be well taken care of in the design, construction, and operation of the project. Complete EMP is a part of this EIA that takes care of all the people'sconcerns.

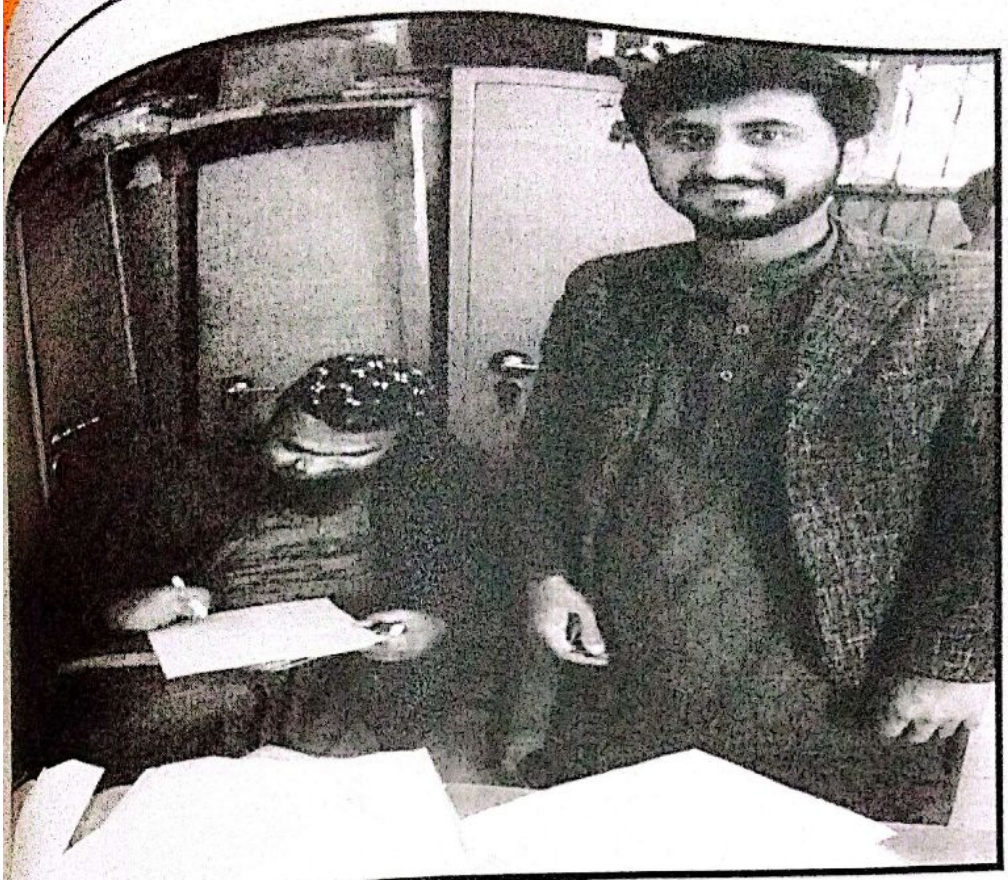
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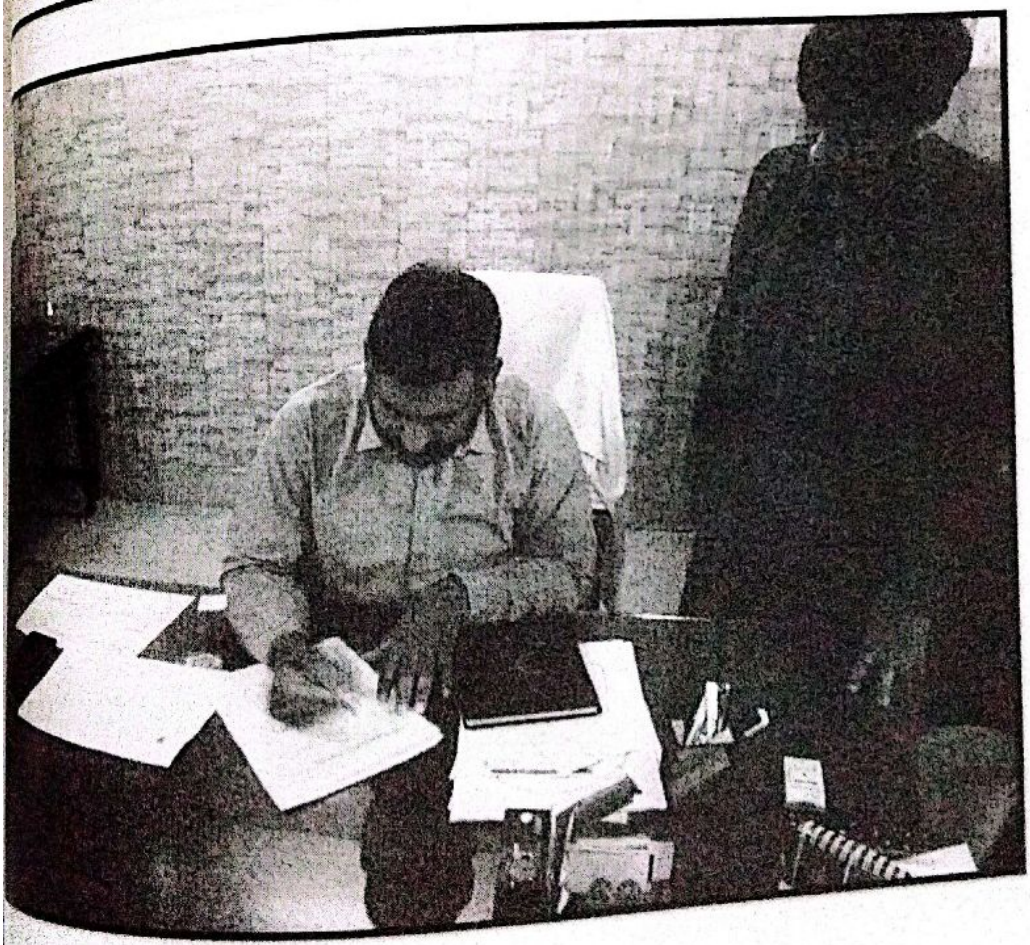
Pictorial Evidence of Consultation with Different Departments





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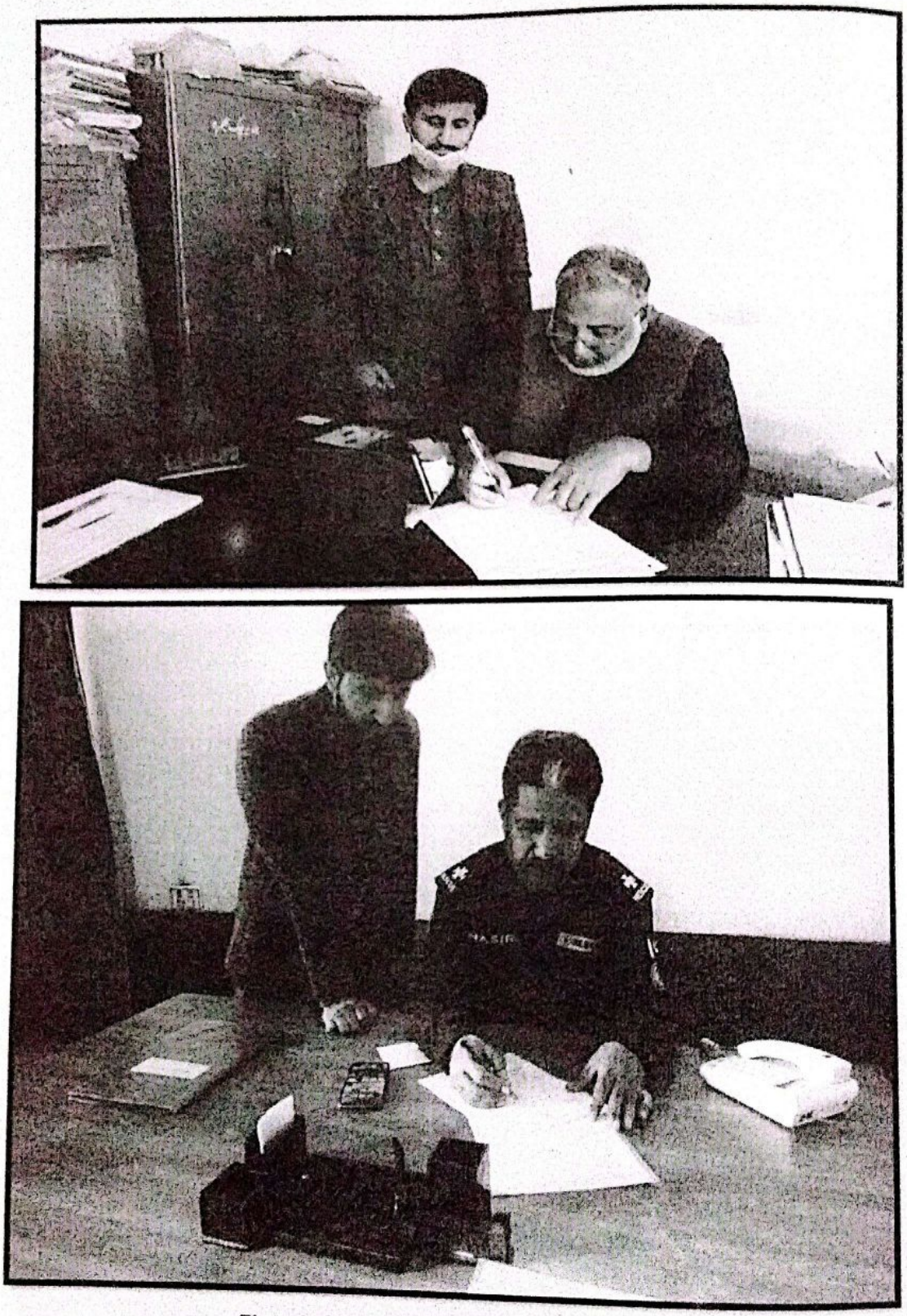


Figure 6-1: Consultation with Department's Staff

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Methodology of consultation:

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

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

6.2 Stakeholder identification:

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

6.3 Issues Discussed

Following issues were discussed during the stakeholder's consultation:

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

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

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situation of food.

6.4 Socio Economic

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

6.5 Proponent

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

6.6 Responsible Authority

Management of Extension of M/S JIANI Kitchenware (SMC- Private) Limited (Cutlery Unit) is the responsible authority to take all measures prior to the Cutlery Unit process activity.

6.7 Other departments and agencies

For the impact analysis detailed meetings were held with the management of Extension of M/S JIANI Kitchenware (SMC- Private) Limited (Cutlery Unit) community, education institutes, health institutes hospital and NGOs. Issues were discussed that may affect the environment and also the implementation of proposed project. All possible mitigation measures were considered and incorporated in the Environmental Management Plan.

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

6.8 Environmental Practitioners and Experts

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

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

6.9 Affected & Wider Community

There is no affected community present in the radius of our study area. They provided positive remarks regarding the subject project and in the favor of the subject Cutlery Unit for the manufacturing of various cutlery products. Stakeholders participation Performa's and socioeconomic questionnaire were get filled by the inhabitants to evaluate the project socio-economic impacts.

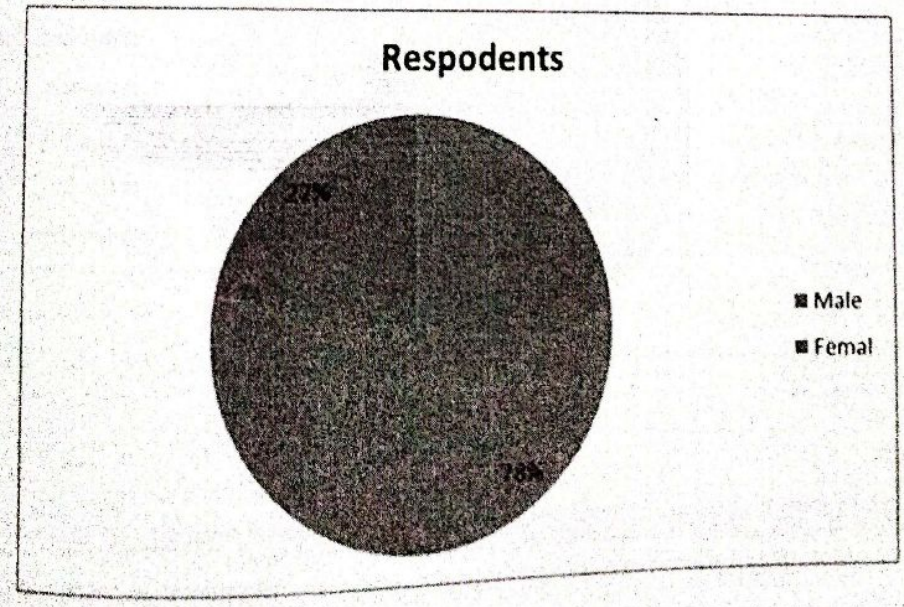
6.10 Sample size

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

6.11 Statistical Analysis

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

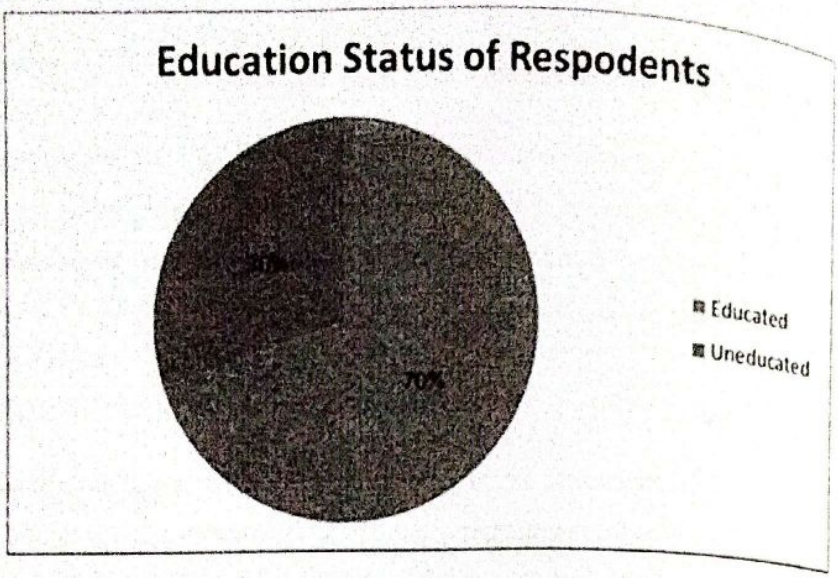
6.12 Results & Discussions



Discussion:

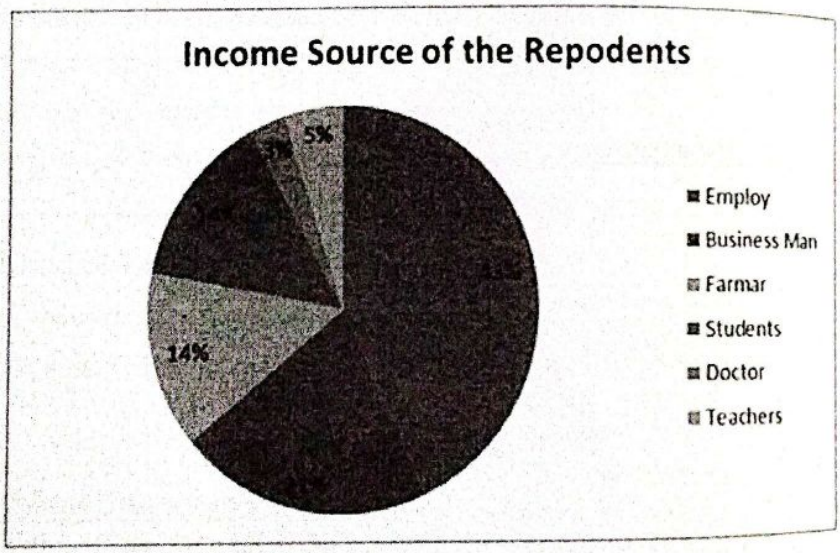
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According to graphical representation, 78% respondents were male while 22 % respondents were female. The number of female respondents is less as compared to male respondents because according to the social binding female hesitates to respond or communicate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



Discussion:

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

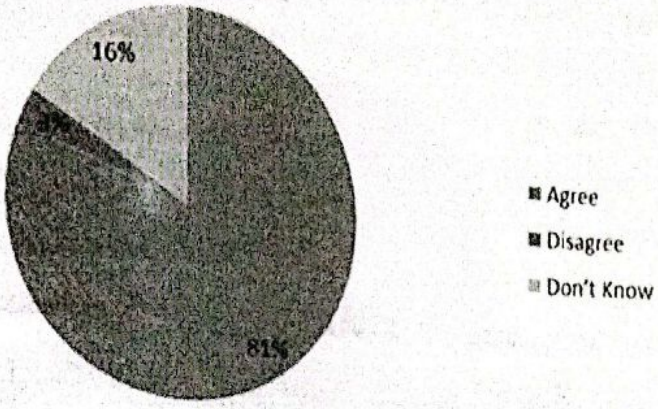


Discussion:

According to above graphical representation, source of income of majority of the respondents in the area was mainly employee in the private and government sectors while all other respondents' source of income was business man, farmers, students, doctors and teachers.

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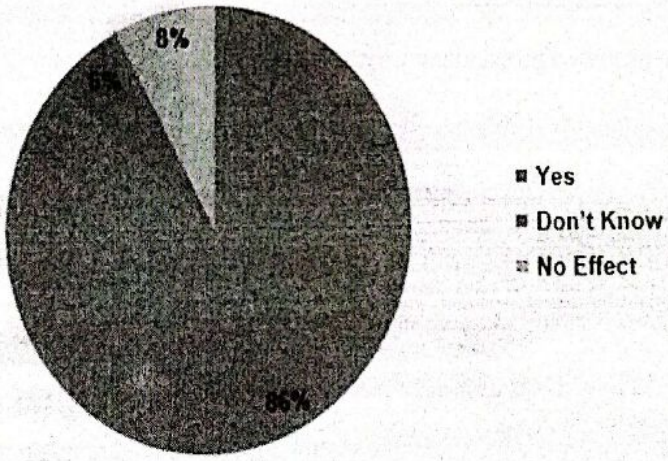
People in the favor of the Cutlery Unit



Discussion:

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

Effect of Cutlery Unit on the Living Standard of the Area

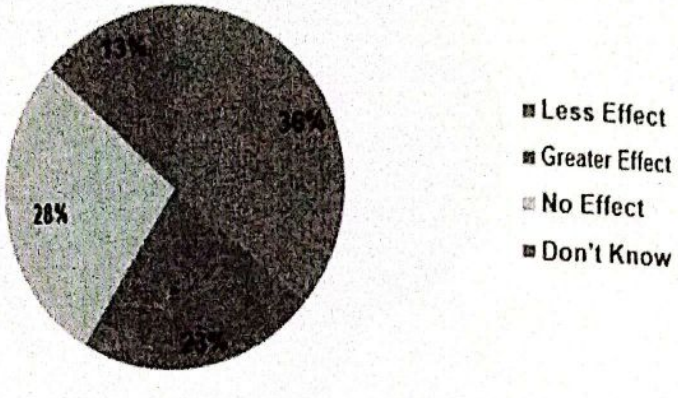


Discussion:

As per survey, 86% respondents said that Cutlery Unit will enhance the living standard and income level of the area, 8% said that there will be no effect on the living standard and income level while only 6% respondents had no remarks regarding the subject project.

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How much Effect Caused by the Cutlery Unit on the Plants Species of the Area



Discussion:

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

6.3 Findings of the overall discussion:

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

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CONCLUSION

GENERAL

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

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

MAIN ISSUES AND CONCERNS

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

i. Noise and air pollution due to the operation of construction machinery during construction phase of the project may occur.

ii. Health and safety problems of the workers may also arise during the construction and operation phases of the project.

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

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c. RECOMMENDATIONS

i. The construction activities shall be phased to confine the disruption of traffic. Traffic diversion/re-routing plans, if found necessary, shall be made with thehelp of traffic police for smooth flow of traffic. The vehicles carrying the construction materials will not be allowed to enter the town during rush hourswhich could be possible at night hours.

ii. Noise measurements shall be carried out at locations and schedule specified to ensure the effectiveness of mitigation measures; and

iii. Health and safety problems of the workers shall be ensured during the construction and operation phases of the project.

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

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LIST OF ABBREVIATIONS

BOD Biological Oxygen Demand
°C Degree Centigrade
CO Carbon Monoxide
COD Chemical Oxygen Demand
CC Construction Contractor
dBA Decibel
DC Design Consultant
DCR District Census Report
DO Dissolved Oxygen
EIA Environmental Impact Assessment
EMP Environmental Management Plan
EMMP Environmental Management & Monitoring Plan EPA Environment Protection Agency
EPD Environment Protection Department
GOP Government of Pakistan
HSE Health, Safety & Environment
IEE Initial Environment Examination
Km Kilometer
M3/h Cubic Meter per Hour
Mg/L Milligram Per Liter
PEQS Punjab Environmental Quality Standards NEQS National Environmental Quality Standards NOC No Objection Certificate
NO_x Nitrogen Oxides
OHS Occupational Health and Safety PEPA Pakistan Environmental Protection Act
PEPO Pakistan Environmental Protection Ordinance PPE Personal Protective Equipment
PM Particulate Matter

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

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GLOSSARY

Agency A business or organization providing a particular service on behalf of another business, person, or group.

Biodiversity The variety of life in an area, including the number of different species, the genetic wealth within each species, and the natural areas where they are found.

Climate The weather conditions prevailing in an area in general or over a long period.

Control Shed In Controlled Poultry Farm the day old chicks (DOCs) are raised on rich protein chemicals for about a period of six weeks.

Conservation Official supervision of rivers, forests, and other natural resources in order to preserve and protect them through prudent management.

Consultant A person who provides professional advice or services to companies for fee.

Construction Waste Waste generated from the buildings and construction industry and includes material like bricks, concrete, tiles, debris, ceramics and more.

Cultural Heritage Valued objects and qualities such as historic buildings and cultural traditions that have passed from previous generations.

Demographic A single vital or social statistic of a human population, as the number of births or deaths.

Drainage Natural or artificial removal of surface and sub-surface water from an area.

Ecology The branch of biology that deals with the relations of organisms to one another and to their physical surroundings.

Endangered species A species of animal or plant that is seriously at risk of extinction.

Environment Relationship of natural world (human beings, animals and plants) with physical surroundings (air, land, water).

Environment Impact Assessment Environmental Impact Assessment (EIA) is a process of evaluating the likely environmental impacts of a proposed project or development, taking into account inter-related socio-economic, cultural and human-health impacts, both beneficial and adverse.

mission The act of sending out gas, heat, light, etc.

ramework A framework is a real or conceptual structure intended to serve as a support or guide for the building of something that expands the structure into something useful.

resh Water Fresh water is any naturally occurring water except seawater and brackish water. Fresh water includes water in ice sheets, ice caps, glaciers, icebergs, bogs, ponds, lakes, rivers, streams, and even underground water called groundwater.

roundwater Subsurface water in the zone in which permeable rocks, and often the overlying soil, are saturated under pressure equal to or greater than atmospheric.

atchery A hatchery is a facility where eggs are hatched under artificial conditions, especially

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