

ENVIRONMENTAL IMPACT ASSESSMENT (EIA) REPORT

MEAT PROCESSING PLANT

by

M/S GO DAIRY PRIVATE LIMITED



**Mouza Galo, Tehsil Ferozewala,
District Sheikhupura**

Prepared by



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List of Abbreviation

EA	Environmental Approval
EHS	Environment, Health & Safety
EIA	Environmental Impact Assessment
EMMP	Environmental Management & Monitoring Plan
EMP	Environmental Management Plan
EPA	Environmental Protection Agency
EPCCD	Environmental Protection & Climate Change Department
IEE	Initial Environment Examination
M & E	Monitoring & Evaluation
NEQS	Punjab Environmental Quality Standards
OHS	Occupational Health & Safety
PEB	Pre-Engineering Building
PEPA	Punjab Environmental Protection Act
PEQS	Punjab Environmental Quality Standards
PM	Particulate Matter
PPEs	Personal Protection Equipment
RO	Reverse Osmosis
SWMP	Solid Waste Management Plan
UNCED	United Nations Conference on the Environment and Development
WWTP	Wastewater Treatment Plant

EXECUTIVE SUMMARY

Go Dairy (Private) Limited is a Pakistan-based company established with the vision of developing modern and regulated livestock and meat processing infrastructure in the country. The company aims to contribute to the growth of the halal meat industry by introducing advanced slaughtering and processing practices that meet international hygiene, food safety, and export standards. Go Dairy is focused on producing high-quality halal meat products for both domestic and international markets, particularly targeting export destinations such as Saudi Arabia and other Middle Eastern countries. Through the development of large-scale facilities equipped with modern machinery, cold chain systems, and environmental management units, Go Dairy seeks to support economic development, create employment opportunities, and strengthen Pakistan's position in the global halal meat trade.

The project for the commissioning of its objective and construction requires fulfilling the legal requirements of the Punjab Environmental Protection Act (amended act 2012), Section 12, for which this Environmental Impact Assessment (EIA) report is being submitted. Based on the Punjab Environmental Protection Act 2012 and the Review of IEE & EIA Regulations, 2022 for filing, reviewing, and approving environmental assessments, the present project is classified under **Schedule II class B (16)**.

TITLE AND LOCATION OF PROJECT:

“Construction of Cattle & Sheep Meat Processing Plant by M/s GO Dairy Private Limited Located at Bashir Pipe Factory, Mouza Galo, Tehsil Ferozewala, District Sheikhpura”

Location: Bashir Pipe Factory, Mouza Galo, Tehsil Ferozewala, District Sheikhpura

PROJECT PROPONENT

Proponent: Shamsi Khan

CNIC No: 42401-5339052-7

Address: Near Gulshan-e-Madina Mosque House No. 22-D Street No. 1 Mohala Araian Colony, Lahore

BRIEF OUTLINE OF PROJECT

Table E-1: Salient Features of the Project

1	Project Title	Construction of Cattle & Sheep Meat Processing Plant by M/s GO Dairy Private Limited.
2	Proponent	Proponent: Shamsi Khan Manager HR, Admin and Legal CNIC No: 42401-5339052-7 Address: Near Gulshan-e-Madina Mosque House No. 22-D Street No. 1 Mohala Araian Colony, Lahore
3	Project Location	Bashir Pipe Factory, Mouza Galo, Tehsil Ferozewala, District Sheikhpura
4	Co-ordinates	31°37'45.7"N 74°07'41.3"E
6	Land Use in Surrounding of area North: South: East: West:	North: Barren/Open Land South Barren/Open Land East: Ubqari Hajveri Mahal Road West: Barren/Open Land
7	Total Area	40478.45 m ²
8	Cost of Project	2500 million PKR
9	Water Source	Ground Water
10	Status of Project	Pre-Construction Phase
11	Nature of Area	Present Use: Agricultural Land Land Use Classification: Abattoir & Meat Processing Unit
12	Source of Power	Grid, Generator & Renewable
13	Project Capacity	200 ton/day

ENERGY AND WATER AVAILABILITY

The proposed site for the Go Dairy Cattle and Sheep Meat Processing Plant is located near existing infrastructure with reliable access to the Punjab electricity grid. Electricity supply in Sheikhpura District is generally stable, with occasional fluctuations that can be supplemented through on-site diesel generators to ensure uninterrupted operations. The operational baseline indicates that sufficient energy resources are available to support the

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assessment indicates that groundwater is abundant in the region, reflecting the alluvial plains of Sheikhpura that receive recharge from canal networks and seepage.

PROJECT BASELINE

The proposed site for the Go Dairy Cattle and Sheep Meat Processing Plant is located on open agricultural land near Ubqari Hajveri Mahal Road in District Sheikhpura. The area is relatively flat, with no significant vegetation or ecologically sensitive zones, and is not prone to flooding or seismic activity. The climate is typical of northern Punjab, with moderate rainfall and seasonal temperature variations. Groundwater is available in sufficient quantities and will serve as the primary water source, treated on-site through a Reverse Osmosis (RO) plant for industrial and hygiene purposes. Energy supply from the Punjab grid is reliable, with backup diesel generators planned to ensure uninterrupted operations. The surrounding land use is primarily agricultural, with scattered rural settlements and nearby irrigation canals, including the Muridke Distributary, Upper Chenab Canal, and Nikk Degh, supporting regional water needs. This baseline establishes that the site is suitable for the establishment of a large-scale, Halal-compliant meat processing facility while providing the necessary resources for sustainable operations and manageable environmental impacts.

PROJECT IMPACTS AND RECOMMENDATIONS FOR THEIR MITIGATION

Impact assessment is crucial for project initiation as it enables the identification and comprehension of a project's potential positive and negative effects. Understanding these impacts aids in tailoring the project to maximize benefits and minimize risks. Impact assessment assists in recognizing environmental, social and economic challenges and risks and gives the directions to develop strategies that mitigate these risks and adjust the plan accordingly.

Table E-2: Possible Impacts and their Mitigation Measures

Possible Impact	Impact Magnitude	Mitigation Measures
Construction Phase		

Possible Impact	Impact Magnitude	Mitigation Measures
<i>Air pollution from dust (road works, excavation)</i>	Moderate	Regular water sprinkling on roads and excavation areas Covering trucks transporting soil/material
<i>Noise pollution from machinery and vehicles</i>	Moderate	Use of silencers on equipment Restrict work to daytime hours Provide PPE to workers
<i>Generation of construction waste (debris, packaging)</i>	Low to Moderate	Segregate waste for recycling Dispose non-recyclable waste via EPA-approved contractors Avoid open dumping
<i>Impact on local traffic & transport disruption</i>	Low	Prepare traffic management plan Schedule material deliveries to avoid peak hours
<i>Water contamination (fuel/chemical spills)</i>	Low	Store fuel and chemicals in bunded areas Prepare spill response plan Use proper drainage and containment systems
Operational Phase		
<i>Odor emissions from lairage, slaughtering, and waste handling areas</i>	Moderate	Design enclosed lairage and slaughter halls Operate rendering and waste management plants under controlled conditions Regular cleaning and sanitization of processing areas
<i>Wastewater discharge and contamination of water resources</i>	Moderate to High	Treat all wastewater in an on-site WWTP to meet PEQS before discharge Implement drainage systems to prevent surface runoff Reuse treated water for cleaning or landscaping where possible
<i>Solid waste generation</i>	Moderate	Segregate and transfer all organic waste to the rendering plant Use covered containers and avoid open storage Contract with EPA-authorized disposal services for non-organic waste
<i>Air emissions from generators, boilers, and refrigeration units</i>	Low to Moderate	Use properly maintained generators and boilers Employ LPG/clean fuels where possible

Possible Impact	Impact Magnitude	Mitigation Measures
		Install stacks and emission control devices; conduct periodic emissions monitoring
Noise from machinery, chilling, and transport	Moderate	Install silencers and vibration isolators on equipment Provide ear protection to workers in high-noise areas Restrict loud operations to daytime hours
Spread of zoonotic diseases / occupational health risks.	Moderate	Implement strict hygiene protocols Provide PPE and safety training Conduct regular health check-ups for workers Maintain first-aid facilities and emergency response procedures
Traffic increases due to livestock and product transport	Low to Moderate	Schedule transport to avoid peak traffic hours Designate loading/unloading and parking areas Ensure vehicles are maintained to reduce emissions

Environmental Monitoring Plan

The implementation of a monitoring plan within an EIA is crucial for several reasons. It serves as a fundamental tool to track and evaluate the actual environmental effects of a project against the predicted impacts outlined in the EIA report. By establishing a monitoring plan, it becomes possible to assess the accuracy of the initial predictions, ensuring compliance with environmental regulations and standards. This ongoing assessment aids in identifying any unforeseen or adverse impacts, enabling timely corrective measures or adjustments to the project to mitigate or prevent environmental harm, fostering sustainable development and ensuring the project's alignment with environmental conservation objectives throughout its lifecycle.

Table E-3: Environmental Monitoring

Parameter	Monitoring Location	Frequency	Applicable Standard / Guideline	Responsible Authority
Ambient Air Quality (PM _{2.5} , PM ₁₀ , SO ₂ , NOx, CO)	Plant boundary and nearby sensitive receptors	Quarterly	Punjab Environmental Quality Standards (PEQS) / World Health Organization Air Quality Guidelines	Environmental Manager / Certified Laboratory
Odor Concentration	Rendering plant area, slaughterhouse area, plant boundary	Quarterly	International Finance Corporation Environmental Health and Safety (EHS) Guidelines for Meat Processing	Environmental Manager
Stack Emissions (PM, SO ₂ , NOx, CO)	Boiler stack / generator exhaust	Quarterly	PEQS for Industrial Gaseous Emissions / IFC EHS Guidelines	Environmental Manager
Noise Levels	Plant boundary, processing area, generator room	Quarterly	PEQS Noise Standards / World Health Organization Noise Guidelines	Environmental Manager
Wastewater Quality (pH, BOD, COD, TSS, Oil & Grease)	Inlet and outlet of Wastewater Treatment Plant (WWTP)	Monthly	PEQS for Effluent Discharge	Environmental Manager / WWTP Operator
Groundwater Quality (pH, TDS, Nitrate, Microbial Content)	Tube well / groundwater source within facility	Bi-annually	PEQS Drinking Water Standards / WHO Drinking Water Guidelines	Environmental Manager
Solid Waste Generation	Waste storage and segregation area	Monthly inspection (Internal)	Internal Waste Management Plan / IFC Waste	Environmental Manager

Parameter	Monitoring Location	Frequency	Applicable Standard / Guideline	Responsible Authority
			Management Guidelines	
Slaughterhouse Organic Waste (Blood, Offal, Bones)	Rendering plant and waste handling area	Monthly inspection (Internal)	Food and Agriculture Organization Guidelines for Slaughterhouse Waste Management	Rendering Plant Supervisor
Odor and Vector Control	Lairage area and waste storage area	Monthly inspection (Internal)	IFC EHS Guidelines / FAO Slaughterhouse Hygiene Guidelines	Sanitation Supervisor
Workplace Hygiene and Sanitation	Slaughtering and meat processing sections	Monthly inspection (Internal)	World Health Organization Food Hygiene Guidelines / FAO Standards	Quality Assurance Manager
Occupational Health & Safety	Entire facility	Quarterly inspection (Internal)	Occupational Safety and Health Administration (OSHA) Guidelines	Health & Safety Officer
Cold Storage Temperature Monitoring	Cold storage and refrigeration units	Daily monitoring (Internal)	FAO Meat Processing and Cold Chain Standards	Cold Storage Supervisor
Greenbelt and Plantation Monitoring	Plant boundary and landscaping area	Quarterly (Internal)	Internal EMP Plantation Plan	Environmental Manager

STAKEHOLDER CONSULTATION

The stakeholder consultation process for the proposed Meat Processing Plant provided valuable insights into the perceptions, concerns, and expectations of local communities, landowners, and nearby industrial operators. Key issues raised during consultations

included potential environmental impacts such as odor, noise, wastewater discharge, and air quality deterioration, as well as public health and safety concerns related to zoonotic diseases, vector attraction, and worker safety. Social and infrastructure concerns were also highlighted, including increased traffic, potential land use conflicts, and the need for strict adherence to Halal and animal welfare standards.



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CONCLUSION AND RECOMMENDATIONS

The EIA concludes that the proposed Go Dairy Cattle and Sheep Meat Processing Plant in District Sheikhupura is environmentally feasible and socially beneficial, provided that effective mitigation measures are implemented. The project is expected to generate employment, support Halal meat exports, and promote modern industrial development in the region. However, potential impacts related to wastewater, odor, solid waste, and occupational health and safety must be carefully managed through strict compliance with the Environmental Management Plan (EMP), operation of the wastewater treatment and rendering facilities, and regular environmental monitoring. With proper implementation of these measures and continued stakeholder engagement, the project will operate sustainably while minimizing adverse environmental and social effects.



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CHAPTER 1. SCREENING OF THE PROJECT

Based on the Punjab Environmental Protection Act 2012 and the Review of IEE & EIA Regulations, 2022 for filing, reviewing, and approving environmental assessments, the present project is classified under **Schedule II class B (16)**. Following image shows the projects included in Class B.

2650 THE PUNJAB GAZETTE (EXTRA ORDINARY) DECEMBER 16, 2022

SCHEDULE II
(See Regulation 4)
List of projects requiring an EIA

A. Energy

1. Hydroelectric power generation over 50MW
2. Transmission lines more than 132 kV and grid stations
3. Nuclear power plants
4. Petroleum refineries
5. Oil and gas extraction projects including exploration, production, gathering systems, separation and storage
6. Renewable Energy projects (including wind and solar) more than 100 MW

B. Manufacturing and processing

1. Cement plant
2. Chemical manufacturing units, including pharmaceuticals and cosmetic
3. Sugar mills and Distilleries
4. Food processing industries including, beverages, milk and dairy products with total cost more than Rs 200 million
5. Paper and paperboard, paper pulping, paints and dyes,
6. Textile units comprising of dyeing & printing
8. Pesticides and fertilizer manufacturing units
9. Poultry waste processing units / rendering units
10. Tannery and leather units
11. Rubber projects with total cost more than Rs. 100 million
12. Battery Manufacturing and Recycling Plants
13. Ceramics and glass units
14. Electro plating and nickel/chrome plating including Surgical Units
15. Cutlery units
- 16. Slaughter House**
17. Iron and steel rolling mills
18. Steel Furnaces
19. Smelting plants
20. Auto mobile manufacturing and assembling units
21. Resource Recovery Units

C. Mining and mineral processing

1. Mining and processing of coal, gold, copper, Sulphur and precious stones

CHAPTER 2. SCOPING OF THE PROJECT

The scoping process for the proposed GO Dairy – Cattle & Sheep Meat Processing Plant has been undertaken to define the spatial and temporal limits within which potential environmental and social impacts may occur. Given the scale of slaughtering and meat processing operations, the assessment boundaries have been delineated to capture both localized and off-site effects associated with construction, operation, and eventual decommissioning of the project.

2.1 SPATIAL AND TEMPORAL BOUNDARIES OF ENVIRONMENTAL ASSESSMENT

The spatial boundary defines the geographical extent within which potential environmental impacts of the proposed GO Dairy-Cattle & Sheep Meat Processing Plant will be evaluated. The spatial boundary of the assessment primarily encompasses the project site covering approximately 40478.45 m² located near Bashir Pipe Factory, Mouza Galo, Tehsil Ferozewala, District Sheikhupura, where all core activities including animal lairage, slaughtering, meat processing, cold storage, wastewater treatment, and auxiliary utilities will be developed. This core area represents the zone of direct environmental interaction, where impacts related to wastewater generation, solid waste production, air emissions, odor, noise, and occupational health and safety are expected to be most pronounced.

2.1.1 Spatial boundaries

The assessment area has been divided into the following zones:

a) Core Project Area

This includes the land allocated for:

- Lairage facilities for cattle and sheep
- Slaughterhouse operations (Halal-compliant slaughter lines)
- Meat processing units (200 tons/day capacity)

- Cold storage and refrigeration facilities
- Reverse Osmosis (RO) plant
- Wastewater treatment and solid waste handling areas
- Internal roads, utilities, and service areas

This zone represents the **primary source of environmental interactions**, including wastewater generation, solid waste production, air emissions, noise, and occupational health risks.

b) Immediate Influence Zone (0–1 km radius)

This zone covers:

- Adjacent agricultural lands
- Nearby industrial units (including Bashir Pipe Factory)
- Access roads and transportation corridors

Potential impacts assessed in this zone include:

- Odor dispersion from lairage and slaughter operations
- Noise impacts from machinery and vehicle movement
- Risk of surface and groundwater contamination
- Traffic-related disturbances

c) Secondary Influence Zone (1–5 km radius)

This zone includes:

- Surrounding rural settlements
- Irrigation canals, drains, and groundwater abstraction points
- Livestock movement routes and informal markets

Assessment within this zone focuses on:

- Cumulative impacts on water resources

- Regional air quality and odor propagation
- Public health considerations
- Socio-economic linkages and employment benefits

2.1.2 TEMPORAL BOUNDARIES

The temporal boundary of the EIA covers the full life cycle of the project. This includes the pre-construction phase, during which land-use change and site preparation may alter the existing environmental setting; the construction phase, characterized by civil works, machinery installation, and increased vehicular movement; and the operational phase, which constitutes the longest and most environmentally significant period due to continuous slaughtering, meat processing, refrigeration, and waste generation. Although project closure is not anticipated in the foreseeable future, the assessment also considers the decommissioning phase to ensure that potential long-term environmental liabilities are identified and managed at the planning stage.

a) Pre-Construction Phase

- Land acquisition and land-use change
- Site preparation and earthworks
- Mobilization of construction materials and labor

b) Construction Phase

- Construction of PEB-based structures
- Installation of machinery and utilities
- Development of RO plant, drainage, and waste handling systems

c) Operational Phase (Long-Term)

- Daily slaughtering of cattle and sheep
- Meat processing and cold storage operations
- Wastewater generation and treatment

- Solid waste and by-product handling
- Continuous animal welfare and veterinary operations

2.2 IMPORTANT ISSUES AND CONCERNS RAISED DURING CONSULTATION

Initial stakeholder consultations were carried out with **local residents, nearby industrial operators, landowners, and informal community representatives** in the project vicinity. Stakeholder consultation forms a critical component of the scoping process, enabling the identification of key environmental and social issues from the perspective of those likely to be affected by the project. Informal consultations were undertaken with local residents, landowners, and representatives of nearby industrial facilities to understand prevailing concerns and expectations regarding the proposed meat processing plant. The key environmental and social concerns raised are summarized below:

2.2.1 Environmental Concerns

- Odor emissions from lairage, slaughtering, and waste handling areas
- Wastewater discharge and its potential impact on irrigation channels and groundwater
- Improper disposal of animal waste, blood, and by-products
- Risk of surface and groundwater contamination
- Increased noise levels due to machinery and transport vehicles
- Air quality deterioration due to generators and refrigeration systems

2.2.2 Public Health and Safety Concerns

- Spread of zoonotic diseases
- Vector attraction (flies, rodents, stray animals)
- Worker safety during slaughtering and processing activities

2.2.3 Social and Infrastructure Concerns

- Increased **traffic load** on local roads

- Potential conflicts with existing agricultural land use
- Concerns regarding **compliance with Halal and animal welfare standards**

Stakeholders also acknowledged potential **positive impacts**, including:

- Employment opportunities
- Export revenue generation
- Development of modern, regulated meat processing infrastructure.

2.3 SIGNIFICANT IMPACTS AND FACTORS TO BE DETERMINED

During the scoping and stakeholder consultation process for the proposed Meat Processing Plant, several potential environmental, social, and economic impacts have been identified that require detailed assessment. These significant impacts and factors were analyzed further during the EIA to ensure informed decision-making and effective mitigation.

Environmental Impacts

- **Air Quality:** Potential deterioration due to emissions from generators, refrigeration units, and dust from operational activities.
- **Odor:** Generation of strong odors from lairage, slaughtering, and waste handling areas.
- **Water Resources:** Risk of contamination of surface and groundwater from wastewater discharge, runoff, and improper handling of blood, fats, and other organic wastes.
- **Noise:** Increased noise levels from machinery, chilling plants, processing units, and transport vehicles.
- **Waste Management:** Solid and liquid waste generation, including animal by-products, and their safe disposal or rendering.

Public Health and Safety Factors

- **Zoonotic Diseases:** Potential for disease transmission from livestock to workers and nearby communities.
- **Vector Attraction:** Increased presence of flies, rodents, and stray animals around waste and lairage areas.
- **Occupational Safety:** Risks of injuries from machinery, slaughtering processes, and handling of animal materials.

Socio-Economic and Infrastructure Impacts

- **Traffic and Transport:** Increased traffic load due to movement of livestock and transportation of meat products.
- **Welfare Compliance Halal and Animal:** Ensuring operations adhere to international Halal standards and humane treatment of animals.
- **Economic Benefits:** Job creation, growth of local livestock trade, and export revenue generation.

These identified factors will form the basis of detailed impact studies, risk assessments, and the development of a robust EMP. The goal is to ensure that the project's operational activities are sustainable, socially responsible, and compliant with Punjab and international regulatory requirements.

2.4 DEVELOPMENT OF AN ENVIRONMENTAL MANAGEMENT PLAN

The development of an EMP is a critical step in ensuring that the proposed Plant operates in an environmentally sustainable and socially responsible manner. The EMP is designed to systematically address all potential environmental, health, and safety impacts identified during the project's scoping and baseline studies. It provides a structured framework to prevent, minimize, and mitigate adverse impacts throughout the construction, commissioning, and operational phases of the project.

The EMP will include specific mitigation measures, monitoring programs, and institutional responsibilities to ensure compliance with Punjab environmental laws, Punjab

Environmental Quality Standards (PEQS), and international standards for Halal meat processing. Key elements of the EMP will cover:

- Proper handling, segregation, and treatment of solid and liquid wastes, including animal by-products, to prevent pollution and maintain hygiene.
- Efficient use of groundwater and treatment of wastewater through the on-site Reverse Osmosis (RO) and wastewater treatment plants to protect surface and groundwater resources.
- Control of emissions from generators, boilers, and refrigeration systems, and reduction of noise impacts through equipment design and operational protocols.
- Implementation of strict safety protocols, provision of Personal Protective Equipment (PPE), worker training, and emergency preparedness plans.
- Regular cleaning, proper drainage, and operation of rendering and waste management facilities to minimize odor and prevent vector attraction.
- Periodic environmental monitoring for air quality, water quality, noise, and waste management efficiency, with regular reporting to regulatory authorities.
- Maintaining communication with local stakeholders to address concerns, ensure transparency, and enhance social acceptance of the project.

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CHAPTER 3. INTRODUCTION

Go Dairy (Private) Limited is a progressive Pakistani company working in the livestock and agri-based industrial sector, with a focus on developing modern solutions for food production and value-added processing. The company is committed to supporting Pakistan's growing agricultural economy by introducing efficient, hygienic, and internationally aligned practices in the dairy and meat industries. With an emphasis on quality, sustainability, and market competitiveness, Go Dairy aims to strengthen the country's position in the Halal food supply chain and expand opportunities for local producers through advanced infrastructure, responsible operations, and export-oriented development. The company is proposing a large-scale cattle and sheep meat processing plant in District Sheikhupura, designed to meet stringent Halal, hygiene, and Sanitary export requirements. With a focus on supplying high-quality meat products to Saudi Arabia and other Middle Eastern markets, the project reflects the company's commitment to sustainable industrial development, food safety, and value-added agro-industrial growth in Pakistan.

3.1 PURPOSE OF THE REPORT

The report aims to ensure that environmental considerations are integrated into the planning and decision-making processes prior to the commencement of project activities. It provides a detailed analysis of the project's potential impacts on the physical, biological, and socio-economic environment during the construction and operational phases. Furthermore, this EIA outlines strategies and an Environmental Management Plan (EMP) to minimize adverse effects, enhance positive outcomes, and ensure compliance with the **Punjab Environmental Protection Act (PEPA), 1997**, and the **IEE/EIA Regulations, 2022**.

3.2 IDENTIFICATION OF PROJECT AND PROPONENT

"Construction of Cattle and Sheep Meat Processing Plant by M/s GO Dairy Private Limited Located at Bashir Pipe Factory, Mouza Galo, Tehsil Ferozwala, District Sheikhupura".

Proponent detail as following:

Proponent: **Shamsi Khan**

CNIC No: **42401-5339052-7**

Address: **Near Gulshan-e-Madina Mosque House No. 22-D Street No. 1 Mohala Araian Colony, Lahore**

3.3 BRIEF DESCRIPTION OF NATURE SIZE AND LOCATION OF PROJECT

The project is export-oriented in nature and is designed to produce Halal-compliant meat products for international markets, particularly Saudi Arabia and other Middle Eastern countries. The facility will have the capacity to process approximately 800 cattle and 1,600 sheep per day, with an overall meat processing capacity of about 200 tons per day. The proposed site is located near Bashir Pipe Factory in Mouza Galo, Tehsil Ferozewala, and covers land that has been designated for industrial use as an abattoir and meat processing unit. The project will include modern slaughtering lines, chilling and cold storage units, meat cutting and packaging sections, wastewater treatment facilities, and a rendering plant for by-product management, ensuring efficient operations in compliance with environmental and export quality standards.

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Figure 3-1: Location of the Project

CHAPTER 4. ALTERNATIVES OF THE PROJECT

This chapter presents an evaluation of the various alternatives considered for the proposed Meat Processing Plant. The assessment of project alternatives is an essential component of the environmental examination process, as it helps identify the most suitable option in terms of technical feasibility, environmental sustainability, and socio-economic benefits. This chapter will discuss possible alternatives related to site selection, process design, waste management approaches, and the “No Project Option,” highlighting the potential environmental and operational implications of each. The analysis will support informed decision-making by ensuring that the proposed project represents the most viable and environmentally responsible development option.

4.1 PROJECT ALTERNATIVES

- No Project Option
- Alternative Site
- Technology Alternatives

4.2 NO PROJECT OPTION / WORST SCENARIO OPTION

The “No Project Option,” also referred to as the worst-case scenario, considers the situation in which the proposed Meat Processing Plant is not implemented. Under this option, the existing environmental and socio-economic conditions of the area would remain unchanged, and the potential benefits associated with the development of a modern, regulated meat processing facility would not be realized. This analysis helps in understanding the implications of not proceeding with the project, including both positive and negative outcomes.

4.2.1 Analysis

4.2.2 Strengths and Opportunities

- The natural and baseline environmental conditions of the project area would remain undisturbed, and no additional industrial activity would take place on the land.
- There would be no generation of wastewater, solid waste, or emissions associated with slaughtering and processing operations.
- The surrounding community would not experience construction-related disturbances such as noise, dust, or increased traffic movement.
- The option would eliminate the need for environmental mitigation measures and long-term monitoring programs.

4.2.3 Weaknesses and Threats

- The economic and industrial benefits of the project would not be achieved, including job creation, investment inflow, and regional development.
- Pakistan's potential to expand its Halal meat export market, particularly to Saudi Arabia and the Middle East, would remain underutilized.
- The absence of a modern slaughterhouse may continue reliance on informal or unregulated slaughtering practices, which may pose higher risks to hygiene, food safety, and environmental pollution.
- Opportunities for value addition through meat processing, cold chain development, and by-product utilization via rendering would be lost.
- Local livestock farmers and suppliers would miss a stable and organized market for cattle and sheep procurement.

Conclusion

The No Project Option would avoid the environmental impacts associated with construction and operation; however, it would also prevent the realization of significant socio-economic benefits, including improved meat processing standards, export growth, employment

opportunities, and sustainable waste management practices. Therefore, while environmentally neutral, this option is considered unfavorable in terms of Punjab development, industrial progress, and enhancement of Pakistan's Halal meat export potential.

4.3 ALTERNATIVE SITE

Site selection is a critical aspect of the proposed Go Dairy Cattle and Sheep Meat Processing Plant, as it directly influences the environmental, operational, and socio-economic viability of the project. Various site alternatives were considered during the planning stage, with emphasis on accessibility, land availability, and minimal environmental disturbance. The selected site is located on Ubqari Hajveri Mahal Road in District Sheikhupura and is currently classified as agricultural land. This location was preferred because it provides open and vacant space suitable for industrial development without the presence of dense vegetation, forests, or ecologically sensitive habitats.

In addition, the proximity of the site to a main road network offers significant logistical advantages. Easy road access will facilitate the smooth transportation of livestock to the facility and the efficient movement of processed meat products to export terminals and domestic markets. Alternative sites located farther from major roads would have required additional infrastructure development, increased transportation costs, and higher environmental disturbance due to road construction. Therefore, the chosen agricultural land near an existing road corridor represents the most practical and feasible option, ensuring operational efficiency while minimizing potential environmental and social impacts.

4.4 TECHNOLOGY ALTERNATIVE

For the proposed Meat Processing Plant, careful consideration has been given to the selection of technology to ensure efficiency, hygiene, Halal compliance, and export-quality standards. Different technological alternatives were evaluated, including traditional manual

slaughtering methods, semi-automated systems, and fully automated meat processing lines.

The use of modern European and Chinese machinery with PLC-controlled systems has been selected as the preferred technology alternative because it will provide consistent product quality, minimize human error, and ensure hygienic handling of meat products. Compared to traditional or semi-automated methods, this technology will reduce contamination risks, and improve operational efficiency.



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CHAPTER 5. DESCRIPTION OF THE PROJECT

This chapter will provide a detailed description of the proposed Go Dairy Cattle and Sheep Meat Processing Plant, outlining its nature, scale, location, and operational framework. It will cover the objectives of the project, the processing capacity, raw materials, machinery, infrastructure, and supporting facilities, as well as the environmental and waste management strategies that will be implemented to ensure sustainable operations.

5.1 OBJECTIVE OF THE PROJECT

The proposed Go Dairy Cattle and Sheep Meat Processing Plant is a major agro-industrial initiative aimed at establishing a modern, export-oriented slaughterhouse and meat processing facility in District Sheikhpura, Punjab. The key objectives of the project are outlined below:

- To develop a state-of-the-art slaughterhouse and meat processing plant equipped with advanced European and Chinese machinery.
- To ensure slaughtering and processing operations are carried out strictly according to Islamic Halal principles.
- To strengthen Pakistan's Halal meat industry by providing certified Halal meat products for global markets.
- To introduce organized and hygienic meat processing practices in line with international standards.
- To produce high-quality meat products for export to the Kingdom of Saudi Arabia (KSA) and other Middle Eastern countries.
- To process approximately 800 cattle and 1,600 sheep per day, with an overall production capacity of 200 tons of meat per day.
- To provide reliable meat supply through integrated slaughtering, cutting, chilling, and storage facilities.

- To provide a stable market for cattle and sheep producers, encouraging livestock sector growth.
- To strengthen the rural economy by improving demand for livestock trade.
- To create direct and indirect job opportunities for skilled, semi-skilled, and unskilled workers in the region.
- To enhance local workforce development in meat processing and industrial operations.
- To minimize environmental impacts through the installation of an on-site wastewater treatment plant.

5.2 LAND USE ON THE SITE

The proposed site for the project consists of open land with no existing vegetation. The area will be fully utilized for the development of the Meat Processing Unit.

5.3 ROAD ACCESS

The proposed site for the Go Dairy Cattle and Sheep Meat Processing Plant is located on Ubqari Hajveri Mahal Road in District Sheikhpura.

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Figure 5-1: Road Access Near Project Area

5.4 VEGETATION FEATURES OF THE SITE

The project site is currently barren, open land with sparse shrubs and scattered grass. The existing vegetation is minimal and of no significant ecological or conservation importance.

5.5 COST AND MAGNITUDE OF OPERATION

The total estimated cost of the proposed Go Dairy Cattle and Sheep Meat Processing Plant is PKR 2,500 million. This budget includes all expenditures related to land acquisition, construction of the facility, procurement of modern machinery and equipment, installation of supporting infrastructure such as the wastewater treatment and rendering plants, cold storage, utilities, and environmental management measures. A portion of this budget has also been allocated to ensure compliance with environmental and occupational health and safety standards, staff training, and operational readiness for Halal-compliant meat processing and export.

5.6 LAND ACQUISITION

The land for the proposed Go Dairy Cattle and Sheep Meat Processing Plant has been acquired by Go Dairy (Private) Limited.

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5.7 PROJECT COMPONENTS

5.7.1 Raw Material

The primary raw materials for the Go Dairy Meat Processing Plant will be live cattle and sheep, which will serve as the source of all meat products processed at the facility.

Table 5-1: Lairage Capacity

Animal	Capacity (per day)
Cattle	800
Sheep	1600

5.7.2 MACHINERY

The Go Dairy Meat Processing Plant will be equipped with modern, high-efficiency machinery sourced from European and Chinese manufacturers, which will ensure precise, hygienic, and Halal-compliant meat processing. The machinery will be integrated into the production line to automate and streamline critical operations while maintaining strict food safety standards.

5.7.3 PRODUCTION PROCESS

The process begins at the lairage, where incoming livestock will be rested and monitored. This pre-slaughter period is essential to reduce stress in the animals, as stress can negatively affect meat quality, including tenderness, color, and pH levels.

From the lairage, animals will be guided into the slaughtering area, where strictly controlled, humane procedures will be followed in accordance with Halal standards. Skilled personnel and automated systems will work together to ensure that slaughtering will be performed efficiently, safely, and with minimal discomfort to the animals. Immediately after slaughter, carcasses undergo primary dressing, which involves bleeding, skinning or hide removal, evisceration, and initial inspection for quality assurance.

Once prepared, the carcasses will be transferred to the chilling plant, a critical stage in the meat processing chain. Rapid cooling in a controlled environment slows microbial growth,

maintains freshness, and stabilizes the meat’s biochemical properties. Maintaining precise temperatures during chilling is essential to extend shelf life and ensure compliance with food safety standards.

After chilling, the meat will move to the cutting and deboning plant, where skilled butchers or automated machinery break down the carcasses into primary cuts, such as loins, ribs, shoulders, and legs, tailored specifically to cattle and sheep anatomy. This stage will allow for the creation of standardized cuts for consumer markets or further processing.

Finally, the meat will either transfer to cold storage for preservation or directed to the meat processing unit, where it undergoes additional value-added operations. These may include grinding, curing, marination, portion packaging, or preparation for ready-to-cook products. Throughout the entire process, stringent hygiene, temperature control, and quality assurance measures will be maintained to ensure the meat meets both Halal requirements and international export standards, delivering a safe, high-quality product to consumers.

5.8 MEAT PROCESSING CAPACITY

The proposed Go Dairy Meat Processing Plant will have a large-scale meat processing capacity designed to meet both domestic and international market demands. The facility will be capable of processing approximately 800 cattle and 1,600 sheep per day, which will translate into an overall daily meat production of about 200 tons.

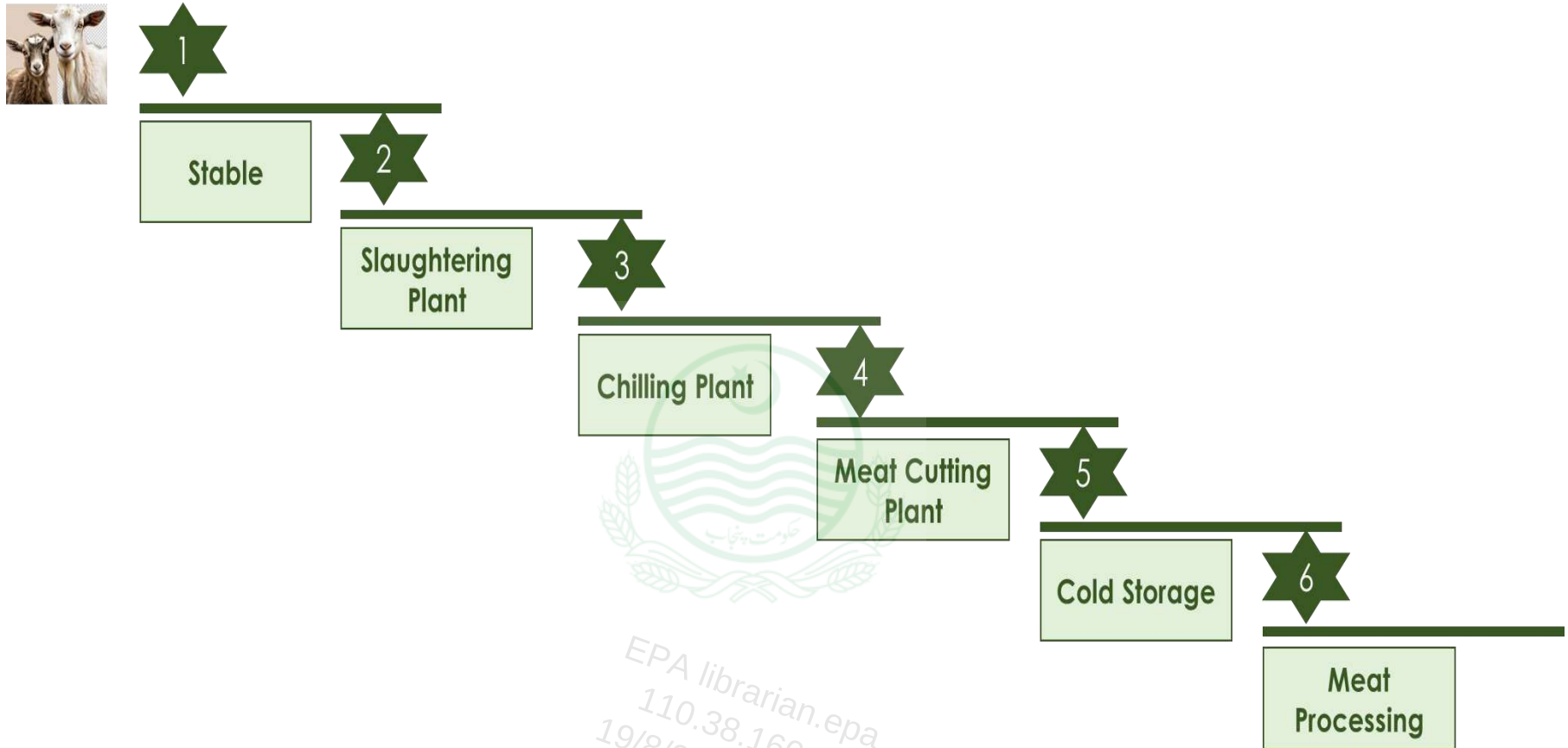


Figure 5-2: Meat Processing Process

5.9 TRANSPORTATION METHOD

The processed meat products will be transported to international markets by sea using refrigerated shipping containers to maintain the cold chain. This method will ensure that the meat will remain fresh, safe, and Halal-compliant throughout the journey to export destinations such as Saudi Arabia and other Middle Eastern countries.

5.10 PROJECT AREA

The proposed area of the project is approximately 40478.45 m².

5.11 POWER SOURCE

The proposed Go Dairy Meat Processing Plant will be powered through a combination of the Punjab electricity grid and on-site backup generators to ensure uninterrupted operations.

5.12 WATER SOURCE

The primary water supply for the plant will be sourced from groundwater, which will be treated on-site through a dedicated Reverse Osmosis (RO) plant.

5.13 OPERATIONAL HOURS OF THE FACILITY

The proposed Go Dairy Cattle and Sheep Meat Processing Plant will operate for 12 hours a day, six days a week to efficiently manage livestock processing and meat production.

5.14 INFRASTRUCTURE AND SUPPORTING BUILDINGS

Following buildings are proposed to be constructed in the facility.

- Container Wash and Sterilization Area
- Sewage Treatment Plant
- Diesel Generator Area
- Diesel and LPG Boiler
- Boiler Auxiliary
- Generalized Oil Depot

- Guard Room
- Rainwater Reservoir
- Pump Room
- Public Toilet
- Staff Area

5.14.1 Rendering Plant

The proposed Go Dairy Cattle and Sheep Meat Processing Plant will include a dedicated rendering plant to manage and utilize animal by-products generated during slaughtering and processing. This facility will process materials such as bones, fat, offal, and other organic residues into useful by-products, reducing waste and minimizing environmental impact.

5.15 WASTEWATER TREATMENT PLANT

The proposed Go Dairy Cattle and Sheep Meat Processing Plant will include a dedicated wastewater treatment plant (WWTP) to manage all liquid effluents generated from slaughtering, processing, cleaning, and sanitation activities.

5.16 SOLID WASTE GENERATION

The proposed Go Dairy Cattle and Sheep Meat Processing Plant will generate solid waste primarily from slaughtering and meat processing activities. This waste will include materials such as bones, fat, offal, hides, packaging residues, and other organic and non-organic by-products. All solid waste will be collected systematically and directed to the on-site rendering plant, where organic by-products will be processed into usable products, such as animal feed or other value-added materials. Non-organic and hazardous waste will be handed over to the EPA-Approved Contractor.

5.17 LABOR REQUIREMENTS

A total workforce of approximately 50 workers will be employed to manage slaughtering, processing, packaging, utilities, and supporting services. Out of these, around 20 workers

will be skilled staff, including supervisors, machine operators, quality control personnel, electricians, and technicians. The remaining 30 workers will comprise semi-skilled and unskilled labor, engaged in activities such as livestock handling, cleaning, loading/unloading, waste handling, and general plant operations.

5.18 RESTORATION AND REHABILITATION PLAN

The proposed Meat Processing Plant will implement a comprehensive restoration and rehabilitation plan to mitigate any potential environmental impacts during construction and operational phases. Disturbed areas of the site, including access roads, construction zones, and buffer areas, will be restored through landscaping, leveling, and soil stabilization measures. Vegetation will be replanted where necessary to improve aesthetics and reduce dust or erosion.

5.19 EMERGENCY RESPONSE AND SAFETY PLAN

The proposed project will establish a comprehensive emergency response and safety plan to protect employees, livestock, and infrastructure.

- The facility will be equipped with firefighting systems, including fire extinguishers, hydrants, and alarms, to respond quickly to any fire-related incidents.
- Emergency exits, evacuation routes, and safety signage will be clearly marked throughout the plant to ensure orderly evacuation during emergencies.
- Trained personnel will conduct regular safety drills and awareness programs, while first-aid stations and medical facilities will be available on-site to address any injuries or health emergencies.
- The plan will also include protocols for managing accidents, hazardous materials, and operational risks, ensuring that all safety measures will comply with Punjab regulations and international best practices.

5.20 SCHEDULE OF IMPLEMENTATION

The implementation of the proposed Plant will follow a structured schedule to ensure timely completion and operational readiness. The project will be executed in several key phases:

Phase 1 – Land Preparation and Site Development (Month 1–2): The site will be cleared, leveled, and prepared for construction, including access roads and utility connections.

Phase 2 – Construction of Buildings and Infrastructure (Month 3–8): Slaughterhouse, meat processing units, cold storage, wastewater treatment plant, rendering plant, and staff facilities will be constructed according to approved designs.

Phase 3 – Installation of Machinery and Equipment (Month 6–9): All processing machinery, chilling systems, cutting and deboning equipment, and support systems will be installed and tested for operational efficiency.

Phase 4 – Testing and Commissioning (Month 9–10): The facility will undergo trial operations, quality checks, and commissioning to ensure all systems will function according to production and hygiene standards.

Phase 5 – Operational Start (Month 11): The plant will commence full-scale operations, including livestock processing, meat production, and cold chain logistics for export.

CHAPTER 6. DESCRIPTION OF THE ENVIRONMENT

6.1 GENERAL

A comprehensive overview of the existing environmental conditions in and around the proposed site of the Meat Processing Plant in District Sheikhpura. Understanding the baseline environment is essential to identify potential impacts of the project and to design appropriate mitigation measures. This chapter describes the physical, biological, and socio-economic attributes of the area, including climate, topography, geology, seismology, water resources, flora and fauna, and socio-economic characteristics such as population, land use, and economic activities. The information presented here serves as a reference for evaluating the environmental consequences of the project and ensures that development is carried out sustainably, minimizing adverse effects on the natural and human environment.

6.2 HUMAN SETTLEMENT

The nearest human settlement to the proposed project site is Bhattianwala, which is located at an approximate distance of 2 kilometers from the project area.

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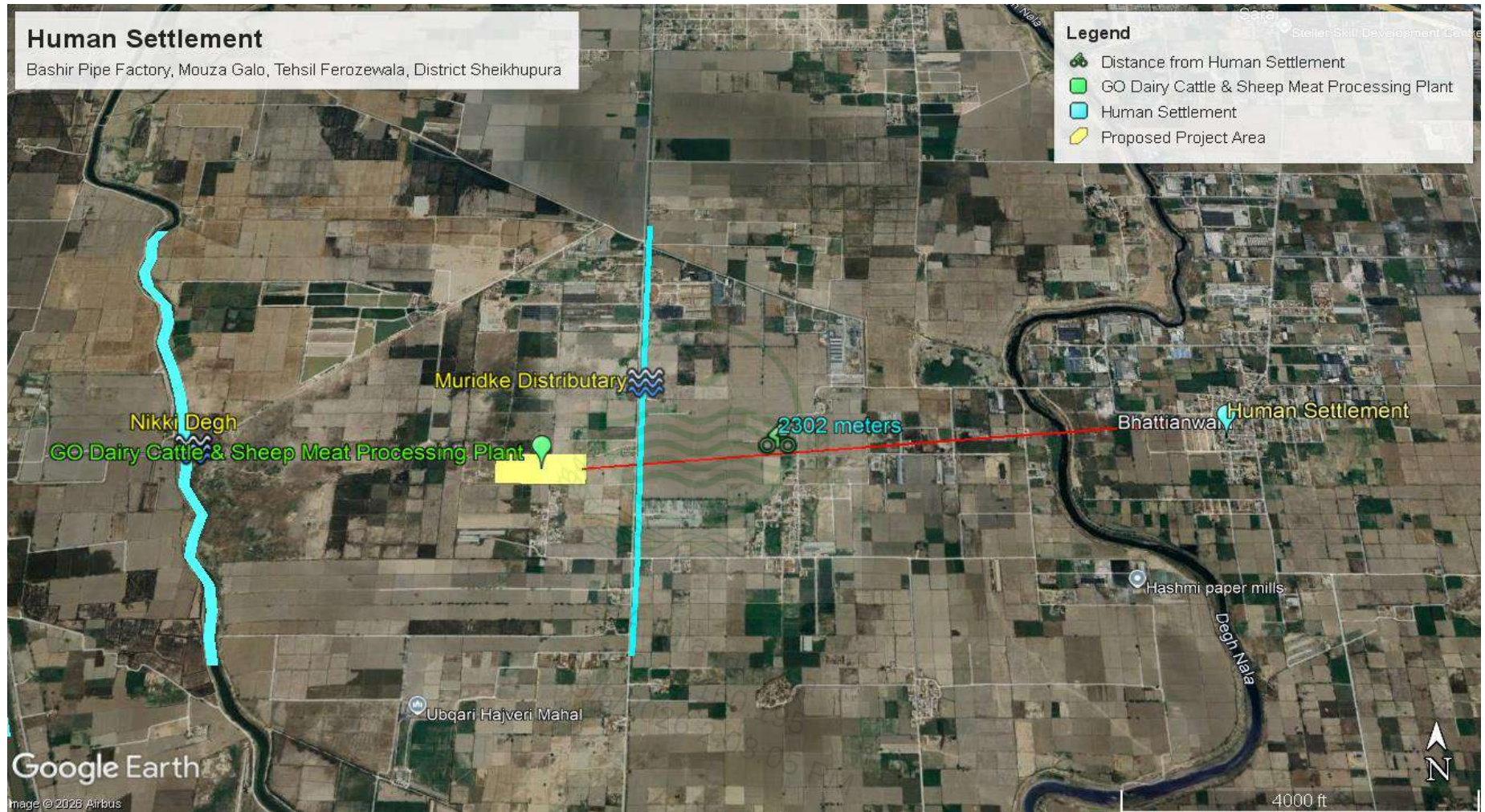


Figure 6-1 Human Settlement

6.3 PHYSICAL ENVIRONMENT

6.3.1 Terrain of the Area

The terrain of the area surrounding the terminal is generally flat to gently undulating, characteristic of the plain's region of Sheikhupura District. The site itself is level, facilitating the construction and operation of storage tanks, pipelines, and associated infrastructure. There are no significant natural hills, depressions, or water bodies within the terminal boundary, which reduces the risk of soil erosion and flooding on-site.

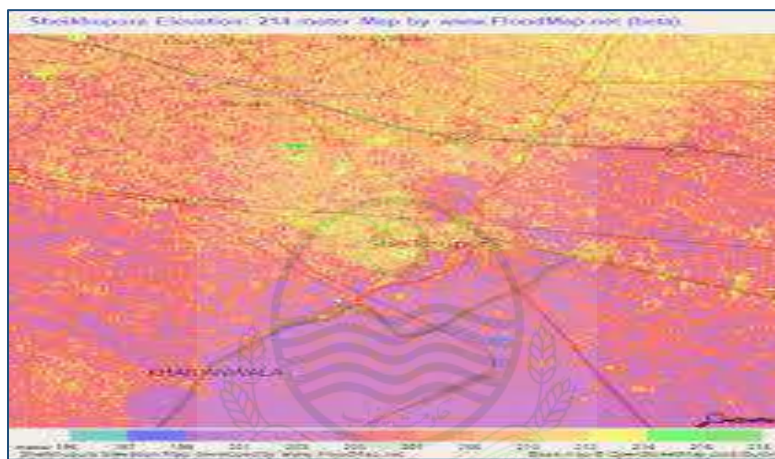


Figure 6-2 Topography of the project

6.3.2 Soils

The soil at and around the terminal is predominantly alluvial in nature, typical of the Punjab plains. It consists mainly of silt, sand, and clay mixtures, with good bearing capacity suitable for construction of heavy infrastructure such as storage tanks, pipelines, and administrative buildings. The soil is moderately fertile but has been largely covered by paved areas, tank foundations, and other terminal infrastructure, limiting its natural use for vegetation or agriculture within the site. Drainage is generally adequate due to the flat terrain, and no significant soil erosion or degradation has been observed within the terminal premises. Proper containment and drainage systems have been implemented to prevent contamination from accidental spills, ensuring that the soil remains protected from petroleum products and operational wastes.

6.3.3 Climate and Meteorology

Feroze Wala, Sheikhpura typically sees high temperatures averaging around 42°C (104°F) during the summer months of June through August, accompanied by high humidity levels. Winter, spanning from December to February, brings relief with temperatures dropping to around 8°C (41°F) to 10°C (50°F). The region receives most of its rainfall during the monsoon season, which extends from July to September, contributing to the annual precipitation of approximately 540 millimeters. Due to its geographical location and climatic conditions, Sheikhpura faces challenges such as water scarcity during the dry months and occasional flooding during heavy monsoon rains, emphasizing the importance of sustainable water management and infrastructure development in the region.

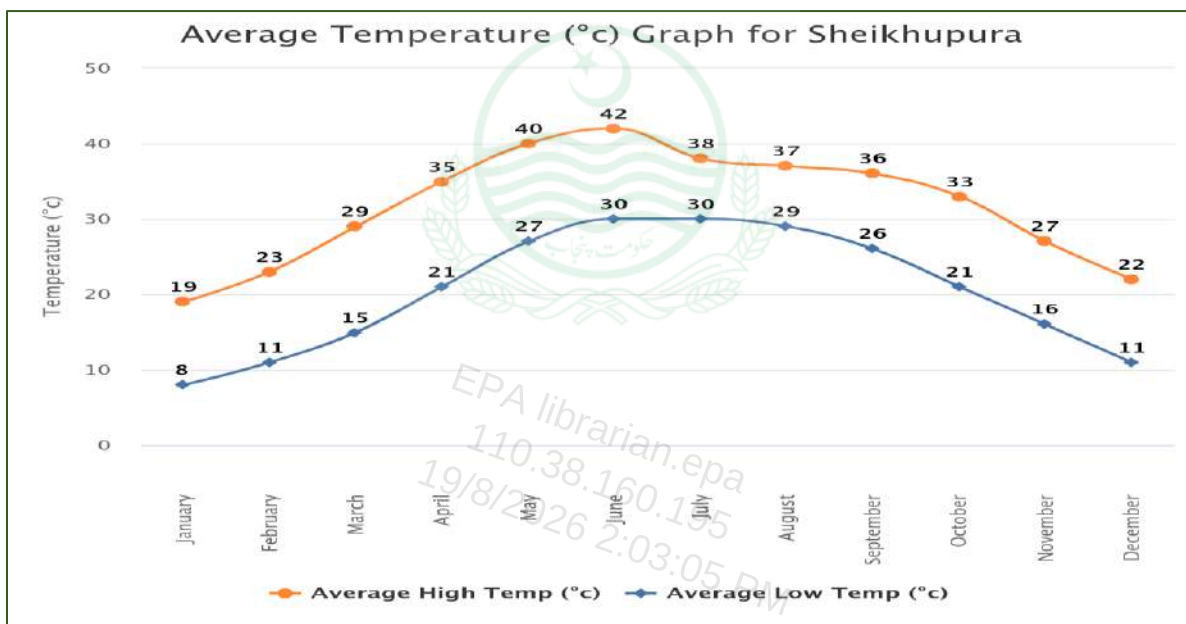


Figure 6-3: Average Temperature of the Area

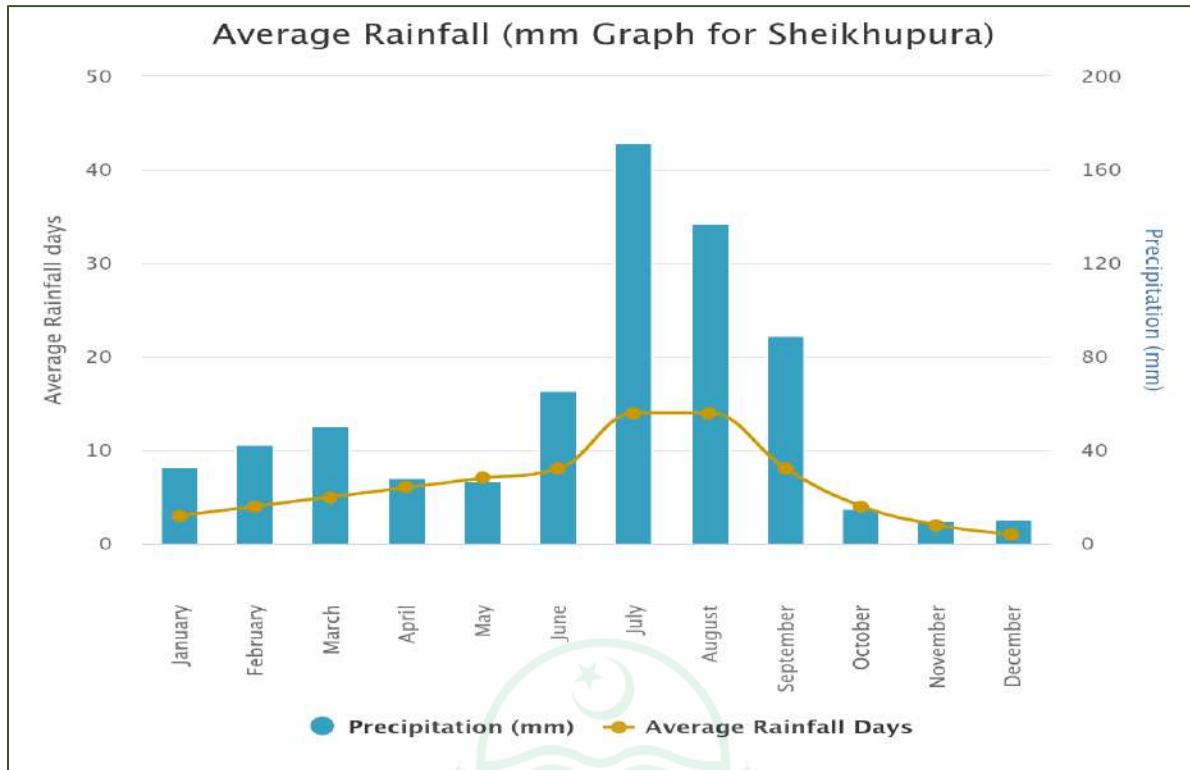


Figure 6-4: Average Rainfall of the Area

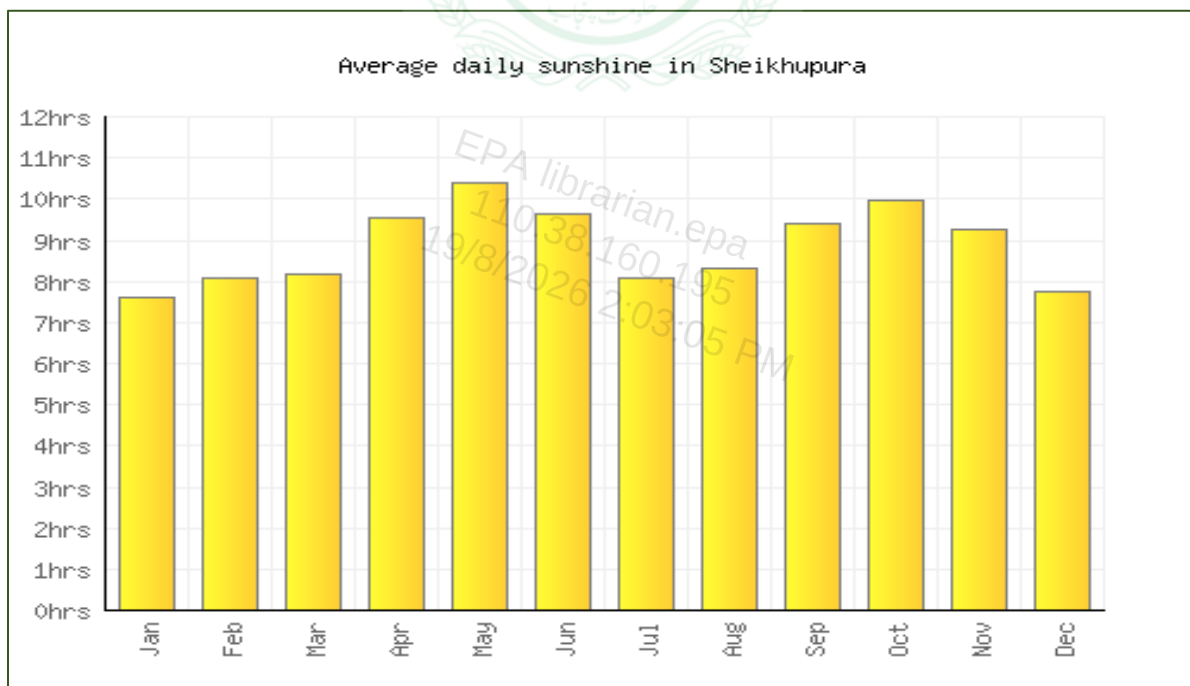


Figure 6-5: Average Sun Hours & Days

Annual Wind Speed and Wind Gust Averages

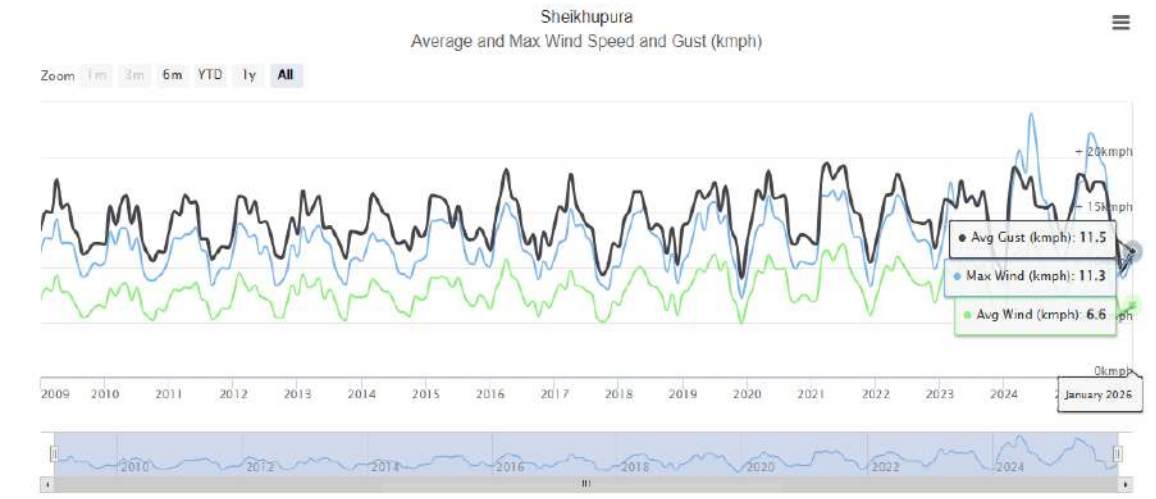


Figure 6-6: Average wind speed in Sheikhupura

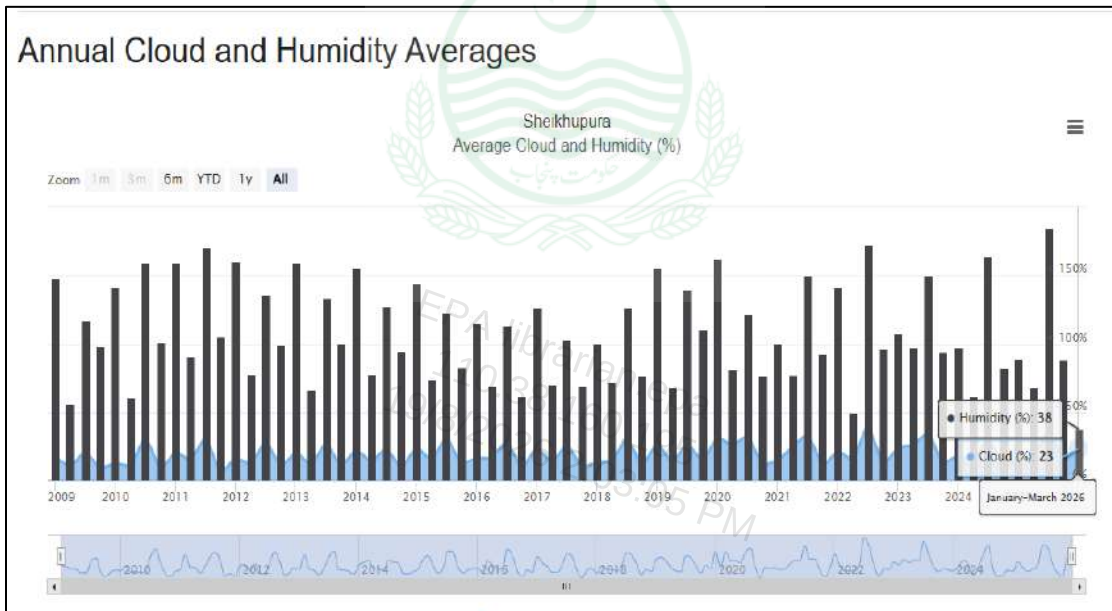


Figure 6-7: Average Cloud and Humidity Averages

6.3.4 Surface And Ground Water

The proposed Go Dairy Cattle and Sheep Meat Processing Plant will require a reliable water supply for slaughtering, processing, cleaning, and sanitation activities. The primary source of water for the facility will be groundwater, which will be abstracted through tube wells and

treated on-site using a dedicated Reverse Osmosis (RO) plant to ensure suitability for industrial and hygienic use.

The district's groundwater is an important source for domestic and industrial water supply, and in urban areas like Sheikhpura city it is accessed mainly through tube wells. Groundwater quality in some parts of the district has shown elevated concentrations of arsenic and fluoride according to environmental surveys, which can impact suitability for drinking without treatment. Recharge to the groundwater aquifer primarily occurs from seepage and infiltration from nearby surface water bodies and the irrigation canal network, although direct natural recharge from rainfall is limited. Regional hydrogeological assessments indicate that groundwater flows generally from northeast to southwest, with recharge influenced by nearby canals and river system.

The proposed site for the Meat Processing Plant in Sheikhpura is located near several important surface water channels that support irrigation and local water management. The Muridke Distributary, Upper Chenab Canal, and Nikk Degh are situated in the vicinity of the project area.

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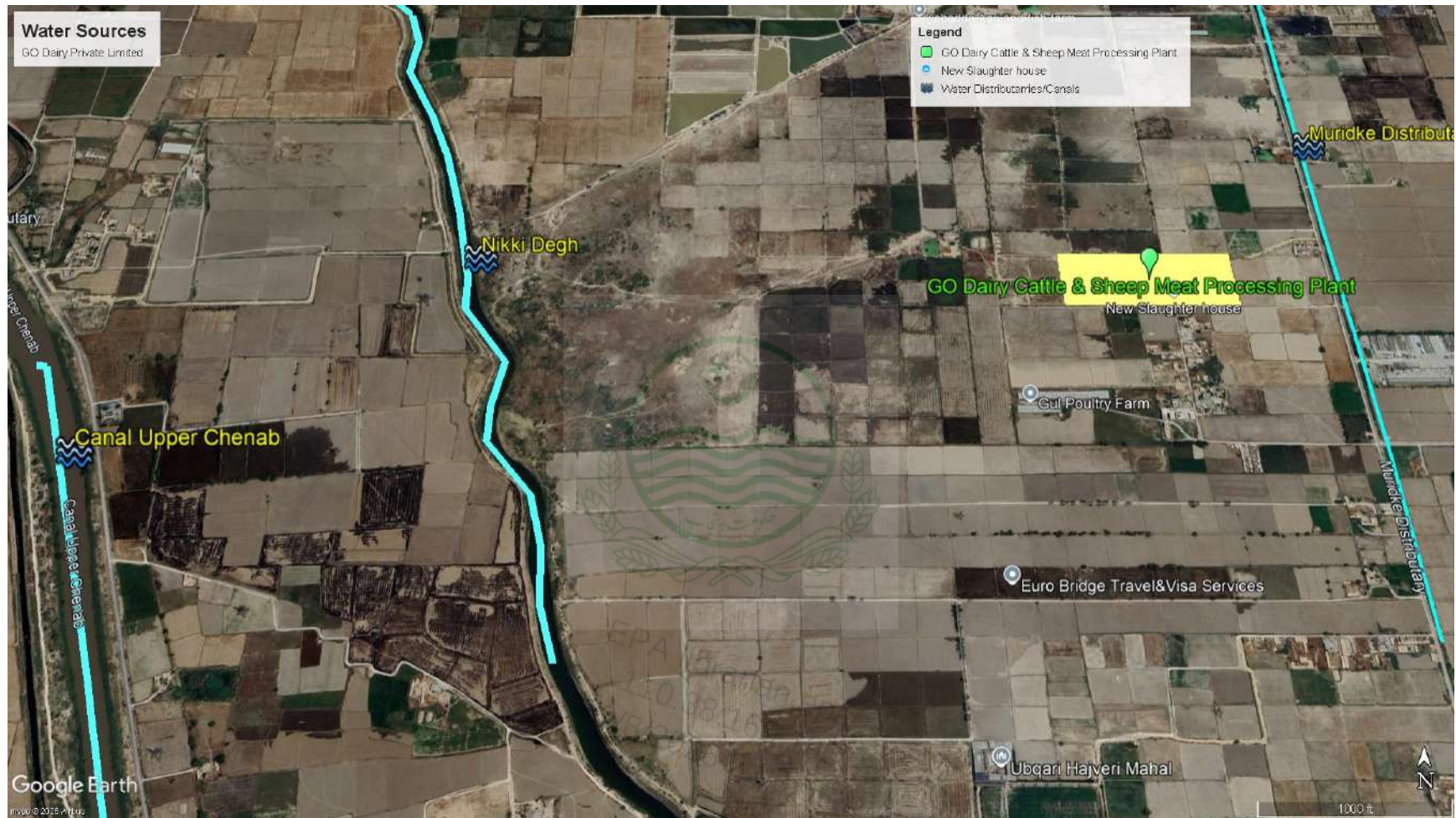


Figure 6-8: Water Sources

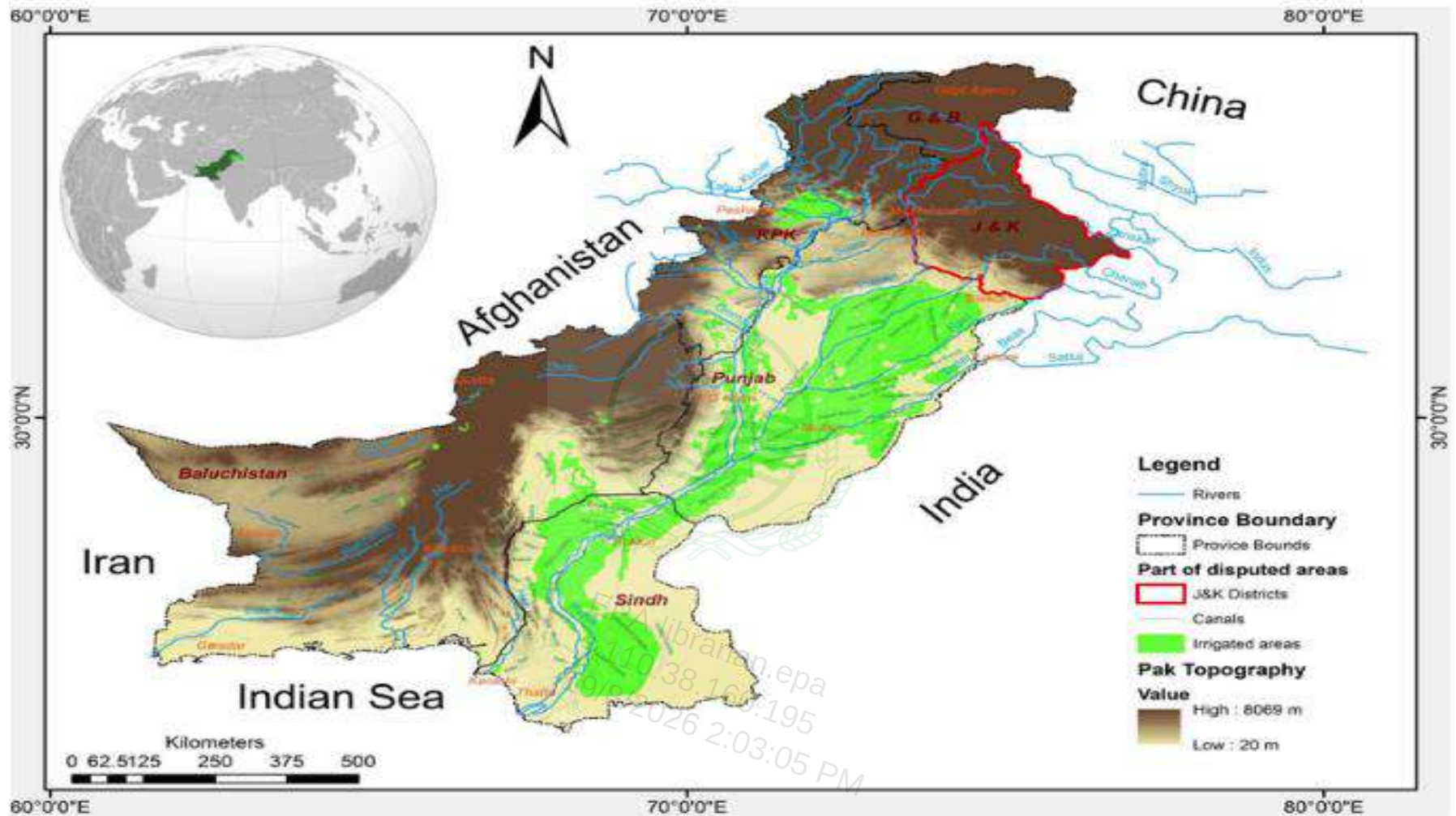


Figure 6-9: Surface and Ground Water

6.4 SEISMOLOGY

District Sheikhupura is generally considered a seismically stable area and is not located near any major active fault lines. The region does not experience significant seismic activity, and historically, no major earthquakes have been recorded within the immediate project vicinity. Therefore, the proposed Go Dairy Cattle and Sheep Meat Processing Plant site is not expected to face notable earthquake-related risks. However, standard structural safety measures and compliance with Punjab building codes will still be ensured during design and construction to maintain overall safety and stability.



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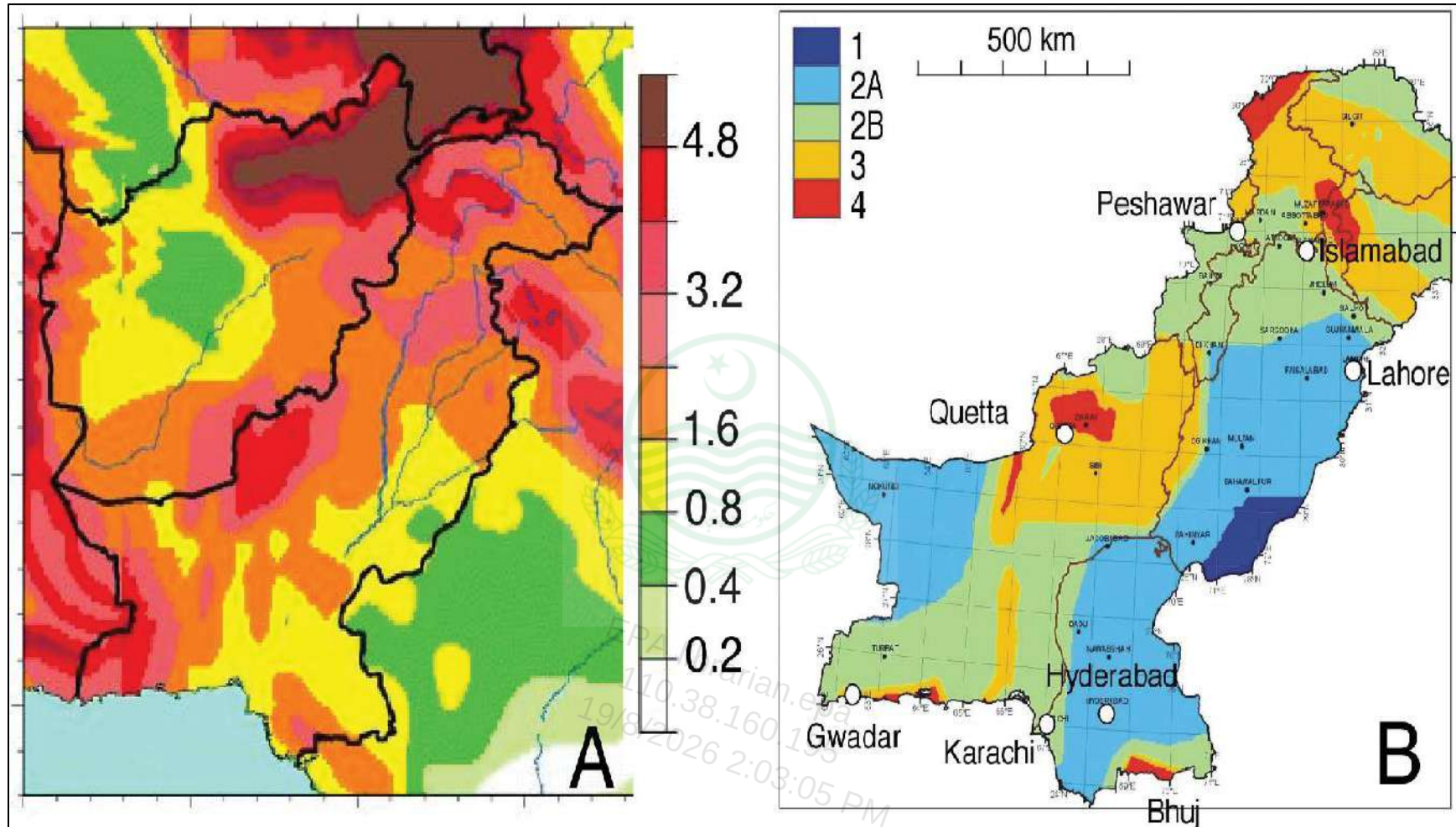


Figure 6-10: Seismic Zones of Pakistan

6.5 ECOLOGICAL RESOURCES

6.5.1 Flora

District Sheikhpura is situated in the alluvial plains of Punjab, where the natural vegetation has largely been modified over time due to agricultural expansion, urban development, and irrigation infrastructure. As a result, the native flora of the region is characteristic of cultivated and disturbed landscapes, rather than dense natural forests.

The common vegetation includes agricultural crops such as wheat, rice, sugarcane, and fodder grasses, which dominate the rural landscape. Along canal banks, irrigation channels, and roadside verges, scattered trees and shrubs are commonly found, including species like *Prosopis juliflora* (mesquite), *Acacia nilotica* (babul), *Eucalyptus* species, and *Tamarix* species. These trees are often planted for shade, fodder, firewood, or soil stabilization. Small patches of wild grasses and herbaceous plants also occur in fallow fields and uncultivated areas, providing ground cover and supporting local fauna.

Table 6-1: Flora of the Project Area

Sr. No.	Name of the Plant	Scientific Name
Tree Species		
	Shisham	<i>Dalbergia sissoo</i>
	Kikar	<i>Acacia nilotica</i>
	Neem	<i>Azadirachta indica</i>
	Mesquite	<i>Prosopis juliflora</i>
	Babul	<i>Acacia nilotica</i>



Figure 6-11: Flora present around the area

6.5.2 Fauna

Due to extensive human activity and the conversion of land for industrial, agricultural, and residential use, the wildlife population in the project area is limited. Most species present are adaptable to disturbed or semi-urban environments and are commonly found in agricultural landscapes. Observations indicate that mammals are mostly small, such as rodents and stray domestic animals, while birds dominate the local fauna, including both resident and migratory species. The project site has low ecological sensitivity, and no endangered or protected species were recorded during site surveys.

Table 6-2: Fauna of the proposed project

Common Name	Scientific Name
House Rat	<i>Rattus rattus</i>
Indian Palm Squirrel	<i>Funambulus palmarum</i>
Stray Dog	<i>Canis lupus familiaris</i>
House Sparrow	<i>Passer domesticus</i>
Common Myna	<i>Acridotheres tristis</i>
Rock Pigeon	<i>Columba livia</i>
Black Drongo	<i>Dicrurus macrocercus</i>
House Crow	<i>Corvus splendens</i>



Figure 6-12: Fauna present around the area

6.5.3 Endangered Species

The endangered plant in Pakistan is the Elm i.e., *Ulmus wallichiana* which is not found here. No endangered species exist in the project area.

6.6 SOCIO-ECONOMIC ENVIRONMENT

6.6.1 History

Sheikhupura, located in the Punjab province of Pakistan, has a rich and diverse history dating back thousands of years. The region has been inhabited since ancient times, with archaeological evidence suggesting human settlements dating back to the Indus Valley Civilization, around 2500 BCE. Over the centuries, various empires and dynasties have ruled Sheikhupura, including the Mauryans, Kushans, Ghaznavids, and Mughals.

During the Mughal era, Sheikhupura gained prominence as a center of trade and culture. It was founded by Emperor Jehangir in 1607 and named after his beloved son, Prince Sheikhupura. The city flourished under Mughal rule, with the construction of notable landmarks such as Hiran Minar, a monumental tower built in memory of Emperor Jehangir's pet deer.

In the 18th and 19th centuries, Sheikhupura witnessed political upheavals and changing rulers, including periods of Sikh rule under Maharaja Ranjit Singh. After the British

annexation of Punjab in the mid-19th century, Sheikhpura became a prominent administrative center in the British colonial administration.

Following the partition of India in 1947, Sheikhpura became part of Pakistan, and its demographics underwent significant changes due to migration and resettlement of refugees. Today, Sheikhpura is a thriving city with a diverse population, known for its agricultural economy, industrial growth, and cultural heritage. Despite its modernization and urbanization, the city's historical legacy is preserved in its monuments, landmarks, and cultural traditions, providing a glimpse into its rich and vibrant past.



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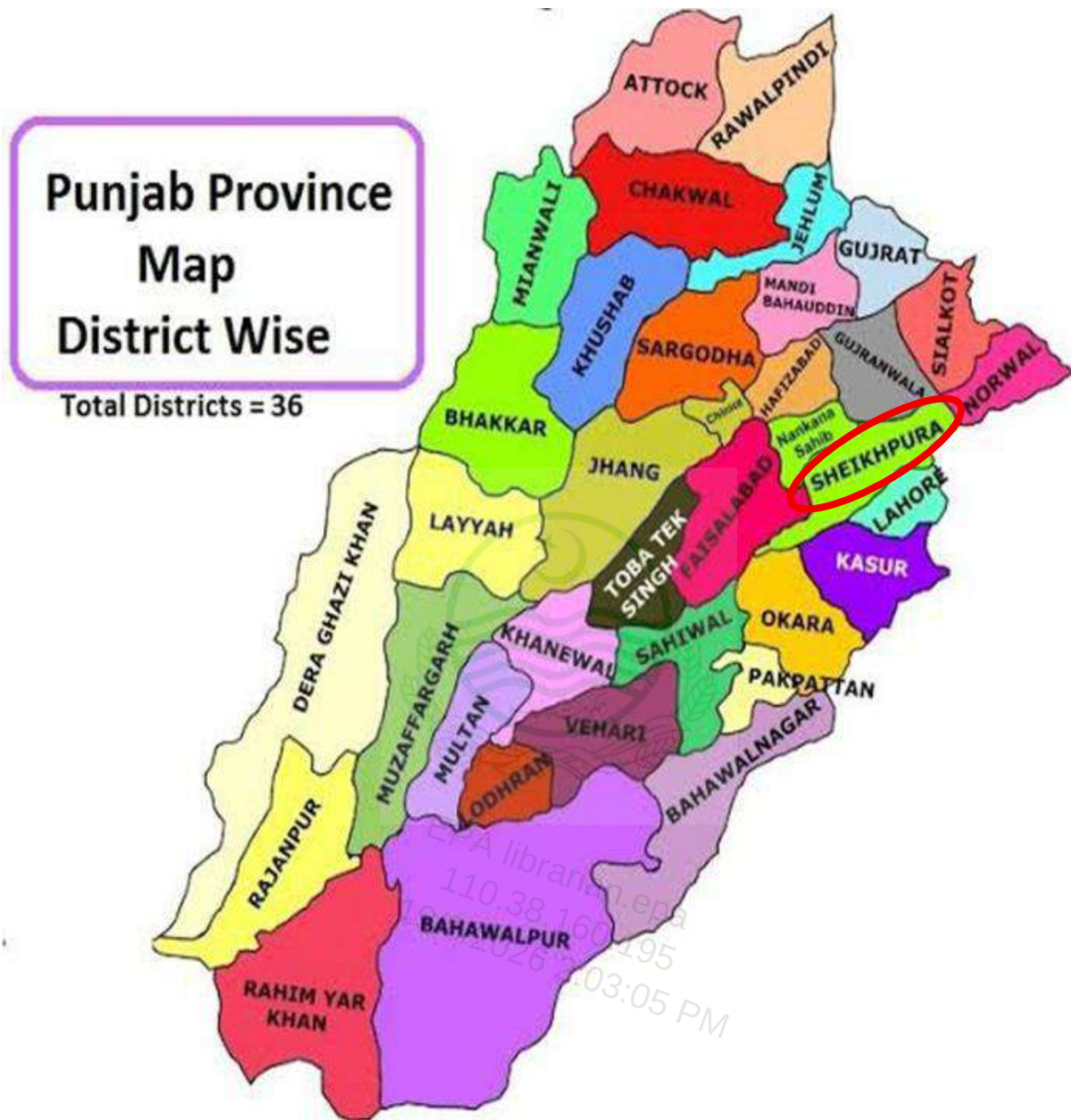


Figure 6-13: Map of Punjab



Table 6-3: Map of Sheikhupura

6.6.2 Political Set Up

District Sheikhupura, located in Punjab province of Pakistan, operates under the provincial and local government administrative framework. The district is headed by a Deputy Commissioner (DC), who oversees revenue collection, law and order, and coordination among various government departments. Local governance is further organized into tehsils and union councils, which manage municipal services, development projects, and community affairs. The district also has elected representatives in the Punjab Provincial Assembly and the Punjab Assembly of Pakistan, who play a role in legislation, development planning, and policy advocacy. Overall, the political setup of Sheikhupura ensures structured administration, governance, and regulatory oversight, providing a stable framework for industrial and commercial projects such as the Go Dairy Cattle and Sheep Meat Processing Plant.

6.6.3 Economic Activities

District Sheikhupura has a diverse economy, with agriculture, industry, and trade forming the primary sources of livelihood for its residents. Agriculture dominates the rural landscape, with major crops including wheat, rice, sugarcane, maize, and fodder crops, supported by an extensive irrigation network of canals and groundwater wells. Livestock farming, particularly cattle and sheep rearing, is an important component of the local economy, providing dairy, meat, and hides for both domestic consumption and small-scale trade.



Figure 6-14 Agricultural Activities

In addition to agriculture, Sheikhpura has a growing industrial sector, including textiles, sugar mills, fertilizer production, and small-to-medium scale manufacturing units. The district benefits from its proximity to major transport routes, which facilitates trade and market access for both agricultural and industrial products. Local markets and small businesses also contribute to employment and income generation. The establishment of the Go Dairy Cattle and Sheep Meat Processing Plant will further enhance economic activities by creating jobs, promoting livestock trade, and supporting ancillary services such as transportation, cold storage, and supply chain development, thereby contributing to regional economic growth.

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Figure 6-15: Economic Activities

6.7 QUALITY OF LIFE VALUES

6.7.1 Demographic Survey

Sheikhupura's 2025 population is now estimated at 587,443. In 1950, the population of Sheikhupura was 29,186. Sheikhupura has grown by 14,593 in the last year, which represents a 2.55% annual change.

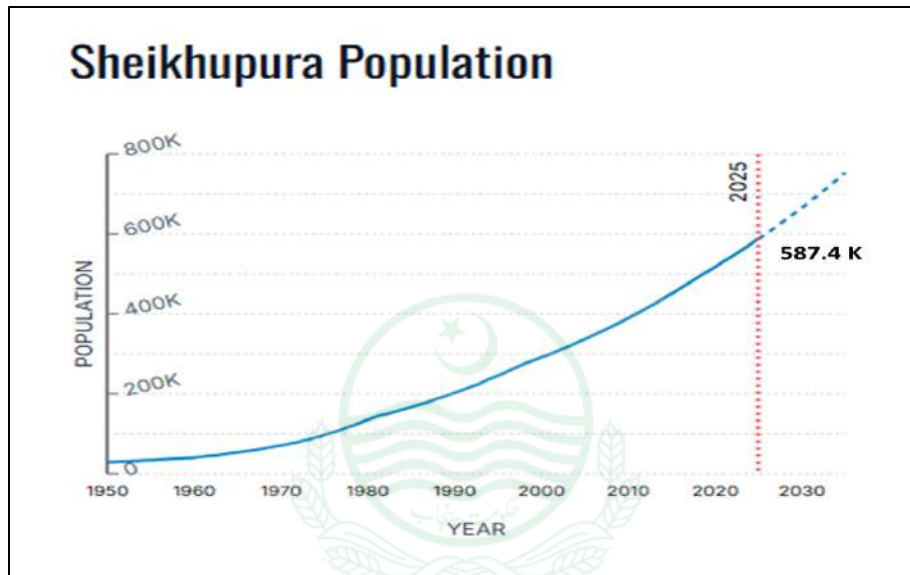


Figure 6-16: Population of Sheikhupura

6.7.2 Cultural and Social Status

The cultural and social environment of District Sheikhupura is shaped by the traditions and lifestyle of rural Punjab. The population in the project area mainly consists of agricultural and livestock-dependent communities, with strong social cohesion and family-based living structures. Punjabi culture is dominant, reflected in local customs, traditional gatherings, religious practices, and community events. Mosques serve as important social and cultural centers, while local markets and village networks strengthen community interaction. The social structure is generally cooperative, with people relying on shared resources and collective support systems. Although the proposed project site is located on open agricultural land with limited nearby settlements, the establishment of the meat processing

plant will contribute to social development by creating employment opportunities and supporting local economic activities, while respecting the cultural norms and values of the surrounding communities.

6.7.3 Educational Institutions

District Sheikhpura has a well-established network of educational institutions that provide academic services at primary, secondary, and higher education levels. The district contains numerous government and private schools, colleges, and technical training centers that support literacy and skill development among the local population. In both urban and rural areas, educational facilities play an important role in improving socio-economic conditions and providing opportunities for youth employment. Sheikhpura is also located near major educational hubs such as Lahore, further enhancing access to universities and professional institutes. The presence of these institutions contributes to the availability of a semi-skilled and educated workforce, which will support industrial and commercial projects such as the proposed Go Dairy Meat Processing Plant by providing local employment and capacity-building opportunities.

6.8 ARCHEOLOGICAL SITES

The proposed site for the Go Dairy Cattle and Sheep Meat Processing Plant in District Sheikhpura is located on open agricultural land and is not known to contain any archaeological, historical, or culturally significant sites. A survey of the surrounding area indicates that there are no protected monuments, heritage buildings, or recognized archaeological zones in close proximity to the project site. Therefore, the project will not pose any direct threat to archaeological resources.

6.9 ENVIRONMENTAL MONITORING'S

Environmental monitoring is an essential component of the EMP for the proposed Meat Processing Plant. Monitoring activities will ensure that the project complies with PEQS, maintains hygienic operational conditions, and minimizes adverse impacts on the

surrounding environment. A structured environmental monitoring program will be implemented during both construction and operational phases to evaluate the effectiveness of mitigation measures and to identify any emerging environmental issues.

Key environmental parameters that will be regularly monitored include:

- Air Quality Monitoring
- Water Monitoring
- Noise Monitoring





Figure 6-17 Pictorial Evidence of Monitoring

6.10 SITE SUITABILITY

The proposed site for the Go Dairy Cattle and Sheep Meat Processing Plant in District Sheikhpura is considered suitable for the development of a large-scale, export-oriented meat processing facility. The site is located on open agricultural land with no significant vegetation cover, ecological sensitivity, or protected habitats. Its proximity to Ubqari Hajveri Mahal Road provides excellent accessibility for livestock transport, supply chain movement, and export logistics, reducing the need for additional infrastructure development.

The baseline assessment confirms that the area is relatively flat, stable, and not prone to flooding or seismic activity. Adequate groundwater resources are available to meet operational water demands, supported by an on-site Reverse Osmosis (RO) plant, while reliable electricity supply from the Punjab grid with backup generators ensures uninterrupted operations.

Overall, the site offers favorable environmental, logistical, and infrastructural conditions, making it an appropriate and feasible location for the proposed Halal meat processing and export facility, provided that all mitigation and monitoring measures are properly implemented.



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CHAPTER 7. SCREENING OF POTENTIAL ENVIRONMENTAL IMPACTS & MITIGATION MEASURES

7.1 GENERAL

The importance of impact assessment in EIA cannot be overstated, as it serves as a fundamental tool for evaluating and understanding the potential effects of a project on the environment. Impact assessment systematically identifies, predicts, and evaluates the anticipated positive and negative consequences of a project, considering various environmental aspects such as air and water quality, biodiversity, soil health, and community well-being. This process is pivotal in informed decision-making, enabling stakeholders to assess the trade-offs and make choices that balance development with environmental conservation. The impact assessment phase provides a comprehensive understanding of the project's potential impacts, allowing for the development of effective mitigation measures and strategies to minimize or eliminate adverse effects. Additionally, it fosters transparency and accountability by providing a basis for public consultation and engagement, ensuring that the concerns and perspectives of affected communities are considered. Overall, impact assessment in EIA is essential for promoting sustainable development practices, preventing environmental degradation, and fostering responsible and informed decision-making in the planning and execution of projects.

7.2 PROJECT AREA OF INFLUENCE

The direct area of influence includes the project site itself, access roads, wastewater discharge points, and immediate surroundings where construction and operational activities will occur. The indirect area of influence extends to nearby agricultural lands, groundwater aquifers, irrigation canals, and rural settlements that may be affected by emissions, effluents, or increased traffic. The socio-economic influence includes local communities that may experience changes in employment, health, and infrastructure use.

7.3 METHODOLOGY FOR IMPACT ASSESSMENT

The methodology for impact assessment was based on a systematic approach to identify, predict, and evaluate the potential environmental and social impacts of the project during its developmental and operational phases.

The assessment was carried out using both primary data and secondary data.

1. Primary **data** collected through site visits, field observations, and stakeholder consultations.
2. **Secondary data** obtained from relevant literature, government reports, and previous studies.

Each project activity was analyzed to determine its potential interaction with various environmental components such as air, water, soil, noise, ecology, and the socio-economic environment. Impacts were categorized as positive or negative, direct or indirect, short-term or long-term, and their magnitude and significance were evaluated using qualitative and quantitative criteria. A baseline–impact comparison approach was adopted to assess changes from existing environmental conditions. The Environmental Impact Matrix method was used to relate project activities with potential environmental parameters. Mitigation measures were opted to avoid, minimize, or offset adverse impacts. This methodology ensured that all potential effects were identified and addressed systematically, promoting sustainable development and environmental protection throughout the project’s lifecycle.

7.4 IMPACTS DURING CONSTRUCTION PHASE

The detailed risk Matrix of developmental phase is shown in the table.

		Impact →				
		Negligible	Minor	Moderate	Significant	Severe
Likelihood ↑	Very Likely	Low Med	Medium	Med Hi	High	High
	Likely	Low	Low Med	Medium	Med Hi	High
	Possible	Low	Low Med	Medium	Med Hi	Med Hi
	Unlikely	Low	Low Med	Low Med	Medium	Med Hi
	Very Unlikely	Low	Low	Low Med	Medium	Medium

Figure 7-1: Risk Assessment Matrix

Table 7-1: Screening of Possible impacts during Construction Phase

Potential Impacts	Likelihood (Certain, Likely, Unlikely, Rare)	Consequences (Catastrophic, Major, Moderate, Minor)	Risk Level (Significant, Medium, Low)
Soil erosion due to site clearance, excavation, and leveling works.	Likely	Minor	Low-Medium
Localized land contamination from improper handling or disposal of construction materials.	Possible	Minor	Low

Potential Impacts	Likelihood (Certain, Likely, Unlikely, Rare)	Consequences (Catastrophic, Major, Moderate, Minor)	Risk Level (Significant, Medium, Low)
Soil contamination due to accidental oil or fuel leakage from construction machinery	Possible	Minor	Low
Solid waste generation from construction debris, scrap material, and packaging	Likely	Moderate	Medium
Improper management of contractor camp waste and sanitation facilities	Possible	Minor	Low
Dust emissions from excavation, vehicle movement, and material handling activities	Likely	Minor	Low-Medium
Noise emissions from construction	Likely	Minor	Low-Medium

Potential Impacts	Likelihood (Certain, Likely, Unlikely, Rare)	Consequences (Catastrophic, Major, Moderate, Minor)	Risk Level (Significant, Medium, Low)
machinery and transportation vehicles			
Occupational health and safety risks to construction workers	Possible	Moderate	Medium

7.4.1 Soil Erosion

Excavation, grading, and leveling activities during construction can disturb the soil structure, making it susceptible to erosion, particularly during rainfall or high winds. This may result in sedimentation in nearby drains, reduced soil fertility, and localized siltation, affecting stormwater systems and land stability.

Mitigation Measures

- ★ Install silt fences, sediment traps, and bunds around excavation areas to prevent runoff.
- ★ Minimize the extent of exposed soil at any given time by phasing construction activities.
- ★ Stockpile excavated soil in protected areas and restore temporarily unused areas with topsoil and vegetation.
- ★ Schedule grading and excavation during dry weather whenever possible to reduce erosion risk.
- ★ Conduct regular inspections to identify erosion-prone areas and implement corrective measures promptly.

7.4.2 Land Contamination

Improper storage or disposal of construction materials, including cement, sand, and chemicals, can lead to soil contamination and polluted runoff, which may impact local soil quality and nearby water channels.

Mitigation Measures

- ★ Store all construction materials in designated, covered areas with proper containment.
- ★ Use impermeable sheets or barriers for sensitive materials like cement, paints, and chemicals.
- ★ Train construction staff on proper handling, storage, and disposal procedures.
- ★ Conduct regular inspections to ensure no material leakage or spillage occurs.
- ★ Implement on-site containment measures for any accidental spillage.

7.4.3 Soil Contamination

Diesel, lubricants, and hydraulic oils used in construction machinery may accidentally spill, contaminating soil and potentially infiltrating groundwater.

Mitigation Measures

- ★ Designate refueling and servicing zones equipped with drip trays and spill containment measures.
- ★ Maintain spill response kits on-site for immediate containment and cleanup.
- ★ Train operators and staff in fuel and oil handling best practices.
- ★ Ensure used oils and lubricants are recycled or safely disposed via EPA-approved service providers.
- ★ Regularly inspect machinery to detect leaks and prevent accidental spills.

7.4.4 Solid Waste Generation

Construction activities generate debris, scrap metals, packaging, and other non-hazardous waste, which, if unmanaged, can create environmental hazards, block drainage systems, and pose safety risks to workers.

Mitigation Measures

- ★ Segregate waste into recyclable, non-recyclable, and hazardous categories.
- ★ Reuse or recycle materials such as metal, wood, concrete, and packaging wherever feasible.
- ★ Dispose of non-recyclable waste at EPA-approved disposal facilities.
- ★ Maintain waste collection schedules to avoid accumulation at the site.

7.4.5 Impact of Contractor Camp

Worker camps, if not properly managed, can lead to contamination of soil and water, generation of odors, and increased risk of waterborne diseases.

Mitigation Measures

- ★ Provide adequate sanitation facilities, including toilets, handwashing stations, and wastewater collection systems.
- ★ Implement regular cleaning and waste collection schedules for domestic and food waste.
- ★ Treat wastewater from camps using temporary septic tanks or mobile treatment systems.
- ★ Educate workers on hygiene and sanitation practices, including proper waste disposal.
- ★ Monitor the camps regularly to ensure compliance with hygiene standards.

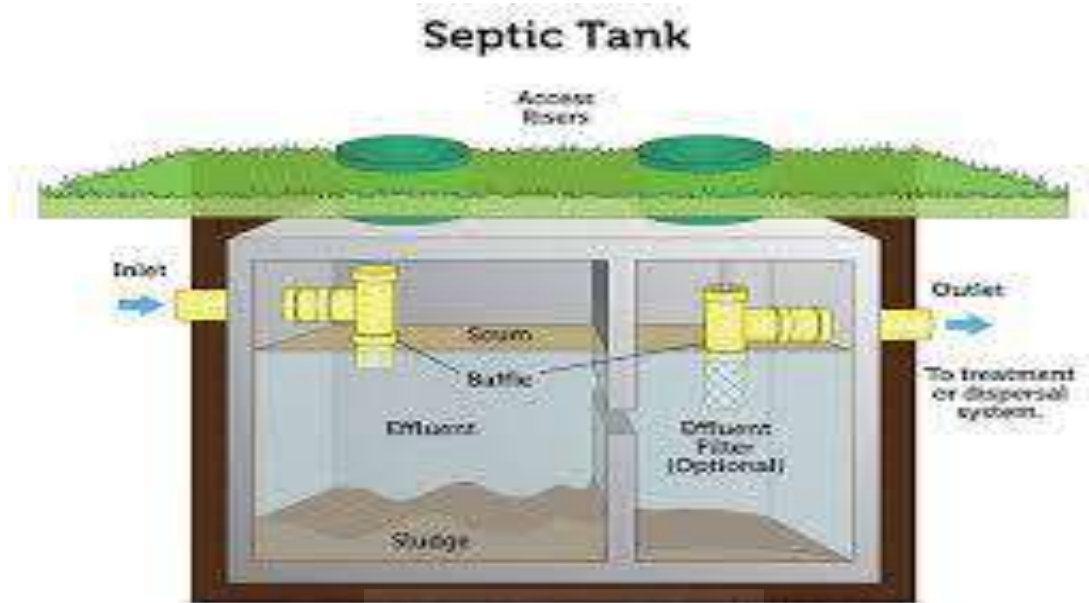


Figure 7-2: Septic Tank

7.4.6 Dust Emissions

Dust generated during earthworks, material transport, and handling can reduce air quality locally, cause nuisance to workers, and affect nearby industrial operations.

Mitigation Measures

- ★ Regularly water unpaved roads, stockpiles, and exposed soil areas.
- ★ Cover material stockpiles and transport vehicles during transit.
- ★ Install temporary windbreaks or dust barriers around high-dust areas if required.
- ★ Ensure that workers in dusty zones wear protective masks and eye protection.
- ★ Maintain a monitoring program to assess dust levels and implement corrective measures when necessary.



Figure 7-3: Water Sprinkling

7.4.7 Noise Level

Heavy machinery, generators, and transportation vehicles generate noise that may affect workers' health and nearby industrial activities.

Mitigation Measures

- ★ Limit construction activities to daytime hours to reduce disturbance.
- ★ Use well-maintained machinery with noise-reducing equipment such as mufflers and silencers.
- ★ Provide hearing protection to workers in high-noise zones.
- ★ Maintain buffer zones between construction operations and nearby industrial units.
- ★ Install temporary noise barriers where noise levels may exceed acceptable limits.



Figure 7-4: Noise PPEs

7.4.8 Occupational Health and Safety Risks to Construction Workers

Construction workers may be exposed to falling objects, machinery hazards, chemical exposure, dust, and accidents, posing risks to health and safety.

Mitigation Measures

- ★ Implement a comprehensive Health and Safety Plan in line with OSHA or local labor standards.
- ★ Conduct regular safety training, toolbox talks, and awareness programs for workers.
- ★ Ensure workers wear personal protective equipment (PPE) such as helmets, gloves, safety boots, reflective vests, and masks.
- ★ Maintain first aid facilities, emergency response plans, and fire safety equipment on-site.
- ★ Conduct regular audits and monitoring to ensure compliance with safety protocols.



Figure 7-5PPEs for Construction

7.5 IMPACTS DURING OPERATIONAL PHASE

During the operational phase, water consumption and wastewater generation are significant concerns. Groundwater will be used efficiently, and all wastewater will be treated in an on-site wastewater treatment plant (WWTP) to meet PEQS before discharge. Treated water will be reused for cleaning and landscaping where possible. Air emissions from generators, boilers, and refrigeration units will be controlled through the use of clean fuels, properly maintained equipment, and emission monitoring. Noise pollution from machinery and transport will be mitigated through acoustic enclosures, silencers, and provision of ear protection to workers. Solid and hazardous waste will be managed by segregating organic waste for rendering, using covered containers, and contracting EPA-authorized disposal services for non-organic waste. Energy consumption and carbon footprint will be reduced through integration of renewable energy sources such as solar panels and adoption of energy-efficient technologies. Occupational health and safety risks, including zoonotic diseases, will be addressed through strict hygiene protocols, regular health check-ups, provision of PPE, and emergency response procedures. Traffic increases due to livestock

and product transport will be managed through scheduling, designated loading and unloading areas, and vehicle maintenance to reduce emissions.

The detailed risk Matrix of operational phase is shown in the table.

Table 7-2: Screening of Possible Impacts During Operational Phase

Potential Impacts	Likelihood	Consequences	Risk Level
Water consumption and wastewater generation – excessive use of groundwater and discharge of untreated effluents	Certain	Major – depletion of aquifers, contamination of surface and groundwater	Significant
Water pollution – discharge of effluents with high BOD, COD, and pathogens	Likely	Major – deterioration of water quality, public health risks	Significant
Air emissions – from generators, boilers, refrigeration units	Likely	Moderate – localized air quality deterioration, contribution to GHGs	Medium
Noise pollution – from machinery, chilling units, and transport vehicles	Certain	Moderate – nuisance to workers and nearby communities	Medium
Solid and hazardous waste generation – organic waste, packaging, chemicals	Certain	Major – improper disposal may cause land contamination, odor, vector attraction	Significant

Potential Impacts	Likelihood	Consequences	Risk Level
Odor emissions – from lairage, slaughtering, and rendering plant	Likely	Moderate – nuisance to community, reduced quality of life	Medium
Energy consumption and carbon footprint – reliance on grid and diesel generators	Certain	Moderate – increased GHG emissions, climate impact	Medium
Occupational health and safety risks – zoonotic diseases, injuries, chemical exposure	Certain	Major – worker illness, accidents, reduced productivity	Significant
Traffic increase – livestock transport, product distribution	Likely	Minor to Moderate – congestion, emissions, road safety concerns	Low to Medium
Spread of zoonotic diseases – improper hygiene in slaughtering and waste handling	Likely	Major – risk to workers and surrounding communities	Significant
Odor and vector attraction – improper waste handling attracting flies, rodents	Likely	Moderate – nuisance, potential disease vectors	Medium
Greenhouse gas emissions – methane from waste decomposition	Unlikely	Moderate – contribution to climate change	Low

7.5.1 Water Consumption and Wastewater Generation

During operations, the plant will rely heavily on groundwater extracted through tube wells to meet process water requirements for slaughtering, cleaning, chilling, and sanitation. The exposure risk lies in over-abstraction of aquifers and discharge of untreated wastewater containing high BOD, COD, fats, and pathogens. Activities such as washing carcasses, cleaning lairage areas, and operating the rendering plant generate significant effluent volumes.

Mitigation Measures:

Mitigation measures include installation of a modern wastewater treatment plant (WWTP) with primary, secondary, and tertiary treatment units to ensure compliance with PEQS before discharge. Treated water will be reused for non-potable purposes such as floor washing and landscaping, while water conservation practices such as high-pressure nozzles and automatic shut-off valves will reduce consumption.

7.5.2 Water Pollution

Effluent streams from slaughtering, blood handling, and offal washing pose risks of contaminating surface and groundwater if not properly managed. Exposure occurs through direct discharge into drains or seepage into soil. Operational activities such as cleaning of equipment, lairage drainage, and rendering plant washing are major contributors.

Mitigation Measures:

Mitigation measures include bundled drainage systems, separate collection of high-strength effluents, and treatment in WWTP units designed for pathogen removal. Sludge generated will be dewatered and disposed of through EPA-approved contractors, while monitoring of effluent quality will be conducted monthly.

7.5.3 Air Emissions

Generators, boilers, and refrigeration units emit NO_x, SO_x, CO, and particulate matter. Exposure is localized to workers and nearby communities, with potential contribution to greenhouse gases. Activities include continuous operation of cold storage, backup diesel generators, and steam boilers.

Mitigation Measures:

Mitigation measures involve using LPG or natural gas where feasible, maintaining equipment regularly, installing emission control devices such as filters and stacks, and conducting quarterly emissions monitoring. Integration of renewable energy sources such as solar panels will further reduce reliance on fossil fuels.

7.5.4 Noise Pollution

Noise is generated from compressors, chilling units, boilers, and transport vehicles. Exposure affects workers inside the plant and nearby settlements along transport routes. Activities include continuous operation of machinery, loading and unloading of livestock, and product distribution.

Mitigation Measures:

Mitigation measures include installing silencers and vibration isolators, constructing acoustic enclosures, restricting noisy operations to daytime hours, and providing PPE such as earplugs to workers. Noise monitoring will be conducted quarterly to ensure compliance with PEQS.

7.5.5 Solid and Hazardous Waste Generation

Operations generate large volumes of organic waste including blood, offal, and manure, as well as non-organic waste such as packaging materials, chemicals, and oils. Exposure risks include land contamination, odor, and vector attraction. Activities include slaughtering, rendering, packaging, and maintenance.

Mitigation Measures:

Mitigation measures involve segregating organic waste for processing in the rendering plant, storing waste in covered containers, contracting EPA-authorized disposal services for hazardous waste, and implementing a solid waste management plan (SWMP). Recycling of packaging materials will be prioritized.

7.5.6 Odor Emissions

Odor arises from lairage, slaughter halls, and waste handling areas. Exposure affects workers and nearby communities, reducing quality of life. Activities include animal holding, slaughtering, blood handling, and rendering.

Mitigation Measures:

Mitigation measures include designing enclosed lairage and slaughter halls, operating rendering plants under controlled conditions, and ensuring regular cleaning and sanitization of processing areas. Odor control systems such as biofilters may be installed where necessary.

7.5.7 Energy Consumption and Carbon Footprint

The plant requires continuous energy for slaughtering lines, refrigeration, and cold storage. Exposure is indirect, contributing to greenhouse gas emissions and climate change. Activities include operation of generators, boilers, and chilling units.

Mitigation Measures:

Mitigation measures include adopting energy-efficient equipment, integrating solar power, and maintaining equipment to reduce fuel consumption. Energy audits will be conducted annually to identify efficiency improvements.

7.5.8 Occupational Health and Safety Risks

Workers are exposed to zoonotic diseases, injuries from sharp tools, and chemical hazards from cleaning agents. Activities include slaughtering, meat cutting, rendering, and chemical handling.

Mitigation Measures:

Mitigation measures involve strict hygiene protocols, provision of PPE such as gloves, masks, and boots, regular health check-ups, vaccination programs, and emergency response procedures. First aid facilities will be maintained, and safety training will be conducted regularly.

7.5.9 Traffic Increase

Transport of livestock to the plant and distribution of meat products increases traffic volume, leading to congestion, emissions, and road safety concerns. Exposure affects local communities along transport routes. Activities include daily livestock deliveries and product distribution. **Mitigation Measures:**

Mitigation measures include scheduling transport to avoid peak hours, designating loading and unloading areas, maintaining vehicles to reduce emissions, and coordinating with local authorities for traffic management.

7.5.10 Spread of Zoonotic Diseases

Improper hygiene in slaughtering and waste handling may spread zoonotic diseases to workers and communities. Exposure occurs through direct contact with animals, blood, and waste. Activities include lairage management, slaughtering, and rendering.

Mitigation Measures:

Mitigation measures include implementing strict hygiene protocols, regular disinfection of lairage and slaughter halls, provision of PPE, and health monitoring of workers. Veterinary inspections of livestock will be mandatory before slaughter.

7.5.11 Odor and Vector Attraction

Improper waste handling may attract flies, rodents, and stray animals, creating nuisance and disease risks. Exposure occurs in waste storage areas and lairage. Activities include waste accumulation and delayed disposal.

Mitigation Measures:

Mitigation measures include covered storage, timely disposal, pest control programs, and regular cleaning of waste handling areas.

7.5.12 Greenhouse Gas Emissions

Methane emissions from decomposition of organic waste and CO₂ from energy use contribute to climate change. Exposure is global, affecting atmospheric quality. Activities include rendering, waste storage, and generator operation.

Mitigation Measures:

Mitigation measures include anaerobic digestion of organic waste, flaring of methane where feasible, integration of renewable energy, and strict waste management practices.

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CHAPTER 8. ENVIRONMENTAL MANAGEMENT AND MONITORING PLAN

The EMMP is a critical component of the Environmental Impact Assessment, as it provides a structured framework for managing, minimizing, and monitoring the potential environmental and social impacts associated with the construction and operational phases of the project. This chapter outlines the mitigation measures, institutional responsibilities, monitoring requirements, and reporting mechanisms that will be implemented to ensure compliance with the Pakistan Environmental Protection Act (1997), PEQS, and inter Punjab best practices for meat processing facilities. The purpose of this plan is to ensure that project activities are carried out in an environmentally sustainable manner, protecting air and water quality, controlling waste and odor, ensuring occupational health and safety, and maintaining positive relations with surrounding communities throughout the project lifecycle.

8.1 OBJECTIVES OF EMMP

The Environmental Management and Monitoring Plan (EMMP) has been developed to ensure that the proposed Go Dairy Cattle and Sheep Meat Processing Plant operates in full compliance with the Punjab Environmental Protection Act (2012), the Review of IEE & EIA Regulations (2022), and the Punjab Environmental Quality Standards (PEQS). The objectives of the EMMP are to minimize adverse environmental impacts, establish a framework for monitoring and reporting, ensure occupational health and safety, and promote sustainable development. The plan provides a structured approach to environmental management during both construction and operational phases, ensuring that mitigation measures identified in Chapter 7 are implemented effectively and continuously monitored.

The EMMP serves as a practical tool to manage potential environmental and social impacts identified during the Environmental Impact Assessment process. The key objectives of the EMMP are as follows:

- ▽ To ensure compliance with the PEPA (1997), PEQS, and other applicable provincial and international environmental regulations.
- ▽ To identify and implement appropriate mitigation measures to prevent, minimize, or control adverse environmental impacts during construction and operational phases.
- ▽ To establish a systematic environmental monitoring program for key parameters such as air quality, wastewater discharge, noise levels, odor control, and solid waste management.
- ▽ To ensure proper handling, treatment, and disposal of wastewater, animal by-products, and other solid wastes through dedicated facilities such as the wastewater treatment plant and rendering unit.
- ▽ To promote occupational health and safety by implementing hygienic working conditions, PPE usage, emergency response procedures, and worker training programs.
- ▽ To assign clear institutional responsibilities for environmental management, monitoring, reporting, and corrective actions within the project management structure.
- ▽ To enhance environmental awareness among workers and contractors through regular training and capacity-building initiatives.
- ▽ To maintain effective communication with stakeholders and local communities by addressing concerns, ensuring transparency, and supporting socially acceptable project implementation.

8.2 ROLES AND RESPONSIBILITIES

Table 8-1: Roles and Responsibilities

Designation	Responsibilities
Go Dairy's Management	Overall implementation and compliance with the EMP Approval of environmental policies and procedures

Designation	Responsibilities
	Allocation of resources for environmental management and monitoring Coordination with regulatory authorities and stakeholders
HSE Officer	Daily monitoring of environmental parameters (air, water, noise, odor) Implementation of mitigation measures Maintaining records of environmental incidents Conducting periodic audits and reporting to management
Waste Management Supervisor	Supervision of wastewater treatment plant operations Management of solid waste and animal by-products Coordination with rendering plant and authorized disposal contractors Ensuring proper segregation, storage, and disposal of hazardous and non-hazardous waste
Training Officer	Organizing training sessions on environmental management, health, and safety practices Ensuring awareness among workers regarding EMP compliance Managing grievance and feedback systems for employees
Operational Staff	Following SOPs and EMP guidelines in daily operations Using PPE correctly and reporting unsafe conditions Ensuring hygienic handling of livestock, meat, and waste materials
Contractors / External Service Providers	Compliance with EMP requirements for construction and operational activities Proper management of equipment, chemicals, and waste as per guidelines

Designation	Responsibilities
	Coordination with plant management for environmental and safety supervision

8.3 ENVIRONMENTAL MANAGEMENT DURING CONSTRUCTION PHASE

Table 8-2: Environmental Management Plan for Construction Phase

Sr. No.	Project Component / Impact	Activities Giving Rise to Impact	Mitigation / Preventive Action	Responsibility – Implementation	Responsibility – Monitoring
1.	Soil erosion and land disturbance	Excavation, leveling, foundation works, movement of heavy machinery	Controlled excavation, stabilization of exposed soil, bunded storage of materials	Contractor	Environmental Manager
2.	Dust emissions	Earthworks, material transport, stockpiling of soil, cutting and grinding	Regular water sprinkling, covering of trucks, paved access roads	Contractor	Environmental Manager
3.	Noise pollution	Operation of bulldozers, cranes, mixers, trucks	Use of silencers, restrict work to daytime, provide PPE	Contractor	Environmental Manager

Sr. No.	Project Component / Impact	Activities Giving Rise to Impact	Mitigation / Preventive Action	Responsibility – Implementation	Responsibility – Monitoring
4.	Solid waste generation	Packaging of materials, debris from construction, discarded equipment	Segregation, recycling, disposal via EPA-approved contractors	Contractor	Environmental Manager
5.	Water contamination	Fuel storage, chemical handling, accidental spills	Bunded storage, spill response plan, proper drainage	Contractor	Environmental Manager
6.	Sanitation issues	Worker camps, temporary kitchens, toilets	Septic tanks, proper drainage, controlled waste disposal	Contractor	Environmental Manager
7.	Occupational health and safety risks	Manual handling, welding, cutting, working at heights	PPE provision, first aid facilities, safety training	Contractor	Environmental Manager

Sr. No.	Project Component / Impact	Activities Giving Rise to Impact	Mitigation / Preventive Action	Responsibility – Implementation	Responsibility – Monitoring
8.	Traffic disruption	Delivery of materials, movement of heavy vehicles	Traffic management plan, scheduled deliveries	Contractor	Environmental Manager

Table 8-3: Environmental Management Plan for Operational Phase

Sr. No.	Project Component / Impact	Activities	Mitigation / Preventive Action	Responsibility – Implementation	Responsibility – Monitoring
1	Water consumption and wastewater generation	Slaughtering, carcass washing, equipment cleaning, rendering plant operations	Efficient use of groundwater, WWTP treatment, reuse of treated water	Plant Management	Environmental Manager
2	Water pollution	Discharge from slaughter halls, lairage drainage, cleaning of offal and blood	WWTP operation, compliance with PEQS, sludge disposal via EPA-approved contractors	Plant Management	Third-party lab / Environmental Manager

Sr. No.	Project Component / Impact	Activities	Mitigation / Preventive Action	Responsibility – Implementation	Responsibility – Monitoring
3	Air emissions	Generators, boilers, refrigeration units, vehicle exhaust	Use of clean fuels, stack filters, regular maintenance	Plant Management	Environmental Manager
4	Noise pollution	Compressors, chilling units, boilers, transport vehicles	Acoustic enclosures, silencers, PPE, restricted hours	Plant Management	Environmental Manager
5	Animal Holding (Lairage): Odor, wastewater, vector attraction	Manure accumulation, animal washing, feed storage, drainage from lairage floors	Enclosed lairage, regular cleaning and disinfection, septic tanks for wastewater, pest control program	Plant Operations Team	Environmental Manager
6	Slaughtering: Wastewater, odor, zoonotic disease risk	Blood drainage, carcass washing, offal removal, floor cleaning	WWTP treatment of effluents, strict hygiene protocols, PPE for workers, veterinary inspection of	Slaughterhouse Supervisor	Environmental Manager / Third-party lab

Sr. No.	Project Component / Impact	Activities	Mitigation / Preventive Action	Responsibility – Implementation	Responsibility – Monitoring
			animals, regular sanitization		
7	Meat Processing: Solid waste, packaging waste, noise, energy use	Cutting, deboning, trimming, packaging, operation of chilling units	Segregation and recycling of packaging, acoustic enclosures for equipment, energy-efficient machinery, preventive maintenance	Processing Supervisor	Environmental Manager
8	Cold Storage: Air emissions, noise, energy consumption	Continuous refrigeration, chilling, backup generator operation	Use of clean fuels (LPG/diesel with low sulfur), preventive maintenance of compressors, solar integration, quarterly emissions monitoring	Cold Storage Supervisor	Environmental Manager
9	Rendering Plant: Odor,	Processing of offal, fat,	Enclosed rendering units,	Rendering Plant Supervisor	Environmental Manager

Sr. No.	Project Component / Impact	Activities	Mitigation / Preventive Action	Responsibility – Implementation	Responsibility – Monitoring
	wastewater, hazardous waste, GHG emissions	bones, blood; heating and drying operations	WWTP for effluents, covered storage of by-products, anaerobic digestion of organic waste, odor control systems		
10	Traffic and Logistics: Noise, emissions, congestion	Livestock deliveries, product distribution, waste transport	Scheduled transport to avoid peak hours, designated loading/unloading areas, vehicle maintenance, traffic management plan	Logistics Manager	Environmental Manager
11	Solid and hazardous waste generation	Blood, offal, manure, packaging, chemical containers	Segregation, rendering of organic waste, EPA-approved	Plant Management	Environmental Manager

Sr. No.	Project Component / Impact	Activities	Mitigation / Preventive Action	Responsibility – Implementation	Responsibility – Monitoring
			disposal of hazardous waste		
12	Odor emissions	Lairage, slaughter halls, rendering plant, waste storage	Enclosed facilities, controlled rendering, regular cleaning	Plant Management	Environmental Manager
13	Energy consumption and carbon footprint	Continuous operation of slaughter lines, refrigeration, cold storage	Energy-efficient equipment, solar integration, annual energy audits	Plant Management	Environmental Manager
14	Occupational health and safety risks	Slaughtering, meat cutting, handling chemicals, exposure to zoonotic pathogens	Hygiene protocols, PPE, health check-ups, emergency response	Plant Management	Environmental Manager
15	Traffic increase	Livestock deliveries, product distribution,	Scheduled transport, designated loading/unloading	Plant Management	Environmental Manager

Sr. No.	Project Component / Impact	Activities	Mitigation / Preventive Action	Responsibility – Implementation	Responsibility – Monitoring
		waste transport	areas, vehicle maintenance		
16	Spread of zoonotic diseases	Handling of live animals, blood, offal, waste	Veterinary inspections, hygiene protocols, worker health monitoring	Plant Management	Environmental Manager
17	Odor and vector attraction	Waste accumulation, lairage manure, uncovered storage	Covered storage, timely disposal, pest control programs	Plant Management	Environmental Manager
18	Greenhouse gas emissions	Decomposition of organic waste, generator operation	Anaerobic digestion of waste, renewable energy integration	Plant Management	Environmental Manager

8.4 OCCUPATIONAL HEALTH AND SAFETY PLAN

Meat processing and slaughterhouse operations involve potential risks such as exposure to biological hazards, sharp tools, heavy machinery, slippery floors, chemical disinfectants, and cold storage environments. Therefore, strict health and safety measures will be enforced in accordance with Punjab labor laws, inter Punjab best practices, and food industry safety standards.

8.4.1 Regulatory Requirements

Applicable Occupational Health and Safety Acts and Regulations are given below;

- ▽ Factories Act, 1934 (Pakistan)
- ▽ Pakistan Environmental Protection Act, 1997 (PEPA)
- ▽ Occupational Safety and Health Convention

Sanitary and Phytosanitary Standards (SPS)

8.4.2 Workplace Safety Management System

- ▽ A dedicated Health and Safety Officer will be appointed to oversee daily compliance.
- ▽ Standard Operating Procedures (SOPs) will be developed for slaughtering, cutting, packaging, chilling, and waste handling activities.
- ▽ Safety signboards and hazard warnings will be displayed across all high-risk zones.

8.4.3 Personal Protective Equipment

Table 8-3: Required Personal Protective Equipment (PPEs)

Activity	Required PPEs
General PPE for All Workers	Protective industrial uniform/coveralls Safety helmet (where required) High-visibility vest for logistics and loading zones Disposable masks for hygiene control
Slaughtering and Carcass Dressing Section	Cut-resistant gloves (metal mesh or reinforced) Waterproof aprons

Activity	Required PPEs
	Protective arm guards Anti-slip safety boots (gumboots) Face shields to prevent blood splashes
Meat Cutting and Deboning Section	Cut-proof gloves Safety goggles Protective sleeves Stainless-steel mesh gloves for knife handling Non-slip footwear
Chilling Plant and Cold Storage Areas	Thermal protective jackets Cold-resistant gloves Insulated safety boots Head protection (wool caps/liners)
Rendering Plant and Waste Handling Areas	Heavy-duty rubber gloves Respiratory masks Full-body protective suits Waterproof boots
Boiler, Generator, and Mechanical Areas	Ear protection (ear plugs or ear muffs) Heat-resistant gloves Safety helmets Protective goggles Fire-retardant uniforms





Figure 8-1: Safety Equipment

8.5 ENVIRONMENTAL MONITORING PROGRAM

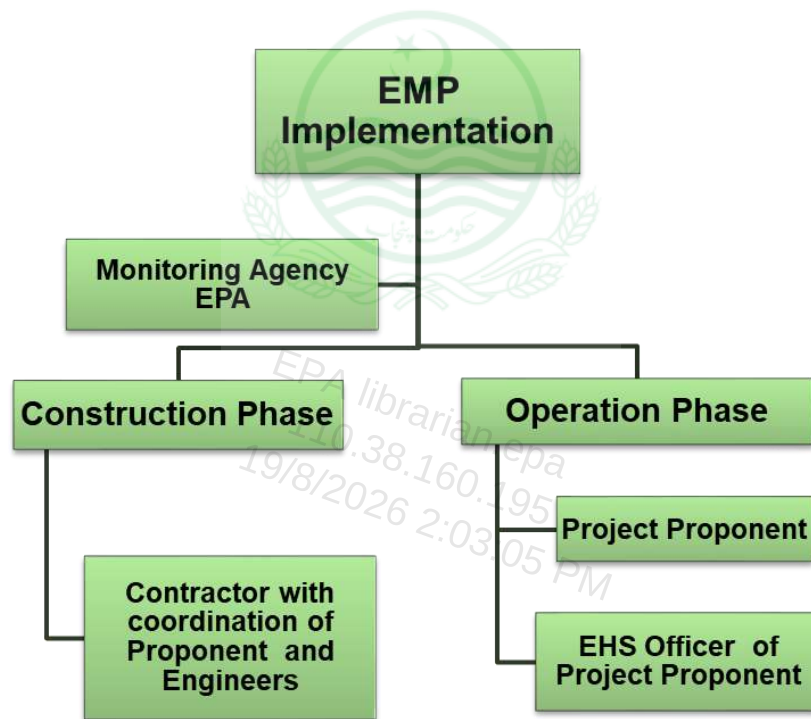


Figure 8-2: Organogram for Implementation Environmental Management Plan (EMP)

8.6 ENVIRONMENTAL POLICY

M/s GO Dairy (Private) Limited is committed to conducting all its activities associated with the proposed Cattle and Sheep Meat Processing Plant at Mouza Galo, Tehsil Feroze Wala, District Sheikhupura in an environmentally responsible and sustainable manner. The management recognizes that slaughterhouse and meat processing operations have the potential to impact environmental resources if not properly managed. Therefore, the company will adopt a proactive environmental management approach aimed at minimizing environmental impacts, conserving natural resources, and complying with all applicable environmental regulations.

The company will implement the following environmental commitments:

8.6.1 Regulatory Compliance

- ▽ Ensure full compliance with the provisions of the Pakistan Environmental Protection Act 1997, relevant provincial environmental regulations, and guidelines issued by the Punjab Environmental Protection Agency.
- ▽ Adhere to the Punjab Environmental Quality Standards (PEQS) for wastewater discharge, air emissions, and noise levels.
- ▽ Fulfill all environmental approval conditions specified in the EIA approval and any subsequent regulatory requirements.

8.6.2 Environmental Protection and Pollution Prevention

The company will take proactive measures to prevent environmental pollution and minimize the environmental footprint of the project. Key commitments include:

- ▽ Adoption of best available environmental management practices for slaughtering and meat processing operations.
- ▽ Installation and operation of an efficient Wastewater Treatment Plant (WWTP) to treat slaughterhouse wastewater before discharge or reuse.

- ▽ Proper management of blood, offal, and organic residues to prevent contamination of soil and water bodies.
- ▽ Utilization of a rendering plant for conversion of animal by-products into useful materials such as tallow and protein meal.
- ▽ Control of Odor emissions through proper handling of animal waste and timely processing of organic materials.
- ▽ Implementation of measures to control air emissions from boilers, generators, and rendering plant operations.
- ▽ Regular monitoring of noise levels generated by plant machinery and equipment.

8.6.3 Waste Management

The project will implement an integrated waste management system to ensure environmentally sound handling of all waste streams:

- ▽ Segregation of waste at source into organic waste, recyclable waste, and non-recyclable waste.
- ▽ Conversion of slaughterhouse by-products into value-added materials through the rendering facility.
- ▽ Safe storage and disposal of solid waste, sludge, and packaging materials through approved disposal mechanisms.
- ▽ Implementation of hygienic waste collection systems to avoid attraction of insects, pests, or scavengers.

8.6.4 Water Resource Management

- ▽ Considering the water-intensive nature of meat processing operations, the company will implement measures for efficient water use:
- ▽ Installation of water-efficient equipment and systems to reduce water consumption.
- ▽ Recycling and reuse of treated wastewater where feasible (e.g., cleaning of yards or landscaping).

- ▽ Prevention of water wastage through regular inspection of pipelines and valves.
- ▽ Monitoring of water consumption to identify opportunities for conservation.

8.6.5 Energy Conservation and Climate Responsibility

- ▽ The company will promote efficient energy usage and reduce greenhouse gas emissions through:
 - ▽ Use of energy-efficient motors, refrigeration systems, and lighting systems.
 - ▽ Proper maintenance of boilers and generators to ensure fuel efficiency.
 - ▽ Adoption of operational practices that minimize unnecessary energy consumption.

8.6.6 Environmental Monitoring

- ▽ To ensure effective implementation of environmental commitments, the company will establish an environmental monitoring system which includes:
 - ▽ Periodic monitoring of wastewater quality.
 - ▽ Monitoring of ambient air quality and Odor levels around the facility.
 - ▽ Monitoring of noise levels in operational areas.
 - ▽ Maintenance of environmental records and documentation for regulatory compliance.

8.6.7 Biodiversity and Community Protection

The company will ensure that plant operations do not adversely affect nearby communities or ecological resources by:

- ▽ Maintaining adequate buffer zones within the facility.
- ▽ Preventing contamination of nearby soil and groundwater resources.
- ▽ Implementing vector control measures to prevent flies, rodents, and pests.
- ▽ Maintaining proper sanitation and housekeeping in all operational areas.

8.6.8 Continuous Improvement

The management will review environmental performance periodically and implement improvements through:

- ▽ Internal environmental audits.
- ▽ Periodic review of environmental management practices.
- ▽ Adoption of improved technologies to enhance environmental protection.

Through implementation of this policy, M/s GO Dairy (Private) Limited aims to maintain environmentally responsible operations while supporting sustainable industrial development.

8.7 HEALTH & SAFETY POLICY

M/s GO Dairy (Private) Limited is committed to ensuring a safe, healthy, and hygienic working environment for all employees, contractors, visitors, and stakeholders involved in the operations of the proposed meat processing facility.

Recognizing that slaughterhouse operations involve machinery, sharp equipment, biological materials, and cold storage environments, the company will implement a comprehensive Occupational Health and Safety (OHS) management system.

8.7.1 Commitment to Worker Safety

The management will ensure that:

- ▽ Workplace hazards are identified and appropriate preventive measures are implemented.
- ▽ All employees are provided with necessary safety equipment and training.
- ▽ Health and safety considerations are integrated into all operational activities.

8.7.2 Workplace Hazard Identification and Risk Control

Potential workplace hazards include:

- ▽ Mechanical hazards from cutting machines and conveyors.
- ▽ Slippery surfaces in slaughtering and processing areas.
- ▽ Exposure to biological contaminants.
- ▽ Cold stress in refrigeration and cold storage facilities.
- ▽ Fire and electrical hazards from equipment and machinery.

Control measures will include:

- ▽ Installation of machine guards and safety devices.
- ▽ Use of non-slip flooring and proper drainage systems.
- ▽ Regular cleaning and sanitation to prevent biological hazards.
- ▽ Proper insulation and protective clothing for cold environments.

8.7.3 Personal Protective Equipment (PPE)

Employees will be provided with appropriate PPE, including:

- ▽ Protective gloves
- ▽ Safety boots
- ▽ Helmets
- ▽ Face masks
- ▽ Aprons and protective clothing
- ▽ Ear protection where required

The use of PPE will be mandatory in designated areas.

8.7.4 Workplace Hygiene and Sanitation

The company will maintain strict hygiene standards through:

- ▽ Regular cleaning and disinfection of slaughtering and processing areas.
- ▽ Provision of handwashing stations and sanitation facilities.
- ▽ Proper waste disposal to maintain a hygienic environment.

8.7.5 Medical Facilities and Health Monitoring

To protect worker health, the company will implement:

- ▽ Pre-employment and periodic medical examinations.
- ▽ Availability of first aid kits and trained first aid personnel.
- ▽ Immediate medical attention for injuries or illnesses.
- ▽ Collaboration with nearby healthcare facilities for emergency treatment.

8.7.6 Emergency Preparedness

Emergency response procedures will be established to address potential incidents such as:

- ▽ Fire outbreaks
- ▽ Chemical spills
- ▽ Machinery accidents
- ▽ Worker injuries

Emergency preparedness measures include:

- ▽ Installation of fire detection and fire-fighting systems.
- ▽ Clearly marked emergency exits and evacuation routes.
- ▽ Emergency response training and drills for employees.

8.7.7 Safety Culture and Awareness

The company will promote a strong safety culture through:

- ▽ Safety meetings and awareness campaigns.
- ▽ Display of safety signage in operational areas.
- ▽ Encouraging employees to report unsafe conditions.

8.8 EQUIPMENT MAINTENANCE DETAILS

Proper maintenance of machinery and equipment is critical for ensuring operational efficiency, environmental protection, and workplace safety. M/s GO Dairy (Private) Limited

will implement a comprehensive preventive maintenance program covering all equipment within the facility.

8.9 MAINTENANCE OBJECTIVES

The maintenance program aims to:

- ▽ Ensure continuous and efficient operation of equipment.
- ▽ Reduce risk of mechanical failure and accidents.
- ▽ Maintain product quality and hygiene standards.
- ▽ Prevent environmental contamination.

8.9.1 Maintenance Scope

The maintenance program will cover all major equipment including:

- ▽ Slaughtering equipment
- ▽ Meat cutting and processing machines
- ▽ Conveyors and handling systems
- ▽ Refrigeration and cold storage units
- ▽ Boilers and steam generation systems
- ▽ Water pumps and compressors
- ▽ Wastewater treatment plant equipment
- ▽ Rendering plant machinery
- ▽ Electrical systems and generators

8.9.2 Preventive Maintenance Practices

Preventive maintenance will include:

- ▽ Routine inspection of equipment components.
- ▽ Lubrication of moving parts.
- ▽ Replacement of worn or damaged parts.
- ▽ Calibration of instruments and monitoring devices.

- Cleaning and sanitation of processing equipment.

8.9.3 Cold Storage and Refrigeration Systems

Since cold storage is critical for meat preservation, special attention will be given to:

- ▽ Monitoring temperature control systems.
- ▽ Inspection of refrigeration compressors and condensers.
- ▽ Checking refrigerant levels and leakage prevention.

8.9.4 Wastewater Treatment System Maintenance

The wastewater treatment plant will be maintained through:

- ▽ Periodic inspection of pumps, aerators, and filtration units.
- ▽ Removal and proper disposal of sludge.
- ▽ Monitoring of treatment efficiency.

8.9.5 Maintenance Documentation

Detailed maintenance records will be maintained including:

- ▽ Equipment inspection reports
- ▽ Maintenance schedules
- ▽ Repair records
- ▽ Spare parts inventory

This documentation will help ensure timely maintenance and regulatory compliance.

8.10 TRAINING NEEDS

Training is essential to ensure that employees understand their responsibilities related to environmental protection, occupational safety, and operational efficiency. M/s GO Dairy (Private) Limited will establish a structured training program for all employees.

8.10.1 Objectives of Training

The training program will aim to:

- ▽ Improve employee awareness regarding environmental and safety issues.
- ▽ Ensure proper handling of equipment and machinery.
- ▽ Promote hygienic practices in meat processing operations.

8.10.2 Environmental Training

Environmental training will include:

- ▽ Waste segregation and disposal practices.
- ▽ Wastewater management procedures.
- ▽ Pollution prevention measures.
- ▽ Environmental monitoring requirements.

8.10.3 Health and Safety Training

Safety training programs will cover:

- ▽ Hazard identification and risk management.
- ▽ Safe operation of machinery and equipment.
- ▽ Proper use of personal protective equipment.
- ▽ Emergency response procedures.

8.10.4 Food Safety and Hygiene Training

Workers involved in meat processing will receive training on:

- ▽ Hygienic slaughtering practices.
- ▽ Meat handling and processing procedures.
- ▽ Prevention of contamination.
- ▽ Personal hygiene standards.

8.10.5 Animal Handling Training

Personnel working in lairage areas will be trained in:

- ▽ Humane handling of animals.

- ▽ Stress reduction techniques.
- ▽ Proper animal movement within the facility.

8.10.6 Emergency Response Training

Employees will be trained to respond to emergencies such as:

- ▽ Fire incidents
- ▽ Chemical spills
- ▽ Equipment accidents
- ▽ Medical emergencies

8.10.7 Training Schedule

Training programs will include:

- ▽ Induction training for new employees.
- ▽ Periodic refresher training sessions.
- ▽ Specialized training for technical staff.

Training records will be maintained for monitoring employee competency and compliance.

Table 8-4: Training Schedules

Training Module	Target Audience	Frequency	Duration	Responsible Personnel
Environmental Awareness and Environmental Management Practices	All employees and contractors	At induction and annually	1 Day	Environmental Manager / EHS Officer

Training Module	Target Audience	Frequency	Duration	Responsible Personnel
Waste Management and Waste Segregation Procedures	Waste handling staff, sanitation workers, supervisors	Every 6 months	Half Day	Environmental Manager
Wastewater Treatment Plant (WWTP) Operation and Maintenance	WWTP operators, maintenance staff	Every 6 months	1 Day	Environmental Engineer
Occupational Health and Safety (OHS) Training	All employees and contractors	At induction and annually	1 Day	Health & Safety Officer
Personal Protective Equipment (PPE) Use and Safety Procedures	All operational staff	Every 6 months	Half Day	Health & Safety Officer
Safe Operation of Machinery and Equipment	Machine operators, technicians, maintenance staff	Every 6 months	1 Day	Maintenance Manager

Training Module	Target Audience	Frequency	Duration	Responsible Personnel
Fire Safety and Emergency Response	All employees	Every 6 months	Half Day	Safety Officer / Fire Safety Team
First Aid and Medical Emergency Response	Selected staff and supervisors	Annually	1 Day	Certified First Aid Trainer / HR Department
Food Hygiene and Meat Handling Practices	Slaughterhouse workers, meat processing staff	Every 6 months	1 Day	Quality Assurance Manager / Veterinarian
Animal Welfare and Humane Handling	Lairage staff, animal handlers, veterinary staff	Every 6 months	Half Day	Veterinary Officer
Cold Storage and Refrigeration Safety	Cold storage operators and maintenance staff	Annually	Half Day	Refrigeration Engineer
Chemical Handling and Hazardous Material Safety	Cleaning staff, maintenance personnel	Annually	Half Day	Environmental / Safety Officer

Training Module	Target Audience	Frequency	Duration	Responsible Personnel
Equipment Maintenance and Preventive Maintenance Procedures	Maintenance team and technicians	Every 6 months	1 Day	Maintenance Manager

8.11 CAPACITY BUILDING AND INSTITUTIONAL ARRANGEMENT FOR EMP IMPLEMENTATION

Table 8-5: Capacity Building and its Implementation

Position / Department	Key Responsibilities	Environmental / Safety Role	Reporting To
Project Director / Plant Manager	Overall management of plant operations and compliance with regulatory requirements	Ensure implementation of Environmental Management Plan (EMP) and compliance with environmental approval conditions	Company Management
Environmental Manager / EHS Manager	Implementation and monitoring of environmental management measures	Oversee environmental monitoring, waste management, wastewater treatment operations, and regulatory reporting	Plant Manager

Position / Department	Key Responsibilities	Environmental / Safety Role	Reporting To
Health & Safety Officer	Ensure occupational health and safety compliance	Conduct safety inspections, implement PPE requirements, organize safety training, and manage accident reporting	EHS Manager
Veterinary Officer	Conduct inspection of animals and ensure animal welfare	Perform ante-mortem and post-mortem inspections and ensure hygienic slaughtering practices	Plant Manager
Wastewater Treatment Plant (WWTP) Operator	Operate and maintain wastewater treatment systems	Ensure proper treatment of effluent and compliance with discharge standards	Environmental Manager
Maintenance Manager	Maintenance of machinery and plant equipment	Implement preventive maintenance programs and ensure safe operation of machinery	Plant Manager
Rendering Plant Supervisor	Manage rendering plant operations and by-product handling	Ensure proper processing of slaughterhouse by-	Environmental Manager

Position / Department	Key Responsibilities	Environmental / Safety Role	Reporting To
		products and control odor emissions	
Quality Assurance Manager	Ensure food safety and product quality standards	Implement hygiene protocols and sanitation procedures in processing areas	Plant Manager
Cold Storage Supervisor	Manage cold storage operations	Maintain appropriate temperature conditions and ensure safe storage of meat products	Plant Manager
Sanitation and Waste Management Supervisor	Supervise cleaning operations and waste handling	Ensure proper waste segregation, collection, and disposal	Environmental Manager
Emergency Response Team	Respond to emergency situations	Handle fire incidents, accidents, spills, and other emergencies	Safety Officer

8.12 ENVIRONMENTAL BUDGET

Table 8-6: Environmental Budget

Component	Estimated Cost (PKR)	Remarks
Environmental Monitoring (Air, Water, Noise Testing)	1,200,000 / year	Periodic monitoring through certified laboratories
Wastewater Treatment Plant (WWTP) Installation	25,000,000	Installation of treatment system for slaughterhouse wastewater
WWTP Operation and Maintenance	3,000,000 / year	Includes chemicals, electricity, and operator costs
Solid Waste Management System	2,000,000	Waste segregation bins, storage areas, and collection arrangements
Rendering Plant for Animal By-products	15,000,000	Processing of blood, offal, bones, and other slaughterhouse waste
Odor Control Measures	2,500,000	Ventilation systems, biofilters, and proper waste handling
Personal Protective Equipment (PPE)	1,000,000 / year	Safety gear for workers including gloves, boots, masks, helmets
Environmental and Safety Training Programs	800,000 / year	Employee training and awareness programs
Emergency Response Equipment (Fire Safety & First Aid)	1,500,000	Fire extinguishers, alarms, first aid kits
Landscaping and Greenbelt Development	2,000,000	Plantation around facility for dust and noise control

Component	Estimated Cost (PKR)	Remarks
Spill Control and Chemical Storage System	700,000	Safe storage for chemicals and spill response materials
Environmental Documentation and Reporting	500,000 / year	Preparation of compliance reports and regulatory submissions



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8.13 ENVIRONMENTAL MONITORING PLAN

Parameter	Monitoring Location	Frequency	Applicable Standard / Guideline	Responsible Authority
Ambient Air Quality (PM _{2.5} , PM ₁₀ , SO ₂ , NO _x , CO)	Plant boundary and nearby sensitive receptors	Quarterly	Punjab Environmental Quality Standards (PEQS) / World Health Organization Air Quality Guidelines	Environmental Manager / Certified Laboratory
Odor Concentration	Rendering plant area, slaughterhouse area, plant boundary	Quarterly	International Finance Corporation Environmental Health and Safety (EHS) Guidelines for Meat Processing	Environmental Manager
Stack Emissions (PM, SO ₂ , NO _x , CO)	Boiler stack / generator exhaust	Quarterly	PEQS for Industrial Gaseous Emissions / IFC EHS Guidelines	Environmental Manager
Noise Levels	Plant boundary, processing area, generator room	Quarterly	PEQS Noise Standards / World Health Organization Noise Guidelines	Environmental Manager
Wastewater Quality (pH, BOD, COD, TSS, Oil & Grease)	Inlet and outlet of Wastewater Treatment Plant (WWTP)	Monthly	PEQS for Effluent Discharge	Environmental Manager / WWTP Operator
Groundwater Quality (pH, TDS, Nitrate, Microbial Content)	Tube well / groundwater source within facility	Bi-annually	PEQS Drinking Water Standards / WHO Drinking Water Guidelines	Environmental Manager

Parameter	Monitoring Location	Frequency	Applicable Standard / Guideline	Responsible Authority
Solid Waste Generation	Waste storage and segregation area	Monthly inspection (Internal)	Internal Waste Management Plan / IFC Waste Management Guidelines	Environmental Manager
Slaughterhouse Organic Waste (Blood, Offal, Bones)	Rendering plant and waste handling area	Monthly inspection (Internal)	Food and Agriculture Organization Guidelines for Slaughterhouse Waste Management	Rendering Plant Supervisor
Odor and Vector Control	Lairage area and waste storage area	Monthly inspection (Internal)	IFC EHS Guidelines / FAO Slaughterhouse Hygiene Guidelines	Sanitation Supervisor
Workplace Hygiene and Sanitation	Slaughtering and meat processing sections	Monthly inspection (Internal)	World Health Organization Food Hygiene Guidelines / FAO Standards	Quality Assurance Manager
Occupational Health & Safety	Entire facility	Quarterly inspection (Internal)	Occupational Safety and Health Administration (OSHA) Guidelines	Health & Safety Officer
Cold Storage Temperature Monitoring	Cold storage and refrigeration units	Daily monitoring (Internal)	FAO Meat Processing and Cold Chain Standards	Cold Storage Supervisor
Greenbelt and Plantation Monitoring	Plant boundary and landscaping area	Quarterly (Internal)	Internal EMP Plantation Plan	Environmental Manager

CHAPTER 9. STAKEHOLDER CONSULTATION

Stakeholder consultation is a critical component of the EIA process for the proposed Go Dairy Cattle and Sheep Meat Processing Plant in District Sheikhupura. This chapter provides an overview of the consultations conducted with local residents, landowners, nearby industrial operators, and informal community representatives to identify key environmental, social, and economic concerns associated with the project. The consultation process helps ensure that the perspectives and expectations of those likely to be affected by the project are considered in decision-making, project design, and implementation. It also promotes transparency, community participation, and social acceptability while supporting the identification of potential positive impacts, such as employment generation and infrastructure development, and measures to mitigate adverse effects.

9.1 OBJECTIVES OF STAKEHOLDER CONSULTATION

The stakeholder consultation process for the proposed Meat Processing Plant has been designed to ensure that the project is developed in a socially responsible, transparent, and inclusive manner. The key objectives of the consultation are as follows:

- ▽ To identify and understand the concerns, expectations, and suggestions of local communities, landowners, nearby industrial operators, and other stakeholders regarding the proposed project.
- ▽ To assess potential social, environmental, and economic impacts from the perspective of those likely to be affected by the facility.
- ▽ To inform stakeholders about the objectives, scope, and potential benefits of the project, including employment opportunities, infrastructure development, and export revenue generation.
- ▽ To promote transparency and trust between the project proponents and the local community through open communication and dialogue.

- ▽ To incorporate stakeholder inputs into project planning, design, and mitigation measures, ensuring that social and environmental concerns are adequately addressed.
- ▽ To establish mechanisms for grievance redress and ongoing communication during project implementation and operational phases.

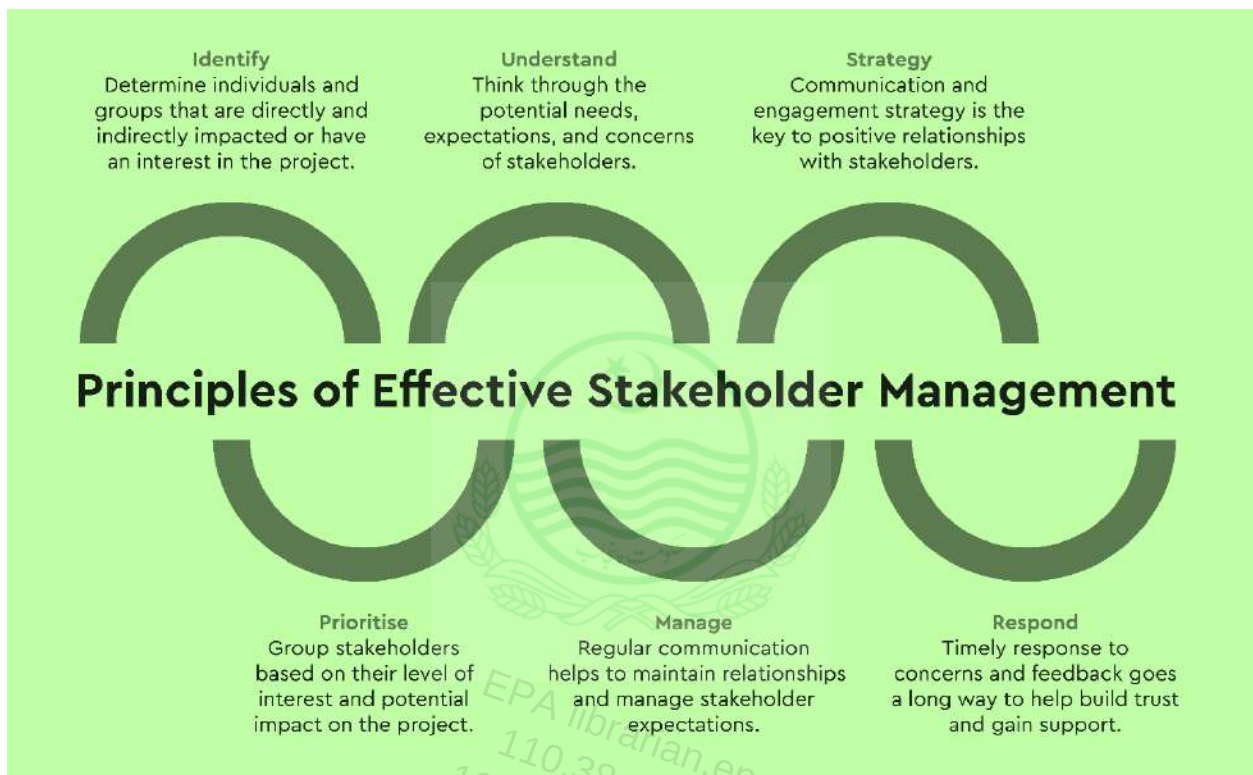


Figure 9-1 Stakeholder Management

By achieving these objectives, stakeholder consultation contributes to the overall success and sustainability of the project, enhancing its social, environmental, and economic outcomes while fostering positive relationships with the communities it impacts.

9.2 METHODOLOGY

The stakeholder consultation for the proposed Meat Processing Plant was conducted using a structured and participatory approach to ensure that the views of all relevant stakeholders were captured effectively. The methodology will include the following key steps:

Identification of Stakeholders

- ▽ Local residents and landowners in the project vicinity.
- ▽ Nearby industrial operators and service providers.
- ▽ Representatives of community organizations and informal local groups.
- ▽ Relevant government departments and regulatory authorities.

Information Disclosure

- ▽ Providing clear and accessible information about the project scope, objectives, construction and operational activities, and potential environmental and social impacts.
- ▽ Sharing project layout, timelines, and environmental management measures with stakeholders.

Consultation Tools and Techniques

- ▽ Informal meetings and focus group discussions with local residents, landowners, and community representatives.
- ▽ Questionnaires and feedback forms to record concerns, suggestions, and expectations.

Documentation and Analysis

- ▽ Recording all stakeholder interactions, concerns, and recommendations.
- ▽ Categorizing issues into environmental, social, public health, and economic aspects.
- ▽ Analyzing feedback to identify priority concerns and mitigation requirements.

Follow-up and Communication

- ▽ Informing stakeholders about how their concerns have been addressed in project planning.

- ▽ Establishing a Grievance Redress Mechanism (GRM) for ongoing stakeholder engagement during construction and operations.
- ▽ This methodology will ensure a participatory approach that incorporates stakeholder perspectives into project design, environmental management planning, and operational decision-making, fostering transparency, trust, and community support.

9.3 THE RESPONSIBLE AUTHORITY

The overall responsibility for stakeholder consultation and management of social and environmental concerns for the proposed Meat Processing Plant will rest with the Project Management Team, under the supervision of the Plant Director. A dedicated Environmental and Social Officer will be appointed to coordinate all stakeholder engagement activities, including consultation sessions, grievance redress, and follow-up actions.

Table 9-1 Stakeholders and Their Roles and Responsibilities

Stakeholders	Roles
GO Dairy's Management	Overall coordination of stakeholder engagement activities Ensuring implementation of EMP and Occupational Health & Safety measures Addressing community concerns and feedback Allocating resources for mitigation measures and monitoring programs
Government Departments	Providing regulatory oversight and approvals Monitoring compliance with environmental, health, and labor regulations

Stakeholders	Roles
	Advising on legal requirements and best practices for Halal meat processing and export standards Supporting conflict resolution and community welfare initiatives
Nearby Businesses	Sharing local knowledge and operational concerns Reporting potential cumulative impacts on traffic, water, or air quality Coordinating with project team to avoid conflicts or disruptions during operational activities Participating in community engagement sessions to provide feedback

9.4 ISSUES RAISED BY STAKEHOLDER

Table 9-2 Summary of Issues Raised by Stakeholders

Issue	Project Proponent Commitments
Solid Waste and By-products	All animal by-products and solid waste will be processed in the rendering plant or disposed of through EPA-approved contractors to prevent environmental contamination.

Issue	Project Proponent Commitments
Air Quality and Odor Control	The project will implement dust suppression, proper ventilation, and odor control measures in lairage, slaughtering, and waste handling areas.
Noise Pollution	Machinery and generators will be equipped with silencers; operational hours will be regulated to minimize disturbance to nearby communities.
Stakeholder Engagement	Continuous consultation with local communities, landowners, and authorities will be maintained; a grievance redress mechanism (GRM) will be operational throughout the project lifecycle.
Halal Compliance	The project will follow strict Halal slaughtering and processing practices and obtain formal Halal certification prior to operational export





Figure 9-2 Pictorial Evidence of Public Consultation



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CHAPTER 10. GRIEVANCE REDRESS MECHANISM

To ensure transparency, accountability, and stakeholder engagement, a Grievance Redress Mechanism (GRM) has been established for the proposed Security Paper and Banknote Production Facility at FIEDMC, Faisalabad. The GRM provides a structured system for employees, nearby industrial units, regulatory authorities, and other stakeholders to raise concerns or complaints regarding environmental, social, operational, or safety issues during both the construction and operational phases of the project.

10.1 OBJECTIVES OF GRIEVANCE REDRESS MECHANISM

- ★ To provide accessible, transparent, and effective channels for filing grievances.
- ★ To ensure that complaints are addressed promptly and fairly, reducing potential conflicts.
- ★ To document and monitor grievances for continuous improvement in environmental and social management practices.
- ★ To enhance stakeholder confidence in the project by ensuring responsiveness to concerns.

10.2 MECHANISM OF FILING COMPLAINT



10.3 ROLES AND RESPONSIBILITIES

Table 10-1 Roles and Responsibilities

Project Management / Proponent	Responsible for receiving, documenting, and tracking all grievances and ensuring their resolution within specified timelines.
GRM Officer / Committee	Evaluates grievances, coordinates with relevant departments, and ensures timely resolution.

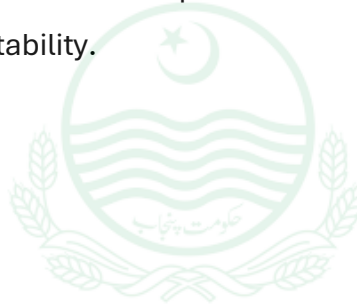
Stakeholders

Provide clear information about the grievance and cooperate during the resolution process.

10.3.1 Grievance Resolution Procedure

A grievance is registered via online portal, email, or written submission.

- ★ The GRM officer acknowledges receipt within 3 working days.
- ★ The grievance is investigated and assessed in coordination with relevant departments.
- ★ Resolution measures are implemented, and the complainant is informed within 15–30 working days, depending on complexity.
- ★ All grievances are documented and reported in the Environmental Monitoring and GRM records for accountability.



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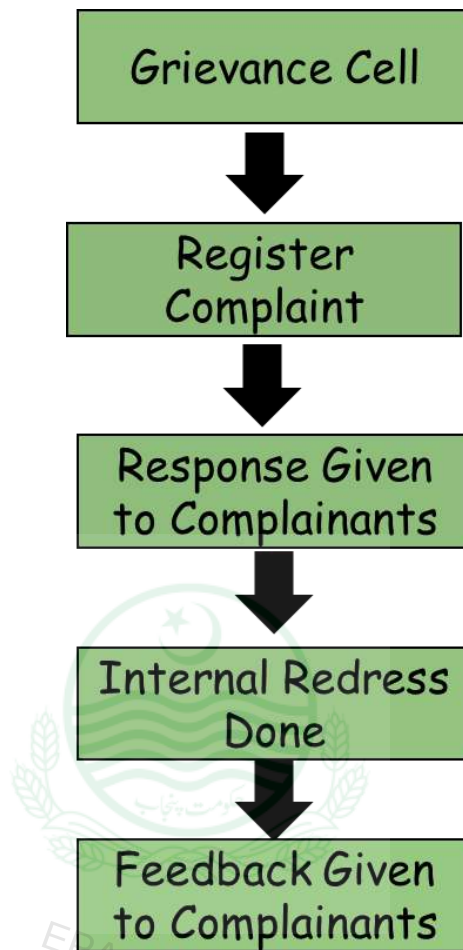


Figure 10-1 Grievance Redress Mechanism

CHAPTER 11. CONCLUSION AND RECOMMENDATION

The EIA of the proposed Go Dairy Cattle and Sheep Meat Processing Plant in District Sheikhpura concludes that the project is technically feasible and environmentally manageable, provided that appropriate mitigation measures and operational controls are effectively implemented. The facility is planned as a modern, Halal-compliant meat processing and export-oriented unit with significant socio-economic benefits, including employment generation, development of regulated slaughtering infrastructure, and contribution to Punjab export revenue.

The baseline environmental conditions indicate that the project site is located on open agricultural land with no ecologically sensitive habitats, archaeological sites, or major settlements in close proximity. However, during the construction and operational phases, potential environmental impacts may arise, particularly related to odor emissions, wastewater discharge, solid waste generation, air emissions from generators and boilers, and public health risks associated with animal handling. These impacts are considered moderate and can be minimized through strict compliance with the EMP, PEQS, and inter Punjab sanitary and phytosanitary requirements for meat exports.

Recommendations:

To ensure environmentally sustainable and socially responsible implementation, the following key recommendations are made:

- ▽ The project proponent should implement a comprehensive Environmental Management Plan (EMP) covering air quality, noise, wastewater, solid waste, and occupational health and safety measures.
- ▽ An efficient Wastewater Treatment Plant (WWTP) should be operated to ensure all effluents meet PEQS prior to discharge or reuse, preventing contamination of nearby irrigation channels and groundwater.

- ▽ A dedicated rendering plant should be maintained to safely process animal by-products and minimize odor, waste accumulation, and vector attraction.
- ▽ Regular monitoring of environmental parameters, including wastewater quality, air emissions, noise levels, and hygiene conditions, should be conducted with periodic reporting to the relevant regulatory authorities.
- ▽ Strict adherence to Halal slaughtering protocols, animal welfare standards, and export quality requirements should be ensured through staff training and internal audits.
- ▽ Occupational health and safety measures, including PPE provision, emergency response systems, and disease prevention protocols, should be strengthened to safeguard workers and nearby communities.
- ▽ Continued stakeholder engagement and grievance redress mechanisms should be maintained throughout project operation to ensure community concerns are addressed transparently.

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Glossary

Air quality	Measurement of the pollutants in the air; a description of healthiness and safety of the atmosphere.
Area	Area is the quantity that expresses the extent of a two-dimensional figure or shape, or planar lamina, in the plane.
Compensation	Includes cash payment, deferred payment, a bond, an insurance policy, stipend, payment in kind, rendition of services, grant of privileges and disturbance money, entitlement to special treatment by government and semi government entities, grant of alternative land, grant of import licenses and business, trade and commercial facilities in addition to the rehabilitation and resettlement of an affected person.
Consultation	Consultation refers to two-way transfer of information or joint discussion between project staff and the affected population. Systematic consultation implies a sustained and rigorous sharing of ideas. Bank experience shows that consultation often yields the best resettlement alternatives, fruitful procedures for continued participation, and independent information on actual conditions for implementation.
Coordinates contaminate	Each of a group of numbers used to indicate the position of a point, line, or plane to make impure, pollute
Disclosure	The action of making new or secret information known

Disruption	Disturbance or problems which interrupt an event, activity, or process.
Environmental Management	Attempt to control human impact on and interaction with the environment in order to preserve natural resources
Evaluation	The making of a judgment about the amount, number, or value of something; assessment.
Ground water	Aquifers currently being used as a source of drinking water or those capable of supplying a public water system. They have a total dissolved solid content of 10,000 milligrams per liter or less, and are not "exempted aquifers.
Hazardous	Substance or material, which could adversely affect the safety of the public, handlers or carriers during transportation
Impact	Effect on someone or something
Land acquisition	The process whereby a person is compelled by a public agency to cede all or part of the land a person owns or possesses, to the ownership and possession of that agency, for public purpose in return for compensation.
Mitigation	The action of reducing the severity, seriousness, or painfulness of something
Occupational health	Maintenance of the highest degree of physical, mental and social well-being of workers in all occupations by preventing departures

	from health, controlling risks and the adaptation of work to people, and people to their jobs
Project area	The area specified by the funding and/or implementing agency according to the official gazette notification and includes the areas within the administrative limits of the provincial government.
Proponent	A person who advocates a theory, proposal, or course of action.
Scope	The extent of the area or subject matter that something deals with or to which it is relevant
Social Environment	It includes the culture that the individual was educated or lives in, and the people and institutions with whom they interact.
Stakeholders	Include affected persons and communities, proponents, private and public businesses, NGOS, host communities and EPA.
Topography	Details of the surface features of land. It includes the mountains, hills, creeks, and other bumps and lumps on a particular hunk of earth.

References

Listed below are some of the documents, reports and other references consulted during the preparation of this report:

1. Information and data provided by project proponents;
2. Project Pre-Feasibility Study Report;
3. Technical Design Data related to the project.
4. Information gathered through discussions with the project related persons of the project proponent;
5. Information collected from the Technical documents of various suppliers of machinery/equipment.
6. Punjab Environment Quality Standards for Ambient Air August 2016;
7. Punjab Environment Quality Standards Noise Levels August 2016;
8. Punjab Environment Quality Standards for Drinking Water August 2016;
9. Pakistan Environmental Protection Act, 1997;
10. The Punjab Environmental Protection (Amendment) Act 2012 covers aspects related to:

The protection, conservation, rehabilitation and improvement of the environment and the prevention, control of pollution and promotion of sustainable development;

Establishing complete regulatory and monitoring bodies, policies, rules, regulations and Punjab environmental quality standards; and

To ensure enforcement, the act establishes regulating bodies i.e. Punjab Environmental Protection Council (PEPC) and responsible bodies i.e. Punjab Environmental Protection Agency (Punjab EPA) at Provincial level.

- i. Environment related Laws in Pakistan and the Province of Punjab;
- ii. Government of Pakistan, Pakistan Environmental Protection Agency, Policy and Procedures for Filing, Review and Approval of Environmental Assessment, 2022;
- iii. Google earth, maps.
- iv. Guidelines for Public Consultations - These guidelines cover:

- Consultation, involvement and participation of Stakeholders
 - Techniques for public consultation (principles, levels of involvements, tools, building trust)
 - Effective public consultation (planning, stages of EIA
 - where consultation is appropriate)
 - Consensus building and dispute resolution.
1. workplace safety and health act 2011
 2. Land Acquisition Act (LAA) of 1894
 3. The forest Act 1927
 4. Pakistan Penal Code, 1860
 5. Provincial Wildlife Act, 1974
 6. Drugs Act 1976



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ANNEXURE-A

Google Earth Map



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GO Dairy Cattle and Sheep Meat Processing Plant

Bashir Pipe Factory, Mouza Galo, Tehsil Ferozwala, District Sheikhupura
31°37'45.7"N 74°07'41.3"E

Legend

- GO Dairy Cattle & Sheep Meat Processing Plant
- Gul Poultry Farm
- Proposed Project Area
- Ubqari Hajvery Mahal Road
- Access Road

GO Dairy Cattle & Sheep Meat Processing Plant

New Slaughter house

31°37'45.7"N 74°07'41.3"E

Ubqari Hajvery Mahal Road

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ANNEXURE-B

Lab Reports



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CHEMICAL ANALYSIS TEST REPORT (AMBIENT AIR)



Reference Number: ESPAK/00154P/26/AA/01866/00109 Date: 10/03/2026

Name of Industry/Client: Go Dairy Integrated Cattle and Sheep Meat Processing Plant

Address: Dera Butta Munais, Qila Star Shah, Sheikhpura

Telephone No: -----

Nature of Sample: Ambient Air Monitoring Location: Near Main Gate
(GPS: 31.526957°N, 74.130958°E)

Date of Sample Collection: 03/03/2026

Sample Collected/Sent By: Asad Ali, Analyst (Field), ESPAK Grab / Composite: Continuous - 24 Hours

Date of Completion of Analysis: 04/03/2026

S. No	Parameters	Limit Values (PEQS-24 Hours)	Concentration	Method / Equipment Used	Remarks
1	Carbon Monoxide (CO)	5 mg/m ³ (8 Hours)	1.1 mg/m ³	Non-Dispersive Infrared Absorption (NDIR)	Within Prescribed Limits
2	Sulfur Dioxide (SO ₂)	120 µg/m ³	10.4 µg/m ³	UV Fluorescence (UVF)	Within Prescribed Limits
3	Ozone (O ₃)	130 µg/m ³ (1 Hour)	28.7 µg/m ³	Non-Dispersive UV Absorption	Within Prescribed Limits
4	Oxides of Nitrogen as NO	40 µg/m ³	15.5 µg/m ³	Chemiluminescence Detection	Within Prescribed Limits
5	Oxides of Nitrogen as NO ₂	80 µg/m ³	27.4 µg/m ³	Chemiluminescence Detection	Within Prescribed Limits
6	Particulate Matter PM _{2.5}	35 µg/m ³	29.3 µg/m ³	Particulate Sensor	Within Prescribed Limits
7	Particulate Matter PM ₁₀	150 µg/m ³	138 µg/m ³	Particulate Sensor	Within Prescribed Limits
8	Suspended Particulate Matter (SPM)	500 µg/m ³	386 µg/m ³	Particulate Sensor	Within Prescribed Limits

PEQS: Punjab Environmental Quality Standards for Ambient Air, 2016

Note:

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1. Sample Analyzed By: Asad Ali
Analyst (Field)

2. Name of Chief Analyst with Seal: Muhammad Arfan

3. Signature of Incharge of the Environmental Laboratory:

Name: Imran Malik
General Manager

Date: 10/03/2026



----- End of Report -----

NOISE MONITORING REPORT



Reference Number: ESPAK/00154P/26/N/01867/00087 Date: 10/03/2026

Name of Industry/Client: Go Dairy Integrated Cattle and Sheep Meat Processing Plant

Address: Dera Butta Munais, Qila Star Shah, Sheikhpura

Telephone No: -----

Nature of Sample: Noise

Date of Sample Collection: 03/03/2026 Grab / Composite: Continuous 24-Hours

Sample Collected/Sent By: Asad Ali, Analyst (Field), ESPAK

Date of Completion of Analysis: 04/03/2026

Method/Equipment Used: Sound Level Meter

S. No	Measurement Point	Limit Values (PEQS)	Noise Level in dB(A) Leq	Remarks
1	Near Admin Office (GPS: 31.629949°N, 74.127882°E) - Day time	75 dB(A)	59 dB(A)	Within Prescribed Limits
2	Near Admin Office (GPS: 31.629949°N, 74.127882°E) - Nighttime	65 dB(A)	55 dB(A)	Within Prescribed Limits

PEQS: Punjab Environmental Quality Standards for Noise in Industrial Area, 2016 Day Time Hours (6:00 am to 10:00 pm) Night Time Hours (10:00 pm to 6:00 am)

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1. Sample Analyzed By: Asad Ali
Analyst (Field)

2. Name of Chief Analyst with Seal: Muhammad Arfan

3. Signature of Incharge of the Environmental Laboratory:

Name: Imran Malik
General Manager
Date: 10/03/2026

----- End of Report -----

CHEMICAL ANALYSIS TEST REPORT (GROUND WATER)

Reference Number: **ESPAK/00154P/26/GW/01868/00203** Date: **10/03/2026**

Name of Industry / Client: **Go Dairy Integrated Cattle and Sheep Meat Processing Plant**

Address: **Qila Star Shah Dera Butta Munais Sheikhpura**

Telephone No: **-----**

Nature of Sample: **Ground Water from Sub mersible Pump**

Date Sample Received: **04/03/2026** Grab / Composite: **Grab**

Date of Sample Collection: **03/03/2026**

Sample Collected / Sent By: **Asad Ali, Analyst (Field), ESPAK**

Date of Completion of Analysis: **09/04/2026**



S. No	Parameters	Limit Values (DW-PEQS)	Concentration	Method / Equipment Used	Remarks
1	Total Coliforms	----	ND	SMWW 9222 B	----
2	Fecal Coliform Bacteria	Must not be detectable in any 100mL sample	ND	SMWW 9222 H	Within Limits
3	E. Coli	Must not be detectable in any 100mL Sample	ND	SMWW 9222 H	Within Limits
4	Taste	Non Objectionable / Acceptable	Acceptable	Organoleptic	Within Limits
5	Odor	Non Objectionable / Acceptable	Acceptable	Organoleptic	Within Limits
6	pH*	6.5-8.5	7.4	SMWW 4500H*B	Within Limits
7	Turbidity	<5 NTU	10.0 NTU	SMWW 2130B	Exceeding Limits
8	Color	≤15 TCU	ND	SMWW 2120 C	Within Limits
9	Total Dissolved Solids (TDS)*	<1000 mg/L	1037 mg/L	SMWW 2540C	Exceeding Limits
10	Total Hardness as CaCO ₃ *	<500 mg/L	324 mg/L	SMWW 2340C	Within Limits
11	Residual Chlorine	0.2-0.5 mg/L	ND	SMWW 4500-Cl G	Within Limits
12	Chloride (as Cl ⁻)*	<250 mg/L	174 mg/L	SMWW 4500Cl ⁻ B	Within Limits
13	Fluoride (F ⁻)*	≤1.5 mg/L	0.13 mg/L	U.S. EPA 9214	Within Limits
14	Cyanide (CN ⁻)	≤0.05 mg/L	ND	SMWW 4500 CN ⁻ F	Within Limits
15	Nitrate (NO ₃ ⁻)	≤50 mg/L	5.2 mg/L	SMWW 4500NO ₃ ⁻ B	Within Limits
16	Nitrite (NO ₂ ⁻)	≤3 mg/L	ND	SMWW 4500NO ₂ ⁻ B	Within Limits
17	Phenolic Compounds (as Phenols)	NGVS	ND	SMWW 5530 C	----
18	Aluminum (Al)	≤0.2 mg/L	ND	SMWW 3111	Within Limits
19	Antimony (Sb)	≤0.005 mg/L	ND	SMWW 3111	Within Limits
20	Arsenic (As)	≤0.05 mg/L	ND	SMWW 3114 B	Within Limits
21	Barium (Ba)	0.7 mg/L	ND	SMWW 3111	Within Limits
22	Boron (B)	0.3 mg/L	ND	SMWW 4500-B B	Within Limits

Page 1 of 2

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Lahore, Pakistan.
Tel: +92 (42) 3515 4015-16

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Floor, Gulberg Empire,
Gulberg Greens,
Islamabad, Pakistan.
Tel: +92 (51) 5915060

Peshawar Office
Unit No. 43-TF,
Dean's Trade Center
Sadat Cantt,
Peshawar, Pakistan.
Tel: +92 312 0849999



CHEMICAL ANALYSIS TEST REPORT (GROUND WATER)

Reference Number:

ESPAK/00154P/26/GW/01868/00203

Date:

10/03/2026

Name of Industry / Client:

Go Dairy Integrated Cattle and Sheep Meat Processing Plant



S. No	Parameters	Limit Values (DW-PEQS)	Concentration	Method / Equipment Used	Remarks
23	Cadmium (Cd)	0.01 mg/L	ND	SMWW 3111	Within Limits
24	Chromium (Cr)	≤0.05 mg/L	ND	SMWW 3111	Within Limits
25	Copper (Cu)	2.0 mg/L	ND	SMWW 3111	Within Limits
26	Lead (Pb)	≤0.05 mg/L	ND	SMWW 3111	Within Limits
27	Manganese (Mn)	≤0.5 mg/L	ND	SMWW 3112	Within Limits
28	Mercury (Hg)	≤0.001 mg/L	ND	SMWW 3111	Within Limits
29	Nickel (Ni)	≤0.02 mg/L	ND	SMWW 3111	Within Limits
30	Selenium (Se)	0.01 mg/L	ND	SMWW 3114 B	Within Limits
31	Zinc (Zn)	5.0 mg/L	ND	SMWW 3111	Within Limits

DW-PEQS: Punjab Environmental Quality Standards for Drinking Water, 2016

SMWW: Standard Methods for the Examination of Water and Waste Water, American Public Health Association, American Water Works Association, Water Environment Federation

USEPA: United States Environmental Protection Agency

ND: Not Detected

- Laboratory tests and measurements were carried out at $25 \pm 5^\circ\text{C}$ and $\leq 75\%$ Relative Humidity conditions unless required otherwise.
- Uncertainty of Measurement (UoM) data will be provided on request, where available. The statement of conformity, if provided in the report, is based on the decision rule of simple acceptance or rejection with equal shared risk due to measurement uncertainty.

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1. Sample Analyzed By: Khizra Bano Analyst (Microbiology) Nageen Arshad Analyst (Chemical) Sumra Manzoor Analyst (Chemical) M. Shahid Analyst (Chemical) Zirwa-tuz-Zahra Analyst (Chemical)

2. Name of Chief Analyst with Seal: Muhammad Arfan

3. Signature of Incharge of the Environmental Laboratory:

Name: Imran Malik
General Manager
Date: 10/03/2026



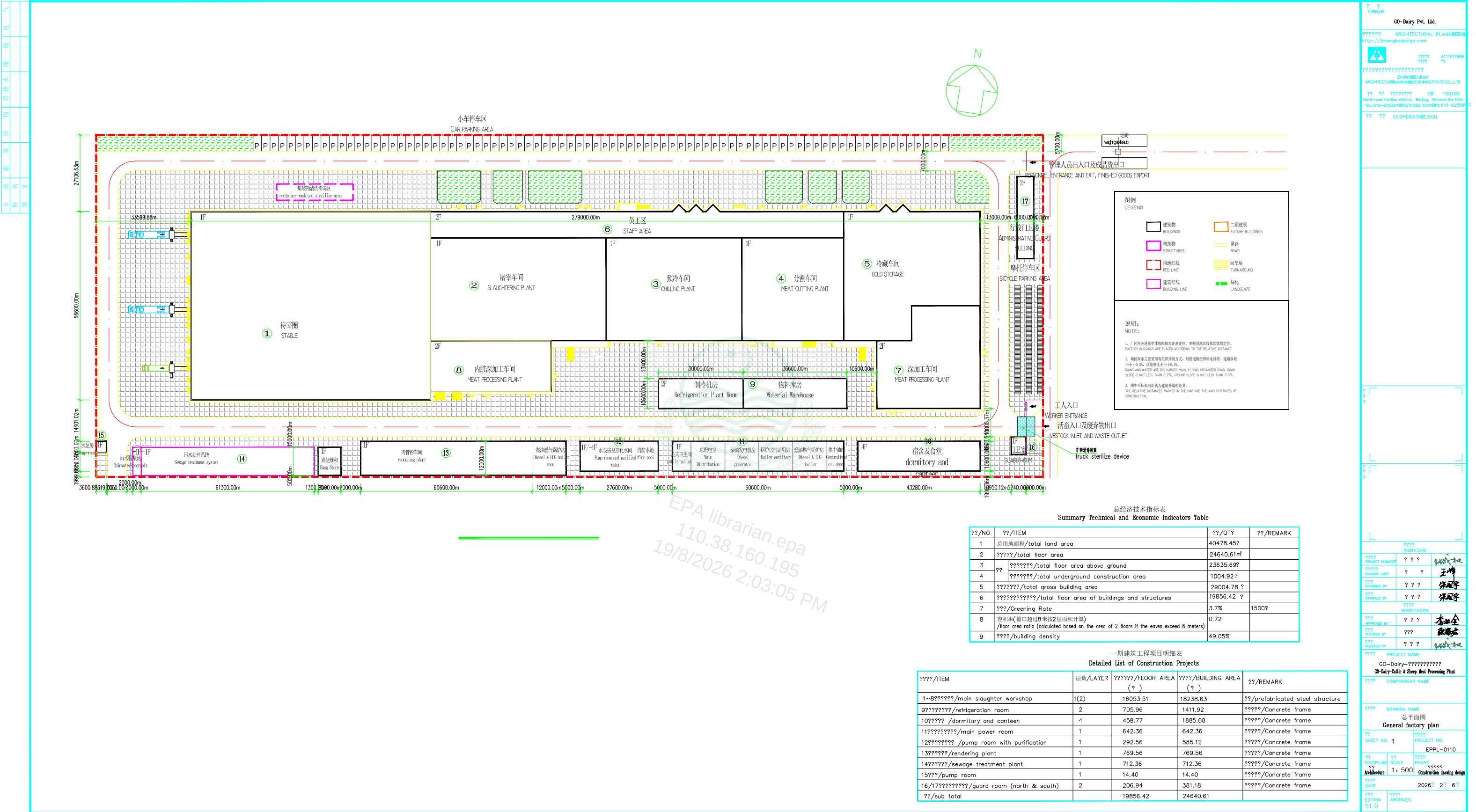
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ANNEXURE-C

Layout



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ANNEXURE-D

Land Ownership Documents



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سکین کریں۔

نقل رجسٹر حقداران زمین (مسل میعادی)

سال 2019-20 کتاب نمبر ورق نمبر 78 / 77

تحصیل فیروزوالہ ضلع شیخوپورہ

طرف/بٹی نداد

محال گالو

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نمبر کھیوٹ مالک	نمبر کھیوٹ کاشتکار	نام مالک مع نام والد/خاوند قوم اور سکونت	نوعیت حقوق مالک راجن مرتہن	مشترکہ کھانہ میں مخصوص حصہ	مخصوص رقبہ مطابق حصہ	زرعی پاس بک نمبر	نام کاشتکار مع احوال	نمبر خسرہ مع نام اگر کوئی ہو	رقبہ و قسم زمین کھیوٹ دار اور میزان کھیوٹ کاشتکار و کھیوٹ مالک	وسا ئل آپاشی مع نام چاہہ راجہ اور دیگرہ	لگان جو کاشتکار ادا کرتا ہے شرح مالید و حبوب اور مطالبہ	مطالبہ مع تفصیلات	کیفیت مع 1 - نام نمبر دار (اگر کوئی ہو) 2 - شرح مالید زمین
72 مذکور		(گوڈیری پرائیویٹ لمیٹڈ) مشتری قوم	مالک	1600/12821	80-0-0								
		۳(ب) قومی شناختی کارڈ نمبر											

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کمپیوٹرائزڈ نقل۔ دستخط کی ضرورت نہ ہے۔ فرد آئی ڈی

نام اجراء کنندہ آن لائن فرد

فرد نمیں 1,400

تاریخ فرد اجراء 28/07/2025 18:34

نقل مطابق اصل ہے

فرد برائے ذاتی ریکارڈ

ANNEXURE-E

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SECURITIES AND EXCHANGE COMMISSION OF PAKISTAN

COMPANY REGISTRATION OFFICE, Lahore

CERTIFICATE OF INCORPORATION



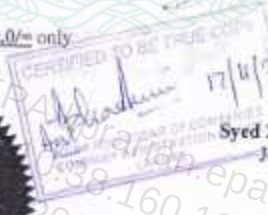
[Under section 16 of the Companies Act, 2017 (XIX of 2017)]

Corporate Universal Identification No. 0162444

I hereby certify that GO DAIRY (PRIVATE) LIMITED is this day incorporated under the Companies Act, 2017 (XIX of 2017) and that the company is limited by shares.

Given under my hand at Lahore this Seventeenth day of November, Two Thousand and Twenty

Incorporation fee Rs. 2010500.00/- only



Syed Zargham Haider
Joint Registrar

No. ARL/INC 6949

Dated: 17 11-2017

ANNEXURE-F

List of Abbreviation



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List of Abbreviation

EA	Environmental Approval
EHS	Environment, Health & Safety
EIA	Environmental Impact Assessment
EMMP	Environmental Management & Monitoring Plan
EMP	Environmental Management Plan
EPA	Environmental Protection Agency
EPCCD	Environmental Protection & Climate Change Department
IEE	Initial Environment Examination
M & E	Monitoring & Evaluation
NEQS	Punjab Environmental Quality Standards
OHS	Occupational Health & Safety
PEB	Pre-Engineering Building
PEPA	Punjab Environmental Protection Act
PEQS	Punjab Environmental Quality Standards
PM	Particulate Matter
PPEs	Personal Protection Equipment
RO	Reverse Osmosis
SWMP	Solid Waste Management Plan
UNCED	United Nations Conference on the Environment and Development
WWTP	Wastewater Treatment Plant

ANNEXURE-G

Terms of Reference



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Term of References

The Proponent is required to carry out an Environment Assessment Study of the Project as required under section 12 of Pakistan Environmental Protection Act 1997/ Punjab Environmental Protection Act 2012.

The Study should be comprehensive and should cover all aspects which are envisaged under the relevant Punjab and provincial's laws & regulations including but not limited to:

Identification and recommendation for suitable solution/treatment/mitigation measures of emissions and effluents such as waste water and sludge etc. in accordance with Punjab Environmental Quality Standards (PEQS).

Identification and recommendation for suitable solution/treatment/mitigation measures of solvents, oils (tar), hazardous waste, organic compounds, steam, flue gases, particulate matter and chemical compounds harmful for the environment and other substances leading to air, noise, water and soil pollution in accordance with PEQS.

The Study should be acceptable to the relevant Punjab and/or provincial authorities (relevant authorities) in Punjab

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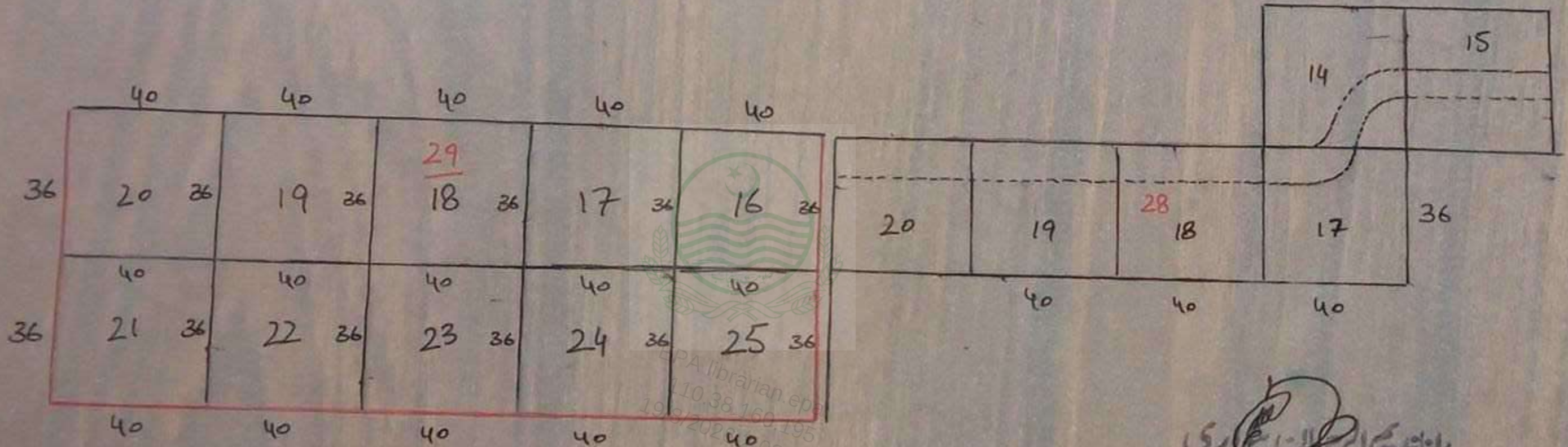
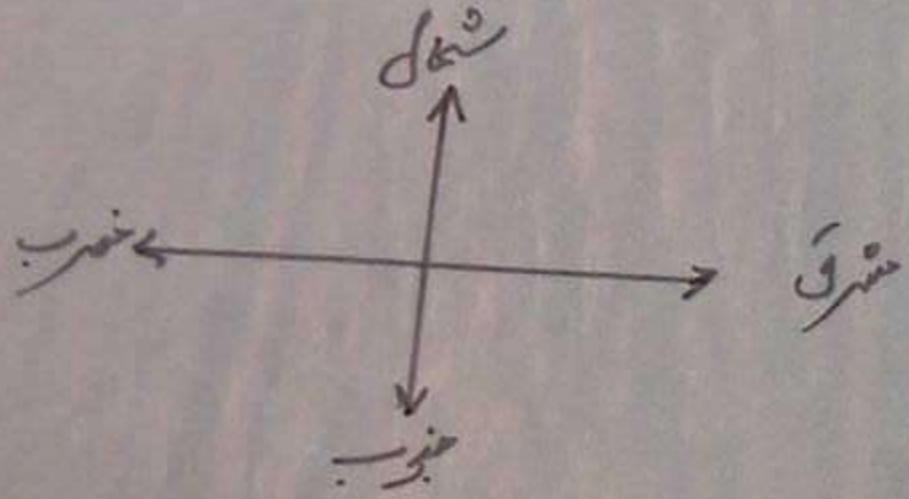
ANNEXURE-H

Aks Shajra



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عکس شجره یارم وضع کمال و تقصیل فیروزه السمرقند ریحی و لوره



رانا محمد اسماعیل ری
پشاور
تقسیم کمال و تقصیل فیروزه السمرقند

نقل و طالبه اصل در دست
16-07-2025

ANNEXURE-I

Undertaking for Wastewater and Tree Cutting



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E-STAMP



ID : PB-LAY-BDB981262E829DE3
Type : Low Denomination
Amount : Rs 100/-



Scan for online verification

Description : CERTIFICATE OR OTHER DOCUMENT - 19
Applicant : Zafar Iqbal [32202-0404676-9]
S/O : Bashir Ahmad
Agent : Self
Address : Chak No 98/ML Tehsil Karor, Layyah
Issue Date : 2-Feb-2026 1:32:39 PM
Delisted On/Validity : 9-Feb-2026
Amount in Words : One Hundred Rupees Only
Reason : Environment Protection and climate change Department
Vendor Information : Liaqat Ali | PB-LAY-41 | Tehsil Office Karor



نوٹ: یہ فراڈیشن تاریخ اجرا سے سات دنوں تک کے لیے قابل استعمال ہے۔ ای اسٹامپ کی تصدیق بذریعہ ویب سائٹ، کیو آر کوڈ سے کی جا سکتی ہے۔

UNDERTAKING

I, **Shami Khan CNIC 42401-5339052-7 R/o Near Gulshan-e-Madina Mosque House No. 22-D Street No. 1 Mohala Araian Colony, Lahore**, as proponent of “**Construction of Cattle & Sheep Meat Processing Plant by M/s GO Dairy (Pvt.) Ltd. Located at Mouza Galo, Tehsil Ferozewala, District Sheikhupura**”, do hereby solemnly declare that:

1. I fully accept and undertake to comply with the directions of the Honorable Lahore High Court, Lahore, in W.P. No. 227807/2018 dated 22-02-2023, which imposes a complete ban on the cutting or removal of green trees. No tree shall be cut or removed within the project area under any circumstance.
2. The wastewater generated from the facility will be treated in a Wastewater Treated Plant (WWTP) installed at the facility.

Dated: 11-/03/2026

Shamsi Khan S/o Abdul Hamid Khan
Manager HR, Admin and Legal
CNIC: 42401-5339052-7

MAJID HAZAFER ALI
OATH COMMISSIONER
42-2-2026
Layyah