Hagler Bailly Pakistan

DIGBY WELLS ENVIRONMENTAL

Appendix B: Socio-economic Assessment

Hagler Bailly Pakistan

Environmental and Social Impact Assessment of Reko Diq Mining Project

Socioeconomic Report

Final Report

HBP Ref.: D4SS7RKI

January 21, 2025

Reko Diq Mining Company

Quetta

Executive Summary

Barrick Gold Corporation (hereafter Barrick) through its subsidiary Reko Diq Mining Company (RDMC), in a Joint Venture partnership with the Government of Pakistan and the Government of Balochistan, is completing a feasibility study for the Reko Diq Mining Project (also referred to as the 'Project') in the western part of Balochistan Province of Pakistan. As part of the feasibility study, an Environmental and Social Impact Assessment (ESIA) has been conducted, including specialist studies. The ESIA will be part of the environmental permitting process and will provide a basis for the integration of environmental and social considerations into the Project design. RDMC appointed Digby Wells Environmental (hereafter Digby Wells) and Hagler Bailly Pakistan Pvt. Ltd (hereafter HBP) to carry out the proposed environmental and social studies and permitting process for the Project. This Specialist Report presents baseline soil and sediment quality where the Project facilities will be situated, potential Project related impacts on soil and sediments measures that will be implemented to mitigate the impacts and monitoring that will be carried out to assess the effectiveness of mitigation.

The Project is a Copper-Gold mining operation with an onsite processing plant to produce a high-quality copper-gold concentrate (the Concentrate) that will be exported for final processing into various products. The current Life-of-Mine (LoM) is 38 years in terms of defined resources (resources that have been identified already) with significant exploration upside.

The construction phase is anticipated to take approximately 40 months, including pre-stripping. The mine will be a truck-and-shovel open pit mining operation with processing facilities that include crushing, grinding, and flotation. The final Concentrate will be railed to Port Qasim for final export by ship.

The mine will be developed in two phases, Phase 1 is expected to have a capacity of 45 Mt per annum (Mtpa) and Phase 2 is expected to have a combined processing capacity of 90 Mtpa. Phase 1 operations are anticipated to commence towards the end of 2027 and Phase 2 operations in 2030.

Baseline Information

The socioeconomic surveys conducted across 28 settlements (15 near the Reko Diq Mine Site and 13 along the Rail Transport Route) provide a comprehensive baseline for understanding the living conditions, economic activities, and infrastructural challenges in these areas.

Surveys were conducted in settlements around the Reko Diq Mine Site, revealing significant socioeconomic and infrastructural characteristics. The average household size in these settlements was 6.9, and housing was predominantly kutcha (mud and wood) constructed, reflecting the rural setting. Balochi and Brahui were the main languages spoken, and the population was uniformly Sunni Muslim. Employment was a major issue, with high unemployment rates, particularly among women (42%). The primary occupations included labor work and livestock rearing. Monthly household incomes

averaged PKR 30,219, with a considerable portion of households below the national poverty line. Agricultural activities were limited due to water scarcity, and sanitation conditions were poor, with pit latrines commonly used. Basic health facilities were sparse, with significant distances to the nearest health centres. Education facilities were primarily located in distant towns.

The Rail Transport Route area included settlements with a diverse housing structure, including kutcha, semi-pucca, and pucca houses. Languages spoken varied from Sindhi and Siraiki in Sindh, and Balochi and Pashto in Balochistan. The predominant religion was Sunni Islam, with Christian and Hindu communities present in some areas. Unemployment rates were notably high among women (90%), and the average household income ranged from PKR 35,001 to PKR 75,000. Agricultural activities were more extensive, supported by groundwater and river irrigation. Water scarcity and sanitation issues persisted, though there were better facilities in main towns. Health services and education facilities were more accessible compared to the Reko Diq area.

Impact Assessment

The following impacts were considered significant in accordance with the methodology for assessing the potential significance of impacts presented in **Section 4.2**.

- The construction and operation phases of the project are expected to provide significant employment opportunities.
- The project is anticipated to have positive effects on social development and uplift.
- There is potential for unmet community expectations, with an initial impact
- The project could negatively impact occupational health and safety.
- The impact of retrenchment at the end of the construction phase is initially
- The project may lead to a perception of increased cost of living,
- Potential use and abuse of illicit drugs and harmful substances among drivers employed by RDMC, increasing the risk of substance abuse permeating into the communities..

Implementation of mitigation measures will ensure that the Project impacts are “Minor” or less. Furthermore, several of the Project’s impacts are positive, such as skill development and social uplift. The best practice measures identified in this report will ensure that these benefits are further magnified in an equitable and transparent manner. Additional contextual risks related to gender, security management and Indigenous Peoples (IPs) have also been highlighted in this Report.

To mitigate negative impacts and enhance the benefits of positive impacts, the Project will develop and implement the following management plans:

- Labour Management Plan
- Community Development Plan
- Stakeholder Engagement Plan

- Retrenchment Plan

Section 7 provides a comprehensive environmental and social management plan that includes all underlying plans and other mitigation measures. **Section 8** provides a monitoring plan the Project will follow to ensure that all mitigation measures are in place and that all potential Project impacts can be proactively addressed and mitigated.

Recommendations

The key findings and recommendations of this Study are summarised below:

- Regular consultations should be carried out with the local communities to ensure that concerns are captured and addressed appropriately.
- No Indigenous People (IPs) were identified in the Study Area. Gender and regional security related impacts have been classified as a contextual risk; however, the Project will ensure that the associated benefits are cognisant of gender inequality to the extent possible.

Acronyms

DWE	Digby Wells Environmental
ESIA	Environmental and Social Impact Assessment
ESIA	Frontier Corps
HBP	Hagler Bailly Pakistan
HRA	Human Rights Assessment
IFC	International Finance Corporation
IP	Indigenous People
NOC	No-Objection Certificate
PIBT	Pakistan International Bulk Terminal Limited
PS	Performance Standard
PQA	Port Qasim Authority
RDMC	Reko Diq Mining Company
USEPA	United States Environmental Protection Agency

Contents

Exhibits

1. Introduction

1.1 Background

Barrick Gold Corporation (hereafter Barrick) through its subsidiary Reko Diq Mining Company (RDMC), in a Joint Venture partnership with the Government of Pakistan and the Government of Balochistan, is completing a ESIA and Specialist for the Reko Diq Mining Project (also referred to as the 'Project') in the western part of Balochistan Province of Pakistan with shares of 50%, 25%, and 25% for each stakeholder, respectively. The ESIA will be part of the environmental permitting process and will provide a basis for the integration of environmental and social considerations into the Project design. RDMC appointed Digby Wells Environmental (hereafter Digby Wells) and Hagler Bailly Pakistan Pvt. Ltd (hereafter HBP) to carry out the proposed environmental and social studies and permitting process for the Project.

This Specialist Report presents baseline of socioeconomic environment where the Project facilities will be situated. The Report also investigates potential Project related impacts on the socioeconomic environment, mitigation measures, and monitoring that will be required throughout the life of the Project. Impacts related to cultural heritage have been covered in a separate Heritage Impact Assessment Specialist Report.

1.2 Objectives

The objectives of this Specialist Study were to:

- Establish a pre-project baseline through data collection and to conduct a review of secondary sources of information where appropriate.
- Assess the Project's potential impacts based on an objective methodology.
- Identify the mitigations that will be implemented by the Project to address its potential impacts.
- Establish a monitoring framework for implementing the identified mitigation measures.
- Establish a framework for monitoring to ensure that mitigation measures are effectively implemented and to proactively identify any adverse project impacts should they still occur.

2. Project Description

The Project is a Copper-Gold mining operation with an onsite processing plant to produce a high-quality copper-gold concentrate (the Concentrate) that will be exported for final processing into various products. The current Life-of-Mine (LoM) is 38 years in terms of defined resources (resources that have been identified already) with significant exploration upside.

The construction phase is anticipated to take approximately 40 months, including pre-stripping. The mine will be a truck-and-shovel open pit mining operation with processing facilities that include crushing, grinding, and flotation. The final Concentrate will be railed to Port Qasim for final export by ship.

The mine will be developed in two phases, Phase 1 is expected to have a capacity of 45 Mt per annum (Mtpa) and Phase 2 is expected to have a combined processing capacity of 90 Mtpa. Phase 1 operations are anticipated to commence in 2028 and Phase 2 operations in 2030.

2.1 Reko Diq Mine Site and Associated Facilities

Exhibit 2.1 provides an overview of the RDMS and the major proposed infrastructure.

The core infrastructure that will be established at the RDMS includes:

- Two main pits, Western Porphyry and Tanjeel (**Exhibit 2.1**). The mining method of these pits will be a 24-hour open-pit shovel and truck operation
- Two designated Waste Rock Dumps (WRD) for the waste rock from the Western Porphyries pit. The Tajeel Pit will have a separate WRD in its proximity
- Tailings storage facility (TSF)
- A processing plant.

2.1.1 Supporting Infrastructure

The proposed supporting infrastructure at the RDMS includes:

- Several sources for power supply will be utilised for the Project. The Project's estimated peak power requirements will be 183 megawatts (MW) in Phase 1 and 348 MW in Phase 2:
  - Diesel generators during the early works and construction phases until the establishment of the Heavy Fuel Oil (HFO) power station;
  - A Solar Photovoltaic (PV) system with an installed capacity of 183 MW in Phase 1 and 384 MW in Phase 2;
  - It is anticipated that the Project's energy requirements will be met through a grid connection from Year 15 (operational phase).
- Diesel, HFO and other sources of fuel will be railed to the site from Port Qasim and stored in bunded contained atmospheric tanks at the designated storage areas.

- Accommodation Facility to provide on-site accommodation for all employees and contractors;
- Security infrastructure;
- Waste management facilities:

2.1.2 Water Supply and Management

Water for the Construction Phase, Phase 1 and Phase 2 of the Project will be sourced from a sedimentary groundwater system located approximately 70 km to the northwest of the mining area referred to as the Northern Groundwater System (**Exhibit 2.1**). The system represents a small and isolated part of a much larger basin and there are no communities or community water sources located within the proposed borefield and its area of influence.

2.2 Transport and Marine Port

The Project will use the existing road and rail networks to transport materials during construction and operational phases and utilise the air transportation option for personnel. The main Project transport routes (Road Transport Route and Rail Transport Route) are shown in **Exhibit 2.2**.

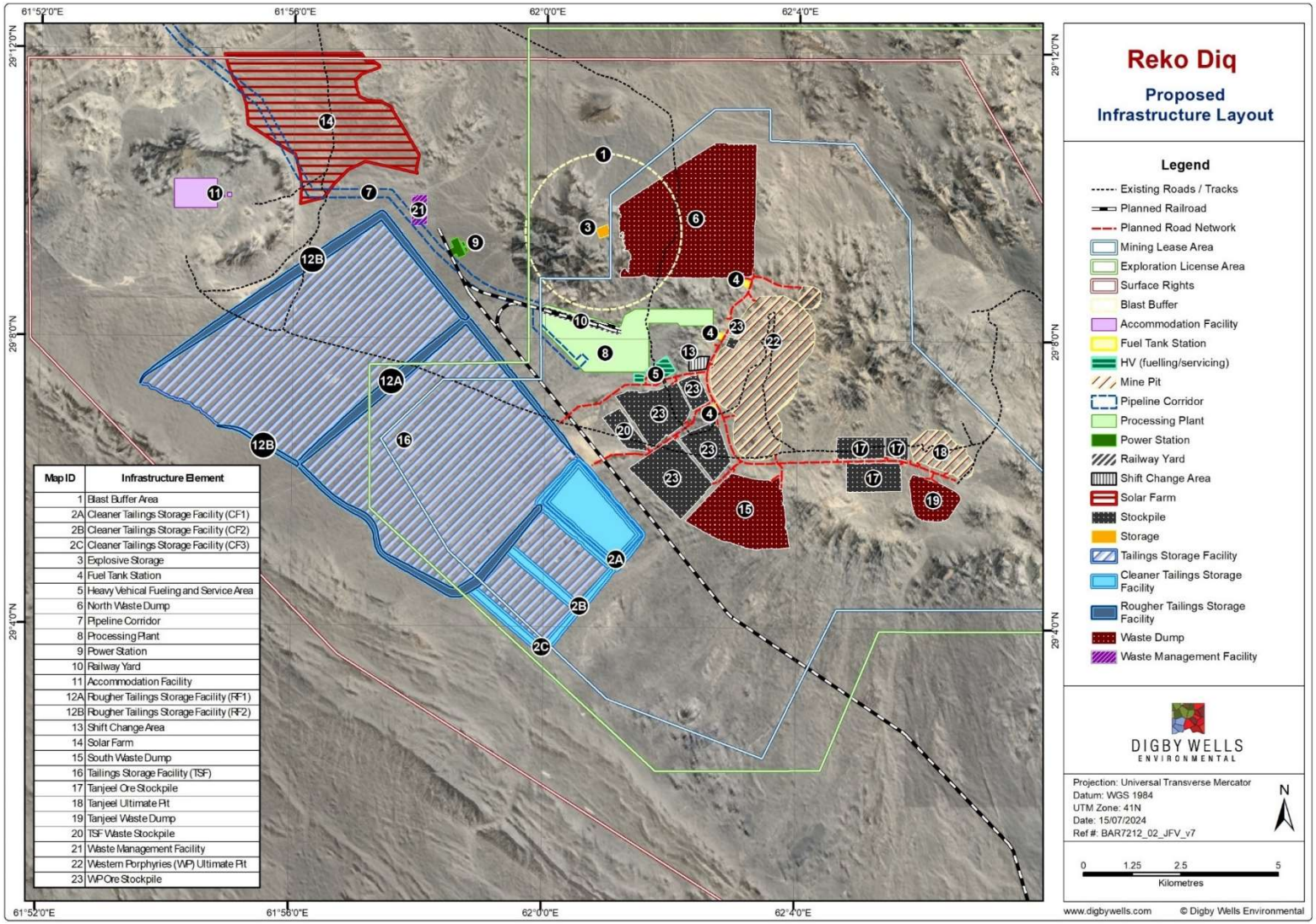
2.2.1 Transport of Concentrate to Port Qasim

The Concentrate will be transported from the RDMS processing plant to Port Qasim via an existing railway line, passing through the Balochistan and Sindh provinces. The existing rail route is approximately 1,350 km in length as outlined in **Exhibit 2.2**.

The Project will make use of the existing PIBT Terminal where all facilities are owned and operated by PIBT. An area will be leased to RDMC for the construction of a Concentrate storage shed.

An extract of the onshore and offshore layout is shown in **Exhibit 2.4**.

Exhibit 2.1: Proposed Reko Diq Mine Site Layout



Map ID	Infrastructure Element
1	Blast Buffer Area
2A	Cleaner Tailings Storage Facility (CF1)
2B	Cleaner Tailings Storage Facility (CF2)
2C	Cleaner Tailings Storage Facility (CF3)
3	Explosive Storage
4	Fuel Tank Station
5	Heavy Vehical Fueling and Service Area
6	North Waste Dump
7	Pipeline Corridor
8	Processing Plant
9	Power Station
10	Railway Yard
11	Accommodation Facility
12A	Rougher Tailings Storage Facility (RF1)
12B	Rougher Tailings Storage Facility (RF2)
13	Shift Change Area
14	Solar Farm
15	South Waste Dump
16	Tailings Storage Facility (TSF)
17	Tanjeel Ore Stockpile
18	Tanjeel Ultimate Pit
19	Tanjeel Waste Dump
20	TSF Waste Stockpile
21	Waste Management Facility
22	Western Porphyries (WP) Ultimate Pit
23	WP Ore Stockpile

Exhibit 2.2: Reko Diq Spatial Extent and Transport Routes (Rail Transport Route and Road Transport Route)

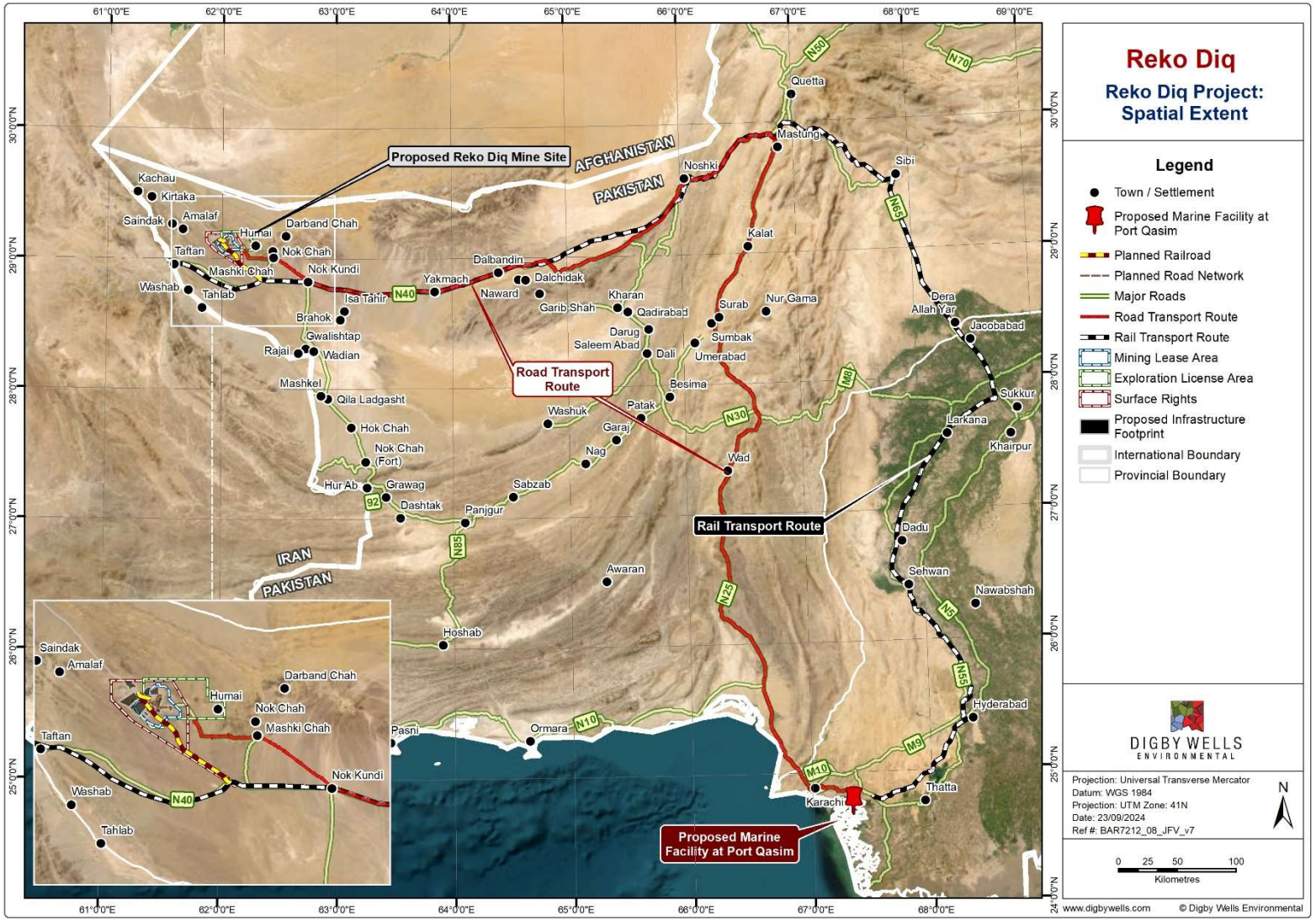


Exhibit 2.3: Proposed Rail Yard Layout at Port Qasim

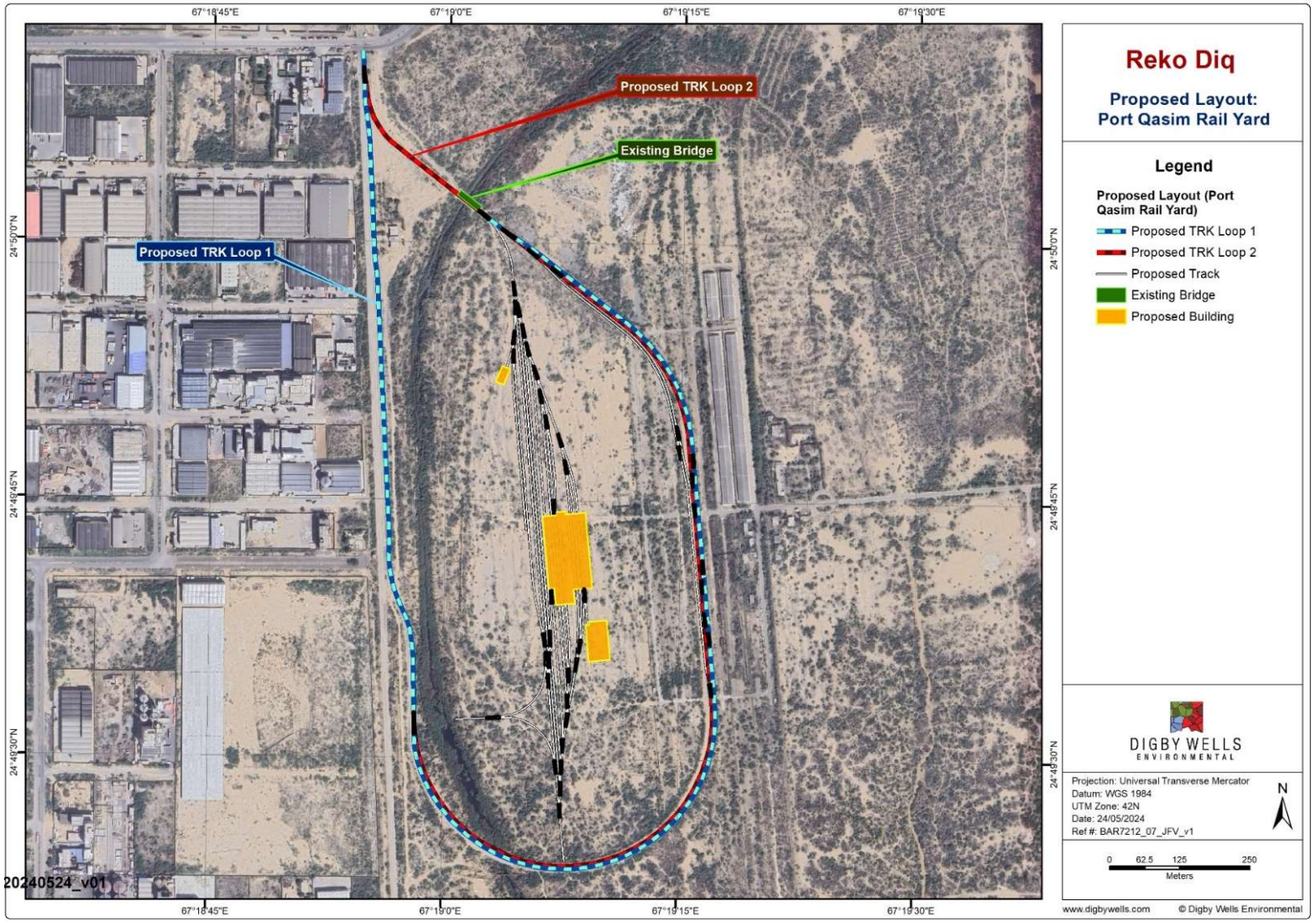
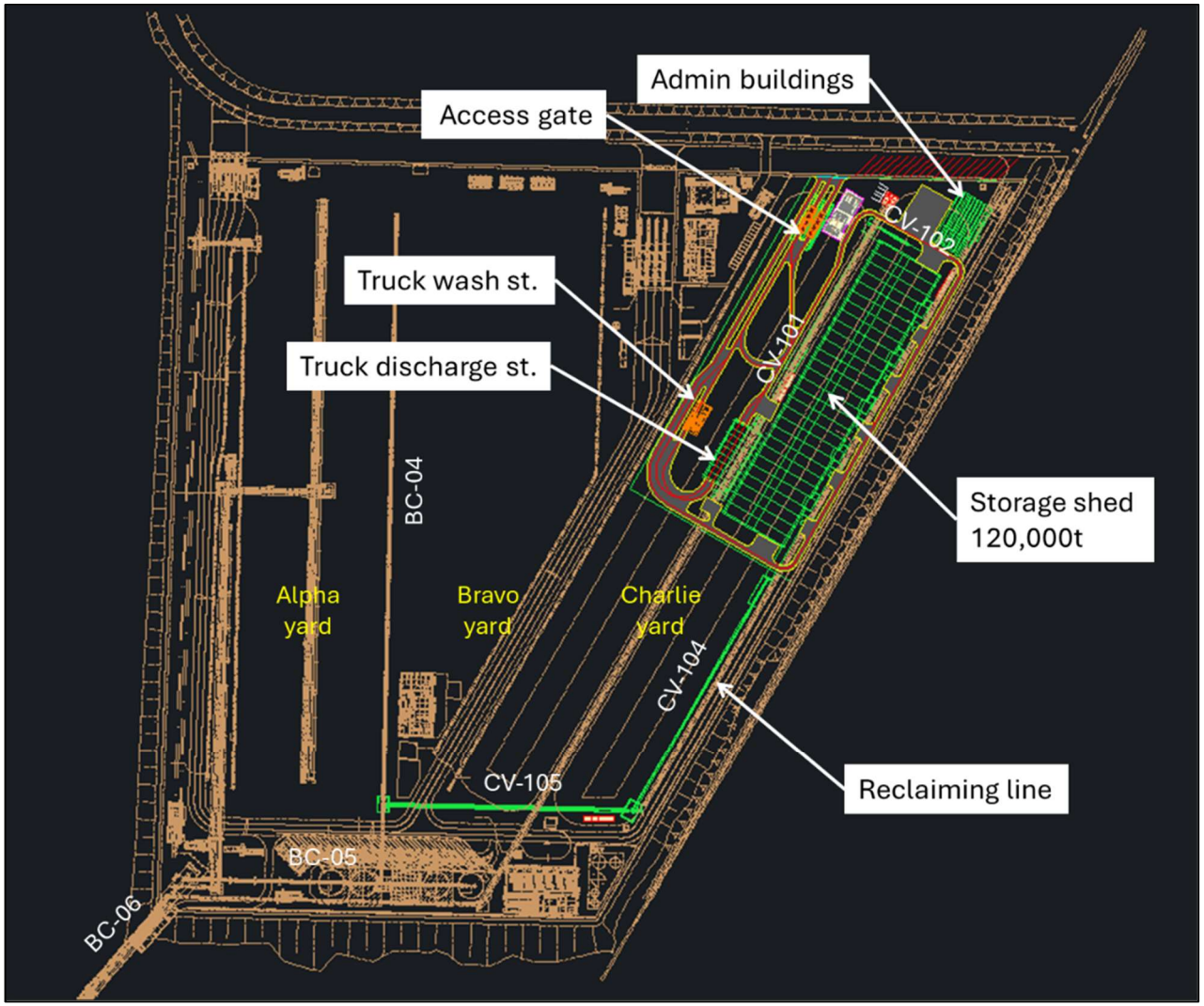


Exhibit 2.4: Layout of Concentrate Facilities at PIBT at Port Qasim



3. Legislative and Regulations Framework

This section provides an overview of the applicable Pakistan legislation and international guidelines relevant to this Specialist Study.

Exhibit 3.1: Applicable Legislation, Guidelines and Policy Documents

Applicable Legislation, Policy or Framework	*Description and Relevance*
Pakistan Legislations	
The Dock Laborers Act, 1934	The Project will have to ensure that dock workers at Port Qasim are provided with a safe working environment with adequate emergency response facilities. The Project will ensure that the working areas are adequately fenced with defined approach, adequate lighting and adequate emergency response equipment including first aid facility and ambulances.
The Minimum Wages Ordinance, 1961	Requires employers to pay workers at least the prescribed minimum wage for their work, ensuring fair compensation and adherence to established wage standards.
Factories Act, 1934	Regulates working conditions, safety standards, and health measures within factories, and worker welfare, for factories that employ 20 or more workers so that workers are provided with proper facilities, safe environments, and appropriate working hours.
Balochistan Legislations	
Balochistan Occupational Safety and Health Act, 2022	A provincial act that focuses on ensuring occupational safety and health standards in workplaces within Balochistan. It outlines the establishment of an Occupational Safety and Health Council and other regulatory measures.
Balochistan Factories Act, 2021	A provincial adaptation of the Factories Act of 1934, applicable specifically in the province of Balochistan. The legislation enacts the labour and working conditions for labour engaged in Balochistan.
Balochistan Payment of Wages Act, 2021	This legislation governs the payment of wages to workers in the province of Balochistan, Pakistan. The Act outlines the legal framework and procedures for ensuring timely and fair payment of wages to employees, thus safeguarding their rights and economic well-being.
Balochistan Minimum Wages Act, 2021	The Project will ensure that workers are paid at least minimum wages as per the annual notified minimum wages for Balochistan.
Balochistan Employment of Children (Prohibition & Regulation) Act, 2021	The legislation prohibits the engagement of individuals below the age of 18 in occupations deemed hazardous.

Applicable Legislation, Policy or Framework	*Description and Relevance*
Sindh Legislations	
Sindh Occupational Safety and Health Act, 2017	Enacted at the provincial level to ensure occupational safety and health standards in workplaces.
Sindh Payment of Wages Act, 2015	The Act outlines regulations and guidelines for the timely and fair disbursement of wages to employees, wage payment, dispute resolution, and regulatory compliance, ensuring their economic rights and well-being.
International Legislations	
International Finance Corporations (IFC) Performance Standard 2	Sets out requirements for labour and working conditions, ensuring fair treatment, safety, and opportunities for workers involved in projects funded by the IFC.
International Finance Corporations (IFC) Performance Standard 4	Addresses community health, safety, and security, aiming to mitigate project-related risks and promote well-being through engagement, assessment, and management of potential impacts on local communities.
IFC's Stakeholder Engagement: A Good Practice Handbook for Companies Doing Business in Emerging Markets	Offers essential guidance for fostering constructive relationships with stakeholders in diverse socio-economic contexts including projects funded by IFC.
IFC's Good Practice Note Addressing Child labour In the Workplace and Supply Chain 2002	Offers practical strategies for companies to combat child labour effectively within their operations and supply chains.
Barrick Gold Corporation' Policies	
Human Rights Policy	Highlights Barrick's commitment to zero-tolerance for child labour, indentured servitude, and violation of fundamental human rights for its workers. This policy states that it will be "applicable to all our operational mines, exploration sites, closure properties and joint ventures where Barrick has operational control"
Social Performance Policy	Highlights Barrick's commitment to fair and transparent stakeholder engagement and monitoring of its social performance. This policy states that it will be "applicable to all our operational mines, exploration sites, closure properties and joint ventures where Barrick has operational control"

4. Methodology

This section outlines the methodology for the socioeconomic surveys and assessment of associated impacts in addition to the limits and assumptions inherent to this Study.

4.1 Scope and Methodology for Socioeconomic Baseline

Information on the socioeconomic conditions prevailing within the Socioeconomic Study Area was collected through a household-level survey, settlement-level survey, and Focus Group Discussions (FGDs). A one-day pilot survey was conducted prior to the household and settlement level surveys to ensure that the survey forms included adequate details for collecting the socioeconomic data. Based on findings of this pilot survey, the survey forms were revised to account for the on-ground conditions in the Socioeconomic Study Area.

4.1.1 Socioeconomic Study Area

The Socioeconomic Study Area was selected to assess the Project's impact on the local communities, which may be impacted positively or negatively by the Project's activities.

The surveyed and consulted settlements were grouped according to the following Project facilities:

- Reko Diq Mine Site and associated infrastructure including (settlements near the Northern Groundwater System and Nok Kundi and Dalbandin)[1]
- Rail Transport Route including Port Qasim

Additional surveys were collected along the Road Transport Route but then excluded as the Project will no longer utilize the route. Other settlements along the N-40 route have been included in the surveys for the Rail Transport Route and presented in the corresponding section.

The Reko Diq Mine Site including the Northern Groundwater System (including pipeline), are located within the jurisdiction of the Balochistan Province. The railway track between Nok Kundi and Dera Murad Jamali also lies within the provincial jurisdiction of Balochistan. The railway track enters the Sindh Province from Jacobabad and terminates at Port Qasim in Karachi. The Socioeconomic Study Area covers 13 districts of Balochistan and seven districts of Sindh Province. **Exhibit 4.1** shows the Socioeconomic Study Area and location of surveyed and consulted settlements. The breakdown of the Study Area with respect to each Project component is provided in the sections below.

[1] Although situated at a large distance (>30 km) from the Reko Diq Mine Site, Nok Kundi and Dalbandin were included in the Socioeconomic Study Area for the Mine Site and emphasized in the Surveys due to their large population and socioeconomic significance.

Socioeconomic Study Area – Reko Diq Mine Site

Exhibit 4.2 shows the map of the Socioeconomic Study Area. The socioeconomic study focuses on three tehsils in Chagai District namely; Taftan, Nok Kundi, and Dalbandin, each with unique significance. All of these areas function as the district's administrative and commercial hub. These areas are of particular interest due to their potential for economic development and impact due to the project's activities.

Additionally, areas at 10 km from the Pipeline Corridor, 25 km from the boundary of the Northern Groundwater System and other Water NOCs were also delineated and added to the Study Area to capture impacts that may extend beyond the tehsil boundaries. The other Water NOC areas include the Tahlab NOC, Patangaz NOC and Hamun-i-Mashkel NOC. While the Project is not intending to extract groundwater from these NOC areas, these areas were included under the precautionary principle, to account for other project that may exist in the future and in consideration of the Project's alternative options for water supply.

Socioeconomic Study Area – Rail Transport Route

Exhibit 4.3 shows the Rail Transport Route, which was selected for the socioeconomic surveys and to assess the Project impacts on the local communities.

Exhibit 4.1: Overview of Socioeconomic Study Area

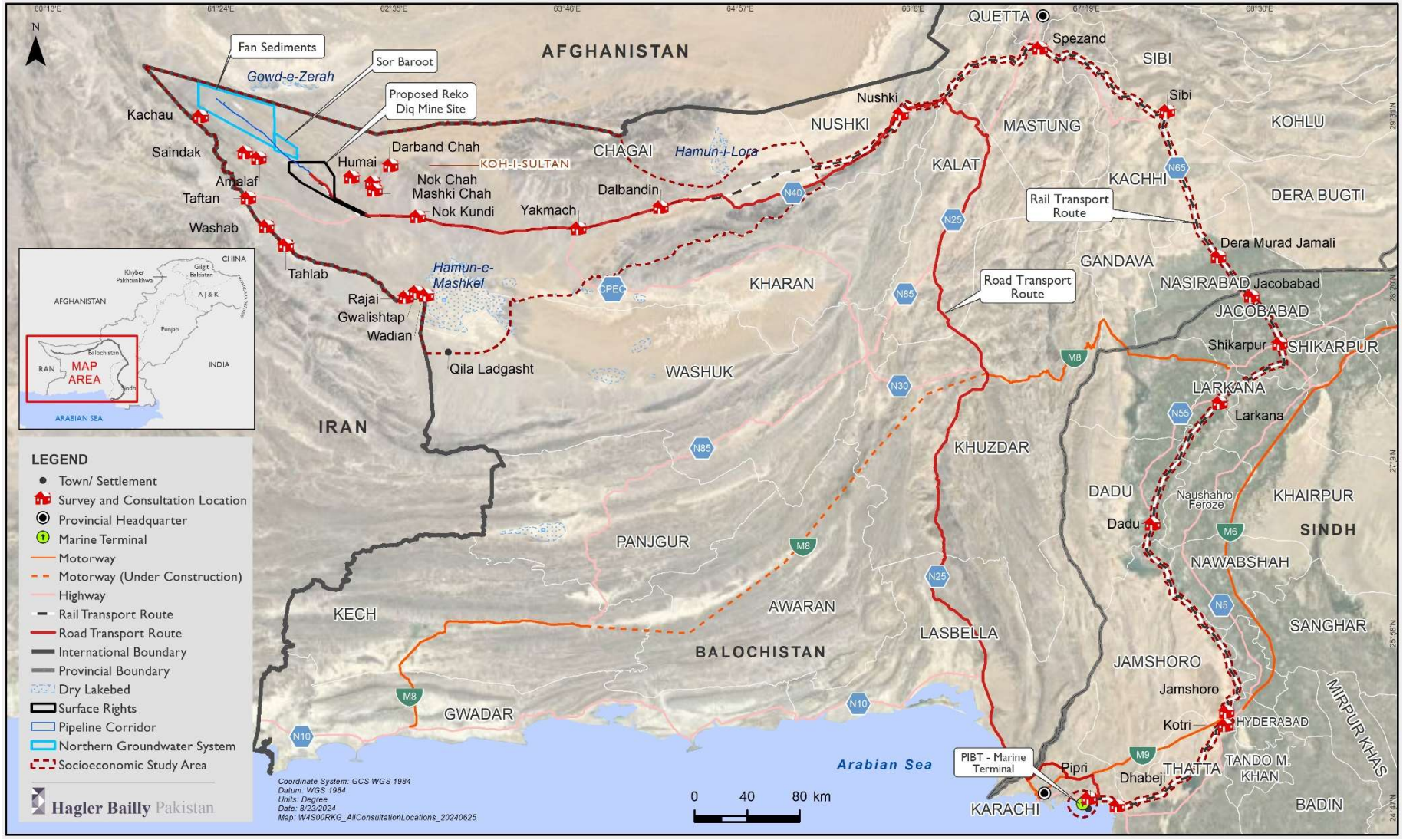


Exhibit 4.2: Socioeconomic Study Area and Location of Settlements Surveyed and Consulted – Reko Diq Mine Site (2022 Survey)

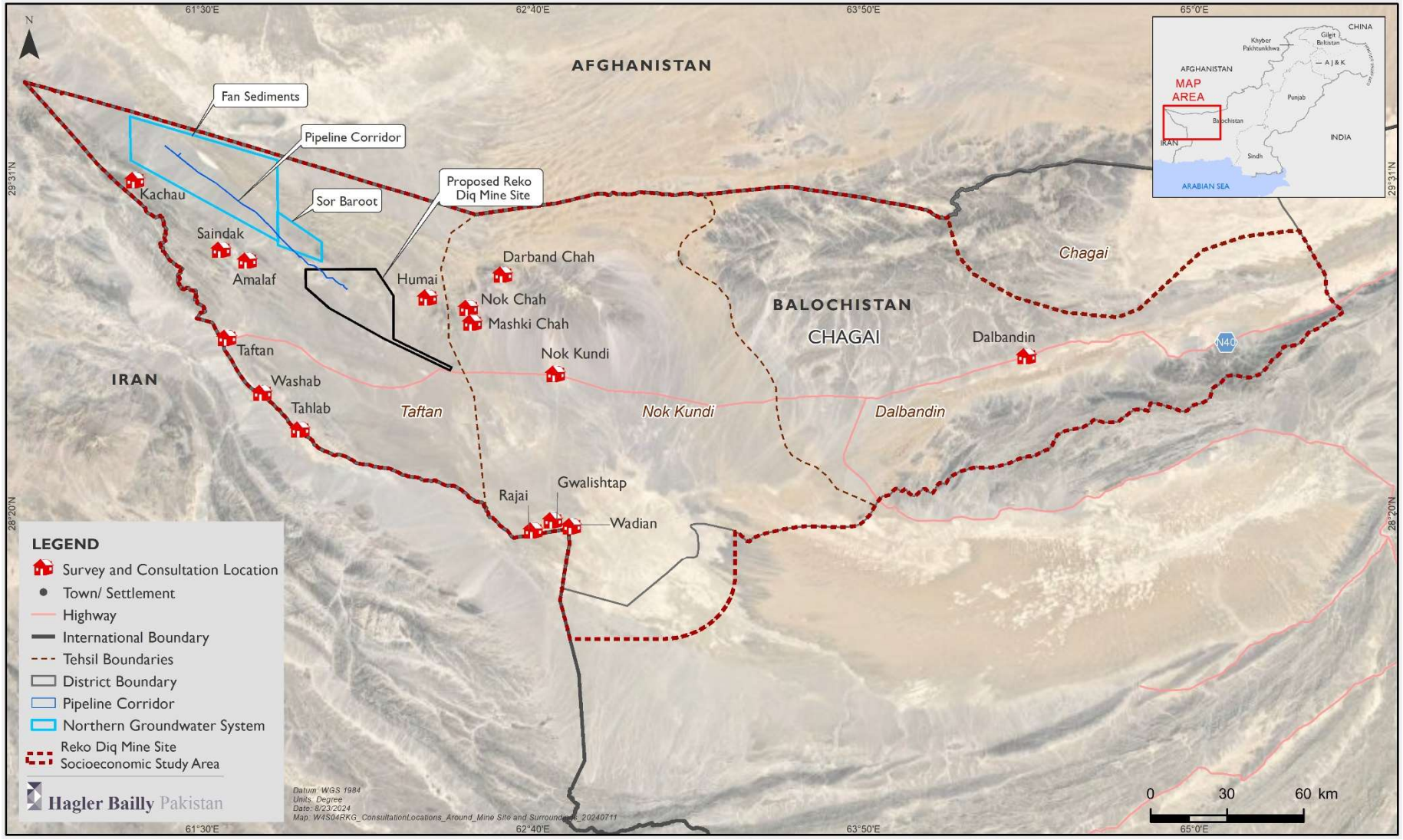
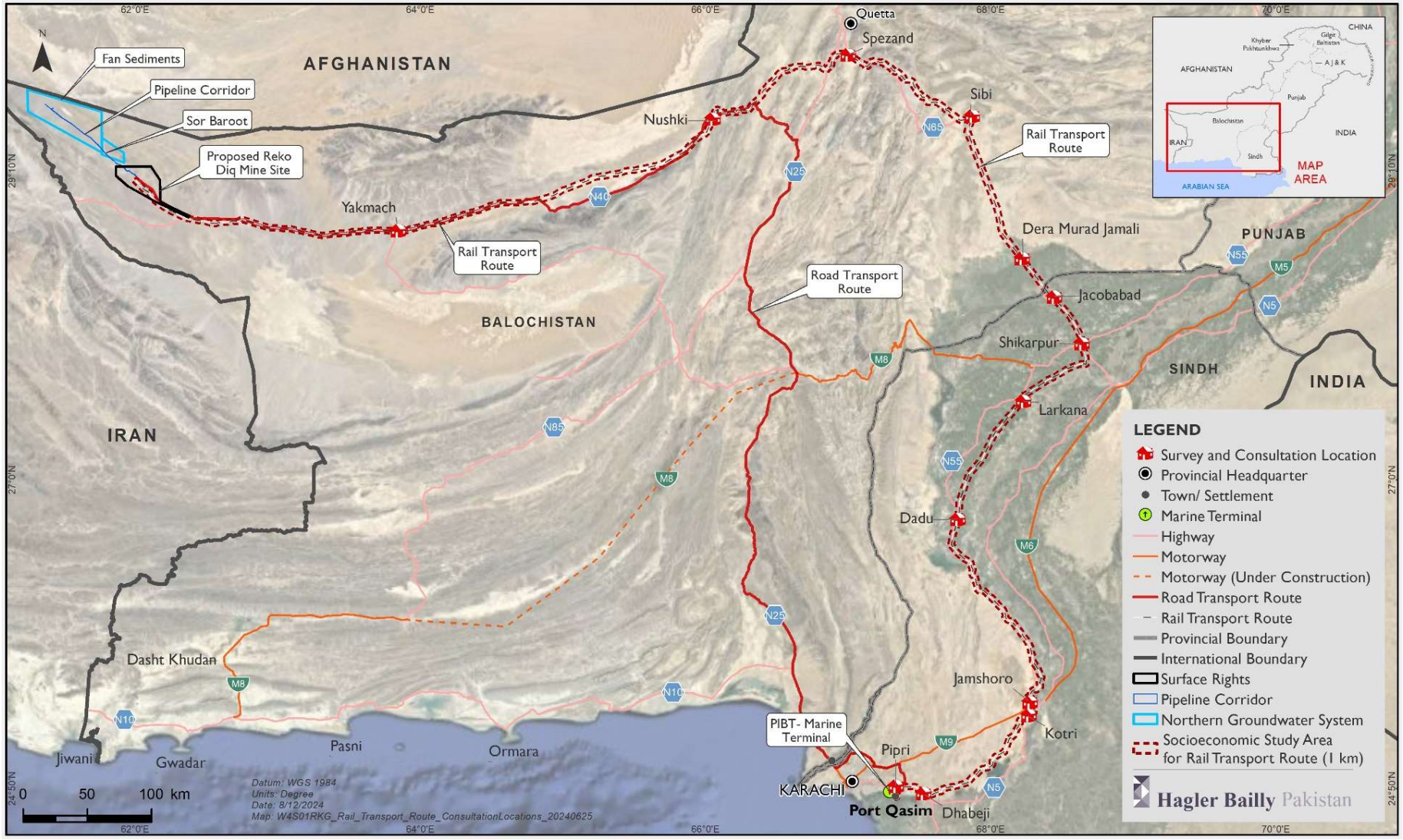


Exhibit 4.3: Socioeconomic Study Area and Location of Settlements Surveyed and consulted – Rail Transport Route (2023 Survey)



4.1.2 Survey Schedule and Data Sources

Data on socioeconomic indicators was collected through field surveys to assess the socioeconomic conditions within the Socioeconomic Study Area. The socioeconomic surveys were carried out in two rounds due to security risks.

Round 1: These surveys conducted are referred to as '2022 Survey' and were carried out at the household and settlement levels from September 12, 2022, to October 10, 2022. The surveyed settlements during these surveys included settlements near the Reko Diq Mine Site, and the associated infrastructure (i.e. water supply area).

Round 2: The surveys completed in this round are referred to as '2023 Survey' which were carried out at the settlement level from October 10, 2023, to October 14, 2023. Settlements along the Rail Transport Route and in Port Qasim were surveyed and consulted during this round.

Exhibit 4.4 presents the number of surveyed settlements within the Socioeconomic Study Area of the Project facilities along with the type of and surveys carried out in each surveyed settlement in 2022 Survey and 2023 Survey.

Exhibit 4.4: Surveyed Settlements in 2022 and 2023

Location	*Surveyed Settlements*		*Type of Survey*
	Number	*Name*	
2022 Survey			
Reko Diq Mine Site	15	Balochistan – Humai, Nok Chah, Mashki Chah, Darband Chah, – Kachau, Saindak, Amalaf, Taftan, Tahlab, Washab, Rajai, Wadian, Gwalishtap, Nok Kundi, Dalbandin	Settlement-level and household survey
2023 Survey			
Rail Transport Route and Port Qasim	13	Balochistan – Yakmach, Nushki, Spezand, Sibi, Dera Murad Jamali Sindh – Kotri, Jamshoro, Larkana, Jacobabad, Dadu, Shikarpur, Pipri, Dhabeji	Settlement-level survey
Total	**28**		

Primary Data Collection

At the settlement-level, the primary data was collected using participatory rapid appraisal methods, including FGDs, Key Informant Interviews (KIIs), and a socioeconomic survey, conducted at the settlement- and household-levels.

A household-level survey was followed by a settlement-level survey. The household (HH) level survey utilised a separate and detailed pre-designed socioeconomic form and included information from the individual households within the surveyed settlements. Questionnaires used in the household level 2022 Survey and settlement level 2023 Survey are provided in **Appendix A**.

To ensure accuracy and efficiency, the survey forms were programmed on the ONA.io[2] application in both the Urdu and English languages. The survey was conducted on Android phones and tablets using the Open Data Kit (ODK). This application permits online data entry and enables a supervisor to review the database daily and guide the survey team, whenever required.

Two male enumerators and two female enumerators were hired to collect data and carry out community consultations, based on their proficiency and ability to communicate in Balochi and Sindhi languages. The female enumerators carried out the consultations with women in these communities.

Secondary Sources

Data from secondary sources was also utilised, where required, to strengthen the assessment and evaluate the change in socioeconomic conditions. The key secondary sources of information include:

- Environmental and Social Impact Assessment (ESIA) Report for the Reko Diq Mining Project - 2010 (referred to here as 2010 ESIA);
- Pakistan Economic Survey 2021-2022;
- District at Glance Balochistan, Pakistan Bureau of Statistics 1998;
- District at Glance Sindh, Pakistan Bureau of Statistics 1998;
- Pakistan Bureau of Statistics Population Census 2017; and
- Pakistan Bureau of Statistics Population Census 2023.

4.1.3 Sample Size

A total of 28 settlements were surveyed within the Socioeconomic Study Area. Of these, 15 settlements were surveyed and consulted in the 2022 Survey and 13 settlements were surveyed and consulted in the 2023 Survey.

The percentage of households included in the surveys ranged between 10% and 30%. The breakdown of these percentages is provided below:

- 30% in the settlements with estimated number of households less than 200; and
- 10% in the settlements with estimated number of households more than 200.

The Households within the sample were selected using a convenience sampling technique.

Sampling was conducted with varying percentages based on population size. For larger populations with number of households over 200, a sample size of 10% was chosen. Smaller sample sizes for larger settlements is appropriate, as demographic trends can typically tend to remain similar throughout the population. In smaller populations,

[2] https://ona.io/home/. Accessed on March 5, 2024.

characteristics are less easily distinguishable, so a 30% sample size was selected to improve representation.

Households within the each settlement within the Study Area were surveyed through convenience sampling to ensure coverage of the sample size.

Interviews were conducted with key informants to gather information on each settlement's social and economic setup, with a focus on social and physical infrastructure and livelihoods. Settlement level information was obtained in discussion with groups of four to five community members including, but not limited to, the following:

- Union Council (local government) heads;
- Notables of the local community;
- Educated Persons (men and women);
- School Teachers;
- Businessmen; and
- Shopkeepers.

4.1.4 Vulnerability

Vulnerable groups refer to those people who, by virtue of gender identity, sexual orientation, religion, ethnicity, indigenous status, age, disability, economic disadvantage, or other social status may be more adversely affected by the Project's negative impacts and less able to claim or take advantage of the Project's positive impacts. Vulnerable individuals and/or groups may include, but not be limited to, people living below the poverty line, the landless, the elderly, women and children-headed households, refugees, internally displaced people, ethnic minorities, natural resource-dependent communities, or other displaced persons who may not be protected through national legislation and /or international law[3].

Vulnerability of the surveyed settlements was assessed in terms of their:

- Poverty level;
- Gender (particularly where women are the head of the household and/or are widows);
- Mental or physical disability;
- Age (households headed by someone over the age of 60;
- Indigenous Status;
- Religious affiliation ("minority" religions).

[3] Environmental and Social Policy. (2014). Retrieved from https://www.ebrd.com/downloads/research/policies/esp-final.pdf

4.1.5 Indigenous Peoples

The Indigenous Peoples (IPs) screening in-line with the criteria of the IFC Performance Standard 7 (PS7) has been undertaken which concludes that no IPs groups exist in the Socioeconomic Study Area and is provided in the standalone **Screening Assessment for Indigenous Peoples (R4IP6RKG)**.

4.1.6 Limitations and Assumptions

The following limitations were encountered as part of this Study:

- During the 2023 Survey, security risks were identified along the settlements in Port Qasim and the Rail Transport Route. Consequently, a settlement level survey was only conducted in these settlements.
- The Kirtaka settlement near the Fan Sediments NOC was initially identified during the planning phase, however, the 2022 Survey revealed that most of its residents have migrated to the Kachau settlement. This migration was due to the presence of a Frontier Corps (FC) Camp at Kirtaka, which restricted the community's mobility, particularly women.
- Surveys were conducted at locations near other Water NOC areas beside the Northern Groundwater System. While the Project is not intending to extract groundwater from these Water NOC areas, these areas were surveyed under the precautionary principle, to account for other project that may exist in the future and to inform the Project's alternative water abstraction options.

4.2 Methodology for Impact Assessment

The impact assessment methodology used for the Project involves two phases, namely impact identification and impact assessment. Impact identification was performed using an input-output model,[4] whereby Project activities are superimposed onto the environmental and social baseline characteristics of the project area to identify instances of potential positive or negative impacts to the socio-economic environment.

A numerical assessment of the significance of potential Project-induced impacts was carried out as follows:

$$Significance = Consequence \times Probability$$

Whereby

$$Consequence = Type\ of\ Impact \times (Intensity + Spatial\ Scale + Duration)$$

And

[4] An input-output model tracks how different sectors of the economy interact and contribute to resource use and waste production. It helps in assessing the environmental impacts of economic activities by showing how changes in one sector can lead to increased resource extraction and pollution in others.

Probability = Likelihood of an Impact Occurring

In addition, the formula for calculating consequence:

***Type of Impact** (Nature) = +**1** (Positive Impact) or -**1** (Negative Impact)*

The weight assigned to the various parameters for positive and negative impacts is provided for in the formula above and ratings presented in **Exhibit 4.5** with the consequence matrix presented in **Exhibit 4.6**. The interpretation of the consequence ratings is presented in **Exhibit 4.7**.

Exhibit 4.5: Impact Assessment Parameter Ratings

Rating	*Intensity*		*Spatial scale*	*Duration (duration of an impact without mitigation)*	*Probability (over the life of the project)*
	Negative Impacts (Type of Impact = -1)	*Positive Impacts (Type of Impact = +1)*			
5	Irreparable and irreplaceable damage to highly valued items of great cultural significance or complete breakdown of social order.	Significant improvement to livelihoods and living standards of a large percentage of population, as well as significant increase in the quality of the receiving environment.	Global Contribute to global impact	Inter -Generational >20 years	Certain / Definite There are sound evidence-based reasons to expect that the impact will definitely occur (90-100%)
4	On-going serious social issues. Significant damage to structures / items of significance.	On-going and widespread positive benefits to local communities which improves livelihoods, as well as a positive improvement to the receiving environment. Average to intense social benefits to some people. Average to intense environmental enhancements.	Regional Will affect the entire province or region. A broad geographical area distinguished by similar features.	Long term 5-20 years	Likely The impact may occur (50-90%)
3	On-going social issues. Damage to items of significance.	Average, on-going positive benefits, not widespread but felt by some.	Sub-regional Will affect the sub-regional / commune area e.g. district level/ areas within the region with similar features	Medium term 2 to 5 years	Probable Has occurred here or elsewhere and could therefore occur (20-50%)

Rating	*Intensity*		*Spatial scale*	*Duration (duration of an impact without mitigation)*	*Probability (over the life of the project)*
	Negative Impacts (Type of Impact = -1)	*Positive Impacts (Type of Impact = +1)*			
2	On-going social issues. Damage to items of significance.	Average, on-going positive benefits, not widespread but felt by some.	Local Extending across the site and to nearby settlements. Sub-division of a district.	Short term Up to 2 years	Unlikely Has not happened yet but could happen once in the lifetime of the Project, therefore there is a possibility that the impact will occur (5-20%)
1	Minor medium-term social impacts on local population. Mostly repairable. Functions and processes not affected	Low positive impacts experience by very few of population.	Site Specific Limited to the site and its immediate surroundings.	Immediate Hours to weeks but less than 1 month	Rare / improbable Conceivable, but only in extreme circumstances and / or has not happened during lifetime of the Project but has happened elsewhere. The possibility of the impact materializing is very low as a result of design, historic experience or implementation of adequate mitigation measures (1-5%).

Exhibit 4.6: Probability Consequence Matrix

Probability	Significance																									
5	-75	-70	-65	-60	-55	-50	-45	-40	-35	-30	-25	-20	-15	15	20	25	30	35	40	45	50	55	60	65	70	75
4	-60	-56	-52	-48	-44	-40	-36	-32	-28	-24	-20	-16	-12	12	16	20	24	28	32	36	40	44	48	52	56	60
3	-45	-42	-39	-36	-33	-30	-27	-24	-21	-18	-15	-12	-9	9	12	15	18	21	24	27	30	33	36	39	42	45
2	-30	-28	-26	-24	-22	-20	-18	-16	-14	-12	-10	-8	-6	6	8	10	12	14	16	18	20	22	24	26	28	30
1	-15	-14	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	3	4	5	6	7	8	9	10	11	12	13	14	15
	-15	-14	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	3	4	5	6	7	8	9	10	11	12	13	14	15
	Consequence																									

Exhibit 4.7: Significance Threshold Limits

Score	*Description*	*Rating*
57 to 75	A very beneficial impact which may be sufficient by itself to justify implementation of the Project. The impact may result in permanent positive change.	Major (positive)
39 to 56	A beneficial impact which may help to justify the implementation of the Project. These impacts would be considered by society as constituting a major and usually a long-term positive change to the (natural and/or social) environment.	Moderate (positive)
20 to 38	An important positive impact. The impact is insufficient by itself to justify the implementation of the Project. These impacts will usually result in positive medium to long-term effect on the social and/or natural environment.	Minor (positive)
3 to 19	A small positive impact. The impact will result in medium to short term effects on the social and/or natural environment.	Negligible (positive)
-3 to -19	An acceptable negative impact for which mitigation is desirable but not essential. The impact by itself is insufficient even in combination with other low impacts to prevent the development being approved. These impacts will result in negative medium to short term effects on the social and/or natural environment. The impacts are reversible and will not result in the loss of irreplaceable aspects.	Negligible (negative)
-20 to -38	An important negative impact which requires mitigation. The impact is insufficient by itself to prevent the implementation of the Project but which in conjunction with other impacts may prevent its implementation. These impacts will usually result in negative medium to long-term effect on the social and/or natural environment.	Minor (negative)
-39 to -56	A serious negative impact which may prevent the implementation of the Project. These impacts would be considered by society as constituting a major and usually a long-term change to the (natural and/or social) environment and result in severe effects. The impacts may result in the irreversible damage to irreplaceable environmental or social aspects should mitigation measures not be implemented.	Moderate (negative)
-57 to -75	A very serious negative impact which may be sufficient by itself to prevent implementation of the Project. The impact may result in permanent change. Very often these impacts are immitigable and usually result in very severe effects. The impacts will be irreplaceable and irreversible should adequate mitigation and management measures not be successfully implemented.	Major (negative)

5. Baseline Description

This section provides the baseline based on the surveys and information collected, in addition to a review of secondary information sources. **Exhibit 5.1** presents the Project activities in the relevant districts of Balochistan and Sindh Provinces.

5.1 Balochistan Province

The administrative structure of Pakistan presently comprises four provinces: Punjab, Khyber Pakhtunkhwa, Balochistan, and Sindh. Balochistan is the largest province in terms of geographic area, constituting approximately 43% of the total national landmass, and has substantial mineral wealth. Balochistan has six divisions, 31 districts, and 137 tehsils.[5]

- **Population**: According to the 2023 Census, the population of Balochistan Province was 14.8 million;[6]
- According to the 2023 Census, 52.1% of the population was male while 47.9% was female.[7]
- **Age Profile:** According to the 2023 Census, 2.3% of the population was under the age of 1, 19.6% was under the age of 5, 36.2% was under the age of 10, 49.7% was under the age of 15, 40.3% was in the age range of 18-60, and 3.4% was above the age of 60.[8]
- **Health Facilities**: Balochistan has 27 District Headquarter Hospitals (DHQs), ten Tehsil Headquarter Hospitals (THQs), four Teaching Hospitals, 82 Rural Health Centres (RHCs), along with 549 Basic Health Units (BHUs);
- **Literacy**: According to the 2017 Census, the literacy rate of Balochistan was 43.5%.[9][10]

Exhibit 5.2 provides the estimated population of the 13 Districts relevant to the Project activities according to the censuses of 1998, 2017, and 2023.

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5 In Pakistan, a tehsil is an administrative area within a district. Districts are made up of several tehsils, while a tehsil covers multiple villages and smaller towns.

6 Statistics, P. B. o. (2023a). Balochistan Households, Population, Household Size, and Annual Growth Retrieved from https://www.pbs.gov.pk/sites/default/files/population/2023/Balochistan.pdf

7 Ibid.

8 Statistics, P.B.o. (2023b). Balochistan Population by Selected Age Group. Retrieved from https://www.pbs.gov.pk/sites/default/files/population/2023/tables/balochistan/dcr/table_5.pdf

9 Statistics, P. B. o. (2023b). Sindh Households, Population, Household Size, and Annual Growth Rate. Retrieved from https://www.pbs.gov.pk/sites/default/files/population/2023/Sindh.pdf

10 Although the 2023 Census covered regions of Balochistan in terms of population density, this census lacked coverage of literacy rates of Balochistan due to which, literacy rate of 2017 census is reported.

Exhibit 5.1: Key Districts of Balochistan and Sindh Relevant to Project Activities

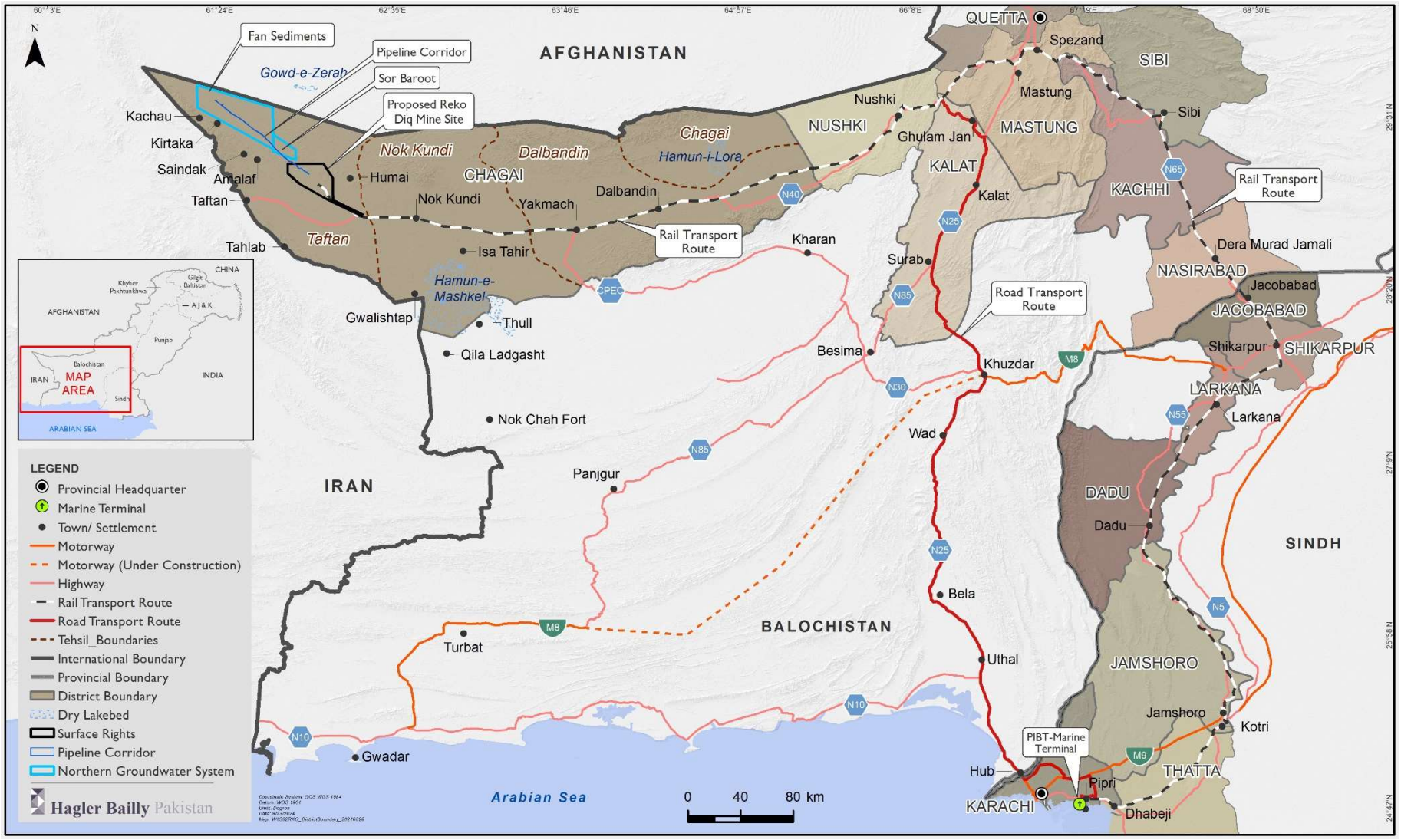


Exhibit 5.2: Estimated Population of Project Related Districts - Balochistan

District	*1998 Census*		*2017 Census*		*Proportion in Balochistan's Population (2017)*	*2023 Census*		*Proportion in Balochistan's Population (2023)*
	000' Population	*Population Density (persons per km²)*	*000' Population*	*Population Density (persons per km²)*		*000' Population*	*Population Density (persons per km²)*	
Chagai	203	4	226	6.	1.8%	269	5	1.8%
Kharan and Washuk	207	4	338	5	2.7%	562	7	3.8%
Kech	413	18	909	40	7.4%	1,060	48	7.1%
Sibi	579	23	964	31	7.8%	224	29	1.5%
Mustang	150	28	266	80	2.2%	313	53	2.1%
Nasirabad	1,044	73	1,661	100	13%	563	212	3.8%
Nushki	98	17	178	31	1.4%	207	36	1.4%
Quetta	774	225	2,269	658	18%	2,595	978	17%
Kachhi	288	38	309	41	2.5%	442	59	2.9%
Balochistan Province	**6,566**	**19**	**12,335**	**36**	**5.9% of Pakistan's population**	**6,235**	**43**	**6.1% of Pakistan's population**

Source: 1998 Census:[11] 2017 Census:[12] 2023 Census[13]

[11] Statistics, P. B. o. (1998). Balochistan District at a Glance. Retrieved from https://www.pbs.gov.pk/dag-balochistan

[12] Statistics, P. B. o. (2017). 2017 Census. Retrieved from https://www.pbs.gov.pk/content/final-results-census-2017

[13] Statistics, P. B. o. (2023a). Balochistan Households, Population, Household Size, and Annual Growth Retrieved from https://www.pbs.gov.pk/sites/default/files/population/2023/Balochistan.pdf

5.2 Sindh Province

Sindh is the third-largest province in the country in terms of geographic area, and the second-largest province in terms of population size. Sindh has seven divisions, 30 districts, and 138 tehsils.

- **Population**: According to the 2023 Census, the population of Sindh was 55,696,147 (2023);
- **Sex Ratio**: According to the 2023 Census, 52.1% of the population was male while 47.9% was female.[14]
- **Age Profile**: According to the 2023 Census, 2.1% of the population was under the age of 1, 15.7% was under the age of 5, 29.9% was under the age of 10, 41.8% was under the age of 15, 47.6% was in the age range of 18-60, and 4.9% was above the age of 60.[15]
- **Health Facilities**: Sindh has 14 DHQs, 49 THQs, 125 RHCs, and 757 BHUs[16]; and
- **Literacy**: According to the 2023 Census, the literacy rate of Sindh was 54.57%.

Exhibit 5.3 provides the estimated population of the seven Districts relevant to the Project activities in the province, according to the censuses of 1998, 2017, and 2023.

[14] Ibid.

[15] Statistics, P.B.o. (2023e). Sindh Population by Selected Age Group. Retrieved from https://www.pbs.gov.pk/sites/default/files/population/2023/tables/sindh/pcr/table_5.pdf

[16] Primary Healthcare Facilities. Retrieved from https://sindhhealth.gov.pk/Primary

Exhibit 5.3: Estimated Population of Project Related Districts - Sindh

District	*1998 Census*		*2017 Census*		*Proportion in Sindh's Population (2017)*	*2023 Census*		*Proportion in Sindh's Population (2023)*
	000' Population	*Population Density (persons per km²)*	*000' Population*	*Population Density (persons per km²)*		*000' Population*	*Population Density (persons per km²)*	
Karachi	9,856	2,794	16,025	4544	33%	20,382	5,390	36%
Jamshoro[17]	-	-	993	89	2%	1,117	100	2.0%
Larkana	4,210	250	6,191	407	13%	1,784	916	3.2%
Jacobabad	727	138	1,007	373	2.1%	1,174	435	2.1%
Dadu	1,106	58	1,550	197	3.2%	1,742	222	3.3%
Thatta	599	35	982	115	2.1%	1,083	127	1.9%
Shikarpur	880	350	1,234	491	2.6%	1,386	552	2.5%
Sindh Province	**30,400**	**216**	**47,800**	**340**	**23% of Pakistan's population**	**55,696**	**395**	**24% of Pakistan's population**

[17] Jamshoro declared as a district in 2004, so the 1998 Census data is not available.

5.3 Local Baseline - Reko Diq Mine Site

The surveyed settlements near the Reko Diq Mine Site exhibited a rural socioeconomic setting, with mostly Kutcha (constructed with mud and wood) housing structures, although some Semi-Pucca and Pucca structures were present in certain settlements like Taftan, Saindak Nok Kundi, and Dalbandin. These settlements primarily relied on dug wells to meet their water demand. Reko Diq Mining Company (referred to as 'RDMC' hereafter) installed new water wells in Darband Chah and Nok Chah settlements to address the community water demands. Additionally, a water treatment plant was also installed in the Humai settlement, with similar activities planned in other settlements located near the Reko Diq Mine Site. In Amalaf and Saindak, the communities had access to drinking water from the Saindak Copper Mining Project, which was pumped from an aquifer in the Upper Tahlab Water Sources. Previously, safe drinking water availability had been enhanced in the Humai and Nok Chah settlements through projects implemented by NGOs like Muslim Hands and Islamic Relief.

The primary sources of income in these areas were cross-border trading, livestock rearing, and labor (both skilled and unskilled). A smaller proportion of the population was engaged in self-owned businesses or employed in private and public sector jobs. In certain settlements like Amalaf, Saindak, and Kachau, agriculture also contributed to the local economy, with farming activities supported by groundwater irrigation and spring water (Karez). However, agricultural activities were generally limited in other settlements due to scarce water resources.

During the 2022 Survey, no educational facilities were available in these settlements and it was reported that households from Nok Chah and Mashki Chah had migrated to nearby towns Nok Kundi and Dalbandin for education and employment opportunities. However, RDMC developed primary schools in 2023, in Humai, Darband Chah, and Mashki Chah settlements. In other areas, such as Amalaf and Saindak, primary schools were already available, and high schools and colleges were available in main towns like Nok Kundi and Dalbandin.

The surveyed settlements near the Reko Diq Mine Site faced difficulty in accessing essential healthcare facilities as the distance between the settlements and the nearest facilities was relatively large. The nearest accessible health facility was currently in Nok Kundi, approximately 85 km from the surveyed settlements. In 2023, RDMC established a Community Health Centre (CHC) in Humai settlement. Similar facilities were also planned in other local settlements. Furthermore, RDMC, in collaboration with the Indus Hospital & Healthcare Network (IHHN), constructed a Community Health and Mother and Child Centre in Nok Kundi in 2024. Additionally, RDMC had also set up a Mobile Medical Unit as a temporary healthcare facility which was equipped with a laboratory and pharmacy in Nok Kundi.

Fuelwood was the primary source of fuel in most settlements which was collected from rangelands, with LPG serving as a secondary source, particularly for cooking and space heating. Electricity was available in most of the settlements except some of the surveyed settlements near Hamun-e-Mashkel where solar panels were used. Agricultural activities were observed in certain settlements, such as Tahlab, Washab, Amalaf, and Saindak,

where groundwater was available for irrigation. Palm trees were grown for self-consumption near Tahlab, Washab and Humai settlements which were irrigated using the dug wells. Agricultural activities were not observed in these settlements due to limited access to water resources.

5.3.1 Demography

The information provided in this section was collected during the 2022 Survey. The demographic information was collected for the following indicators:

- Population and household size;
- Sex ratio;
- Age groups;
- Birth rate and death rate; and
- Housing structures.

Population and Household Size

A household may either be a single-person or a multi-person household. Household members can be related or unrelated, and often share common resources, such as living space, meals, and finances and have no place of residence elsewhere. The average household size mentioned in the 2010 ESIA was 8.3 persons in the settlements located near the Reko Diq Mine Site. The 2022 Survey showed the average household size in the surveyed settlements to be 6.9 persons. The decrease in the household size follows trends reported in the rest of the country. A possible explanation for this may be the decrease in birth rates following 2010[18]. Additionally, the differences in household sizes across settlements show that local factors, such as access to resources and services, influence these patterns. In rural areas; like Humai, Mashki Chah, Darband Chah, and Gwalishtap, people are more focused on population growth and have larger household sizes, while in cities; like Dalbandin, people tend to prefer smaller family sizes.

Exhibit 5.4 provides a summary of the data collected and the results. **Exhibit 5.5** shows photographs of the surveyed settlements.

Exhibit 5.4: Data Summary and Results – Reko Diq Mine Site (2022 Survey)

Location	*Estimated Number of HHs*	*Estimated Population*	*Number of Surveyed HHs*	*Surveyed Population*	*Average Household Size in Surveyed Population*
Humai	115	900	34	271	8.0
Mashki Chah	21	160	6	44	7.3
Nok Chah	14	100	4	27	6.8

[18] O'Neill. (2024). Pakistan - Birth Rate 2011-2021. Retrieved from https://www.statista.com/statistics/977099/crude-birth-rate-in-pakistan/

Location	*Estimated Number of HHs*	*Estimated Population*	*Number of Surveyed HHs*	*Surveyed Population*	*Average Household Size in Surveyed Population*
Darband Chah	200	1,550	59	415	7.0
Amalaf	125	950	32	*221*	6.9
Saindak	75	570	21	*149*	7.1
Kachau	70	530	21	135	6.4
Taftan	570	4,500	53	335	6.3
Tahlab	150	1,150	47	340	7.2
Washab	60	450	18	142	7.9
Gwalishtap	50	360	16	115	7.2
Rajai	55	390	17	119	7.0
Wadian	20	150	8	52	6.5
Nok Kundi	2,000	15,000	50	350	7.0
Dalbandin	1,000	7,200	50	308	6.2
Total	**4525**	**33960**	**436**	**3023**	**6.9**

Exhibit 5.5: Surveyed Settlements – Reko Diq Mine Site (2022 Survey)

Nok Chah Settlement

Humai Settlement

Darband Chah Settlement

Mashki Chah Settlement

Amalaf Settlement

Kachau Settlement

Tahlab Settlement

Taftan Settlement

Wadian Settlement

Rajai Settlement

Amalaf Settlement

Kachau Settlement

Tahlab Settlement

Taftan Settlement

Wadian Settlement (Patangaz and Hamun-e-Mashkel)

Rajai Settlement (Patangaz and Hamun-e-Mashkel)

Sex Ratio

Exhibit 5.6 shows the male-female sex ratio in the surveyed settlements near the Reko Diq Mine Site. The sex ratio follows trends reported in the province as well as in Pakistan.[19]

Exhibit 5.6: Sex Ratio – Reko Diq Mine Site (2022 Survey)

Location	*Male*	*%*	*Female*	*%*
Humai	139	51%	132	49%
Mashki Chah	20	45%	24	55%
Nok Chah	14	52%	13	48%
Darband Chah	228	55%	187	45%
Amalaf	116	52%	105	48%
Saindak	65	44%	84	56%
Kachau	63	47%	72	53%

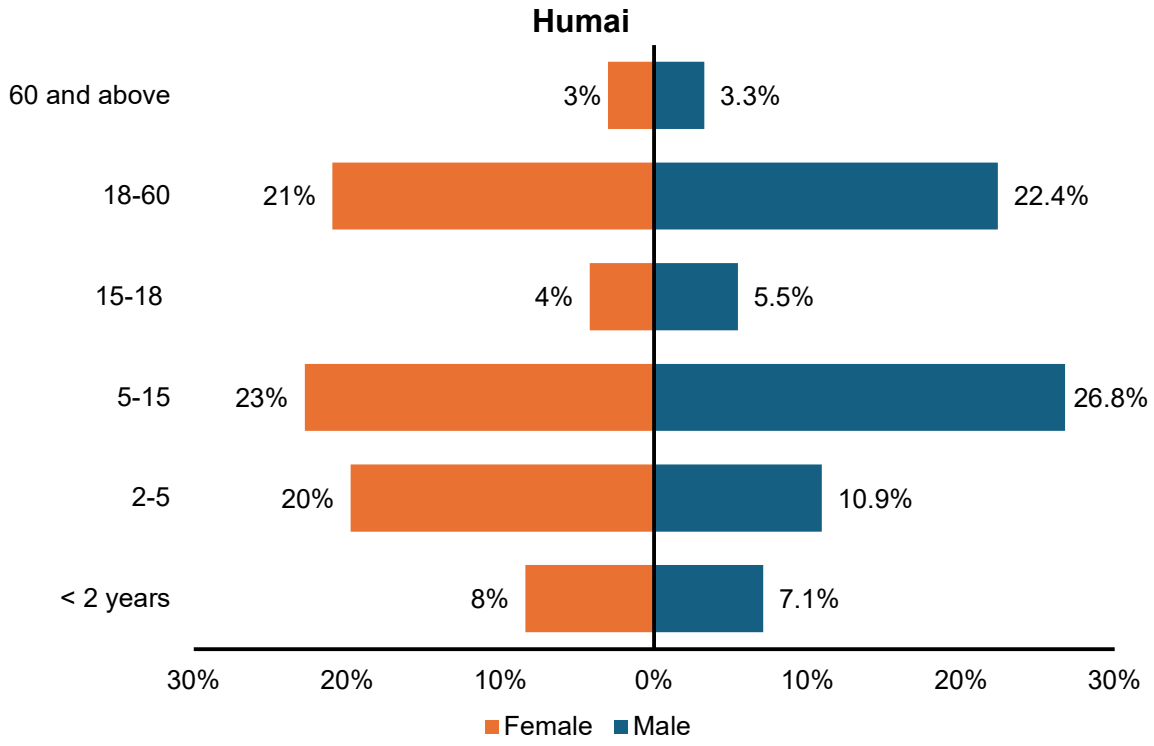
[19] Bank, W. (2022). Sex Ratio at Birth (male births per female births) - Pakistan. World Bank Open Data. Retrieved from https://data.worldbank.org/indicator/SP.POP.BRTH.MF?locations=PK

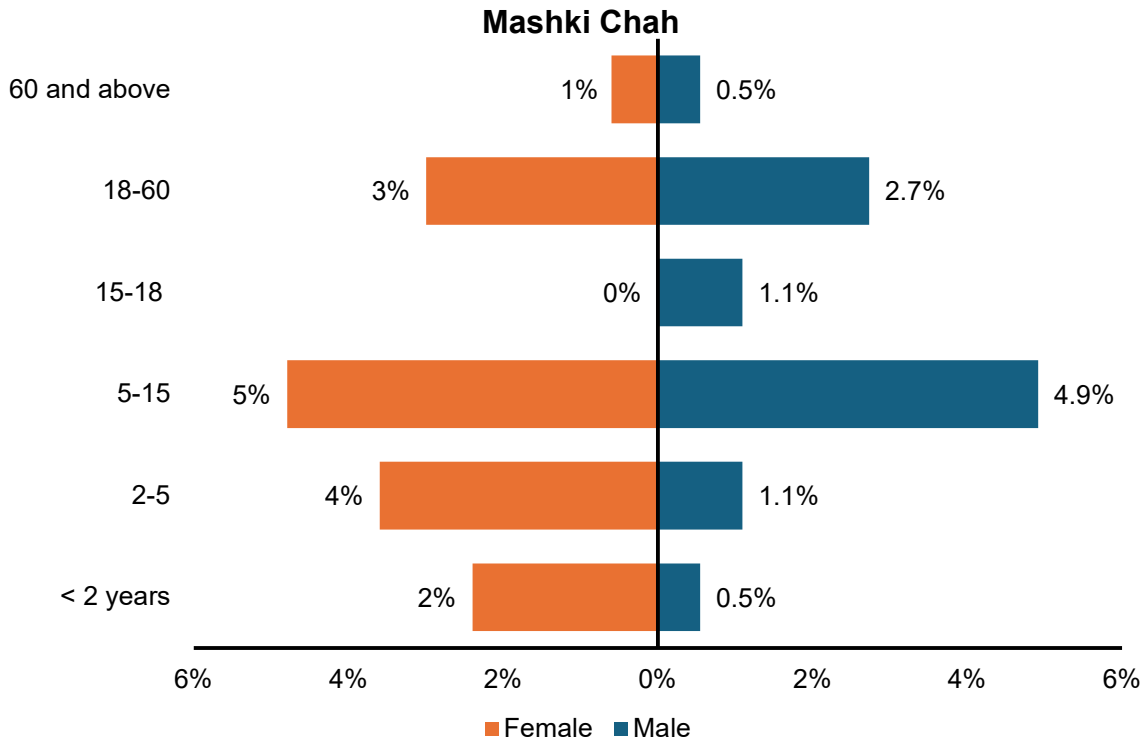
Location	*Male*	*%*	*Female*	*%*
Taftan	168	50%	167	50%
Tahlab	195	57%	145	43%
Washab	79	56%	63	44%
Nok Kundi	183	52%	167	48%
Dalbandin	171	56%	137	44%
Gwalishtap	55	48%	60	52%
Rajai	63	53%	56	47%
Wadian	25	48%	27	52%
Total	**1584**	**52.4%**	**1439**	**47.6%**

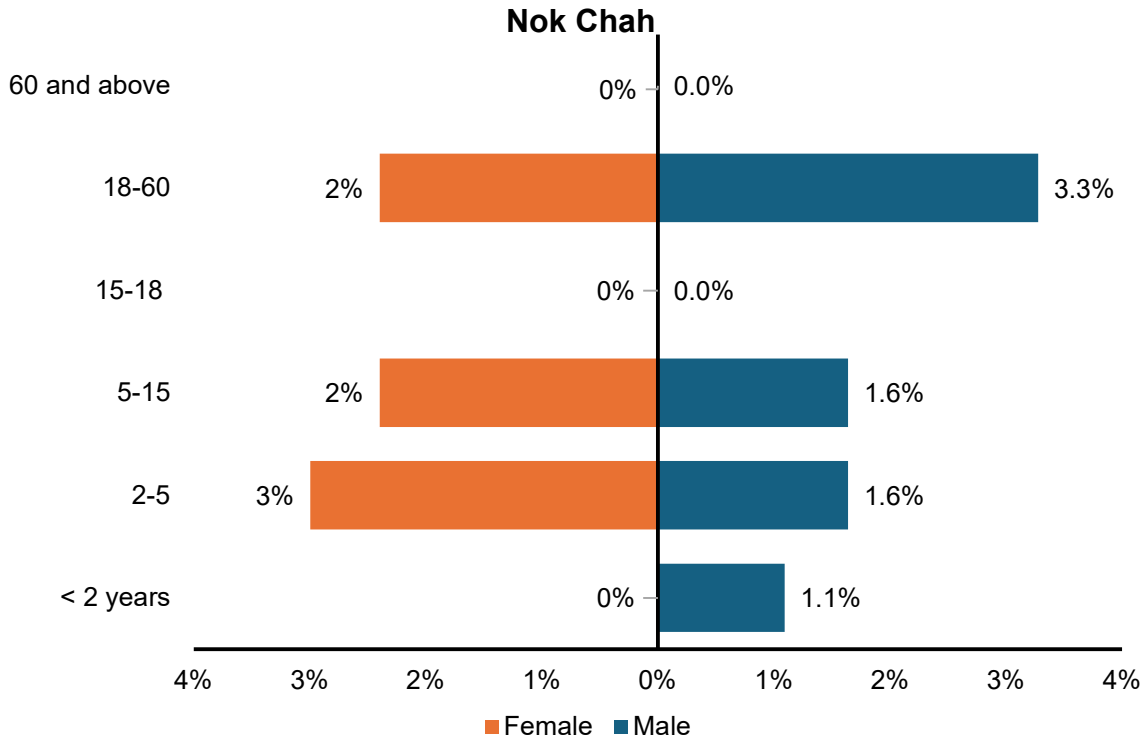
Age Groups

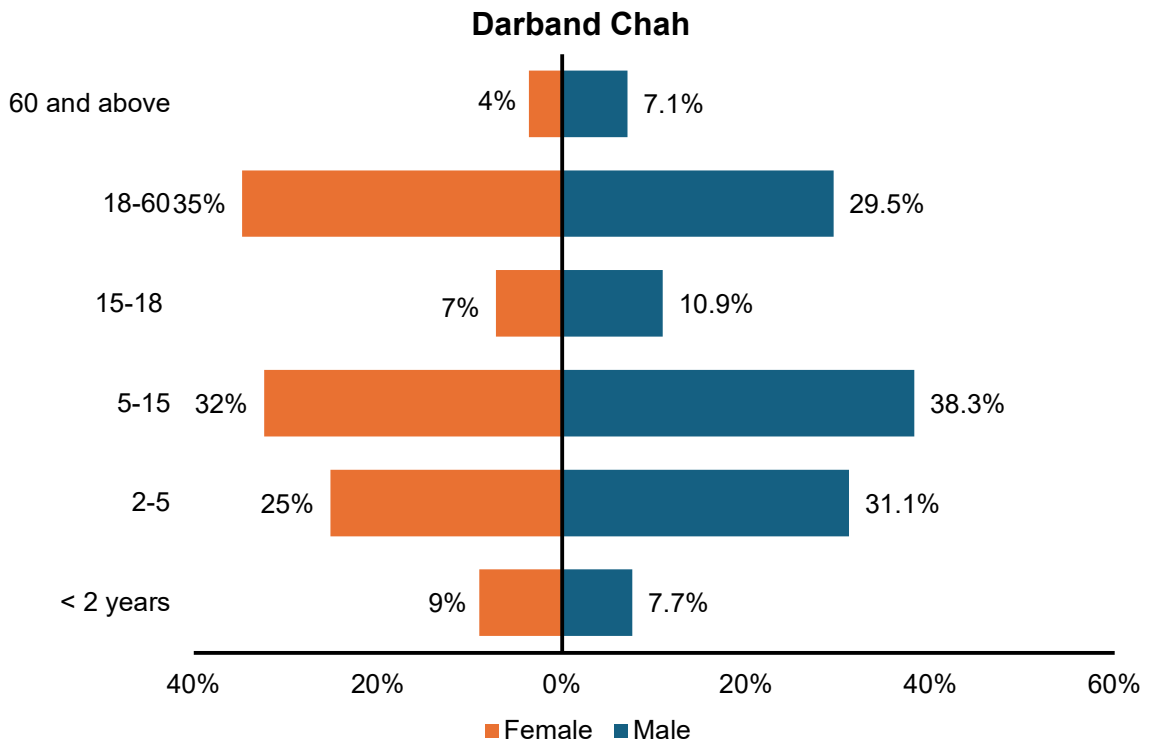
Exhibit 5.7 provides the details of the age groups in the surveyed population.

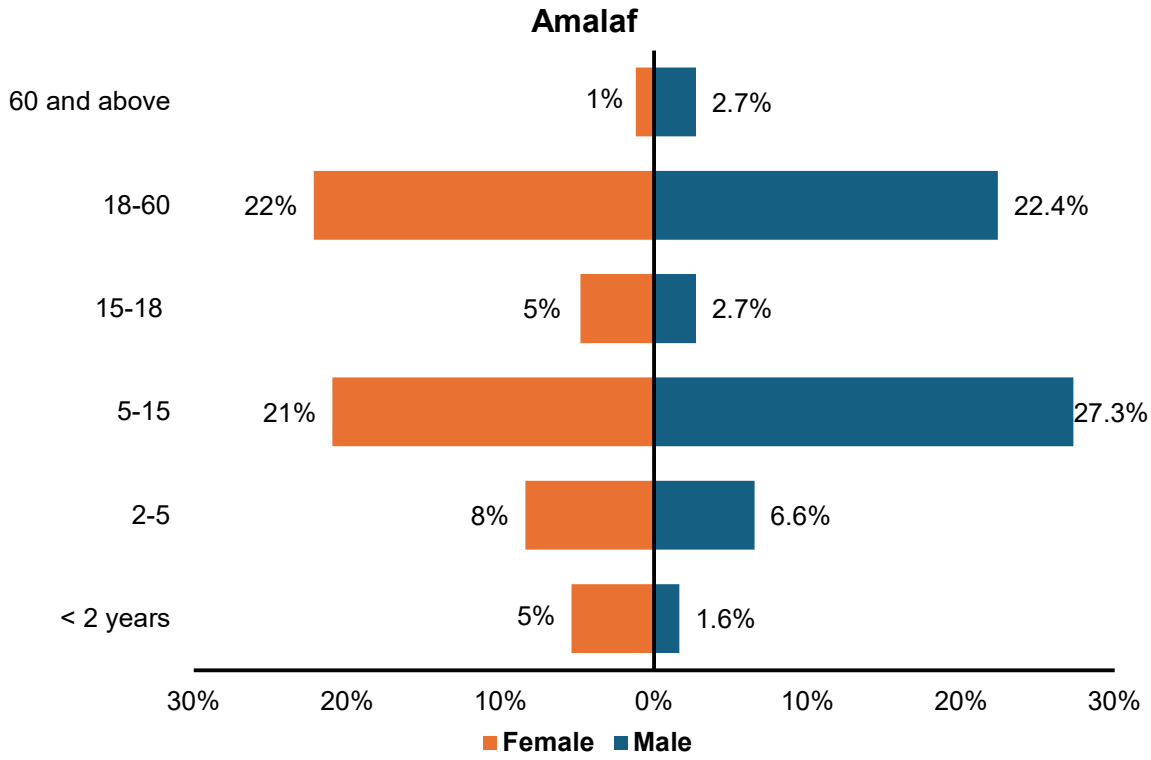
Exhibit 5.7: Age Distribution between Male and Female – Reko Diq Mine Site (2022 Survey)

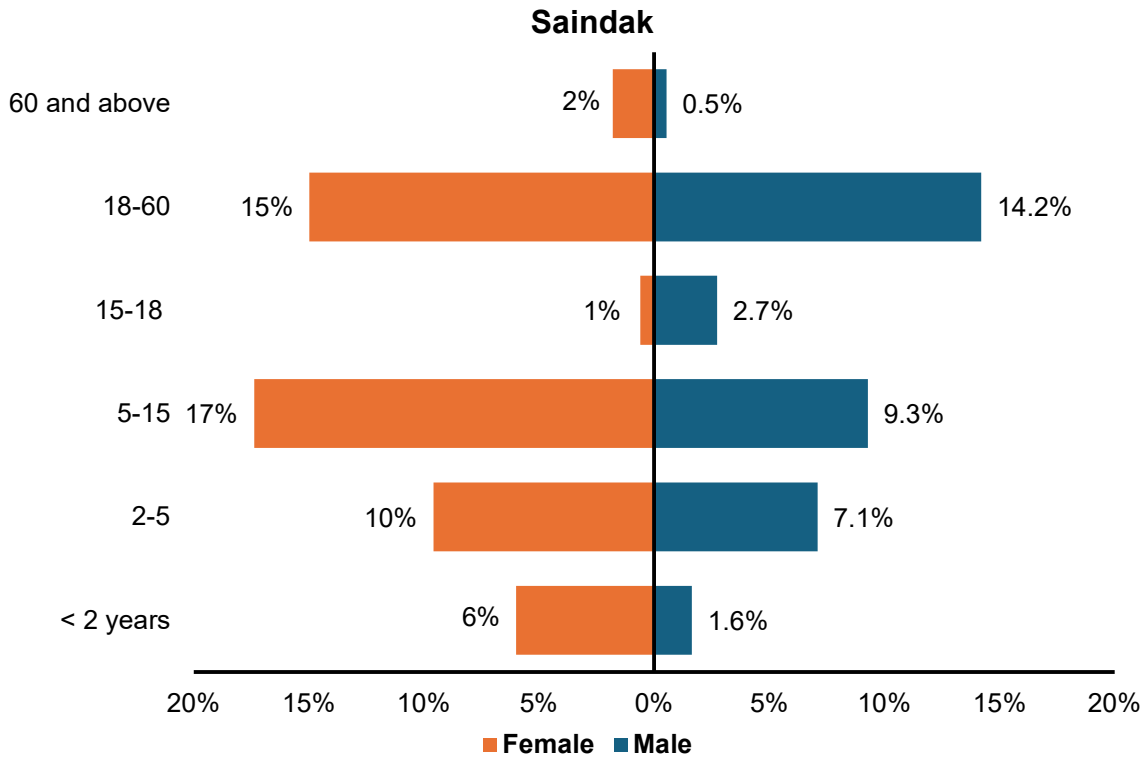


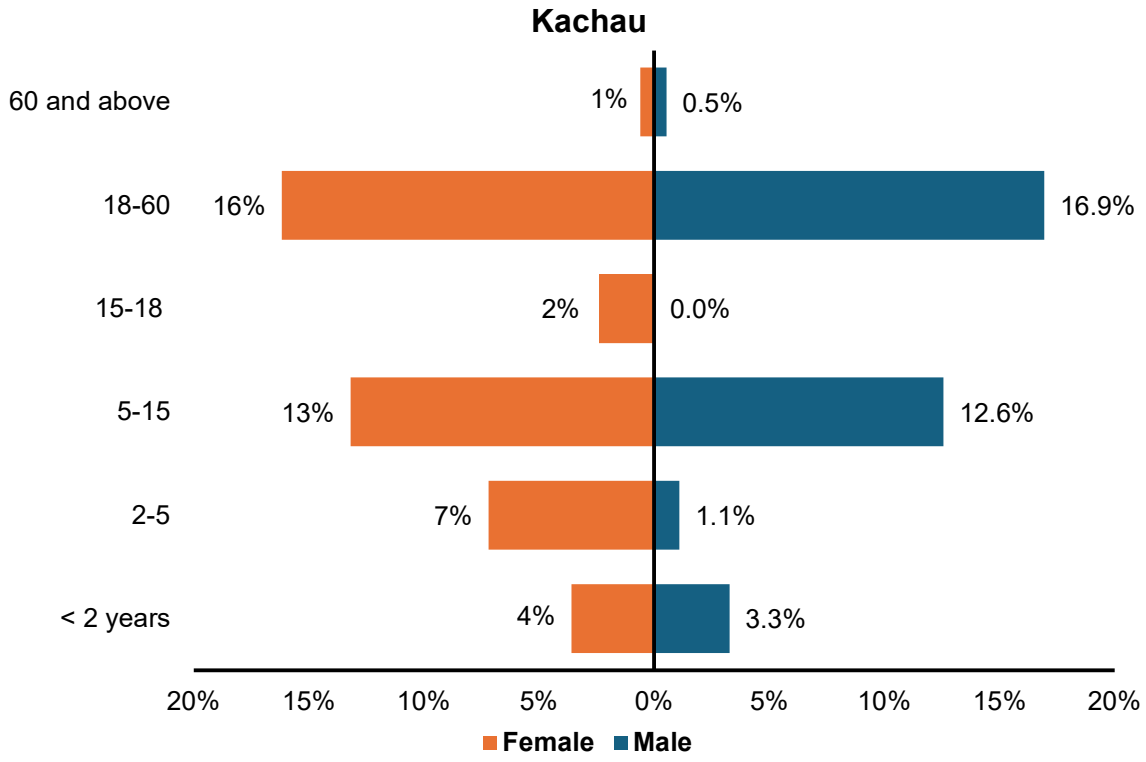

Mashki Chah
60 and above
18-60
15-18
5-15
2-5
< 2 years
1%
0.5%
3%
2.7%
0%
1.1%
5%
4.9%
4%
1.1%
2%
0.5%
6%
4%
2%
0%
2%
4%
6%
Female
Male

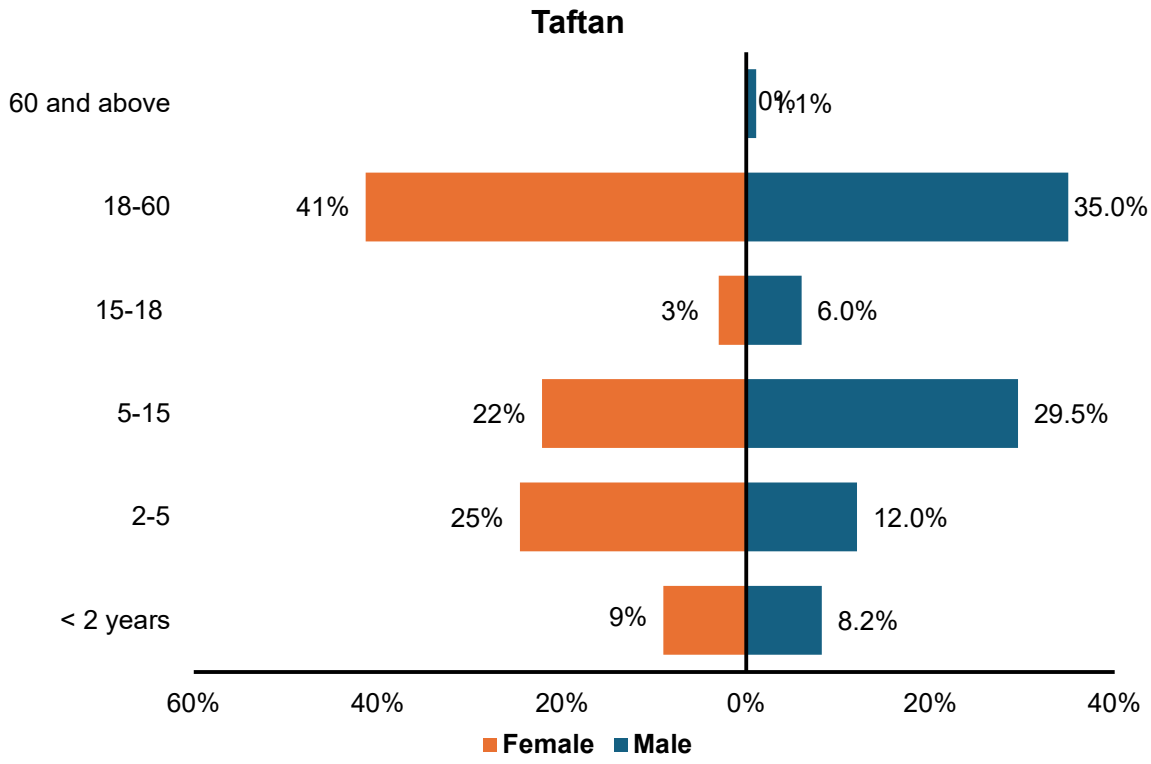

Nok Chah
60 and above
18-60
15-18
5-15
2-5
< 2 years
0%
0.0%
2%
3.3%
0%
0.0%
2%
1.6%
3%
1.6%
0%
1.1%
4%
3%
2%
1%
0%
1%
2%
3%
4%
Female
Male

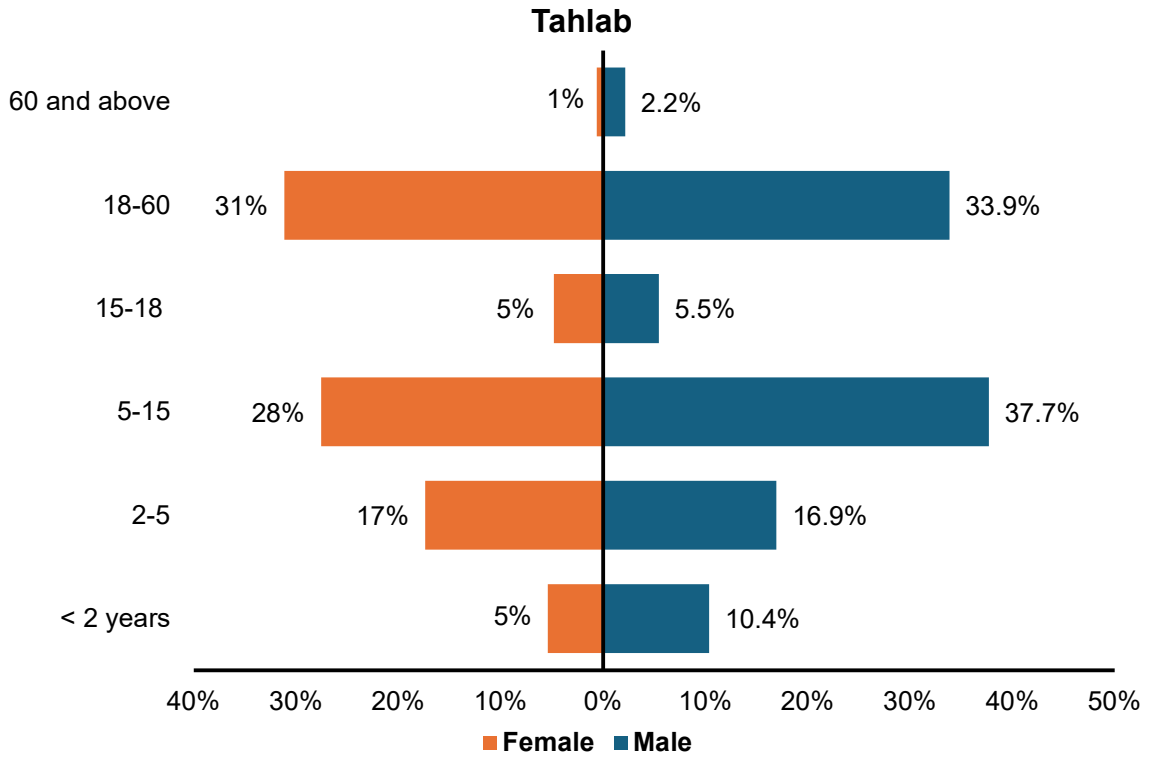

Darband Chah
60 and above
18-60
15-18
5-15
2-5
< 2 years
4%
35%
7%
32%
25%
9%
7.1%
29.5%
10.9%
38.3%
31.1%
7.7%
40%
20%
0%
20%
40%
60%
Female
Male

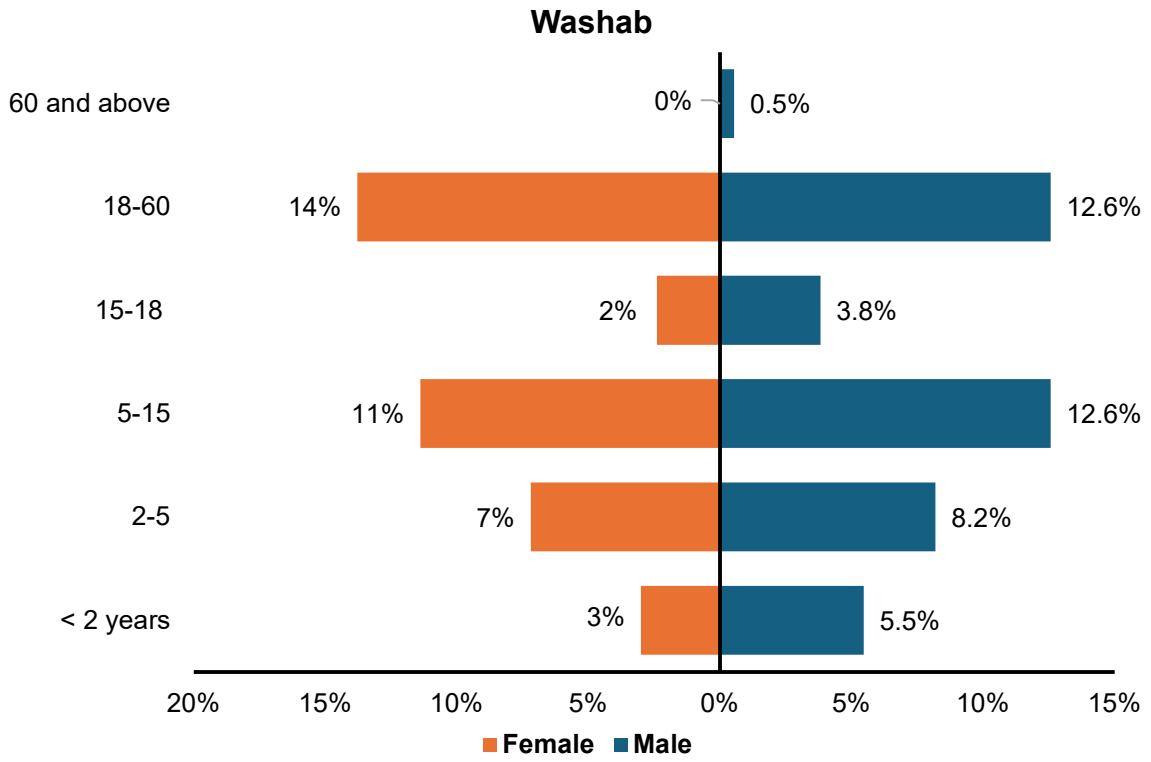

Amalaf
60 and above
18-60
15-18
5-15
2-5
< 2 years
1%
22%
5%
21%
8%
5%
2.7%
22.4%
2.7%
27.3%
6.6%
1.6%
30%
20%
10%
0%
10%
20%
30%
Female
Male

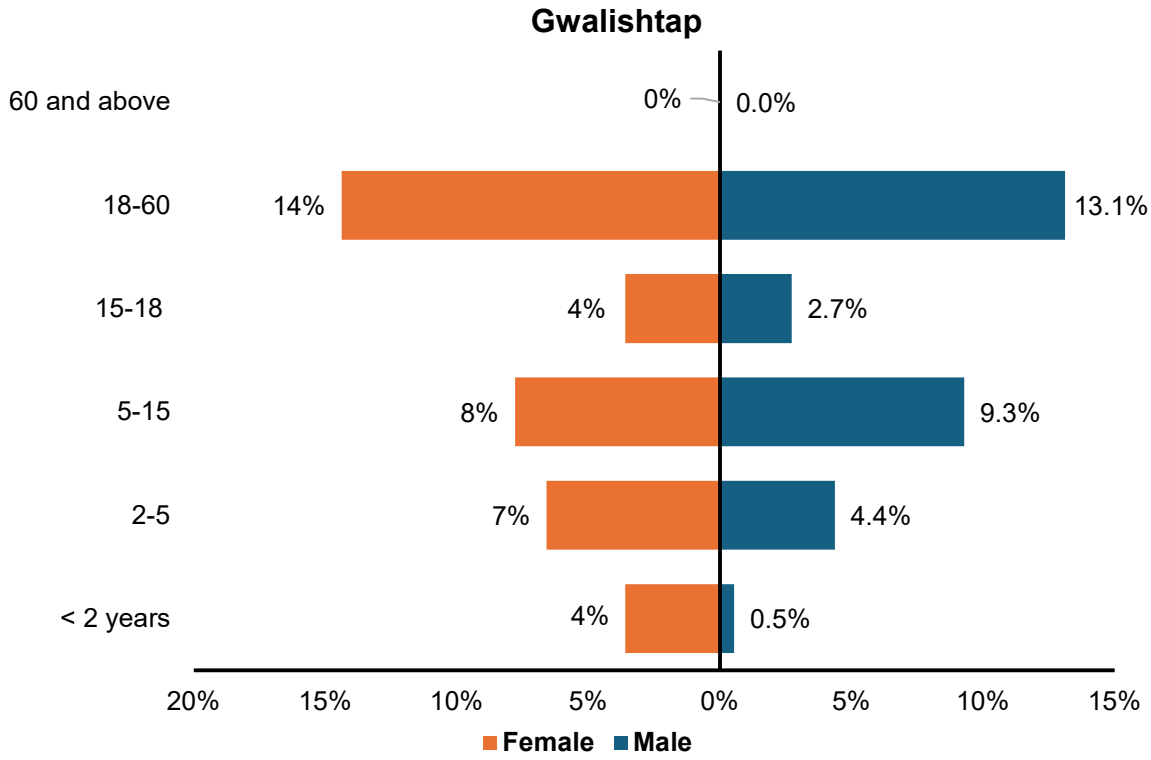

Saindak
60 and above
18-60
15-18
5-15
2-5
< 2 years
2%
0.5%
15%
14.2%
1%
2.7%
17%
9.3%
10%
7.1%
6%
1.6%
20%
15%
10%
5%
0%
5%
10%
15%
20%
Female
Male

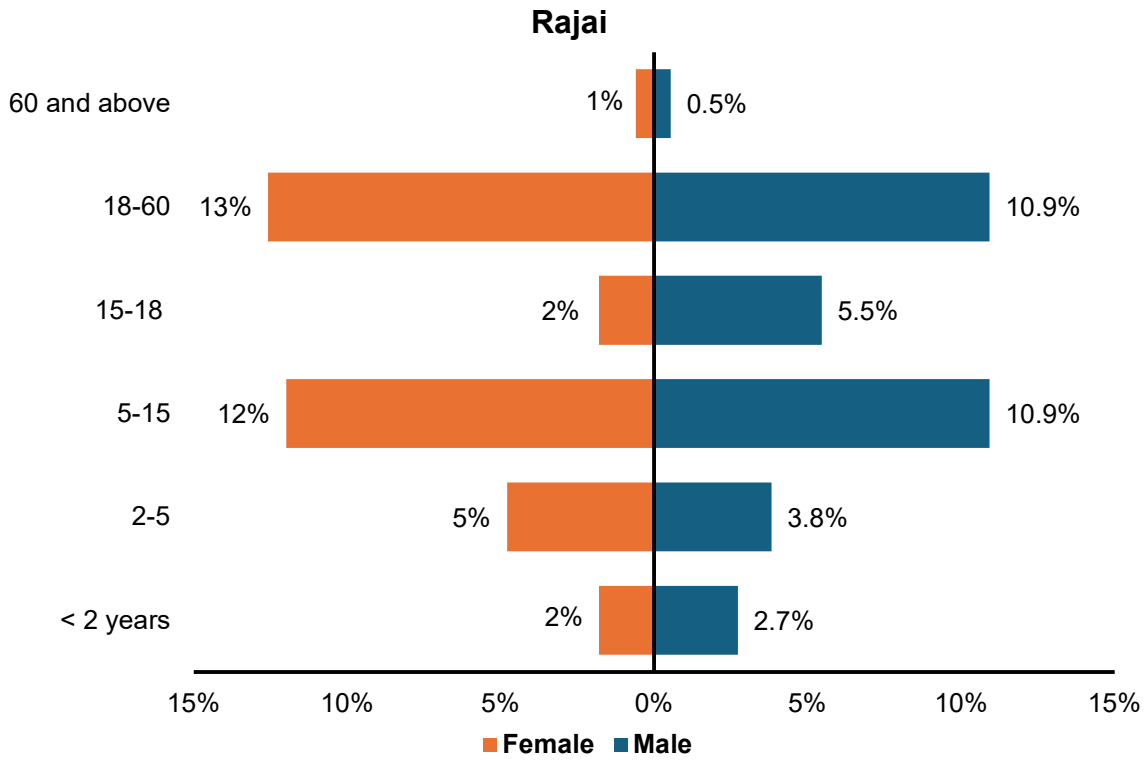

Kachau
60 and above
18-60
15-18
5-15
2-5
< 2 years
1%
0.5%
16%
16.9%
2%
0.0%
13%
12.6%
7%
1.1%
4%
3.3%
20%
15%
10%
5%
0%
5%
10%
15%
20%
Female
Male

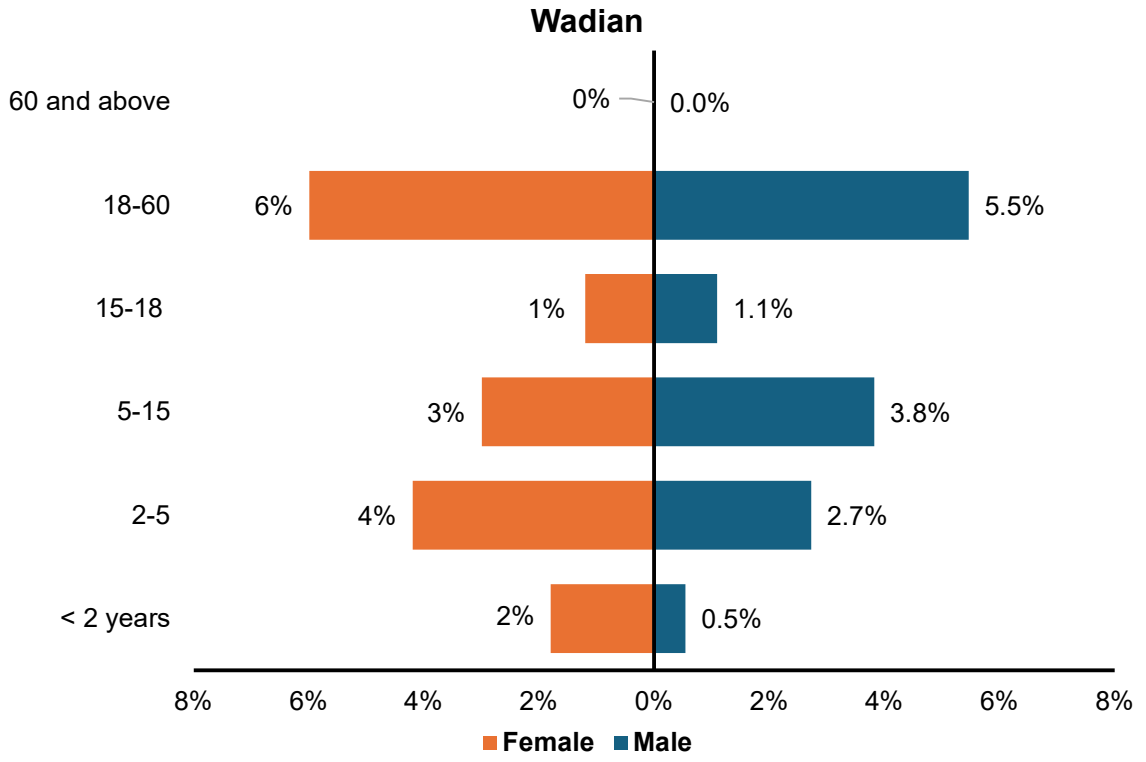

Taftan
60 and above
18-60
15-18
5-15
2-5
< 2 years
0%
1%
41%
35.0%
3%
6.0%
22%
29.5%
25%
12.0%
9%
8.2%
60%
40%
20%
0%
20%
40%
Female
Male

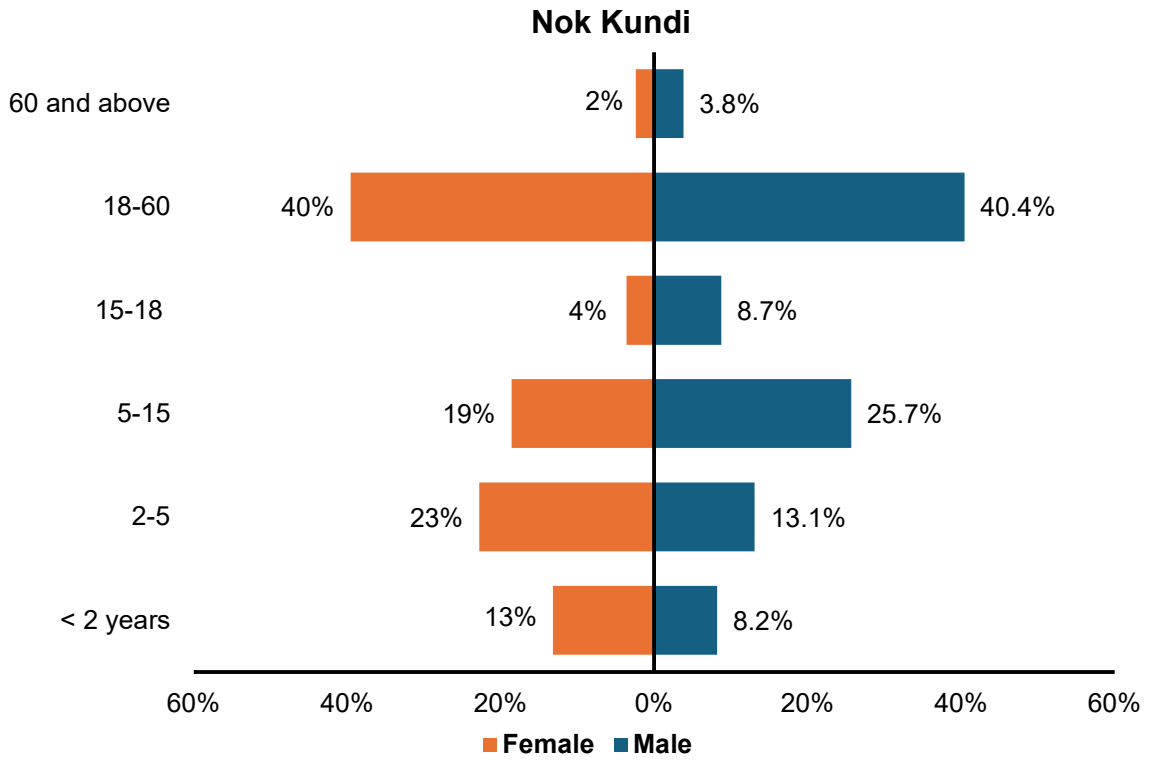

Tahlab
60 and above
18-60
15-18
5-15
2-5
< 2 years
1%
2.2%
31%
33.9%
5%
5.5%
28%
37.7%
17%
16.9%
5%
10.4%
40%
30%
20%
10%
0%
10%
20%
30%
40%
50%
Female
Male

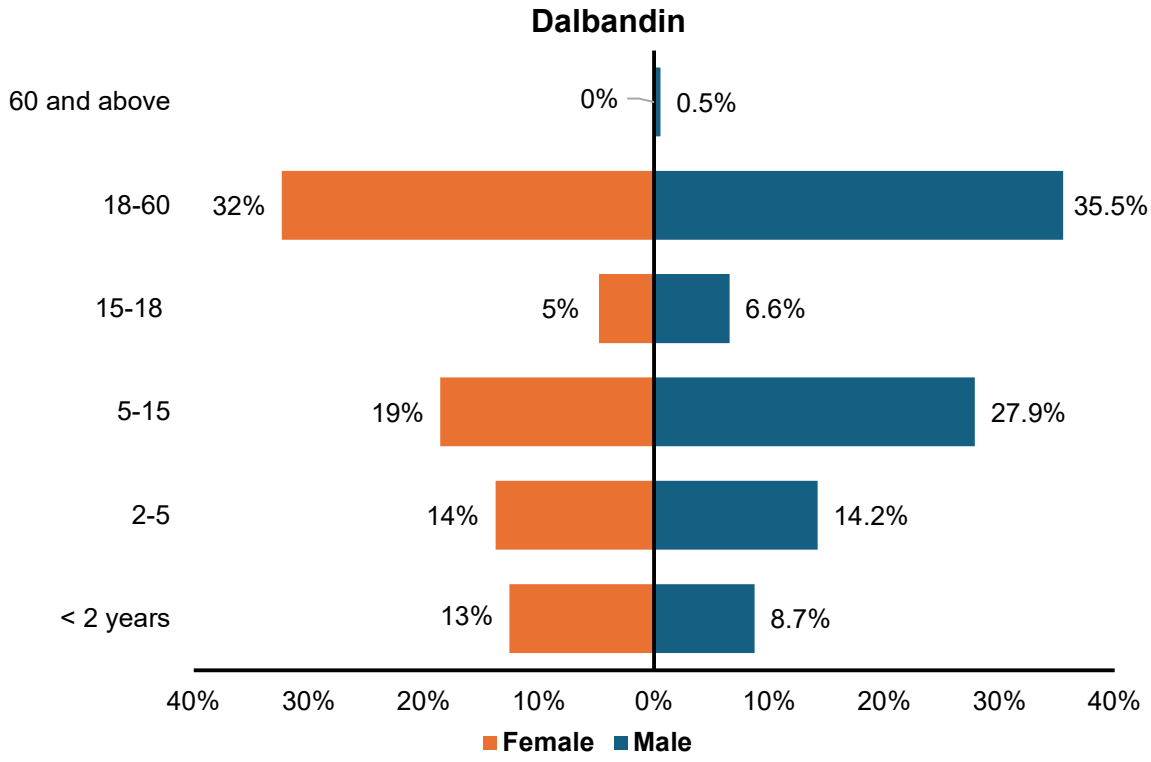

Washab
60 and above
18-60
15-18
5-15
2-5
< 2 years
0%
0.5%
14%
12.6%
2%
3.8%
11%
12.6%
7%
8.2%
3%
5.5%
20%
15%
10%
5%
0%
5%
10%
15%
Female
Male


Gwalishtap
60 and above
18-60
15-18
5-15
2-5
< 2 years
0%
0.0%
14%
13.1%
4%
2.7%
8%
9.3%
7%
4.4%
4%
0.5%
20%
15%
10%
5%
0%
5%
10%
15%
Female
Male


Rajai
60 and above
18-60
15-18
5-15
2-5
< 2 years
1%
0.5%
13%
10.9%
2%
5.5%
12%
10.9%
5%
3.8%
2%
2.7%
15%
10%
5%
0%
5%
10%
15%
Female
Male


Wadian
60 and above
18-60
15-18
5-15
2-5
< 2 years
0%
0.0%
6%
5.5%
1%
1.1%
3%
3.8%
4%
2.7%
2%
0.5%
8%
6%
4%
2%
0%
2%
4%
6%
8%
Female
Male





Birth Rate and Death Rate

Exhibit 5.8 provides the statistics of the live births, stillbirths, and deaths per thousand people in the surveyed settlements during a period between 2021-2022.

Exhibit 5.8: Birth and Death Rate (per thousand people) – Reko Diq Mine Site (2022 Survey)

Location	*Births in the community over a one year period (2021-2022)*	*Still births in the community over a one year period (2021-2022)*	*Deaths in the community over a one year period (2021-2020)*
Humai	24	0	4
Mashki Chah	45	0	0
Nok Chah	19	0	0
Darband Chah	28	0	6
Amalaf	18	0	5
Saindak	44	0	3
Kachau	15	0	0
Taftan	36	0	1
Tahlab	32	4	4
Washab	39	0	7
Gwalishtap	22	0	4
Rajai	30	0	8
Wadian	38	0	10
Nok Kundi	39	4	6
Dalbandin	47	0	6

Housing Structure

The construction of Kutcha (constructed with mud and wood) housing structures was observed in the surveyed settlements near the Reko Diq Mine Site during the 2022 Survey. **Exhibit 5.9** provides the details of the housing structures in the surveyed population. **Exhibit 5.10** shows photographs of these settlements.

Exhibit 5.9: Housing Structure – Reko Diq Mine Site (2022 Survey)

Location	*Katcha*	*%*	*Semi-Pucca*	*%*	*Pucca*	*Pucca*
Humai	115	100%	-	0%	-	0%
Mashki Chah	21	100%	-	0%	-	0%
Nok Chah	14	100%	-	0%	-	0%
Darband Chah	200	100%	-	0%	-	0%
Amalaf	125	100%	-	0%	-	0%
Saindak	68	90%	-	0%	8	10%
Kachau	69	98%	-	0%	1	2%
Taftan	456	80%	-	0%	114	20%

Location	*Katcha*	*%*	*Semi-Pucca*	*%*	*Pucca*	*Pucca*
Tahlab	147	98%	-	0%	3	2%
Washab	59	99%	-	0%	1	1%
Gwalishtap	40	80%	-	0%	10	20%
Rajai	54	98%	-	0%	1	2%
Wadian	20	98%	-	0%	0	2%
Nok Kundi	1,300	65%	200	10%	500	25%
Dalbandin	650	65%	100	10%	250	25%
Total	**3,988**	**90%**	**400**	**2%**	**1,138**	**8%**

Exhibit 5.10: Housing Structures – Reko Diq Mine Site (2022 Survey)

Kutcha House in Humai Settlement (Reko Diq Mine Site)

Mosque at Amalaf Settlement

Kutcha House at Kachau Settlement (

Kutcha House at Tahlab Settlement

Pucca House at Taftan Settlement

Kutcha House at Rajai Settlement

Semi-Pucca House at Gwalishtap Settlement

5.3.2 Ethnicity

According to the 2017 census, the people of Balochistan were divided into three main ethnic groups, i.e. Baloch, Brahui, and Pashtuns. These were further divided into 27 major tribes.[20]

5.3.3 Self-Identified Groups

The terms 'Caste' and 'Tribe' are used interchangeably, as there is no nationally recognized definition for these terminologies. These concepts are referred as self-identified groups in this document. Tribe informally refers to group of people who trace their descent through the male bloodline from a supposedly common tribal ancestor. [21] On the other hand, Caste informally refers to a hierarchical system of hereditary and endogamous social groups, often referred to as zats or quoms. [22] According to 2022 Survey and 2023 Survey, Syed (13.3%) was the most dominant caste, followed by

[20] Sheikh, H. Y. (2017). 2017 Provincial Census Report Balochistan. Retrieved from Pakistan: https://www.pbs.gov.pk/sites/default/files/population/census_reports/pcr_balochistan.pdf

[21] Khan, U. M., Ijaz, R. H., & Saadat, S. (2021). *Extending Constitutional Rights to Pakistan's Tribal Areas*. United States Institute of Peace.

[22] Usman, A. (2017). A comparison of Hindu and Muslim Caste system in sub-continent. *South Asian Studies*, *32*(01), 91-98.

Muhammad Zai (12.9%), and Muhammad Hassani (10.8%) among the surveyed settlements.

None of these groups were identified as IPs according to the IPs screening. Further details of the IPs screening are provided in the standalone **Screening Assessment for Indigenous Peoples (R4IP6RKG)**.

5.3.4 Religion and Language

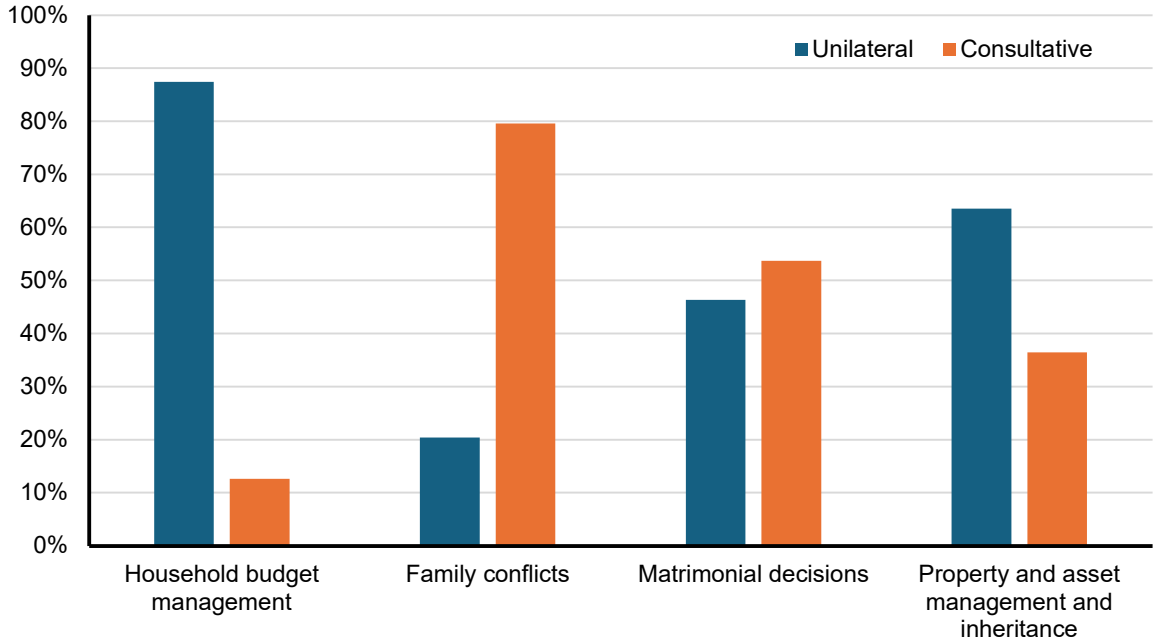
The entire population in the surveyed settlements was Muslim and belonged to the Sunni sect. Balochi was spoken as the primary language while Urdu was spoken as the secondary language in the surveyed settlements.

5.3.5 Decision Making

The 2022 Survey and 2023 Survey identified that most households in the surveyed settlements near the Reko Diq Mine Site did not involve women in decision-making. The local communities explained that men were considered as the head of households, and most of the decisions were taken unliterally by them (see **Exhibit 5.11**).

The 2022 Survey reported that 240 out of 439 married couples (approximately 55% of these couples), were married to their first cousins. This practice is particularly prevalent in Pakistan, where cultural norms and traditions often prioritize endogamous marriages within the family or community. Within such communities, marrying first cousins is not only common but often considered a socially accepted norm, further reinforcing the prevalence of this practice.

Exhibit 5.11: Decision Making – Reko Diq Mine Site (2022 Survey)



5.3.6 Occupation Profile

Exhibit 5.12 provides details of the employment numbers in the surveyed settlements. The male unemployment rate was reported as 26% while the female unemployment rate was reported as 42 %. These unemployment rates were much higher as compared to the national rates which were reported as 5.1% and 7.7% for males and females respectively.[23] [24] These were also much higher than the 9.13% unemployment rate reported in Balochistan.[25] This can be explained in part due to the lack of employment opportunities available in the settlements near the Reko Diq Mine Site as well as the low literacy levels in the settlements.

Exhibit 5.12: Employment Numbers – Reko Diq Mine Site (2022 Survey)

Surveyed Population	*Male*	*Female*
Employed Population	784	172
Unemployed Population	800	1267
Total Population	**1584**	**1439**

Exhibit 5.13 shows the occupation profile of the surveyed settlements near the Reko Diq Mine Site.

Exhibit 5.13: Occupational Profile – Reko Diq Mine Site (2022 Survey)

Livelihood Sector	*Male*	*Female*	*Total*	*Percentage*
Employed in government Sector	37	8	45	5%
Employed in private Sector	74	9	83	9%
Income generating farming	47	10	57	6%
Self-employed, livestock rearing	233	113	346	36%
Self–Owned trade and business	151	5	156	16%
Self–employed, working as artisans	8	0	8	1%
Working as labor (Construction) sites	54	0	54	6%

[23] Economics, T. (2024a). Pakistan - Unemployment, Female. Retrieved from https://tradingeconomics.com/pakistan/unemployment-female-percent-of-female-labor-force-wb-data.html#:~:text=Unemployment%2C%20female%20(%25%20of%20female,compiled%20from%20officially%20recognized%20sources

[24] Economics, T. (2024b). Pakistan - Unemployment, Male. Retrieved from https://tradingeconomics.com/pakistan/unemployment-male-percent-of-male-labor-force-wb-data.html#:~:text=Unemployment%2C%20male%20(%25%20of%20male,compiled%20from%20officially%20recognized%20sources

[25] Qadir, J. (2023). Concerns over unemployment in Balochistan. Retrieved from https://www.nation.com.pk/18-Jul-2023/concerns-over-unemployment-in-balochistan

Livelihood Sector	*Male*	*Female*	*Total*	*Percentage*
Working as labor (Mining) sites	44	11	55	6%
Working as labor (Quarrying) sites	0	0	0	0%
Working as skill and un skill labor	136	16	152	16%
Total	**784**	**172**	**956**	100%
Gender % of Total Population	**82%**	**18%**	**100.00%**	

5.3.7 Income and Expenditure

Exhibit 5.14 shows the main income sources for the households in the surveyed settlements and **Exhibit 5.15** provides the income and expenditures of the surveyed households.

Exhibit 5.14: Average Monthly Income Sources – Reko Diq Mine Site (2022 Survey)

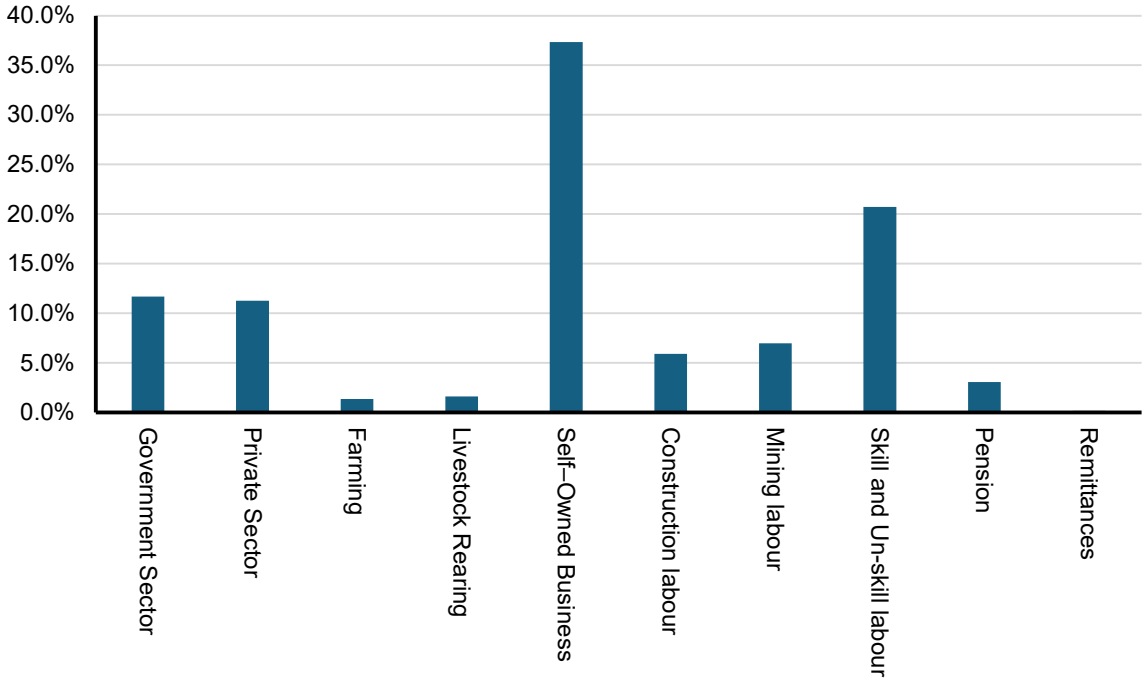


Exhibit 5.15: Average Income and Expenditures – Reko Diq Mine Site (2022 Survey)

Average Income and Expenditures	*Income and Expenditures in PKR/ Month*		
	Minimum	*Maximum*	*Average*
Income	8,000	200,000	30,219
Expenditures	7,100	104,500	25,457
Savings	100	95,500	4,762

Exhibit 5.16 shows the distribution of income ranges of surveyed households by income level.

According to the 2010 ESIA, agriculture and wood collection were the main income sources. During the 2022 Survey, it was reported that employment in nearby mines, including marble, iron, and pumice mining projects, had increased, which in turn had increased the incomes for those involved. Households were predominantly involved in cross-border trade of textiles, agriculture produce, livestock, and other related goods at the Pak-Afghan and Pak-Iran borders, which had significantly increased following the previous surveys conducted in 2010. **Exhibit 5.17** provides pictures of the cross-border activities.

Exhibit 5.16: Distribution of Monthly Household Income – Reko Diq Mine Site (2022 Survey)

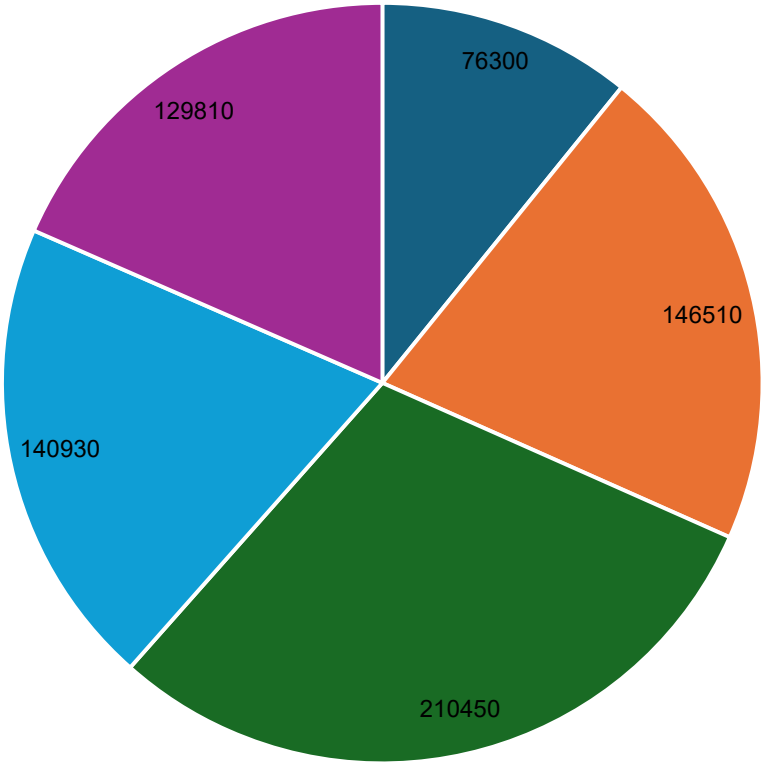


Exhibit 5.17: Cross-border Activities – Reko Diq Mine Site (2022 Survey)

Cross-border Trade

Vehicles

5.3.8 Vulnerability

Poverty

In Pakistan, the poverty line is defined as households earning less than PKR 3,030 per person per month. (**Exhibit 5.18**) shows the income level of the surveyed settlements. Most households spent over two-thirds of their income on food and cooking fuel.

Exhibit 5.18: Income Level Above and Below Poverty Line – Reko Diq Mine Site (2022 Survey)

Settlements	*Income Level PKR/Person/Month*			
	Up to 3,030	*3,030 to 5,000*	*5,001 to 10,000*	*10,001 and above*
Humai	11	22	1	0
Mashki Chah	1	3	2	0
Nok Chah	3	1	0	0
Darband Chah	26	27	6	0
Amalaf	23	6	3	0
Saindak	6	8	5	2
Kachau	15	5	1	0
Taftan	6	12	34	1
Tahlab	23	19	5	0
Washab	10	8	0	0
Gwalishtap	1	5	10	0
Rajai	4	5	7	1
Wadian	2	3	3	0
Nok Kundi	6	18	19	7
Dalbandin	3	19	21	7
Total	**140**	**161**	**117**	**18**
Percentage	**32%**	**54%**	**87%**	**100%**

According to the 2010 ESIA report, the poverty incidence for rural areas in Pakistan (2005/06) was 27%. About one-third of the households were below the poverty line.

According to the 2022 Survey, 40% of households from the surveyed settlements were below the poverty line, indicating a substantial portion of the population living in impoverished conditions. This prevalence of poverty is largely attributed to the dearth of employment opportunities within the area, coupled with limited economic activities available to residents. Consequently, many individuals and families struggle to secure stable sources of income, perpetuating the cycle of poverty within the community.

Women

Women in the surveyed settlements near the Reko Diq Mine Site had limited opportunities to work and were confined to their houses and settlements, with minimum contribution to the household income. Most of the women were either involved in housekeeping or livestock rearing or both. Women in the surveyed settlements near the Reko Diq Mine Site were economically vulnerable due to their lower educational levels and restricted mobility outside of their settlements. Only a few women were involved in traditional embroidery and handicraft work.

Disability Status

According to the 2022 Survey and 2023 Survey, a total of 48 people (0.1% of the total surveyed population) were categorized as having mental or physical disabilities. Most of the reported disabilities were physical, often caused by road accidents or congenital conditions. Mental disabilities were largely unrecognized due to stigmatization, but a few cases related to drug abuse [26] were also reported. Most people with disabilities are cared for by their immediate family members.

Widows

There were 174 widows (accounting to 0.5% of the total surveyed population) within the surveyed settlements. These widows were financially supported by either their brothers or sons.

Elderly or Women-Headed Family

None of the surveyed households were women-headed in the surveyed settlements. Five percent of the surveyed households were headed by elderly men of age 60-years or above. Due to factors like poverty and large family sizes, some elderly people were reported to be working as labourers or in private jobs, such as watchmen and security guards. However, most elderly individuals are cared for by their immediate family members. Familial support systems are also extended to widows, who are often taken care of by their immediate family or blood relatives after their husband passes away.

Indigenous Status

No indigenous persons were reported in the surveyed population.

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[26] Illegal Drug smuggling was reported in the areas near Mine Site due to cross border trades from Afghanistan via Mashkel Route.

5.3.9 Household Assets

This section provides the information of household assets collected from the surveyed settlements near the Reko Diq Mine Site in the 2022 Survey.

Appliances

Exhibit 5.19 presents the different home appliances which were recorded from the surveyed households.

Vehicles

Exhibit 5.20 provides the type and percentage of vehicles owned by the surveyed households. The surveyed population mostly owned motorcycles, pickups and cars which were used for transportation or carrying out cross-border trade.

Exhibit 5.19: Appliance Owned by the Surveyed Households (%) – Reko Diq Mine Site (2022 Survey)

Appliances	*No. of Appliances*	*Humai*	*Mashki Chah*	*Nok Chah*	*Darband Chah*	*Amalaf*	*Saindak*	*Kachau*	*Taftan*	*Tahlab*	*Washab*	*Gwalishtap*	*Rajai*	*Wadian*	*Nok Kundi*	*Dalbandin*
Television	196	1%	0%	0%	0%	15%	9%	1%	22%	12%	4%	0%	0%	0%	17%	20%
Refrigerator/Freezer	212	0%	0%	0%	0%	14%	10%	0%	21%	16%	5%	0%	0%	0%	16%	17%
Radio	5	20%	40%	0%	0%	0%	0%	0%	20%	0%	0%	0%	0%	0%	20%	0%
Washing Machine	185	1%	0%	0%	16%	14%	11%	0%	22%	2%	2%	0%	0%	0%	15%	19%
Electric Iron	228	0%	0%	0%	0%	13%	9%	0%	20%	15%	4%	0%	0%	0%	19%	19%
Electric Fan	731	0%	1%	0%	3%	12%	5%	2%	21%	14%	5%	3%	3%	1%	16%	15%
Electric Room Heater	149	0%	0%	0%	0%	17%	9%	0%	39%	13%	6%	0%	0%	0%	7%	9%
Electric Water Heater/Geyser	140	0%	0%	0%	4%	13%	6%	0%	26%	13%	6%	0%	0%	0%	27%	6%
Sewing Machine	96	3%	3%	0%	7%	17%	2%	1%	30%	4%	2%	0%	0%	0%	11%	19%
Computer	16	6%	0%	0%	0%	19%	6%	0%	13%	0%	13%	0%	0%	0%	13%	31%
Generator	3	0%	0%	0%	0%	0%	0%	0%	67%	0%	33%	0%	0%	0%	0%	0%
Total	**1961**	**1%**	**0%**	**0%**	**3%**	**14%**	**7%**	**1%**	**23%**	**12%**	**5%**	**1%**	**1%**	**0%**	**16%**	**16%**

Exhibit 5.20: Vehicles Owned by the Surveyed Households – Reko Diq Mine Site (%) (2022 Survey)

Vehicles	*No. of Livestock*	*Humai*	*Mashki Chah*	*Nok Chah*	*Darband Chah*	*Amalaf*	*Saindak*	*Kachau*	*Taftan*	*Tahlab*	*Washab*	*Gwalishtap*	*Rajai*	*Wadian*	*Nok Kundi*	*Dalbandin*
Car	92	14%	1%	1%	2%	17%	12%	1%	20%	5%	3%	0%	2%	0%	3%	17%
Jeep	9	0%	0%	0%	0%	11%	0%	0%	22%	0%	0%	0%	0%	0%	33%	33%
Pick-up	160	7%	2%	0%	8%	5%	2%	8%	18%	10%	3%	9%	7%	4%	13%	3%
Truck	9	0%	0%	0%	0%	89%	0%	0%	0%	0%	0%	0%	0%	0%	11%	0%
Motorcycle	135	7%	1%	1%	7%	18%	13%	7%	4%	7%	1%	1%	1%	0%	16%	16%
Total	**405**	**12%**	**11%**	**8%**	**1%**	**0%**	**6%**	**14%**	**8%**	**6%**	**14%**	**8%**	**2%**	**4%**	**3%**	**2%**

Livestock

Exhibit 5.21 presents the number and type of livestock owned by the surveyed households. Goats, camels, and chickens were the predominant form of livestock which grazed in the nearby settlements. During the field survey, it was observed that settlements near the mine site, such as Kachau, Amalaf, and Rajai, keep their livestock in sheds located close to their residences. In the summer, the livestock are fed fresh fodder that grows during the rainy season, while in the winter, residents gather dry grass from nearby fields to sustain them.

In the settlement near Kachau, from March to September, the livestock, primarily camels, are set free to roam and graze. These animals are marked with special characters, such as numbers or symbols, for easy identification.

Exhibit 5.22 shows photographs of the livestock.

Exhibit 5.21: Livestock Owned by the Surveyed Households (%) – Reko Diq Mine Site (2022 Survey)

Livestock	*No. of Livestock*	*Humai*	*Mashki Chah*	*Nok Chah*	*Darband Chah*	*Amalaf*	*Saindak*	*Kachau*	*Taftan*	*Tahlab*	*Washab*	*Gwalishtap*	*Rajai*	*Wadian*	*Nok Kundi*	*Dalbandin*
Buffalo	2	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cow	4	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Oxen	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Camel	689	6	2	2	5	18	0	63	1	0	0	0	1	0	1	0
Goat/Sheep	3,377	2	0	0	4	3	3	62	1	10	5	1	5	1	1	0
Horse	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Donkey	1	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0
Chicken	722	2	0	1	2	3	1	4	7	1	2	0	0	0	72	6
Total	**4,795**	**3**	**1**	**1**	**4**	**5**	**2**	**53**	**2**	**7**	**4**	**1**	**4**	**0%**	**12**	**1**

Exhibit 5.22: Livestock – Reko Diq Mine Site (2022 Survey)

Livestock near Humai Settlement

Livestock near Tahlab Settlement

Cultivated Area and Agriculture

The cultivated area and agriculture practices in the surveyed settlements revealed significant differences based on water availability and local conditions. In settlements near Upper Tahlab, groundwater was used for irrigation, while spring water was utilized in Kachau for crop cultivation. In contrast, many other settlements, such as Humai, Mashki Chah, Nok Chah, and several others, did not have cultivated land and thus, did not grow crops. The presence of palm trees and water sources, such as dug wells for irrigation, played a crucial role in supporting agricultural activities in these areas. The project's land use around the Reko Diq Mine Site is expected to have a negligible impact on ecosystem services, as the area consists mainly of dry streambeds, gravel plains, and sandy dunes, with minimal agricultural activity and human habitation.

Exhibit 5.23 shows the details of cultivated land available and crops grown in the Study Area.

Exhibit 5.23: Cultivated Area and Agriculture – Reko Diq Mine Site (2022 Survey)

Settlement	*Cultivated Land (Kanal)*	*Crops Grown*	*Wheat*	*Maize*	*Rice*	*Vegetable*	*Fodder*	*Date Palms*
Humai	0	No	No	No	No	No	No	No
Mashki Chah	0	No	No	No	No	No	No	No
Nok Chah	0	No	No	No	No	No	No	No
Darband Chah	0	No	No	No	No	No	No	No
Amalaf	0	No	No	No	No	No	No	No
Saindak	0	No	No	No	No	No	No	No
Kachau	20	Yes	Yes	No	No	Yes	Yes	No
Taftan	20	Yes	Yes	Yes	No	Yes	Yes	No
Tahlab	40	Yes	Yes	Yes	No	Yes	Yes	Yes
Washab	40	Yes	Yes	Yes	No	Yes	Yes	Yes
Gwalishtap	0	No	No	No	No	No	No	No
Rajai	0	No	No	No	No	No	No	No
Wadian	0	No	No	No	No	No	No	No
Nok Kundi	0	No	No	No	No	No	No	No
Dalbandin	100	No	No	No	No	Yes	Yes	No

Exhibit 5.24 shows photographs of the agricultural land, palm trees and water sources.

Exhibit 5.24: Palm Trees and Water Sources – Reko Diq Mine Site (2022 Survey)

Dug Well for Irrigation of Palm Trees at Humai Settlement

Palm Trees near Humai Settlement

Cultivated Land near Tahlab Settlement

Cultivated Land neat Kachau Settlement

Palm Trees near Tahlab settlement

Palm Trees near Wadian Settlement

Groundwater used for irrigation near Tahlab Settlement

Groundwater used irrigation near Washab Settlement

5.3.10 Physical Infrastructure

The subsequent subsections provide the description of physical infrastructure in the surveyed settlements near the Reko Diq Mine Site based on the findings of the 2022 Survey.

Roads and Transportation

The surveyed settlements were connected to main towns and cities via the national highway N40. Access roads between communities and the Reko Diq Mine Site were unsealed.

Exhibit 5.25 shows the photographs of road conditions in the surveyed settlements.

Exhibit 5.25: Road Conditions – Reko Diq Mine Site (2022 Survey).

Un-sealed Road near Humai Settlement

Sealed Road (N 40)

Un-sealed road near Kachau Settlement

Sealed road near Tahlab Settlement

Electricity and Fuel Sources

Exhibit 5.26 provides the distribution of households using electricity and LPG in the surveyed settlements. **Exhibit 5.27** provides photographs of the solar panels and fuel sources.

Exhibit 5.26: Electricity and Fuel Sources – Reko Diq Mine Site (2022 Survey)

Reko Diq Mine Site	*Households using Electricity from Grid (%)*	*Households using Solar panels (%)*	*Households using Fuel wood and shrub from Rangeland (%)*	*Households using Fuel wood from Market (%)*	*Households using LPG (%)*
Humai	0	100	80	12	8
Mashki Chah	0	100	65	15	20

Reko Diq Mine Site	*Households using Electricity from Grid (%)*	*Households using Solar panels (%)*	*Households using Fuel wood and shrub from Rangeland (%)*	*Households using Fuel wood from Market (%)*	*Households using LPG (%)*
Nok Chah	0	100	75	10	15
Darband Chah	0	100	90	0	10
Amalaf	100	0	40	0	60
Saindak	100	0	40	0	60
Kachau	0	100	100	0	0
Taftan	100	0	20	15	65
Tahlab	100	0	97	0	3
Washab	100	0	100	0	0
Gwalishtap	0	100	98	0	2
Rajai	0	100	97	0	3
Wadian	0	100	98	0	2
Nok Kundi	100	0	10	0	0
Dalbandin	100	0	0	0	0

Exhibit 5.27: Solar Panel and Fuel Sources – Reko Diq Mine Site (2022 Survey)

Solar Panels at Humai Settlement

Solar Panels at Darband Chah Settlement


Fuel Wood Sources

Potable Water Supply

The surveyed settlements were facing water scarcity. Groundwater was only accessible through dug wells, which was manually carried to the homes. During the 2022 Survey and 2023 Survey, communities also raised concerns about the poor water quality, predominantly due to high salinity. Some households reported that they boiled water before use but this may not be common practice. Traditional wells were also vulnerable to contamination from human and other animal waste. Municipal Water Supply was only available in main towns like Nok Kundi and Dalbandin. **Exhibit 5.28** shows the photographs of the potable water supply sources.

Exhibit 5.28: Potable Water Sources – Reko Diq Mine Site (2022 Survey).

Water Source at Nok Chah Settlement

Water Source at Mashki Chah Settlement

Water Source at Darband Chah Settlement

Water Source at Humai Settlement

Water source at Washab Settlement

Water source at Taftan Settlement

Sanitation

Most of the surveyed settlements were using pit latrines with slabs. The sanitation conditions were relatively poor due to limited access to water resources. However, sanitation services were available in main towns like Nok Kundi and Dalbandin.

Recreational Sites

Koh-i-Sultan, which is an extinct volcano, and is located approximately 30 km from Nok Kundi, was visited by the locals for recreation.

5.3.11 Social Infrastructure

Health

Flu and fever were the most common diseases according to the 2022 and 2023 Survey. Uncommon diseases in the surveyed population included dysentery, malaria, chickenpox, diarrhoea, jaundice, stomach and kidney problems, and high blood pressure.

In September 2023, RDMC inaugurated the first CHC[27] in Humai settlement near the Reko Diq Mine Site having two doctors (one male and one female), with paramedic support staff and pharmacy staff. **Exhibit 5.29** provides photographs of the health facilities. **Exhibit 5.30** shows the health facilities and distance (km) from the surveyed settlements near the Reko Diq Mine Site as of 2022. **Exhibit 5.31** shows the map of the current available health facilities including the newly established CHC in Humai.

Exhibit 5.29: Health Facilities – Reko Diq Mine Site (2022 Survey)

Rural Health Centre in Nok Kundi

Health Facility in Dalbandin

First Community Health Centre in Humai - 2023

[27] Rural Health Centre (RHC) and Community Health Centre (CHC) both aim to provide healthcare services, however, Community Health Centres can serve a broader demographic, encompassing various communities, whereas Rural Health Centres specifically target and tailor their services to meet the healthcare needs of populations living in rural, often more isolated, areas.

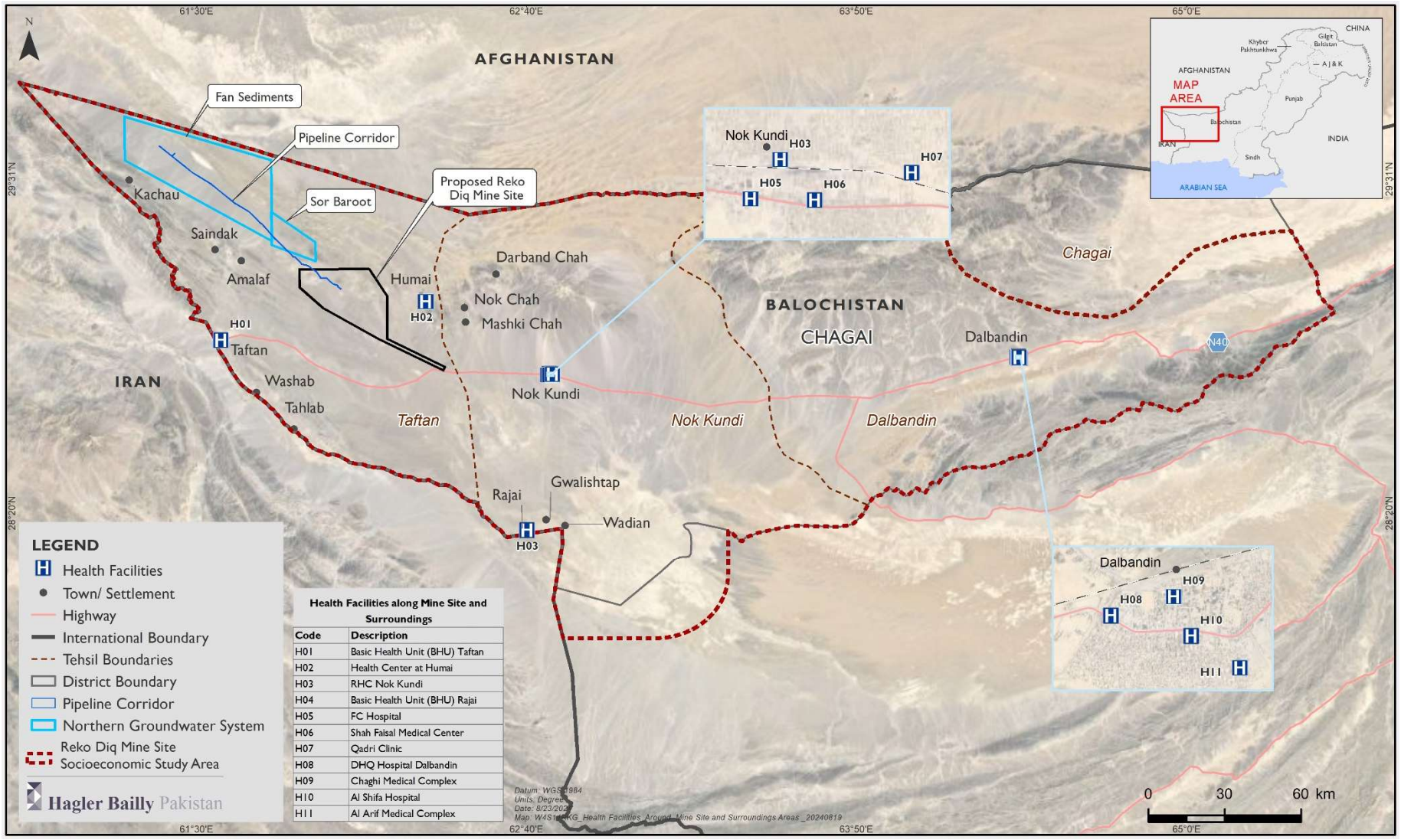
Basic Health Unit (BHU) Taftan

Basic Health Unit (BHU) Rajai

Exhibit 5.30: Accessible Health Facilities – Reko Diq Mine Site (2022 Survey and 2023 Survey)

Reko Diq Mine Site Community	*Facility*	*Type*	*Distance (km)*	*Location*	*Facility*	*Type*	*Distance (km)*	*Location*	*Facility*	*Type*	*Distance (km)*	*Location*
Humai	Dispensary	Private	85	Nok Kundi	RHC	Public	85	Nok Kundi	DHQ	Public	270	Dalbandin
Mashki Chah	Dispensary	Private	50	Nok Kundi	RHC	Public	50	Nok Kundi	DHQ	Public	220	Dalbandin
Nok Chah	Dispensary	Private	60	Nok Kundi	RHC	Public	60	Nok Kundi	DHQ	Public	60	Dalbandin
Darband Chah	Dispensary	Private	75	Nok Kundi	RHC	Public	75	Nok Kundi	DHQ	Public	240	Dalbandin
Amalaf	Dispensary	Private	5	Saindak Copper-Gold Project	Health centre	Private	5	Saindak Copper-Gold Project	BHU	Government	35	Taftan
Saindak	Dispensary	Private	7	Saindak Copper-Gold Project	Health centre	Private	7	Saindak Copper-Gold Project	BHU	Government	36	Taftan
Kachau	Dispensary	Private	100	Taftan	BHU	Government	100	Taftan	DHQ	Government	385	Dalbandin
Taftan	Dispensary	Private	0	Taftan	BHU	Government	0	Taftan	DHQ	Government	276	Dalbandin
Tahlab	Dispensary	Private	45	Taftan	BHU	Government	45	Taftan	DHQ	Government	350	Dalbandin
Washab	Dispensary	Private	40	Taftan	BHU	Government	40	Taftan	DHQ	Government	350	Dalbandin
Gwalishtap	Dispensary	Government	8	Rajai	BHU	Government	8	Rajai	RHC	Government	60	Nok Kundi
Rajai	Dispensary	Government	0	Rajai	BHU	Government	0	Rajai	RHC	Government	55	Nok Kundi
Wadian	Dispensary	Government	15	Rajai	BHU	Government	15	Rajai	RHC	Government	65	Nok Kundi
Nok Kundi	RHC	Public	0	Nok Kundi	DHQ	Public	160	Dalbandin				
Dalbandin	DHQ	Public	0	Dalbandin								

Exhibit 5.31: Health Facilities – Reko Diq Mine Site (2022 Survey)



Education

Exhibit 5.32 provides literacy statistics of the population with a gender breakdown based on data collected during the 2022 Survey. These statistics are expected to have changed as a result of the schools opened by RDMC in settlements near the Reko Diq Mine Site.

Exhibit 5.32: Distribution of Enrolled Population by Gender – Reko Diq Mine Site (2022 Survey)

Location	*Illiterate*		*0-5*		*6-10*		*11-12*		*>12*	
	Male	*Female*	*Male*	*Female*	*Male*	*Female*	*Male*	*Female*	*Male*	*Female*
Humai	38	46	15	1	2	0	0	0	2	0
Mashki Chah	3	3	3	3	1	0	1	0	0	0
Nok Chah	2	4	1	0	1	0	2	0	0	0
Darband Chah	70	72	13	4	3	0	0	0	0	0
Amalaf	22	35	17	10	9	1	2	0	1	0
Saindak	16	26	5	3	8	0	2	0	1	0
Kachau	10	25	16	5	4	0	2	0	0	0
Taftan	34	63	25	6	13	4	2	1	3	0
Tahlab	54	56	17	4	4	0	0	0	1	0
Gwalishtap	18	24	7	2	3	4	1	0	0	0
Rajai	17	23	8	2	4	0	0	0	0	0
Wadian	11	12	0	0	1	0	0	0	0	0
Nok Kundi	46	63	22	10	18	2	6	0	5	0
Dalbandin	27	50	11	10	11	1	10	0	19	1
Total	**383**	**526**	**169**	**62**	**84**	**13**	**29**	**1**	**33**	**1**
Percentage	**29%**	**40%**	**13%**	**5%**	**6%**	**1%**	**2%**	**0%**	**3%**	**0%**

Exhibit 5.33 provides the photographs of educational facilities. A non-functional primary school was present in the Humai settlement, which was made operational by RDMC in 2023. Additionally, RDMC established two primary schools in Mashki Chah and Darband Chah settlements, in 2023. **Exhibit 5.33** shows the map of the available educational facilities.

Exhibit 5.33: Educational Facilities – Reko Diq Mine Site (2022 Survey)

Primary School by RDMC at Humai Settlement

Primary School by RDMC at Mashki Chah Settlement

Primary School by RDMC at Darband Chah Settlement

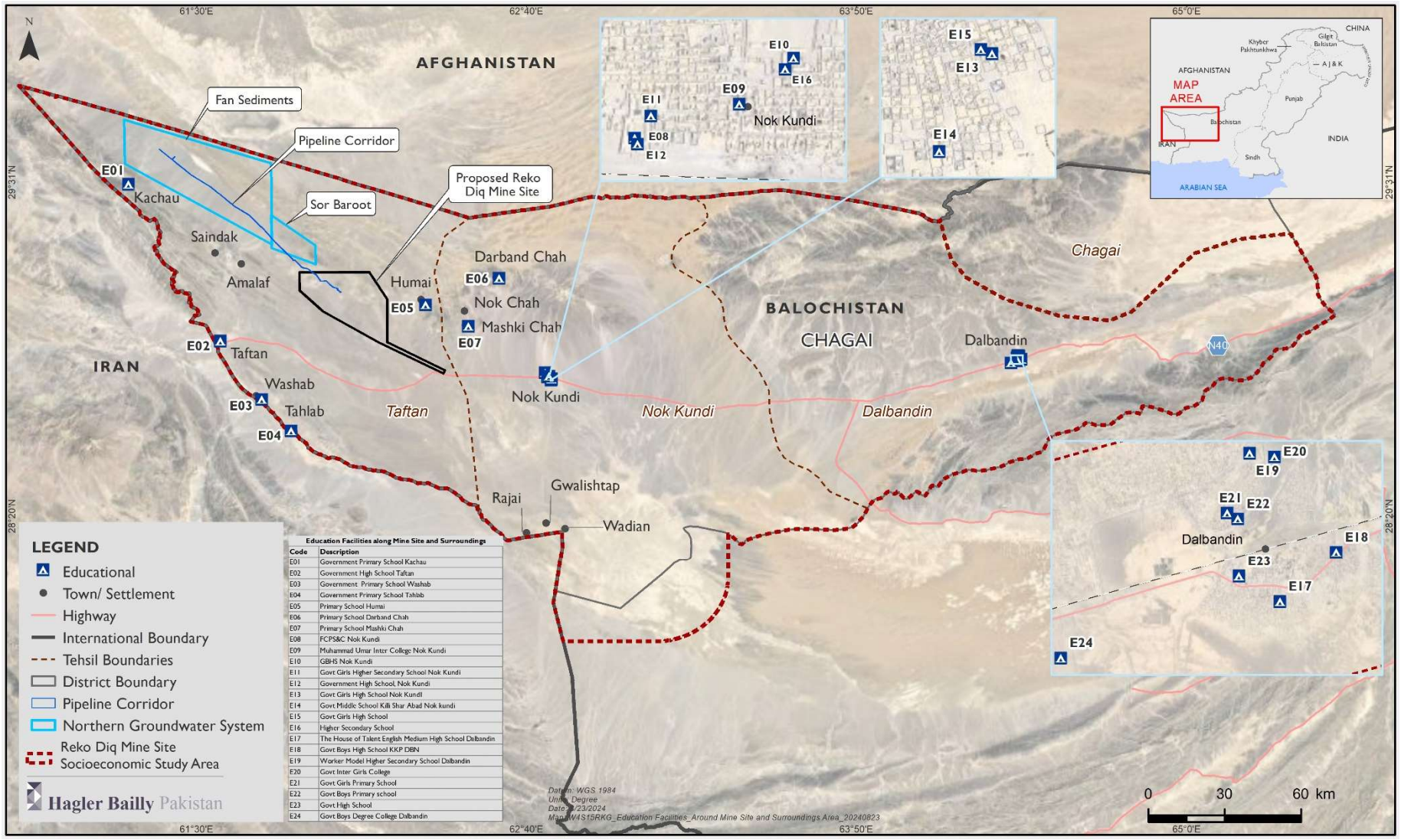
Primary School at Kachau Settlement

Primary School at Washab Settlement

Primary School at Rajai Settlement

Primary School at Tahlab Settlement

Exhibit 5.34: Educational Facilities – Reko Diq Mine Site (2022 Survey)



Literacy Ratio

Balochistan has the lowest literacy rate among the provinces in Pakistan. The gender disparity in literacy is also significant, with a much lower literacy rate in the female population.

Exhibit 5.35 provides the literacy rate and its gender-based distribution in the surveyed settlements near the Reko Diq Mine Site.

Exhibit 5.35: Literacy Rate – Reko Diq Mine Site (2022 Survey)

Literacy level	*Number of Persons*		
	Male	*Female*	*Total*
Illiterate	337	467	**804**
Literate	315	77	**392**
Total	**652**	**544**	**1196**
Literacy Ratio %	48%	14%	33%

The literacy rate in Balochistan was reported as 25% in the 1998 Census, with the literacy rate for men being 34% and that for women being 14%.

According to the 2017 census, the literacy rate of the province increased to 44%[28] The literacy rate of Socioeconomic Study Area is reported to be lower than the literacy rate of Balochistan at 33%.

5.4 Local Baseline - Rail Transport Route

The surveyed settlements along the Rail Transport Route (Yakmach, Kotri, Jamshoro, Dadu, Larkana, Shikarpur, Jacobabad, Dera Murad Jamali, Sibi, Spezand, Pipri and Dhabeji) had both rural and urban settings, featuring Kutcha (constructed with mud and wood), Semi Pucca (constructed with bricks and wood) and Pucca (constructed with concrete and bricks) housing structures. Groundwater served as the primary source for domestic, livestock, and agricultural purposes. Moreover, Jacobabad, Sibi, Dera Murad Jamali, Larkana and Pipri settlements had access to public water supply.

The primary sources of income for both men and women were private and public jobs, labour work in nearby industries, self-owned businesses, and livestock rearing. Most of the households in the surveyed settlements kept livestock including goats, camels, and chickens.

[28] Maqsood, A. J. (2023). Balochistan's most literate district hit by only varsity's new fee structure. Retrieved from https://www.pakistantoday.com.pk/2023/01/22/balochistans-most-literate-district-hit-by-only-varsitys-new-fee-structure/#:~:text=As%20per%20a%20recent%20report,total%2C%2056.66%20percent%20are%20female

The surveyed settlements had access to electricity and gas pipeline supply for household use. Educational and health facilities were accessible from the surveyed settlements. The surveyed settlements were connected to Karachi through the National Highway N5.

5.4.1 Demography

The demography is covered in terms of the following indicators:

- Population and household size
- Sex ratio
- Housing structures.

Population and Household Size

A total of 13 settlements were surveyed along the Rail Transport Route in the 2023 Survey. The surveyed settlements Yakmach, Nushki, Spezand, Sibi, and Dera Murad Jamali are in the Balochistan province and Jacobabad, Shikarpur, Larkana, Dadu, Kotri, Jamshoro, Pipri and Dhabeji are in Sindh province. The photographs of the surveyed settlements are shown in **Exhibit 5.36** provides the summary of the data collected. **Exhibit 5.37** provides the photographs of the settlements.

Exhibit 5.36: Data Summary and Results – Rail Transport Route (2023 Survey)

Settlements	*Estimated Number of Households*	*Estimated Population*	*Average Household Size*
Yakmach	2,000	14,000	7.5
Noshki	5,000	35,000	7.0
Pipri	3,500	22,000	7.0
Kotri	8,000	47,000	6.3
Jamshoro	500	4,000	5.9
Larkana	250	2,000	8.0
Jacobabad	64,000	350,000	8.0
Sibi	10,000	68,000	5.5
Dhabe Ji	300	2,000	6.8
Spezand	2,600	10,000	6.7
Dera Murad Jamali	2,500	18,000	3.8
Dadu	8,500	55,000	7.2
Shikarpur	15,000	100,000	6.5
Total	**120,150**	**727,000**	**6.7**

Exhibit 5.37: Photographs of the Settlements – Rail Transport Route (2023 Survey)

Spezand Settlement

Jacobabad Settlement

Jamshoro Settlement

Larkana Settlement

Pipri

Dhabeji

Sex Ratio

Exhibit 5.38 provides the male to female sex ratio in the surveyed settlements along the Rail Transport Route.

Exhibit 5.38: Sex Ratio – Rail Transport Route (2023 Survey)

Settlements	*Male*	*Percentage*	*Female*	*Percentage*
Yakmach	7,140	51%	6,860	49%
Noshki	17,850	51%	17,150	49%

Settlements	*Male*	*Percentage*	*Female*	*Percentage*
Pipri	10,780	49%	11,220	51%
Kotri	23,030	49%	23,970	51%
Jamshoro	2,040	51%	1,960	49%
Larkana	1,020	51%	980	49%
Jacobabad	178,500	51%	171,500	49%
Sibi	34,680	51%	33,320	49%
Dhabe Ji	1,020	51%	980	49%
Spezand	5,100	51%	4,900	49%
Dera Murad Jamali	9,180	51%	8,820	49%
Dadu	26,400	48%	28,600	52%
Shikarpur	51,000	51%	49,000	49%
Total	**367,740**	**51%**	**359,260**	**49%**

Housing Structure

A mixture of Pucca (constructed with concrete and brick), Semi Pucca (constructed with bricks and wood) and Kutcha (constructed with mud and wood) housing structures were observed in the surveyed settlements along the Rail Transport Route. Pucca housing structures were common in the surveyed settlement. **Exhibit 5.39** shows the photographs of the structures in the surveyed settlements.

Exhibit 5.39: Photographs of the Structures – Rail Transport Route (2023 Survey)

Kutcha House at Kotri Settlement

Semi Pucca Houses at Jamshoro Settlement

Animal Market at Sibi settlement

Graveyard at Spezand Settlement

Mosque at Kotri Settlement

Mosque at Spezand settlement

Pucca House at Pipri

Pucca House at Dhabeji

Shops at Pipri

Shops at Dhabeji

Railway Station at Dhabeji

Mosque at Pipri

5.4.2 Self-Identified Groups

The terms 'Caste' and 'Tribe' are used interchangeably, as there is no nationally recognized definition for these terminologies. These concepts are referred as self-identified groups in this document. Tribe informally refers to group of people who trace their descent through the male bloodline from a supposedly common tribal ancestor.[29] On the other hand, Caste informally refers to a hierarchical system of hereditary and endogamous social groups, often referred to as zats or quoms.[30] According to 2023 Survey, Lashari (12%) was the most dominant caste, Jamot (12%) was the second most dominant caste, and Hazara (11%) was the third most dominant caste among the surveyed settlements along the Rail Transport Route, as reported in the 2023 Survey.

5.4.3 Religion and Language

The population in the surveyed settlements along the Rail Transport Route is predominantly Muslim belonging to the Sunni sect. However, Christian, and Hindu

[29] Khan, U. M., Ijaz, R. H., & Saadat, S. (2021). *Extending Constitutional Rights to Pakistan's Tribal Areas*. United States Institute of Peace.

[30] Usman, A. (2017). A comparison of Hindu and Muslim Caste system in sub-continent. *South Asian Studies*, *32*(01), 91-98.

communities were also observed in the Kotri, Larkana and, Shikarpur settlements. Sindhi was mostly spoken in Sindh province followed by Siraiki which was usually spoken in Pipri, Kotri, Jamshoro, and Shikarpur. However, in Balochistan province, Balochi was mostly spoken followed by Pashto. Urdu was understood everywhere in the Socioeconomic Study Area.

5.4.4 Decision Making

It was reported that most households in the surveyed settlements did not include women in decision-making. The local community communicated that they considered men to be the household heads, so most of the decisions on budget management, matrimonial decisions and property asset management were taken unilaterally by them. Consultative decision-making was mostly reserved for family conflicts. The local communities along the Rail Transport Route were not against marrying their children out of their clans.

5.4.5 Occupation Profile

Exhibit 5.40 provides details of the employment numbers in the surveyed settlements. The male unemployment rate within the working age group was reported as 32% while the female unemployment rate within the working age group was reported as 90%. These unemployment rates were much higher when compared to the national rates which are reported as 5.1% and 7.7% for men and women respectively. This can be explained in part due to the lack of employment opportunities available in the settlements along the Rail Transport Route as well as the low literacy levels in the settlements.

Exhibit 5.40: Employment Numbers – Rail Transport Route (2023 Survey)

Surveyed Population	*Male*	*Female*
Employed Population	145,250	20,120
Unemployed Population	222,490	339,140
Total Population	367,740	359,260

Exhibit 5.41 provides the details on the occupation profile of the surveyed settlements along the Rail Transport Route.

Exhibit 5.41: Occupation Profile of the Surveyed Population – Rail Transport Route (2023 Survey)

Livelihood Sectors	*Male*	*%*	*Female*	*%*
Government Sector	39548	27	4167	21
Private Sector	20732	14	6547	33
Farming	4012	3	470	2
Livestock Rearing	22437	15	1530	8
Self–Owned Business	21177	15	6206	31
Labour	35842	25	1200	6

Cottage Industry	1500	1	0	0
Total	**145,250**	**100**	**20,120**	**100**

5.4.6 Income and Expenditure

Exhibit 5.42 shows the main income sources for the households in the surveyed settlements.

Exhibit 5.42: Average Monthly Income Sources of the Surveyed Households – Rail Transport Route (2023 Survey)

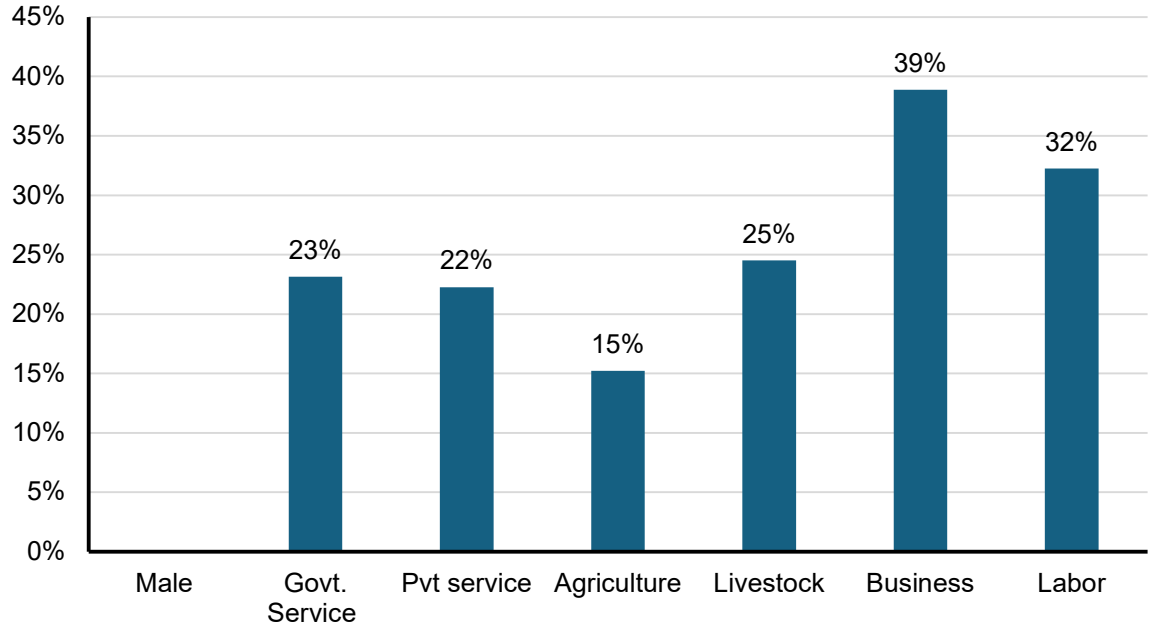
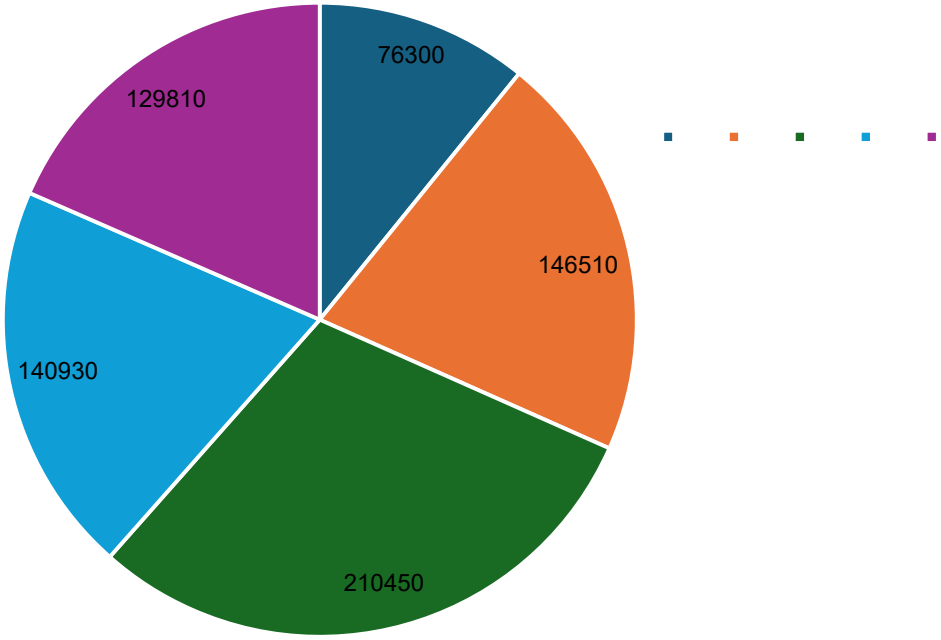


Exhibit 5.43 shows the distribution of households in the surveyed settlements by income level.

Exhibit 5.43: Average Distribution of Estimated Monthly Household Income – Rail Transport Route (2023 Survey)



5.4.7 Vulnerability

Poverty

The lifestyle and living conditions observed while undertaking the 2023 Survey depicted that majority of the population were living above the poverty line in the surveyed settlements along the Rail Transport Route.

Women

According to the 2023 Survey, local communities reported that women were actively participating in both private and public sector jobs, indicating a lack of restrictions on working outside of the home. Furthermore, women had access to educational facilities, providing opportunities for personal and professional development. Their active involvement in economic activities and contribution to household incomes demonstrated that women had some opportunities in the employment sectors.

Disability Status

According to the 2023 Survey, a total of 952 (0.01% of the total surveyed population) people were categorised as having mental and physical disabilities within the surveyed settlements along the Rail Transport Route. Most of the reported disabilities were physical, often caused by road accidents or congenital conditions. Mental disabilities were largely unrecognized due to stigmatization. Most people with disabilities are cared for by their immediate family members.

Widows

As reported during the 2023 Survey, there were 1,620 (0.02% of the total surveyed population) widows reported within the surveyed settlements along the Rail Transport Route. They were being financially supported by either their brothers or sons.

Elderly or Women-Headed Family

No women-headed families were reported by the local communities in the surveyed settlements along the Rail Transport Route. Due to factors like poverty and large family sizes, some elderly people were reported to be working as laborers or in private jobs, such as watchmen and security guards. However, most elderly individuals are cared for by their immediate family members.

Indigenous Status

No indigenous persons were reported in the surveyed population.

5.4.8 Household Assets

This section provides the information collected from the surveyed settlements through settlement level surveys in the 2022 and 2023 Survey.

Appliances

It was reported by the local communities that most households in the surveyed settlements had necessary appliances, including television, refrigerator, washing machine, electric iron, fan, heater, geyser, sewing machine, computer, and generators.

Vehicles

The surveyed communities mostly owned motorcycles, cars, and pickups, which they used for transportation.

Livestock

Exhibit 5.44 presents the number and type of livestock owned by the households in the surveyed settlements. It was reported that most of the households in the surveyed settlements kept buffaloes, cows, sheep, goats, and chickens as well as donkeys which were used for work purposes (labour or business). However, Sibi has one of the largest animal markets in Balochistan, and houses a significant portion of the region's livestock population and trade services.[31] **Exhibit 5.45** provides the photographs of the livestock.

[31] Sibi hosts one of the largest animal markets in Balochistan and is home to the Sibi Mela, a centuries-old annual cultural show that has been held in Sibi since 1885. (Source: http://livestock.gob.pk/website/Site/NewsEventDetail/12)

Exhibit 5.44: Livestock in the Surveyed Settlements – Rail Transport Route (2023 Survey)

Livestock	*Yakmach*	*Noshki*	*Pipri*	*Kotri*	*Jamshoro*	*Larkana*	*Jacobabad*	*Sibi*	*Dhabe Ji*	*Spezand*	*Dera Murad Jamali*	*Dadu*	*Shikarpur*
Bullock/Buffalo	0	0	1,500	1,200	200	150	5000	25,000	0	55	8,000	5,000	2,500
Cow	0	300	800	800	250	10	200	5,000	50	25	100	500	50
Sheep	20	400	200	200	0	0	0	800	0	25	0	0	0
Goat	60	500	400	600	100	30	500	30,000	100	0	200	400	400
Donkey	0	40	30	50	5	5	50	100	2	2	50	80	100
Horse	0	10	0	0	0	0	0	80	0	0	0	0	20
Camel	18	20	0	5	0	0	0	150	0	0	0	10	0
Poultry	20	80	500	500	250	50	0	600	150	250	300	500	600
Total	**118**	**1350**	**3,430**	**3,355**	**805**	**245**	**5,750**	**61,730**	**302**	**357**	**8,650**	**6,490**	**3,670**

Exhibit 5.45: Photographs of the Livestock– Rail Transport Route (2023 Survey)

Animal Market at Sibi Settlement

Livestock near Dera Murad Jamali Settlement

Livestock near Sibi Settlement

Livestock near Jacobabad Settlement

Cultivated Area and Agriculture

The surveyed settlements along the Rail Transport Route, Nushki, Dera Murad Jamali, and Larkana had extensive agricultural land. However, Dalbandin, Kotri, Jamshoro, Sibi and Dadu had small agricultural land parcels where they grew wheat, maize, and vegetables. Ground water and water from the Indus River was being used for irrigation in the surveyed settlements along the Rail Transport Route.

Exhibit 5.46 provides information on the cultivated land and crops and **Exhibit 5.47** shows photographs of the agricultural land.

Exhibit 5.46: Cultivated Land and Crops– Rail Transport Route (2023 Survey)

Settlements	*Cultivated Land (Kanal)*	*Crops Grown*	*Wheat*	*Maize*	*Rice*	*Vegetable*	*Fodder*	*Date Palms*
Yakmach	0	No	No	No	No	No	No	No
Nushki	9,500	Yes	No	No	Yes	Yes	Yes	No
Jamshoro	20	Yes	Yes	No	Yes	No	No	No
Larkana	700	Yes	Yes	Yes	Yes	Yes	No	No
Jacobabad	0	No	No	No	No	No	Yes	No

Settlements	*Cultivated Land (Kanal)*	*Crops Grown*	*Wheat*	*Maize*	*Rice*	*Vegetable*	*Fodder*	*Date Palms*
Sibi	25	Yes	Yes	No	Yes	Yes	No	No
Kotri	200	No	No	No	Yes	No	No	No
Spezand	0	No	No	No	No	No	Yes	No
Dera Murad Jamali	1,200	Yes	Yes	No	Yes	Yes	No	No
Dadu	450	Yes	Yes	No	Yes	Yes	No	No
Shikarpur	0	No	No	No	No	No	Yes	No
Pipri	0	No	No	No	No	No	No	No
Dhabeji	250	Yes	No	No	Yes	Yes	Yes	No

Exhibit 5.47: Photographs of the Agricultural Land– Rail Transport Route (2023 Survey)

Agricultural field near Dadu Settlement

Agricultural field near Larkana Settlement

Agricultural field near Dera Murad Jamali Settlement

Cultivated Land near Dhabeji Settlement

5.4.9 Physical Infrastructure

This section provides information related to the physical infrastructure collected in the 2023 Survey.

Roads and Transportation

The surveyed settlements along the Rail Transport Route were connected to main cities and towns through the sealed National Highways, N40, N55 and N65. The access roads in main town and cities like Shikarpur, Larkana, Jacobabad, Dadu, Jamshoro and Sibi were sealed and were in good condition. However, community pathways and access roads within the surveyed settlements were unsealed and in poor condition.

Exhibit 5.48 shows the conditions of the road and transport infrastructure in the Rail Transport Route.

Exhibit 5.48: Photographs of the Road Conditions– Rail Transport Route (2023 Survey)

Un-sealed road at Kotri

Un-sealed road at Larkana

N-55 Highway

Railway Track near Spezand

Railway Track near Dera Murad Jamali

Railway Track near Dadu

Sealed Road N5 near Dhabeji Settlement

Un-sealed Road near Dhabeji Settlement

Railway Track near Dhabeji Settlement

Electricity and Fuel Sources

The surveyed settlements along the Rail Transport Route had access to electricity and gas pipelines for domestic use. Most of the households in the Nushki settlement and some households in Yakmach settlement were using LPG for cooking and space heating. **Exhibit 5.49** shows the percentages of households using electricity and fuel sources in the surveyed settlements. **Exhibit 5.50** shows the photographs of the fuel sources.

Exhibit 5.49: Electricity and Fuel Sources– Rail Transport Route (2023 Survey)

Settlements	*Households using Electricity from Grid (%)*	*Households using Solar panels (%)*	*Households using Fuel wood and shrub from forest (%)*	*Households using Fuel wood from Market (%)*	*Households using LPG (%)*	*Households using Gas Pipeline (%)*
Yakmach	100	0	70	0	30	0
Nushki	100	0	0	20	80	0
Jamshoro	100	0	25	0	0	75
Larkana	100	0	80	20	0	0
Jacobabad	100	0	0	15	5	80
Sibi	100	0	5	10	5	80
Kotri	90	0	30	70	0	0

Settlements	*Households using Electricity from Grid (%)*	*Households using Solar panels (%)*	*Households using Fuel wood and shrub from forest (%)*	*Households using Fuel wood from Market (%)*	*Households using LPG (%)*	*Households using Gas Pipeline (%)*
Spezand	100	0	0	60	5	35
Dera Murad Jamali	100	0	0	15	5	80
Dadu	100	0	5	20	0	80
Shikarpur	100	0	0	0	0	100
Pipri	100	0	0	0	0	100
Dhabeji	100	0	20	0	0	80

Exhibit 5.50: Photographs of the Fuel Sources– Rail Transport Route (2023 Survey)

Fuelwood Sold near Jamshoro

Fuelwood Sold near Larkana

Transport of Fuelwood near Dhabeji Settlement

Potable Water Supply

The settlement along the Rail Transport Route had access to groundwater. Public water supply was available in the main towns and cities like Jacobabad, Sibi, Dera Murad Jamali and Larkana. Water filtration plants were also observed in the surveyed settlements along the Rail Transport Route. **Exhibit 5.51** shows photographs of water sources.

Exhibit 5.51: Photographs of the Potable Water Sources – Rail Transport Route (2023 Survey)

Water Filtration Plan at Jacobabad Settlement

Water source at Kotri Settlement

Sanitation

Most of the settlements used a mixture of pit latrines and pit latrines with slabs. Only main towns and cities like Jacobabad, Sibi, Dera Murad Jamali, Dadu, Shikarpur, and Larkana had a municipal sewage system.

Recreational Sites

It was reported by the local communities during the 2023 Survey that Syed Natho Shah Bukhari Temple and Church of Pakistan are important sites in the Kotri settlement, while the Victoria Tower is located near Jacobabad settlement. Fort Mir Chakar Khan and the famous Jirga Hall, located near Sibi and the archaeological ruins of Mehrgarh that are 30 km away from Sibi settlement are frequented by the communities for recreation.

5.4.10 Social Infrastructure

Health

This section provides the information collected from the surveyed settlement through settlement level surveys conducted in the 2023 Survey. Primary health facilities including BHU, Tehsil Headquarter Hospital (THQ) and DHQ were available in the surveyed settlements. Lady Health Visitors/Workers (LHVs and LHWs) provided basic health services and polio vaccinations to the households in the surveyed settlements.

None of the diseases were reported as epidemic. The most common illness reported for all age groups of the population was flu/fever. Other reported illnesses included dysentery, malaria, chickenpox, diarrhoea, jaundice, high blood pressure, and stomach and kidney problems.

Exhibit 5.52 shows photographs of the health facilities accessible to the local communities. **Exhibit 5.53** provides details of the health facilities in the surveyed settlements and the distances (km) from the settlement. **Exhibit 5.54** shows the map of the health facilities.

Education

Educational facilities including primary and high schools were available in the surveyed settlements. Colleges and universities like Sindh University Campus in Dadu and Shah Abdul Lateef University in Shikarpur were also accessible to the residents of the

surveyed settlements. **Exhibit 5.56** shows photographs of available educational facilities. **Exhibit 5.57** provides the number of students enrolled at different educational levels in the surveyed population. **Exhibit 5.58** shows the map of the education facilities.

Exhibit 5.52: Photographs of the Health Facility– Rail Transport Route (2023 Survey)

BHU near Dera Murad Jamali

Basic Health Unit (BHU) at Yakmach Settlement

Health Facility in Pipri Settlement

General Hospital in Pipri Settlement

BHU Dhabeji

Exhibit 5.53: Available Health Facilities – Rail Transport Route (2023 Survey)

Settlement	*Facility*	*Type*	*Distance (km)*	*Location*	*Facility*	*Type*	*Distance (km)*	*Location*
Yakmach	BHU	Public	0	Yakmach	DHQ	Public	57	Dalbandin
Nushki	Dispensary	Government	0	Nushki	DHQ	Government	0	Nushki
Jamshoro	Hospital	Government	3	Jamshoro				
Larkana	Dispensary	Private	0	Larkana	Chandka Medical Hospital	Government	0	Larkana
Jacobabad	Civil Hospital	Government	0	Jacobabad				
Sibi	DHQ	Government	0	Sibi				
Kotri	Hospital	Government	0	Kotri				
Spezand	BHU	Government	0	Spezand	Civil Hospital	Government	40	Quetta
Dera Murad Jamali	Civil Hospital	Government	0	Dera Murad Jamali				
Dadu		Private	0	Dadu	Civil Hospital	Government	0	Dadu
Shikarpur	Civil Hospital	Government	0	Shikarpur				
Pipri	Dispensary	Government	2	Shah Nawaz Goth	Hospital	Government	2	Gulshan Hadeed
Dhabeji	BHU	Government	0	Dhabeji	Civil Hospital	Government	45	Makli

Exhibit 5.54: Health Facilities – Rail Transport Route (2023 Survey)

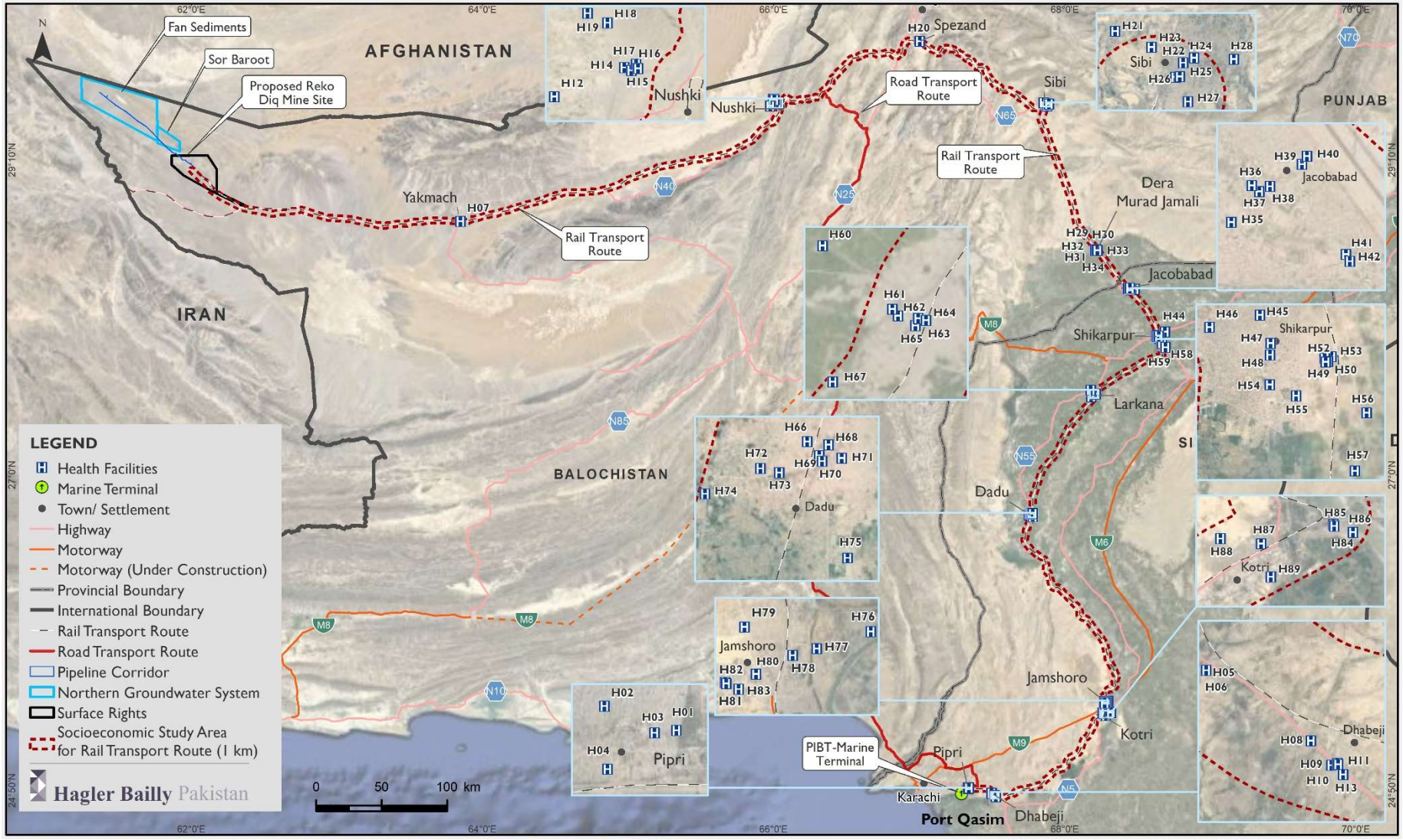


Exhibit 5.55 Health Facilities along Rail Transport Route

Code	*Description*	*Code*	*Description*	*Code*	*Description*	*Code*	*Description*
H01	Allah Dhino Medical Clinic	H24	Al Basit Medical	H47	HMB Hospital	H70	Emergency Casuality Department Dadu
H02	Quratul Ain General Hospital	H25	Kidney Health Care & Medical Center	H48	Hiranad Gangabai Ladies Hospital	H71	City Medical Center Dadu
H03	General Hospital in Pipri Settlement	H26	EPI Center Sibi	H49	DHQ Shikarpur	H72	TB Hospital Dadu
H04	AMJ Pipri Clinic	H27	Pakistan Medical Center Sibi	H50	Civil Hospital	H73	USAID Medical and General Hospital Dadu
H05	Civil Hospital PPHI Dhabeji	H28	DHQ Sibi	H51	RBUT Civil Hospital	H74	Indus Medical Center Dadu
H06	BHU Dhabeji	H29	MSF Hospital	H52	NICVD Chest Pain Unit Shikarpur	H75	Dadu Hospital
H07	BHU Yakmach	H30	DHQ Hospital	H53	DHQ Hospital Shikarpur	H76	Government LSB Jamshoro
H08	Mehran Clinic and Maternity Homes	H31	Civil Hospital Dera Murad Jamali	H54	Hira Nand Ganga Bahi Hospital	H77	The Mind Place Rehabiitation and Education Center Jamshoro
H09	Sindh Social Security Hospital	H32	Al Raheem Hospital	H55	Shikarpur Christian Hospital	H78	Aftab Herbal Point Jamshoro
H10	Mehraan Clinic Dhabeji	H33	Dr Talib Magsi Clinic	H56	20 Beds Hospital Shikarpur	H79	Asif General Hospital Jamshoro
H11	Mehran medical and Trauma Clinic	H34	Gul Hospital	H57	Charity Hospital	H80	BMC Hospital Jamshoro
H12	BHU Kili Jamaldini	H35	Behtar Zindagi Center Jacobabad	H58	PPHI BHU Jamra	H81	Civil Hospital Jamshoro
H13	Maternity Home Clinic	H36	EPI Center Civil Hospital Jacobabad	H59	BHU Wazirabad	H82	Child Health Care Facility Sindh, Jamshoro

Code	*Description*	*Code*	*Description*	*Code*	*Description*	*Code*	*Description*
H14	DHQ Nushki	H37	DHQ Hospital Jacobabad	H60	BHU Shahabad Larkana	H83	Nirma Cancer Hospital Jamshoro
H15	Talha Hospital Nushki	H38	Civil Hospital Jacobabad	H61	Larkana General Hospital	H84	DHQ Kotri
H16	Tariq Hospital	H39	BHU Jamo Dakhan	H62	Child Health center Larkana	H85	Taluka Hospital Kotri
H17	Al Naseem Medical city Clinic Nushki	H40	BHU Suhno Khan Rind	H63	Sindh Medical Center	H86	Memon Hospital Kotri
H18	BHU Kili Mangal 11	H41	NICVD Chest Pain Unit Jacobabad	H64	National Medical Center Larkana	H87	Sindh medical Center Kotri
H19	BHU Kili Sardar	H42	JIMS Jacobabad Institute of Medical Science	H65	Civil Hospital Larkana	H88	Basic Health Unit Kotri
H20	BHU Spezand	H43	PAF Hospital Shahbaz	H66	Benazir Clinic Dadu	H89	Sindh Social Security Dispensary Kotri
H21	BHU Dehpal Kalan	H44	BHU Village Haji Khawasti Bori Hospital Shikarpur	H67	PPHI Hospital Haseeb Chandio Larkana		
H22	Combined Military Hospital Sibi	H45	Shikarpur Women Hospital	H68	District Hepatitis Hospital Dadu		
H23	Civil Veterinary Hospital	H46	Ali Charitable Maternity Hospital	H69	Civil Hospital Dadu		

Exhibit 5.56: Photographs of the Educational Facilities – Rail Transport Route (2023 Survey)

Government High School Boys at Dera Murad Jamali settlement

Government Girls Primary School at Rustam Khan Domki settlement

Government Primary Girls School at Jacobabad settlement

Shaheen Vocational Training Institute at Jacobabad settlement

Government Boys Primary School at Kotri settlement

Government Primary School at Dhabeji settlement

Government High school, Dhabeji

Government Primary School, Dhabeji

Exhibit 5.57: Distribution of Enrolled Population by Gender– Rail Transport Route (2023 Survey)

Settlements	*Primary (Nursery to Class V)*		*Secondary (Class IX to X)*		*Degree College/ University*	
	Male	*Female*	*Male*	*Female*	*Male*	*Female*
Yakmach	250	200	100	0	15	0
Noshki	1200	1000	800	750	700	600
Pipri	800	700	500	200	150	80
Kotri	250	100	180	70	800	700
Jamshoro	150	50	60	30	15	0
Larkana	250	100	200	120	0	0
Jacobabad	1500	1200	5000	2500	600	200
Sibi	2000	1300	1800	1500	300	180
Dhabe Ji	80	40	100	70	25	15
Spezand	60	30	300	3	25	15
Dera Murad Jamali	1500	1400	2000	2200	600	300
Dadu	1200	800	1500	1200	3500	1000
Shikarpur	900	600	1200	1000	600	200

Exhibit 5.58: Education Facilities – Rail Transport Route (2023 Survey)

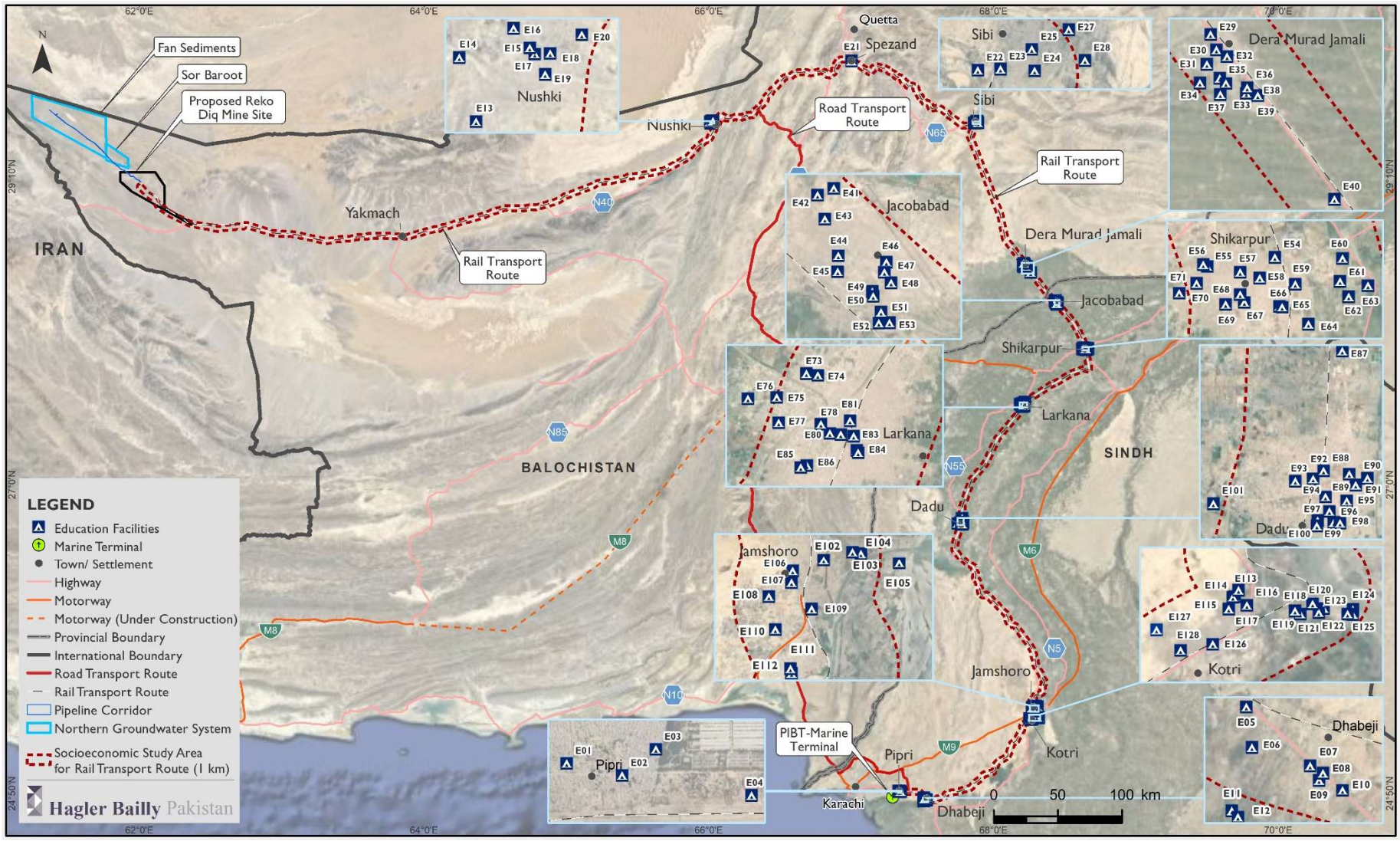


Exhibit 5.59: GIS Codes for Educational Facilities

Code	*Description*	*Code*	*Description*	*Code*	*Description*	*Code*	*Description*
E01	GBPS Saboo Gabol Pipri	E33	Government Model High school	E65	Government Boys High School Agha Saleem Shikarpur	E97	Government Elementary Childern School Dadu
E02	The Star Rising School Pipri	E34	Govt primary School Bugti Abad	E66	Government High School No.2	E98	Ustad Bukhari Govt Degree College Hockey Stadium Dadu
E03	TFC School System Pipri	E35	Government Model Boys High School	E67	Government Primary School Jumani Hall Shikarpur	E99	Mohtarma Benazir Bhutto Shaheed Campus Dadu University of Sindh
E04	TFC High Secondary School	E36	Government Degree College	E68	Govt Girls Degree College Shikarpur	E100	IBA Community College Dadu
E05	Millat School and College Dhabeji	E37	Paragon Public School	E69	Government Islamiat high School	E101	Govt Polytechnic Institute Dadu
E06	Roshni Public School Dhabeji	E38	Shah Faisal Public Middle School	E70	Siddique Mari Government Girls School	E102	Regional Training college HESCO Jamshoro
E07	The Nexus Education Skills Development Avenus	E39	Shah Faisal Public School Dera Murad Jamali	E71	Government Girls High School Shikarpur	E103	Government Boys High School
E08	The Educator School Dhabeji Campus	E40	Government kot Mengal Boys High School	E72	Government Arts and Commerce College Larkana	E104	Government Girls Higher Secondary School
E09	Milat Secondary School and College Dhabeji	E41	Govt Institute of Business and Commercial Jacobabad	E73	Government High School Waleed Larkana	E105	Government Girls Primary School
E10	The Smart School Al Kausar Gharo Dhabeji Campus	E42	Government Boys Primary School for Boys and Girls Jalaluddin Ridd Jacobabad	E74	Government Primary School New Sheikh Zaid Colony Larkana	E106	Para Medical Institute Jamshoro

Code	Description	Code	Description	Code	Description	Code	Description
E11	GBHS Pump House Dhabeji	E43	Government Boys Primary School Special Force Jacobabad	E75	The University of Larkana	E107	Bilawal Medical College KUMHS
E12	GGPS Pump House Dhabeji	E44	Govt SMA High School Jacobabad	E76	Government Elementary College of Education Women Larkana	E108	Nursing College LUMHS Jamshoro
E13	Govt High School Asyaban	E45	Govt Girls Main Primary School Jacobabad	E77	Government High School Colony	E109	Government Boys Primary School Bhirya Village Jamshoro
E14	Government Girls School	E46	Govt Muhammad Akbar Peerzada School (IQRA)	E78	Sindh University Campus Lakrna	E110	Government Vocational School Girls Jamshoro
E15	Govt Model High School Bazar Nushki	E47	Govt Degree College Jacobabad	E79	Government Higher Secondary School Larkana	E111	The pioneers School and College Jamshoro Campus
E16	The Hira Science School Nushki	E48	Government Elementary College Jacobabad	E80	Government Primary School Larkana	E112	Government Boys Higher Secondary School Jamshoro
E17	Govt Girls High School Killi Ghariabad Nushki	E49	Govt (Boys) Higher Secondary School	E81	Law College Larkana	E113	The Kingsway School Kotri
E18	The Balochistan Public School Nushki	E50	College of Nursing Male Jacobabad	E82	Govt Girls High school Qaim Shah Bukhari Larkana	E114	Al Hamd Professional Skills Development Center Kotri
E19	Government Primary School Muhammad Akbar	E51	Govt Polytechnic Institute Boys Jacobabad	E83	Government Vocational School Dhari Mohala Larkana	E115	Government boys High School Kotri
E20	Government Primary School Qari Abdul Basit Nushki	E52	IBA Community College Jacobabad	E84	Government Vocational School Girls Larkana	E116	Government Girls Primary School Kotri
E21	Govt Boys High School Spezand	E53	Islamia Public School Jacobabad	E85	Government Degree College Larkana	E117	Government Boys/Girls Primary School Sikandarabad Kotri
E22	Army Public School and College Sibi	E54	MBS Law College	E86	Begum Nusrat Bhutto Government Girls Degree College Larkana	E118	Rising Educators Kotri Campus

Code	Description	Code	Description	Code	Description	Code	Description
E23	Govt Boys High School Railway Colony Sibi	E55	Government Qazi Mohallah City High School & College	E87	Government Vocational Training Center Boys Dadu	E119	AD Baloch Government School Kotri
E24	Govt Boys High School Ghari Abad	E56	GPS Shikarpur	E88	Government Institute of Business and Commercial Education Dadu	E120	Rising Student Academy Kotri
E25	Govt Model High School	E57	Shah Latif College Shikarpur	E89	Government Girls Degree College Dadu	E121	Government Primary School Kotri
E26	Govt Girls High School Muhallah Din Garh Noor Pur Road Sibi	E58	Government Girls Primary School	E90	Govt Girls Degree College Dadu	E122	Government Boys Primary School Nago Lane Kotri
E27	Govt Girls Degree College Sibi	E59	Government Vocational Institute Boys Shikarpur	E91	Govt Boys High School Dadu	E123	Government Campus Ishat-ul-Islam High School Korti
E28	Government Boys Degree College Sibi	E60	Govt Shah Latif Arts Commerce Degree College Shikarpur	E92	Government Girls Primary School Makki Masjid Dadu	E124	Kotri City High School
E29	Luawms University College	E61	Government Polytechnic Institute Boys Shikarpur	E93	Government Boys primary School Housing Society Dadu	E125	Government Primary school Kotri Sakandarabad
E30	Qadeer Public School Dera Murad Jamali	E62	Government Elementary College of Education	E94	Government Girls High School Dadu	E126	Madrassa Arabia Khatam-un-Nabyen
E31	GBP School Abdul Rasool Bugti	E63	Government Shah Latif Arts and Commerce College Shikarpur	E95	Government Elementary Primary Sindhi Main School Dadu	E127	Government Primary School Kotri
E32	Govt Girls High school	E64	C&S Govt Degree College	E96	Government Pilot Secondary School Dadu	E128	GHS Khurshid Colony Kotri

5.5 Summary

Surveys were conducted in 28 settlements in the Socioeconomic Study Area which included fifteen settlements near the Reko Diq Mine Site, and thirteen settlements along the Rail Transport Route. The surveys informed the formulation of this baseline, which is summarised below.

The average household size varied in the settlements with the highest being reported as 6.9 in the settlements near the Reko Diq Mine Site and as 6.7 along the Rail Transport Route. The housing structure was a mixture of Kutcha (constructed with mud and wood), Semi-Pucca (constructed with bricks and wood), and Pucca (constructed with concrete and bricks). The settlements near the Reko Diq Mine Site were in a rural setting and the housing structure was predominantly kutcha. On the other hand, a mixture of pucca, semi-pucca, and kutcha housing structures were observed in the settlements along the Rail Transport Route.

Balochi and Brahui emerged as the predominant languages spoken in the settlements near the Reko Diq Mine Site while in the settlements along the Rail Transport Route, Sindhi dominated in settlements within Sindh, followed by Siraiki, while Balochi was prevalent in settlements within Balochistan, followed by Pashto.

The entirety of the surveyed population in the settlements near the Reko Diq Mine Site identified as Sunni Muslims. Similarly, the surveyed settlements along the Rail Transport Route were predominantly Sunni Muslim. However, in Kotri, Larkana, and Shikarpur settlements, Christian and Hindu communities were also observed.

In the settlements near the Reko Diq Mine Site, a substantial portion of the working-age population faced unemployment, with 26% of men and 42% of women being without work. Among the employed population, labour work (28%) and livestock rearing (36%) were the primary occupations, with a smaller percentage engaged in self-owned businesses (16%) and public or private jobs (14%). Women in these settlements were primarily involved in livestock rearing and labour work in small mining projects near the Darband Chah settlement. In settlements along the Rail Transport Route, the male unemployment rate within the working age group was reported as 32% while the female unemployment rate within the working age group was reported as 90%. These unemployment rates were much higher when compared to the national rates which are reported as 5.1% and 7.7% for males and females respectively.

The average monthly household income in the communities near the Reko Diq Mine Site was PKR 30,219. In the settlements along the Rail Transport Route, 30% of households earned between PKR 35,001 and PKR 50,000, while 20% earned between PKR 50,001 and PKR 75,000.

The average monthly household expenditure in the surveyed settlements near the Reko Diq Mine Site was PKR 25,457. Furthermore, a notable proportion of households (40%) were below the national poverty line in various settlements.

Agricultural practices exhibited considerable diversity among the surveyed settlements. In settlements near the Reko Diq Mine Site, limited access to water resources led to no involvement in agriculture, although palm trees were grown in Humai and Mashki Chah for self-consumption, irrigated by dug wells. Settlements like Kachau, Tahlab, Washab,

and Taftan, however, were engaged in agriculture, cultivating wheat, maize, and fodder, with some growing vegetables and palm trees. Groundwater and spring water were used for irrigation. Along the Rail Transport Route, settlements such as Nushki, Dera Murad Jamali, and Larkana had extensive agricultural land, while Kotri, Jamshoro, Sibi, and Dadu had smaller parcels cultivating wheat, maize, and vegetables. Groundwater and water from the Indus River were used for irrigation.

In settlements near the Reko Diq Mine Site, connections to main towns and cities were facilitated by national highway N40, with unsealed access roads leading to the mine site. Settlements along the Rail Transport Route were connected to main cities and towns via the sealed national highways N55 and N65, with well-maintained access roads within urban centres. However, community pathways and access roads within the surveyed settlements were often unsealed and in poor condition.

In the settlements near the Reko Diq Mine Site, water scarcity was a significant issue, with groundwater accessed only through dug wells, to poor water quality due to high salinity and vulnerable to contamination. Settlements along the Rail Transport Route also accessed groundwater, with public water supply available in main towns and cities like Jacobabad, Sibi, Dera Murad Jamali, and Larkana. Water filtration plants were observed in surveyed settlements along the Rail Transport Route.

Most settlements near the Reko Diq Mine Site utilised pit latrines with slabs, reflecting relatively poor sanitation conditions due to limited water resources. Settlements along the Rail Transport Route predominantly employed a mix of pit latrines and pit latrines with slabs for sanitation, with only main towns and cities like Jacobabad, Sibi, Dera Murad Jamali, Dadu, Shikarpur, and Larkana having access to municipal sewage systems.

Flu and fever were the most common diseases reported in the Socioeconomic Study Area while no disease was reported as an epidemic. Other reported illnesses included dysentery, malaria, chickenpox, diarrhoea, jaundice, stomach and kidney problems, and high blood pressure.

At the time of the surveys, most of the settlements near the Reko Diq Mine Site did not have basic health facilities within the settlements. The nearest health facility was a Rural Health Centre 67 km away in Nok Kundi. A health centre was located at Saindak Copper Mining Project and a BHU at Rajai settlement. Primary healthcare facilities such as BHUs, RHCs, and DHQs were available in the main towns and cities which included DHQ Dalbandin, BHU Yakmach, BHU Hoshab, Bhu Kalatuk, RHC Nag, and a Teaching Hospital in Turbat. A mobile medical unit had also been set up in Nok Kundi by RDMC. Similarly, primary health facilities were also available in the settlements along the Rail Transport Route which included BHU, THQ, and DHQ.

Primary schools had been established by RDMC for settlements located near the Reko Diq Mine Site. For secondary and higher secondary education, the nearest schools were available in Nok Kundi and Taftan. The surveyed settlements along the Rail Transport Route had access to educational facilities including schools, colleges, and universities. Colleges and universities in Karachi were also accessible to the residents of the surveyed settlements.

The literacy rate in the surveyed population in the Socioeconomic Study Area varied but overall was significantly low.

6. Impact Assessment

6.1 Identified Potential Impacts

A summary of the impacts and their significance is provided below in **Exhibit 6.1.**

Exhibit 6.1: Summary of Impacts and their Significance

Project Facility	*Project Phase*	*Impact*	*Impact Significance*	
			Prior to Mitigation/ Management	*Post-Mitigation*
General Impacts	Construction Phase	Employment Opportunities Provided by the Project	Moderate (positive) + 50	Moderate (positive) + 55
		Social Development and Uplift	Minor (positive) + 30	Moderate (positive) + 40
		Unmet Community Expectations	Minor (negative) -24	Negligible (negative) -14
		Retrenchment upon the conclusion of the construction phase	Negligible (negative) -14	Negligible (negative) -7
	Operation Phase	Employment Opportunities Provided by the Project	Major (positive) + 55	Major (positive) + 65
		Social Development and Uplift	Minor (positive) + 36	Major (positive) +60
		Unmet Community Expectations	Moderate (negative) - 48	Negligible (negative) -12
		Perception of increased cost of living	Minor (negative) -30	Minor (negative) -20
	Decommissioning Phase	Retrenchment upon Conclusion of the Operations Phase	Minor (negative) -24	Negligible (negative) -7
Reko Diq Mine Site	Construction	Increase in the stock of skilled human capital due to the transfer of knowledge and skills under the Project resulting in enhanced productivity of local labour	Major (positive) + 60	Major (positive) + 65
		Increase in population due to the in-migration of job seekers (in-migrants) near the Mine Site.	Moderate (negative) -40	Minor (negative) -28
	Operations	Increase in the stock of skilled human capital due to the transfer of knowledge and skills under the Project resulting in enhanced productivity of local labour.	Major (positive) + 60	Major (positive) + 70
		Pressure on existing social infrastructure	Negligible (negative) -16	Negligible (negative) -8
		Potential use and abuse of illicit drugs and harmful substances among drivers employed by	Minor (negative) -30	Negligible (negative) -18

Project Facility	*Project Phase*	*Impact*	*Impact Significance*	
			Prior to Mitigation/ Management	*Post-Mitigation*
		RDMC, increasing the risk of substance abuse permeating into the communities.		
Rail Transport Route	Construction	All impacts covered under “General Impacts”		
Contextual Risk	Overall	Gender Related Impacts	Contextual Risk – Gender Action Plan will be developed	
	Overall	Security Issues	Contextual Risk – Project has limited leverage on security management.	
	Overall	Indigenous People (IP) Rights	Contextual Risk – No IP groups have been identified based on consultations conducted thus far.	

6.2 General Impacts

Certain Project activities will have similar impacts and themes across some or all Project components. This section groups together the anticipated impacts across various components to avoid repetition, and to present mitigation measures and management plans that will address these impacts collectively.

6.2.1 Design Phase

No socioeconomic impacts are anticipated during design phase of the Project. Justifications for selection of the existing design incorporates socioeconomic risks to the extent feasible. These justifications are provided in the Analysis of Alternatives section of the main ESIA.

6.2.2 Construction Phase

The following is a list of possible impacts during the construction phase of the Project:

- **Impact 01:** Direct, indirect, and induced employment resulting in increased prosperity and wellbeing of beneficiaries and their households due to higher and more stable incomes;
- **Impact 02:** Social development projects resulting in improved infrastructure, health, and education outcomes.
- **Impact 03:** Disputes over the distribution of Project employment within and between the local community near the Project facilities and the in-migrants resulting in social unrest.
- **Impact 04:** Retrenchment upon the conclusion of the construction phase.

Several archaeological sites fall within the Project footprint. Management and clearance of these sites is provided in the standalone Cultural Heritage Assessment Report.

Impact 01: Employment Opportunities Provided by the Project

There are limited opportunities for employment in the areas where the proposed Project facilities are to be located. Unemployment is a common issue reported by the stakeholders consulted for the ESIA. Most of the residents in these areas are engaged in livestock rearing and various forms of labour, ranging from semi-skilled to unskilled work. Additionally, some are employed as mining labourers for the existing Saindak Copper Gold Project. The Project currently expects that significant upskilling and training will be require for both technical and non-technical positions. A total of ~10,000 construction related jobs will be created, out of which 2000 will be unskilled labour.

The Project's activities are expected to generate indirect and direct economic activity in the surrounding communities such as through the improvement of road infrastructure, outsourcing of contracts for various services to local vendors, and the provision of employment opportunities by the Project. At the Mine Site, there will be significant employment opportunities generated through the mining operations.

At the Mine Site, 40% of the surveyed households were below the poverty line and the average household income was Pakistani Rupee (PKR) 25,034 per month while most

households along the Water NOCs and Water Pipeline were earning between PKR 20,000 to PKR 35,000. Employment generated by the Project is likely to contribute to increased incomes of the people employed. The increase in incomes of people employed by the Project and those indirectly benefitting is also likely to lead to improved nutritional status, better housing, access to education, and an improvement in the overall well-being of the local communities.

These benefits are expected to be short lived as the construction phase of the Project will only last 5 years. Retrenchment related risks have been discussed separately under **Impact 05.** The Project will carry out a review all contractor's past performance in the construction sector and ensure that it is included as part of the tender performance evaluations. Additionally, the Project will communicate all contractors to ensure that hiring from vulnerable groups is prioritised, and that the hiring process is transparent and equitable.

Impact 01: Employment Opportunities Provided by the Project			
Phase: Construction			
Impact Description: Direct, indirect, and induced employment resulting in increased prosperity and wellbeing due to higher and more stable incomes of people due to construction activity.			
Prior to Mitigation/Management			
Dimension	**Rating**	**Interpretation of Rating**	**Significance**
Duration	3	Medium term *Construction phase will last 5 years.*	Moderate (positive) + 50
Extent	3	Sub-regional Will affect the sub-regional / commune area *Generation of employment opportunities will benefit local communities in the Project vicinity and beyond in communities such as Nok Kundi.*	
Intensity	4	On-going and widespread positive benefits to local communities which improves livelihoods, as well as a positive improvement to the receiving environment. *Many employment opportunities will be generated throughout the construction phase of the Project.*	
Probability	5	Certain / Definite *A local construction workforce will be required for the Project.*	
Nature		Positive	
Mitigation/Management Actions			
• Ensure preferential recruitment of local candidates, especially poor and vulnerable individuals, provided they have the required skills and qualifications. • Include an assessment of the Contractors demonstrated commitment to local procurement and local hiring in the tender evaluation process. • Develop and implement local employment and procurement strategies including establishing specialist HR teams and career and job guidance services in Nok Kundi and other communities..			

• Clearly define and publicise recruitment policies in potential labour-sourcing areas. • Include promotion of local, female and youth employment within employment policy. • Monitor subcontractors in terms of local employment numbers and include specific local employment targets in contracts where appropriate. • Provide local employees with confirmation of employment documents for work undertaken and certificates of completion for in-house training. • Implement a structured stakeholder engagement process and grievance mechanism, as well as direct communication channels to surrounding communities.			
Post-Mitigation			
Dimension	**Rating**	**Interpretation of Rating**	**Significance**
Duration	3	Medium term *Construction phase will last 5 years.*	Moderate (positive) + 55
Extent	4	Regional *Generation of employment opportunities will benefit local communities in the Project vicinity and beyond due to its vast scope, and implementation of the management actions will ensure that these benefits are realised throughout the wider region.*	
Intensity	4	On-going and widespread positive benefits to local communities which improves livelihoods, as well as a positive improvement to the receiving environment. *Many employment opportunities will be generated throughout the construction phase of the Project.*	
Probability	5	Certain / Definite There are sound evidence-based reasons to expect that the impact will definitely occur (probability 90-100%). *A local construction workforce will be required for the Project.*	
Nature		Positive	

Impact 02: Social Development and Uplift

The Project intends to initiate a series of social development projects in the vicinity of the settlements near the Reko Diq Mine Site. These initiatives will primarily focus on enhancing local infrastructure, with particular emphasis on improving health and education facilities and will be an extension of the social development initiatives implemented by RDMC during the construction phase.

The Project development activities will be focused on the communities closest to the Mine Site during the construction phase, such as in Nok Kundi, as these communities will be most directly affected by the Project's negative impacts. RDMC intends to invest in the construction or renovation of healthcare facilities, ensuring that the local community, Project workers and contractors have access to essential medical services and facilities. This aligns with the initiatives already undertaken by RDMC, such as constructing a community health centre in the Humai settlement near the Mine Site, establishing

primary schools in the communities near the Mine Site, and setting up of a mobile health unit at Nok Kundi.

Further initiatives will include building clinics, upgrading existing health centres, or providing medical equipment and supplies to improve healthcare delivery in underserved areas. Similarly, in relation to education, the company aims to support initiatives that enhance access to quality education for children and adults alike. This will involve building schools, providing resources for educational programs, or implementing initiatives to improve literacy rates and educational attainment levels within the community.

By strategically addressing these key aspects of local infrastructure, RDMC aims to bring about a significant improvement in the well-being of the communities in the area. Improved access to healthcare services will lead to better health outcomes, reduced mortality rates, and an overall increase in the quality of life for the local community. Likewise, investing in education will not only empower individuals with knowledge and skills but also contribute to long-term economic development and social stability. All activities will be in conformance with Barrick's Social Performance Policy. To ensure that sufficient funding is allocated for these initiatives, The Project will commit 1% of its Capital Expenditures (CAPEX) cost into community development and initiatives for the construction phase, as per the Mineral Agreement.

Impact 02 Social Development and Uplift			
Phase: Construction			
Impact Description: Social development projects resulting in improved infrastructure, health, and education outcomes.			
Prior to Mitigation/Management			
Dimension	**Rating**	**Interpretation of Rating**	**Significance**
Duration	3	Medium term *Construction phase will last 5 years.*	Minor (positive) + 30
Extent	3	Sub-regional *Development initiatives will benefit local communities in the Project vicinity and beyond due to its vast scope.*	
Intensity	4	On-going and widespread positive benefits to local communities which improve livelihoods, as well as a positively improve to the receiving environment. *Social development initiatives will be undertaken throughout the construction phase of the Project.*	
Probability	3	Probable Has occurred here or elsewhere and could therefore occur (20-50%). *Social development initiatives have been implemented by the Project prior to the start of the construction phase so it is likely that such initiatives will continue.*	
Nature	+	Positive	

Mitigation/Management Actions			
• Formulate a Community Development Plan, including: ♍ Conducting a needs assessment of the local communities across the Project facilities. ♍ Provisions for continual engagement with the local community stakeholders to involve them in the planning and decision-making processes of the social development projects to ensure project outcomes are reflective of community needs. ♍ Tailoring development projects to the needs of the communities in the respective Project facilities. ♍ A system to monitor and evaluate the progress and effectiveness of social development projects. • Prioritise sustainable infrastructure development that aligns with the long-term needs of the community. • Prioritise women and vulnerable groups for planned social development projects. • Establish partnerships with educational institutions and local NGOs to enhance the quality of education and promote skills development. • Involve local community members in the planning and decision-making processes of the social development projects to ensure project outcomes are reflective of community needs. • Implement a monitoring and evaluation system to track the progress and effectiveness of social development projects. • The Project will commit 1% of CAPEX into community development and initiatives, as per the Mineral Agreement.			
Post-Mitigation			
Dimension	**Rating**	**Interpretation of Rating**	**Significance**
Duration	3	Medium term *Construction phase will last 5 years.*	Moderate (positive) +40
Extent	3	Sub-regional *Development initiatives will benefit local communities in the Project vicinity and beyond due to its vast scope.*	
Intensity	4	On-going and widespread positive benefits to local communities, which improves livelihoods, as well as positive improvements to the receiving environment. *Social development initiatives will be undertaken throughout the construction phase of the Project.*	
Probability	4	Likely *Social development initiatives have been implemented by the Project prior to the start of the construction phase so it is likely that such initiatives will continue.*	
Nature	+	Positive	

Impact 03: Unmet Community Expectations

A potential source of conflict is the real or perceived unequal access to Project opportunities such as employment and other economic opportunities including development initiatives. As the Project construction phase requires primarily manual

labour related manpower, and many of the residents from the nearest communities are working in manual labour, competition for manual labour related jobs will be high. A total of roughly ~2000 unskilled labour related jobs will be required for the construction phase of the Project. Community development initiatives are also expected for the socioeconomic uplift of the local community.

Grievances can be expected from local inhabitants of the settlements affected by the Project facilities if the distribution of jobs and access to development initiatives among local communities is perceived to be unfair. Objections may arise if individuals from outside the settlements affected by the Project facilities, are seen to be taking opportunities that local community residents feel they are entitled to, this may lead to the following impacts:

- ***Community Discontent:*** Unmet expectations can lead to dissatisfaction and disappointment within the community, resulting in negative sentiments towards the mining project and its operators;
- ***Social Tensions:*** High hopes for jobs that do not materialise might provoke tension amongst community members, causing conflicts or divisions within the community;
- ***Loss of Trust:*** Failing to meet employment expectations can erode trust between the mining company and the local community, hindering future collaboration or support;
- ***Increased Opposition:*** Disappointment from unmet expectations might fuel opposition to the mining project, leading to protests, activism, or legal challenges against the company's operations; and
- ***Long-term Community Impact:*** Unfulfilled job expectations can have lasting effects on community well-being, socio-economic stability, and the perception of future development projects in the area.

Employment opportunities will also be generated along most Project components but will be greatest at the Mine Site as it will require the most manpower for construction. The Project will ensure implementation of a **Stakeholder Engagement Plan** that upholds the principles of continual stakeholder engagement with the local communities to manage and address CSR (Corporate Social Responsibility) related concerns, and to manage expectations with respect to hiring. A formal **Grievance Redress Mechanism** will also be developed and implemented by the Project. The Grievance Redress Mechanism at minimum will include:

- Provisions for information sharing, disclosure
- Management responsibilities
- Mechanisms for collection of anonymous grievances and at publicly accessible locations
- Localization into Urdu and Balochi
- Assignment of relevant personnel including Community Liaison Officers (CLO)
- Time limits for resolution and collection of feedback

The Project will continue to implement a Local Employment Policy to offer preferential employment to local community members.

Impact 03 Unmet Community Expectations			
Phase: Construction			
Impact Description: Disputes over the distribution of Project employment within and between the local community near the Project facilities and the in-migrants resulting in social unrest.			
Prior to Mitigation/Management			
Dimension	**Rating**	**Interpretation of Rating**	**Significance**
Duration	3	Medium Term *Construction phase will last 5 years.*	Minor (negative) -24
Extent	2	Local *The impact is expected primarily in the vicinity of the Mine Site but is also expected elsewhere close to the Project's activities to a varying degree.*	
Intensity	3	On-going social issues. Damage to items of significance. *Employment opportunities and development initiatives will be executed throughout the construction phase of the Project.*	
Probability	3	Probable *In-migration of workers is expected throughout the construction phase of the Project.*	
Nature	-	Negative	
Mitigation/Management Actions			
• Implement a Stakeholder Engagement Plan including: ♍ Maintaining regular communication with local communities and other stakeholders to minimise tensions arising from the Project activities; ♍ Maintaining a grievance procedure and encouraging and facilitating stakeholders to use the mechanism to express concerns ♍ Providing sufficient resources to the community relations officers to enable them to monitor negative perceptions and associated tensions, and to address them in a timely fashion; ♍ Separate meetings should be held with women and vulnerable people to ensure they also receive relevant information and are properly informed of labour opportunities; ♍ Continue implementing the Grievance Redress Mechanism and update it to meet the requirements of the Project's construction phase. ♋ Continue to implement a Local Employment Policy including: ♍ Provisions for preferential employment for vulnerable groups and nearby communities ♍ Guidelines for a clear, fair, and accessible recruitment process ♍ Mechanisms for regular updates on job opportunities, application timelines, and progress to manage expectations and maintain trust			
Post-Mitigation			
Dimension	**Rating**	**Interpretation of Rating**	**Significance**

Duration	3	Medium Term *Construction phase will last 5 years.*	Negligible (negative) -14
Extent	2	Local *The impact is expected primarily in the vicinity of the Mine Site but is also expected elsewhere close to the Project's activities to a varying degree.*	
Intensity	2	On-going social issues. Damage to items of significance. *Employment opportunities and development initiatives will be executed throughout the construction phase of the Project, however, the mitigation measures suggested above are likely to decrease the intensity of the impact.*	
Probability	2	Probable *In-migration of workers is expected throughout the construction phase of the Project, however, the mitigation measures suggested above are likely to decrease the intensity of the impact.*	
Nature	-	Negative	

Impact 04: Retrenchment upon Conclusion of the Construction Phase

The Project's construction activity, particularly around the Reko Diq Mine Site is poised to bring significant benefits to the local community. By engaging local individuals and businesses, the Project aims to create employment opportunities during its construction phase and foster ongoing partnerships with nearby enterprises. During the construction phase, employment opportunities will be created, providing locals with income sources, and fostering a sense of inclusion and participation in the Project's development. Additionally, local businesses are anticipated to benefit from contracts and partnerships with the Project.

The Project will emphasise, where possible, the retention of all staff employed during the construction of the Project. The Project will also develop a Retrenchment Plan to ensure that the impacts are minimized.

Impact 04: Retrenchment upon Conclusion of the Construction Phase			
Phase: Construction			
Impact Description: Retrenchment upon the conclusion of the construction phase			
Prior to Mitigation/Management			
Dimension	**Rating**	**Interpretation of Rating**	**Significance**
Duration	2	Short term Up to 2 years	Negligible (negative) -14
Extent	2	Local *The labour hired during the construction phase will primarily be from the Mine Site and its surrounding areas*	
Intensity	3	Moderate impacts including on-going social issues.	

		Retrenchment will have a significant impact on those employed by the Project if their jobs are lost.	
Probability	2	Unlikely *Retrenchment can occur upon conclusion of the construction phase*.	
Nature	-	Negative	

Mitigation/Management Actions

- Develop and implement a Retrenchment Plan.
- Include local employment and retention targets in contractor's' Special Conditions of Contract.
- Clearly define and publicise recruitment policies in potential labour-sourcing areas.
- Include promotion of local, female and youth employment within employment policy
- Provide local employees with confirmation of employment documents for work undertaken and certificates of completion for in-house training to assist in seeking alternative employment once construction is complete.
- Implement a structured stakeholder engagement process and grievance mechanism, as well as direct communication channels to surrounding communities.

Post-Mitigation

Dimension	**Rating**	**Interpretation of Rating**	**Significance**
Duration	2	Short term Up to 2 years	Negligible (negative) -7
Extent	2	Local *The labour hired during the construction phase will primarily be from the Mine Site and its surrounding areas.*	
Intensity	3	Moderate impacts including on-going social issues. *Retrenchment will have a significant impact on those employed by the Project if their jobs are lost.*	
Probability	1	Rare / improbable *Retrenchment can occur upon conclusion of the construction phase however; the probability will be reduced due to the suggested mitigation measures.*	
Nature	-	Negative	

6.2.3 Operations Phase

The following is a list of possible positive or negative impacts on the local communities located near the Project facilities during the operational phase of the Project:

- **Impact 05:** Direct, indirect, and induced employment at the local level for men and women resulting in increased prosperity and wellbeing due to higher and more stable income sources;
- **Impact 06:** Social development projects resulting in improved infrastructure and health and education outcomes;

- **Impact 07:** Negative sentiments within the communities towards the Project stemming from the perceived rise in inequalities due to the RDMC benefitting from mining operations in Balochistan while making insufficient contributions for the social and economic uplift of the communities;
- **Impact 08:** Increased cost of living due to the economic activity generated by the Project and an associated potential increase in the prices of basic commodities;

Impact 05: Employment Opportunities Provided by the Project

There are few employment opportunities in the communities along the Project facilities and unemployment is reported as a common issue as there are few industries in the respective areas. The local communities near the mining Project are largely involved in livestock rearing and in unskilled labour work for their livelihood, especially those near the Mine Site.

The Project will provide employment of up to ~6,000 persons for its operations. The Project will directly and through indirect and induced mechanisms (such as more economic activity resulting from improved infrastructure along the Project facilities) contribute towards alleviating poverty and vulnerability in the area and increasing the prosperity and community well-being.

At the Mine Site, 32% of the surveyed households were below the poverty line and the average household income was Pakistani Rupee (PKR) 25,034 per month. Employment generated by the Project is likely to contribute to increased incomes of the people employed. The increased income status of people employed by the Project, and those indirectly benefitting, is also likely to lead to improved health status, better housing, access to education and an improvement in the overall well-being of the local communities. Poverty cycles in poor families can be broken if children have better access to education and therefore have better livelihood options than their parents.

Most of the benefits will be reaped by the communities nearest to the Mine Site, however the railway and road transport requirements will also generate additional employment in the local economy.

As part of best practice, the Project will strive to ensure that the employment opportunities are equitable and inclusive of women, minorities, and other vulnerable groups. As per the Mineral Agreement, the Project will commit 0.4% of its revenue into community development and initiatives.

Impact 05: Employment Opportunities Provided by the Project			
Phase: Operations			
Impact Description: Direct, indirect, and induced employment at the local level for men and women, resulting in increased prosperity and wellbeing due to higher and more stable incomes of people.			
Prior to Mitigation/Management			
Dimension	**Rating**	**Interpretation of Rating**	**Significance**
Duration	5	Inter-Generational - >20 years *Operations phase will last 48 years.*	Major (positive) + 55

Extent	3	Sub-regional *Generation of employment opportunities will benefit local communities in the Project vicinity and beyond due to its vast scope.*	
Intensity	3	On-going and widespread positive benefits to local communities which improves livelihoods. *Employment opportunities will be generated throughout the operations phase of the Project.*	
Probability	5	Certain / Definite *A local workforce will be required for the Project.*	
Nature	+	Positive	

Mitigation/Management Actions

- Ensure preferential recruitment of local candidates, especially poor and vulnerable individuals, provided they have the required skills and qualifications.
- Include local employment targets in contractors' Special Conditions of Contract including targets for women and vulnerable individuals.
- Include an assessment of the contractor's commitment to local procurement and local hiring in the tender evaluation process.
- Coordinate recruitment efforts related to non-skilled labour, including those positions required by contractors.
- Determine and apply what is 'fair and transparent' in recruitment, including the distribution of jobs between different community groups, in consultation with local communities and their leaders.
- Develop and implement local employment and procurement strategies.
- Clearly define and publicise recruitment policies in potential labour-sourcing areas.
- Continued use and improvement of the current registry for jobseekers to document relevant qualifications/experience.
- Provide local employees with confirmation of employment documents for work undertaken and certificates of completion for in-house training.
- Implement a structured stakeholder engagement process and grievance mechanism, as well as direct communication channels for surrounding communities.

Post-Mitigation

Dimension	**Rating**	**Interpretation of Rating**	**Significance**
Duration	5	Inter-Generational - >20 years *Operations phase will last 48 years.*	Major (positive) + 65
Extent	4	Regional Will affect the entire province or region. A broad geographical area distinguished by similar features. *Generation of employment opportunities will benefit local communities in the Project vicinity and beyond due to its vast scope.*	
Intensity	4	On-going and widespread positive benefits to local communities which improves livelihoods. *Employment opportunities will be generated throughout the operations phase of the Project.*	

Probability	5	Certain / Definite *A local workforce will be required for the Project.*	
Nature	+	Positive	

Impact 06: Social Development and Uplift

The Project intends to initiate a series of social development projects in the vicinity of the settlements near the Reko Diq Mine Site. These initiatives will primarily focus on enhancing local infrastructure, with particular emphasis on improving health and education facilities and will be an extension of the social development initiatives taken by RDMC during the construction phase.

The Project's community development activities will be focused on the communities closest to the Mine Site during the operations phase, such as in Nok Kundi, as these will be most directly affected by the Project's negative impacts. RDMC intends to invest in the construction or renovation of healthcare facilities, ensuring that the local community, Project workers and contractors have access to essential medical services and facilities. This aligns with the initiatives already undertaken by RDMC, such as constructing a community health centre in Humai at the Mine Site, establishing primary schools in the communities at the Mine Site, and setting up of a mobile health unit at Nok Kundi.

Further initiatives will include building clinics, upgrading existing health centres, or providing medical equipment and supplies to improve healthcare delivery in underserved areas. Similarly, in relation to education, RDMC aims to support initiatives that enhance access to quality education for children and adults alike. This will involve building schools, providing resources for educational programmes, or implementing initiatives to improve literacy rates and educational attainment levels within the community.

By strategically addressing these key aspects of local infrastructure, RDMC aims to bring about a significant improvement in the well-being of the communities in the area. Improved access to healthcare services will lead to better health outcomes, reduced mortality rates, and an overall increase in the quality of life for the local community. Likewise, investing in education will not only empower individuals with knowledge and skills but also contribute to long-term economic development and social stability. All activities will conform with Barrick's Social Performance Policy.

To ensure that adequate funding is available for the social development initiatives, the Project will commit 0.4% of its annual revenue toward community development and initiatives as per its Mineral Agreement.

Impact 06: Social Development and Uplift			
Phase: Operations			
Impact Description: Social development projects resulting in improved infrastructure, health, and education outcomes.			
Prior to Mitigation/Management			
Dimension	**Rating**	**Interpretation of Rating**	**Significance**
Duration	5	Inter-Generational - >20 years *Operations phase will last 48 years.*	Minor (positive) + 36

Extent	3	Sub-regional Will affect the sub-regional / commune area e.g. district level/ areas within the region with similar features *Development initiatives will benefit local communities in the Project vicinity and beyond due to its vast scope.*	
Intensity	4	Serious long term environmental effects. Environmental damage can be reversed in less than a year. On-going serious social issues. Significant damage to structures / items of significance. *Social development initiatives will be undertaken throughout the operations phase of the Project.*	
Probability	3	Probable Has occurred here or elsewhere and could therefore occur (20-50%) *Social development initiatives have been implemented by the Project prior to the start of the construction phase and will be implemented during the construction phase as well so it is likely that such initiatives will continue.*	
Nature	+	Positive	

Mitigation/Management Actions

- Formulate a Community Development Plan, including:
  - A needs assessment of all local communities across the Project facilities.
  - Provision for continual engagement with the local community stakeholders to involve them in the planning and decision-making processes of the social development projects to ensure project outcomes are reflective of community needs.
  - Tailoring development projects to the needs of the identified communities.
  - A monitoring and evaluation system to track the progress and effectiveness of social development projects.
- Prioritise women and vulnerable groups for planned social development projects.
- Establish partnerships with educational institutions and local NGOs to enhance the quality of education and promote skills development.
- Involve local community members in the planning and decision-making processes of the social development projects to ensure project outcomes are reflective of community needs.
- The Project will commit 0.4% of its revenue toward community development and initiatives as per its Mineral Agreement.
- The Project will ensure that the upgraded or newly constructed healthcare and educational infrastructure account for the increased flood-related risks.
- The Project will consider CSR-related funding toward the drainage and flood management infrastructure of local communities.

Post-Mitigation

Dimension	Rating	Interpretation of Rating	Significance
Duration	5	Inter-Generational - >20 years *Operations phase will last 48 years.*	Major (positive) +60

Extent	5	Regional *Development initiatives will benefit local communities in the Project vicinity and beyond due to its vast scope.*	
Intensity	5	Serious long term environmental effects. Environmental damage can be reversed in less than a year. On-going serious social issues. Significant damage to structures / items of significance. *Social development initiatives will be undertaken throughout the operations phase of the Project.*	
Definite	4	Likely *Social development initiatives have been implemented by the Project prior to the start of the construction phase and will be implemented during the construction phase as well so it is likely that such initiatives will continue, especially if the mitigation measures are adopted.*	
Nature	+	Positive	

Impact 07: Unmet Community Expectations

A significant proportion of the local communities along the Project facilities are impoverished and lack the basic necessities of life. The Project intends to extract valuable resources from Balochistan, particularly from the lands surrounding these communities. It is expected that there will be substantial financial gains for the Project. However, this may inadvertently create discontent among the local populace as the monetary gain derived from tapping into the land may not adequately trickle down to the communities. This perceived one-sided relationship, where the Project reaps profits from the land without substantial reinvestment into the welfare of the local inhabitants is likely to foster negative sentiments directed towards the Project.

Proactive measures are therefore needed to address this perception and ensure the equitable distribution of benefits, especially for vulnerable and marginalised groups. The Project shall develop **a Stakeholder Engagement Plan** that captures community perceptions and concerns. The Project shall develop a **Grievance Redress Mechanism** to address potential grievances and concerns of the local communities. Additionally, the Project will also prioritize women and vulnerable individuals for any community development initiatives.

Impact 07: Unmet Community Expectations			
Phase: Operations			
Impact Description: Negative sentiments within the communities towards the Project stemming from perceived rise in inequalities due to RDMC benefitting from mining operations in Balochistan while making insufficient contributions for the social and economic uplift of the communities.			
Prior to Mitigation/Management			
Dimension	**Rating**	**Interpretation of Rating**	**Significance**

Duration	5	Inter-Generational - >20 years *Operations phase will last 48 years.*	Moderate (negative) - 48
Extent	4	Regional *The Project's facilities will be spread over a wider area in comparison to the construction phase.*	
Intensity	3	On-going social issues. Damage to items of significance. *Employment opportunities and development initiatives will be executed throughout the operations phase of the Project.*	
Probability	4	Likely *In-migration of workers is expected throughout the operations phase of the Project.*	
Nature	-	Negative	

Mitigation/Management Actions

- Develop a **Stakeholder Engagement Plan** that captures community perceptions and concerns through regular engagements, feedback and monitoring activities.
- Prioritise women and vulnerable groups for stakeholder engagement as well as development initiatives.
- Develop a Community Development Plan, including:
  - A comprehensive needs assessment for the surrounding communities.
  - Continual engagement with the local community to gather input on their needs, priorities, and aspirations relating to community development.
  - Adoption of social, economic, environmental, and cultural considerations into the Plan.
- Continue implementation of the **Grievance Redressal Mechanism** and update it for the operations phase of the Project.

Post-Mitigation

Dimension	Rating	Interpretation of Rating	Significance
Duration	5	Inter-Generational - >20 years *Operations phase will last 48 years.*	Negligible (negative) -12
Extent	4	Regional *The Project's facilities will be spread over a wider area in comparison to the construction phase.*	
Intensity	3	On-going social issues. Damage to items of significance. *Employment opportunities and development initiatives will be executed throughout the operations phase of the Project.*	
Probability	1	Rare / improbable *In-migration of workers is expected throughout the operations phase of the Project., however, the mitigation measures will be significant to reduce the probability.*	
Nature	-	Negative	

Impact 08: *Increase in Cost of Living*

The Project is expected to stimulate economic activity in the region. As the Project progresses, there will be an influx of workers, leading to increased demand for goods and services. Given the current reliance on imported goods in towns such as Nok Kundi and the limited presence of locally produced products especially in the communities at the Mine Site and along the Road Transport Route, this surge in demand could significantly impact local markets. The heightened demand for commodities could potentially drive up prices, particularly if shop owners exploit the situation by hoarding goods. This scenario could exacerbate the existing cost of living challenges faced by the local community in the area, potentially leading to financial strain and social conflict. Even if the prices do not rise directly due to the Project, people might attribute any increase in prices to the Project, leading to negative sentiments towards it.

To address these challenges the Project, as part of its Stakeholder Engagement Plan, will monitor perceptions related to price increases, and focus CSR initiatives to alleviate the impact of these price increases on local communities that are most affected by these.

Impact 08: Increase in Cost of Living			
Phase: Operations			
Impact Description: Real or perceived increase in prices of basic commodities and the cost of living due to the economic activities generated by the Project.			
Prior to Mitigation/Management			
Dimension	**Rating**	**Interpretation of Rating**	**Significance**
Duration	5	Inter-Generational - >20 years *Operations phase will last 48 years.*	Minor (negative) -30
Extent	2	Local *The Project and its associated activities will be focused on the Mine Site and the surrounding areas.*	
Intensity	3	On-going social issues. Damage to items of significance. *Project activities will continue throughout the operations phase.*	
Probability	3	Probable *Increase in cost of living is probable due to the expected economic activity.*	
Nature	-	Negative	
Mitigation/Management Actions			
• Consultations with business owners and local government groups with respect to cost-of-living concerns as part of the **Stakeholder Engagement Plan**. • As part of stakeholder engagement, conduct regular community consultations to inform the local community about the factors contributing to inflation, to clarify the Project's role in the local economy, and to address any misconceptions or attributions of price increases to the Project.			

• The Project will ensure that local communities are informed about how climate change may impact commodity prices and healthcare costs in the future • The Project will inform local communities prior to any expected extreme weather events and other potential climate-related disruptions.			
Post-Mitigation			
Dimension	**Rating**	**Interpretation of Rating**	**Significance**
Duration	5	Inter-Generational - >20 years *Operations phase will last 48 years.*	Minor (negative) -20
Extent	2	Local *The Project and its associated activities will be focused on the Mine Site and the surrounding areas.*	
Intensity	3	Moderate impacts including on-going social issues. *Project activities will continue throughout the operations phase.*	
Probability	2	Unlikely Has not happened yet but could happen once in the lifetime of the Project, therefore there is a possibility that the impact will occur (5-20%) *Increase in cost of living is probable due to the expected economic activity, however, the impact will be significantly reduced due to the suggested mitigation measures.*	
Nature	-	Negative	

6.2.4 Decommissioning Phase

The following is a list of possible positive or negative impacts on the local communities located near the Project facilities during the decommissioning phase of the Project.

Impact 09: Retrenchment upon Conclusion of the Operations Phase

The Project's anticipated economic activity around the Reko Diq Mine Site is poised to bring significant benefits to the local community. By engaging local individuals and businesses, the Project aims to create employment opportunities during its operations phase and foster ongoing partnerships with nearby enterprises.

During the operations phase, employment opportunities will be created, providing locals with income sources, and fostering a sense of inclusion and participation in the Project's development. However, this economic uplift may result in challenges for the Project once the operations phase concludes, and decommissioning activities commence. The cessation of project operations poses retrenchment related reputational risks.

The Project will enhance the local infrastructure such that the local communities are less reliant on employment offered by the Project at the time of decommissioning and are able to pursue employment opportunities of equivalent or better income elsewhere. Additionally, the Project will develop a **Retrenchment Plan** prior to any retrenchment activities commencing.

Impact 09: Retrenchment upon Conclusion of the Operations Phase			
Phase: Decommissioning			
Impact Description: Loss of income upon conclusion of the operations phase of the Project			
Prior to Mitigation/Management			
Dimension	**Rating**	**Interpretation of Rating**	**Significance**
Duration	5	Medium term 2 to 5 years	Minor (negative) -30
Extent	2	Local Extending across the site and to nearby settlements. Sub-division of a district.	
Intensity	3	Moderate impacts including on-going social issues.	
Probability	3	Probable Has occurred here or elsewhere and could therefore occur (20-50%)	
Nature	-	Negative	
Mitigation/Management Actions			
• Develop and implement a Retrenchment Plan. • Implement comprehensive training initiatives aimed at equipping the local community with the skills needed for transitioning from the operations phase to the decommissioning phase, as well as other potential employment opportunities beyond the Project's scope. • Conduct regular stakeholder consultations between Project stakeholders, including local communities and businesses to identify potential challenges and develop associated solutions. • Invest in infrastructure Projects that enhance the area's connectivity, such as road improvements or access to utilities, to facilitate economic development independently of the Project's activities. • Provide local employees with confirmation of employment documents for work undertaken and certificates of completion for in-house training, in order to seek alternative employment after decommissioning. • Offer continued employment opportunities related to decommissioning to members of the local communities. • Implement a structured stakeholder engagement process and grievance mechanism, as well as direct communication channels to surrounding communities.			
Post-Mitigation			
Dimension	**Rating**	**Interpretation of Rating**	**Significance**
Duration	2	Short term Up to 2 years	Negligible (negative) -7
Extent	2	Local Extending across the site and to nearby settlements. Sub-division of a district.	
Intensity	3	Moderate impacts including on-going social issues.	
Probability	1	Rare / improbable Conceivable, but only in extreme circumstances and / or has not happened during lifetime of the Project	

		but has happened elsewhere. The possibility of the impact materialising is very low as a result of design, historic experience, or implementation of adequate mitigation measures (1-5%).	
Nature	-	Negative	

6.3 Mine Site

This section highlights Project impacts which will be specific to the Mine Site only.

6.3.1 Construction Phase

The following is a list of impacts relevant to the construction phase of the Project:

- **Impact 10:** Increase in the stock of skilled human capital due to the transfer of knowledge and skills under the Project resulting in enhanced productivity of local labour;
- **Impact 11:** Increase in population due to the in-migration of job seekers (in-migrants) near the Reko Diq Mine Site.

Impact 10: Skill Development

The Project will implement training programs for enhancement of employment benefits at the local level. The training programmes will focus on the maximisation of participation of members of the local community in the construction phase of the Project.

The knowledge and skills acquired by the local community will be of value to them as this can provide further opportunities for them when seeking employment even in the operations phase of the Project. The presence of highly trained workers, qualified in multiple skills, will also benefit the local economy, and will have a positive ripple effect on the overall socioeconomic landscape. These training programmes will not only equip individuals with specific job-related skills but also foster a culture of continuous learning and professional development within the local workforce.

To ensure that the benefits of CSR activities are maximised, the Project will carry out CSR activities in consultation with the relevant government departments. The Cumulative Impact Assessment (CIA) provides a framework for the Mining Development Advisory Forum where the Project can align its CSR activities to support long-term skills development.

Impact 10: Skill Development			
Phase: Construction			
Impact Description: Increase in the stock of skilled human capital due to the transfer of knowledge and skills under the Project resulting in enhanced productivity of local labour.			
Prior to Mitigation/Management			
Dimension	**Rating**	**Interpretation of Rating**	**Significance**
Duration	5	Inter-Generational - >20 years *Skills will be retained for a lifetime.*	Major(positive) + 60

Extent	3	Sub-regional *Training opportunities will benefit local communities in the Project vicinity and beyond due to its vast scope.*	
Intensity	4	On-going and widespread positive benefits to local communities which improves livelihoods. *Skill development initiatives will be undertaken throughout the construction phase of the Project.*	
Probability	5	Certain / Definite *Employment opportunities will directly impact the training opportunities, hence since the probability of the former is definite, the probability of the latter is also likely.*	
Nature	+	Positive	
Mitigation/Management Actions			
• The Project will coordinate with other mining Projects, government institutes and other stakeholders in the Mining Development Advisory Forum to: ♍ Assist local communities, especially vulnerable groups having practical skills but lacking qualifications to obtain certificates and increase their employment opportunities. ♍ Support initiatives promoting a culture of learning in local communities. ♍ Plan and implement training programs for vulnerable groups to encourage their participation in economic opportunities created by the Project.			
Post-Mitigation			
Dimension	**Rating**	**Interpretation of Rating**	**Significance**
Duration	5	Inter-Generational - >20 years *Skills will be retained for a lifetime..*	Major (positive) + 65
Extent	3	Sub-regional *Training opportunities will benefit local communities in the Project vicinity and beyond due to its vast scope.*	
Intensity	5	Significant improvement to livelihoods and living standards of a large percentage of population. *Skill development initiatives will be undertaken throughout the construction phase of the Project.*	
Probability	5	Certain / Definite *Employment opportunities will directly impact the training opportunities, hence since the probability of the former is definite, the probability of the latter is also certain.*	
Nature	+	Positive	

Impact 11: Increase in Population

The construction phase of the Project will require a significant workforce, which will result in an influx of workers at the Mine Site. This influx may place added pressure on the existing infrastructure and services in the communities near the Mine Site, particularly in crucial areas such as healthcare, water, and communication facilities. With

an increased demand for these resources, there is a potential for strain on the local community infrastructure and its amenities.

Additionally, the influx of workers during the construction phase can have significant repercussions on the surrounding communities. The increased population density at the Mine Site may lead to heightened risks such as the spread of communicable diseases, unplanned development, social tensions, and conflict in the surrounding areas.

To reduce the strain on local infrastructure, the Project will continue its community development initiatives, such as the establishment of schools and health centres near the Mine Site. The Project will also include provisions for Cultural Sensitivity Trainings in the **Labour Management Plan** as well as training sessions pertaining to community health and safety.

To address any concerns that may arise from this situation, the Project will ensure that all contractor's **Grievance Redress Mechanism** includes local communities, and that it has assigned a Community Liaison Officer (CLO) to facilitate engagement.

As the Project will be developing Labour Accommodation on-site, the dependence of the Project's workers on community infrastructure will be relatively low. The Project will ensure that relevant provisions for potable water and wastewater disposal and management will be present at the labour camps.

Impact 11: Pressure on Social Infrastructure			
Phase: Construction			
Impact Description: Increase in population due to the in-migration of job seekers (in-migrants) near the Mine Site.			
Prior to Mitigation/Management			
Dimension	**Rating**	**Interpretation of Rating**	**Significance**
Duration	3	Medium term *Construction phase will last 5 years.*	Moderate (negative) -40
Extent	2	Local *The Mine Site and it surrounding areas will see an influx in population due to the location of the Project Site here.*	
Intensity	3	Moderate impacts including on-going social issues. *Influx of job-seekers and associated increase in population will remain throughout the construction phase of the Project.*	
Probability	5	Certain / Definite *The probability of influx of population at the Mine Site is definite due to which an associated pressure on infrastructure is also definite.*	
Nature	-	Negative	
Mitigation/Management Actions			

• The Project will implement **Grievance Redressal Mechanism** with provisions to allow for local communities to file grievances with relevant staffing and resources allocated for this purpose. • Conduct regular socio-economic surveys and review census data for communities in the vicinity of the Project throughout the life of the Project to understand the extent of population growth and any problems that it may cause. • Continue with the current Community Development initiatives (CDIs) and based on the monitored changes in the social landscape of the local study area, consider upgrade/ additional of socio-economic infrastructure, particularly access to clean water and provision for additional education and health services. • Awareness campaigns should be carried out in the surrounding communities, which focus on social ills and their consequences. • Continue to implement a **Local Employment Policy**. • Include provisions for Cultural Sensitivity trainings and trainings related to community health and safety in the **Labour Management Plan**.			
Post-Mitigation			
Dimension	**Rating**	**Interpretation of Rating**	**Significance**
Duration	3	Medium term *Construction phase will last 5 years*	Minor (negative) -28
Extent	2	Local *The Mine Site and its surrounding areas will see an influx in population due to the location of the Project Site here.*	
Intensity	2	Moderate impacts including on-going social issues. *Influx of jobseekers and associated increase in population will remain throughout the construction phase of the Project.*	
Probability	4	Likely *The probability of influx of population at the Mine Site is definite due to which an associated pressure on infrastructure is also likely which will be mitigated to a degree by the measures suggested above.*	
Nature	-	Negative	

6.3.2 Operations Phase

The following impacts are anticipated during the operations phase of the Project and specific to the Mine Site only:

- **Impact 12:** Increase in the stock of skilled human capital due to the transfer of knowledge and skills under the Project resulting in enhanced productivity of local labour;
- **Impact 13:** Increase in population due to the in-migration of jobseekers (in-migrants) leading to pressure on existing social infrastructure and services and privacy concerns for women and other gender-related challenges in the settlements near the Reko Diq Mine Site.

- **Impact 14:** Potential use and abuse of illicit drugs and harmful substances among workers, particularly the drivers employed or contracted by RDMC, increasing the risk of substance abuse permeating into the communities.

Impact 12: Skill Development

The Project will implement training programs for enhancement of employment benefits at the local level. The training programmes will focus on the maximisation of participation of members of the local community in the operations phase of the Project.

The knowledge and skills acquired by the local community will be of value to them as this can provide further opportunities for them when seeking employment. The presence of highly trained workers, qualified in multiple skills, will also benefit the local economy, and will have a positive ripple effect on the overall socioeconomic landscape. These training programmes will not only equip individuals with specific job-related skills but also foster a culture of continuous learning and professional development within the local workforce.

To ensure that benefits of CSR activities are maximised, the Project will carry out CSR activities in consultation with the relevant government departments and other mining Projects. The Cumulative Impact Assessment (CIA) provides a framework for the Mining Development Advisory Forum where the Project can align its CSR activities to support long-term skills development.

Impact 12: Skill Development			
Phase: Operations			
Impact Description: Increase in the stock of skilled human capital due to the transfer of knowledge and skills under the Project resulting in enhanced productivity of local labour.			
Prior to Mitigation/Management			
Dimension	**Rating**	**Interpretation of Rating**	**Significance**
Duration	5	Inter-Generational - >20 years *Operations phase will last 48 years.*	Major (positive) + 60
Extent	3	Sub-regional *Training opportunities will benefit local communities in the Project vicinity and beyond due to its vast scope.*	
Intensity	4	On-going and widespread positive benefits to local communities which improves livelihoods. *Skill development initiatives will be undertaken throughout the construction phase of the Project.*	
Probability	5	Certain / Definite *Employment opportunities will directly impact the training opportunities, hence since the probability of the former is definite, the probability of the latter is also likely.*	
Nature	+	Positive	
Mitigation/Management Actions			

• The Project will coordinate with other mining Projects, government institutes and other stakeholders in the Mining Development Advisory Forum to: ♍ Assist local communities, especially vulnerable groups having practical skills but lacking qualifications to obtain certificates and increase their employment opportunities. ♍ Support initiatives promoting a culture of learning in local communities. ♍ Plan and implement training programs for vulnerable groups to encourage their participation in economic opportunities created by the Project. ♍ The skill development initiatives by the Project will be aligned to incorporate climate change resilience and adaptation strategies.			
Post-Mitigation			
Dimension	**Rating**	**Interpretation of Rating**	**Significance**
Duration	5	Inter-Generational - >20 years *Operations phase will last 48 years.*	Major (positive) + 70
Extent	4	Regional *Training opportunities will benefit local communities in the Project vicinity and beyond due to its vast scope.*	
Intensity	5	Significant improvement to livelihoods and living standards of a large percentage of population. *Skill development initiatives will be undertaken throughout the construction phase of the Project*	
Probability	5	Certain / Definite *Employment opportunities will directly impact the training opportunities, hence since the probability of the former is definite, the probability of the latter is also likely.*	
Nature	+	Positive	

Impact 13: Increase in Population

The operations phase of the Project is expected to draw a significant workforce to the Reko Diq Mine Site and other operational areas. This influx of workers may place added pressure on the existing infrastructure and services in the surrounding area, particularly in crucial areas such as healthcare, water, and communication facilities. With an increased demand for these resources, there is a potential for strain on the local community and its amenities.

Additionally, the influx of workers during the construction phase can have significant repercussions on the surrounding communities. The increased population density at the Mine Site may lead to heightened risks such as the spread of communicable diseases, unplanned development, social tensions, and conflict in the surrounding areas.

To reduce the strain on local infrastructure, the Project will continue its community development initiatives, such as the establishment of schools and health centres near the Mine Site. The Project will also include provisions for Cultural Sensitivity Trainings in the **Labour Management Plan** as well as training sessions pertaining to community health and safety.

The Project will ensure that infrastructure and recreation facilities are provided within the labour camps and Project boundary to minimise any strain on the local infrastructure. Potential concerns related to social infrastructure will be addressed via the Project's **Grievance Redress Mechanism**. Additionally, the Project's operational phase has similar manpower requirements as the construction phase.

Additionally, the Project intends to establish healthcare facilities, ensuring that the local community as well as all Project workers and contractors have access to essential medical services and facilities. Other initiatives already undertaken by the Project include construction of a community health centre in Humai near the Mine Site and setting up of a mobile health unit at Nok Kundi.

<table>
<tr><td colspan="4">Impact 13: Pressure on Social Infrastructure</td></tr>
<tr><td colspan="4">Phase: Operations</td></tr>
<tr><td colspan="4">Impact Description: Increase in population due to the in-migration of jobseekers (in-migrants) leading to pressure on existing social infrastructure and services in the settlements near the Reko Diq Mine Site.</td></tr>
<tr><td colspan="4">Prior to Mitigation/Management</td></tr>
<tr><td>Dimension</td><td>Rating</td><td>Interpretation of Rating</td><td>Significance</td></tr>
<tr><td>Duration</td><td>5</td><td>Inter-Generational - >20 years
Operations phase will last 48 years.</td><td rowspan="5">Negligible (negative) -16</td></tr>
<tr><td>Extent</td><td>2</td><td>Local
The Mine Site and its surrounding areas will see an influx in population due to the location of the Project Site here.</td></tr>
<tr><td>Intensity</td><td>1</td><td>Minor medium-term social impacts on local population. Mostly repairable. Functions and processes not affected.
Influx of jobseekers and associated increase in population will remain throughout the operations phase of the Project.</td></tr>
<tr><td>Probability</td><td>2</td><td>Unlikely
Has not happened yet but could happen once in the lifetime of the Project, therefore there is a possibility that the impact will occur (5-20%)
Increase in population is definite, however, impact on social infrastructure is less likely due to the presence of worker camps carrying forward from the construction phase.</td></tr>
<tr><td>Nature</td><td>-</td><td>Negative</td></tr>
<tr><td colspan="4">Mitigation/Management Actions</td></tr>
<tr><td colspan="4">♦ The Project will continue its CSR activities aimed at the upgrading of the healthcare and educational infrastructure for the nearest communities to the Mine Site.
♦ Include provisions for Cultural Sensitivity trainings and trainings related to community health and safety in the Labour Management Plan.</td></tr>
<tr><td colspan="4">Post-Mitigation</td></tr>
</table>

Dimension	Rating	Interpretation of Rating	Significance
Duration	5	Inter-Generational - >20 years *Operations phase will last 48 years.*	Negligible (negative) -8
Extent	2	Local *The Mine Site and its surrounding areas will see an influx in population due to the location of the Project Site here.*	
Intensity	1	Minor medium-term social impacts on local population. Mostly repairable. Functions and processes not affected. *Influx of jobseekers and associated increase in population will remain throughout the operations phase of the Project.*	
Probability	1	Rare / improbable Conceivable, but only in extreme circumstances and / or has not happened during lifetime of the Project but has happened elsewhere. The possibility of the impact materialising is very low as a result of experience or implementation of adequate mitigation measures (1-5%). *Increase in population is definite, however, impact on social infrastructure is improbable due to the presence of worker camps carrying forward from the construction phase and adoption of mitigation measures.*	
Nature	-	Negative	

Impact 14: Proliferation of Illicit Substances and Activities along Transport Route

The Project is anticipated to bring an influx of workers, drivers, and other personnel through the Road Transport Route. Due to the influx, there is a potential risk of negative impacts, including substance abuse and involvement in illicit activities.

The presence of a transient workforce can create an environment conducive to the use of drugs and harmful substances. Additionally, the stress and isolation associated with remote work environments may exacerbate underlying vulnerabilities to substance abuse among some individuals.

Furthermore, the introduction of a large number of outsiders to the community may increase the risk of illicit activities such as drug trafficking, theft, and other criminal behaviour. These activities not only pose direct threats to community safety but also undermine social cohesion and trust within the community.

To mitigate these risks and uphold the social and cultural fabric of the communities, the Project shall develop a **Worker's Code of Conduct** which will detail safe conduct and highlight a zero-tolerance policy for the use and distribution of illicit substances. Workers will be regularly trained and sensitised on the use of illicit substances, and those with existing addictions to illicit substances will be encouraged to seek support and facilitated in rehabilitation.

Impact 14: Proliferation of Illicit Substances and Activities			
Phase: Operations			
Impact Description: Potential use and abuse of illicit drugs and harmful substances among drivers employed by RDMC, increasing the risk of substance abuse permeating into the communities.			
Prior to Mitigation/Management			
Dimension	**Rating**	**Interpretation of Rating**	**Significance**
Duration	5	Inter-Generational - >20 years *Operations phase will last 48 years.*	Minor (negative) -30
Extent	3	Sub-regional *The Project's activities will be spread over a larger area at the Mine Site and its surrounding areas.*	
Intensity	2	On-going social issues. Damage to items of significance. *Project's activities will continue throughout the operations phase of the Project.*	
Probability	3	Probable Has occurred here or elsewhere and could therefore occur (20-50%).	
Nature	-	Negative	
Mitigation/Management Actions			
• The Project will develop a **Worker's Code of Conduct,** which is signed by all project employees including both direct employees and sub-contractors. • The Project will provide recreational facilities, fitness programmes, and mental health resources to support the physical and emotional health of Project personnel, including sub-contractors. • Conduct community sensitisation sessions as part of the Stakeholder Engagement Plan to educate community members about the dangers of drugs and other harmful substances, encouraging them to refrain from their use.			
Post-Mitigation			
Dimension	**Rating**	**Interpretation of Rating**	**Significance**
Duration	5	Inter-Generational - >20 years *Operations phase will last 48 years.*	Minor (negative) -18
Extent	3	Sub-regional *The Project's activities will be spread over a larger area at the Mine Site and its surrounding areas.*	
Intensity	1	Minor medium-term social impacts on local population. Mostly repairable. Functions and processes not affected. *Project's activities will continue throughout the operations phase of the Project.*	
Probability	2	Unlikely Has not happened yet but could happen once in the	

		lifetime of the Project, therefore there is a possibility that the impact will occur (5-20%)	
Nature	-	Negative	

6.3.3 Decommissioning Phase

No positive or negative impacts are associated with the decommissioning of the Mine Site. Retrenchment will be a Project-wide issues as discussed in **Section 6.2**.

6.4 Rail Transport Route

This section highlights Project impacts which will be specific to the Rail Transport Route only.

6.4.1 Construction Phase

The Project will contribute to the direct, indirect, and induced employment at the local level for men and women resulting in increased prosperity and well-being due to higher and more stable income sources for the people along the Rail Transport Route. All such impacts will be common to other Project components as well and have been discussed in **Section 6.2**.

6.4.2 Operations Phase

There will be some incremental freight traffic to the Port as a result of the Project's operational activities which will be insignificant in comparison to existing freight traffic from industries operating in Port Qasim presently.

6.4.3 Decommissioning Phase

The Rail Transport Route will not be decommissioned and will remain readily accessible for use by the local communities or other users. As such, no socioeconomic impacts are expected.

6.5 Impacts on Socioeconomics due to Climate Change

The climate change assessment of the Reko Diq Mine Site (BAR7212 – Climate Change Specialist Assessment of Reko Diq Gap Analysis and Scope of Work for Environmental Studies) estimates an approximately 27% increase in annual precipitation and a 155% increase in 50-year flood hazard intensity. The number of extreme heat days is predicted to increase by around 48%, rising from the historical baseline of approximately 112 days to 166 days. Additionally, the frequency of dry spells is projected to increase by about 2%.[32]

In much of the greater Balochistan region, the majority of the population relies on livestock grazing, agriculture, and other primary sector activities for their livelihoods.

[32] All numbers mentioned from the report are from projections up until the year 2070 under the RCP 8.5 scenario.

Variations in precipitation and temperature can severely impact agricultural output, particularly wheat, which is the most commonly cultivated crop. Irrigation needs are primarily met through groundwater abstraction; however, reduced precipitation and altered precipitation patterns may adversely affect the availability of water from aquifers and increase pumping costs. Extreme weather events, such as floods, also pose a threat to livestock survival, making them more susceptible to waterborne diseases. Additionally, extreme temperatures can negatively affect livestock health, leading to increased mortality, as observed in previous extreme temperature events in Balochistan.

The increase in flood events will also exacerbate health-related incidents and place an additional burden on the already limited healthcare infrastructure, as flooding can lead to waterborne diseases and contamination of municipal drinking water supplies. Flooding will also damage infrastructure and cause significant economic losses. Furthermore, the increase in extreme heat days is expected to result in additional hospitalizations due to heatstroke and other heat-related ailments.

The adverse impacts on primary sector productivity, combined with the infrastructural and health-related challenges brought on by floods, indicate that livelihoods and incomes will be significantly affected in the long term due to climate change. The Project has an opportunity to support local communities in building resilience to climate change, which has been integrated into the mitigation and enhancement measures for the following aspects:

- Increase in Cost of Living: The Project will ensure that local communities are informed about how climate change may impact commodity prices and healthcare costs in the future. To the extent possible, the Project will inform local communities prior to any expected extreme weather events and other potential climate-related disruptions.
- Social Development and Uplift: The Project will ensure that the upgraded or newly constructed healthcare and educational infrastructure account for the increased flood-related risks. The Project will consider CSR-related funding toward the drainage and flood management infrastructure of local communities.
- Skill Development: The skill development initiatives by the Project will be aligned to incorporate climate change resilience and adaptation strategies. This includes technical training for flood management, facilitation of farmers in drought-resistant agriculture, and the creation of jobs in the services sector

6.6 Contextual Risks

6.6.1 Gender Related Impacts

The global rankings, with Pakistan placing 145th out of 146 countries on the World Economic Forum's 2022 Global Gender Gap Index and 161st out of 191 countries on the Human Development Report's 2022 Gender Inequality Index, depicts the challenging gender situation in Pakistan. Balochistan has patriarchal norms that influence every

aspect of life, from family dynamics to societal structures[33]. These norms dictate traditional roles for men and women, often resulting in unequal opportunities and limited freedoms for women (D. S. Baloch & Nisa, 2019).

Balochistan's tribal society plays a significant role in shaping gender dynamics. Tribal customs and traditions often prioritise male authority and control, leading to the discrimination of women in decision-making processes and public spaces. It was recorded in the 2022 baseline survey that, on average, 38 percent of households consult women before they make any household decisions. Additionally, strict codes of honour and shame contribute to the seclusion of women (*purdah*) and restrict their participation in social and economic activities. Furthermore, early and arranged marriages also undermine women's autonomy and create unequal power dynamics within families, which is common in Balochistan. Although efforts have been made to improve access for girls, Balochistan still faces challenges such as lack of infrastructure, cultural barriers, and societal attitudes that prioritise boys' education over girls (Anees, 2020).

While the Project is expected to bring significant economic benefits, it has limited leverage in addressing broader gender issues in Balochistan. Purdah is common cultural practice and mixing between the workforce and women from the local communities will be unlikely as it is seen as a violation of local customs and norms. Gender-based violence, gender seclusion, discrimination in decision-making, and other systemic challenges require comprehensive strategies that go beyond the scope of the Project.

The Project will implement a **Gender Action Plan** to ensure that women are represented to the extent possible in the Project workforce. The Project will also ensure that the **Worker's Code of Conduct** protects women from workplace harassment and gender-based discrimination. The Project will evaluate this contextual and emergent risk further in its Human Rights Assessment (HRA) and potential management strategies.

6.6.2 Regional Security

Mining projects in Balochistan are deeply affected by the region's complex security issues, which create significant challenges for their operations and personnel (Akhtar, 2017). These security challenges include armed conflicts, insurgencies, militant activities, and cross-border tensions, all of which contribute to an unstable environment that can disrupt mining activities and pose risks to the safety of workers and local communities (Ahmed, 2021);(Khetran, 2011). Attacks on mining facilities, equipment, and personnel by armed groups seeking to extort resources or disrupt economic activities are a common threat faced by mining companies in the region. Furthermore, the presence of landmines, unexploded ordnance, and improvised explosive devices in conflict-affected areas adds another layer of risk to mining operations (Siddiqui, 2023).

While the Project will implement various measures to enhance security within its vicinity and can manage and seek to influence security in areas under RDMC control, there are limitations to what it can achieve in addressing broader regional security issues. As the

[33] Ostby, K. (2023). Gender Equality in Pakistan: Climatic & Politico-Economic Stressors. Development Advocate Pakistan, 9(5).

Project's security will be supported by the Frontier Corps (FC) which is a paramilitary organisation under command of the Pakistan Army, the Project will seek to influence aspects under RDMC control but is unlikely to be able to influence broader FC operations separate from the Project. FC personnel will be armed due to the precarious security situation in the Balochistan province, which classifies the Project as operating in a high-risk context according to the IFC Performance Standard 4. In accordance with the guidelines in the IFC Good Practice Handbook on the Use of Security Forces, the Project will "*not sanction any use of force except when used for preventive and defensive purposes in proportion to the nature and extent of the threat".*

The Project will evaluate this contextual and emergent risk further in its Human Rights Assessment (HRA) and potential management strategies.

6.6.3 Indigenous People's Rights

The screening process for Indigenous Peoples (IP) involves several steps to ensure a comprehensive assessment. Initially, a literature review is conducted and consultation with relevant specialists to trace the historical presence of indigenous communities in the region. This is followed by extensive field surveys, where teams gather data on local demographics, land use patterns, and cultural practices through direct observation and interviews with community members. Furthermore, consultations are held with tribal leaders, community representatives, and experts in indigenous studies to gain a deeper understanding of any potential indigenous groups residing within or near the project site. These consultations help in gathering valuable insights into the social, cultural, and economic ties of these communities to the land.

No indigenous group was identified in the vicinity of the Reko Diq Mining Project area as part of the baseline survey. No groups were reported as having distinct cultural practices, political institutions, religious institutions, or customary rights. The insurgencies which have historically occurred throughout the Balochistan province and persist to this day are deep rooted in Baloch Nationalism.[34] The Project's leverage to address wider concerns associated with the insurgent groups is limited, and it is unlikely that any IP groups will be discovered at a later stage.

[34] Breseeg, T. M. (2001). Baloch nationalism: Its origin and development up to 1980: University of London, School of Oriental and African Studies (United Kingdom).

7. Environmental / Social Management Plan

The Environmental Management Plan with respect to the management of all socioeconomic impacts is presented in **Exhibit 7.1**.

Exhibit 7.1: Environmental and Social Management Plan

Impacts	*Activity*	*Mitigation Measures*	*Recommended Action Plans*	*Time period for implementation*
Construction Phase				
Induced employment	Project construction activities	• Ensure preferential recruitment of local candidates, especially poor and vulnerable individuals, provided they have the required skills and qualifications. • Include an assessment of the Contractors demonstrated commitment to local procurement and local hiring in the tender evaluation process. • Continue to implement **Local Employment Policy.** • Clearly define and publicise recruitment policies in potential labour-sourcing areas. • Include promotion of local, female and youth employment within employment policy. • Monitor subcontractors in terms of local employment numbers. • Provide local employees with confirmation of employment documents for work undertaken and certificates of completion for in-house training. • Implement a structured stakeholder engagement process and grievance mechanism, as well as direct communication channels to surrounding communities.	Local Employment Policy	Continually, during construction
Improved infrastructure, health, and education outcomes	Social Development and Uplift Initiatives	• Formulate a Community Development Plan, including: ♍ Conducting a needs assessment of the local communities across the Project facilities. ♍ Provisions for continual engagement with the local community stakeholders to involve them in the planning and decision-making processes of	Community Development Plan	Continually, during construction

Impacts	*Activity*	*Mitigation Measures*	*Recommended Action Plans*	*Time period for implementation*
		the social development projects to ensure project outcomes are reflective of community needs. ♍ Tailoring development projects to the needs of the communities in the respective Project facilities. ♍ A system to monitor and evaluate the progress and effectiveness of social development projects. ♦ Prioritise sustainable infrastructure development that aligns with the long-term needs of the community. ♦ Prioritise women and vulnerable groups for planned social development projects. ♦ Establish partnerships with educational institutions and local NGOs to enhance the quality of education and promote skills development. ♦ Involve local community members in the planning and decision-making processes of the social development projects to ensure project outcomes are reflective of community needs. ♦ Implement a monitoring and evaluation system to track the progress and effectiveness of social development projects. ♦ The Project will commit 1% of CAPEX into community development and initiatives, as per the Mineral Agreement.		
Unmet community expectations due to distribution of jobs and access to development initiatives among local communities	Employment generation and social development initiatives	♦ Implement a Stakeholder Engagement Plan including: ♍ Maintaining regular communication with local communities and other stakeholders to minimise tensions arising from the Project activities;	Stakeholder Engagement Plan	Continually, during construction

Impacts	*Activity*	*Mitigation Measures*	*Recommended Action Plans*	*Time period for implementation*
		♍ Maintaining a grievance procedure and encouraging and facilitating stakeholders to use the mechanism to express concerns ♍ Providing sufficient resources to the community relations officers to enable them to monitor negative perceptions and associated tensions, and to address them in a timely fashion; ♍ Separate meetings should be held with women and vulnerable people to ensure they also receive relevant information and are properly informed of labour opportunities; ♍ Continue implementing the Grievance Redress Mechanism and update it to meet the requirements of the Project's construction phase		
Retrenchment of project workers	Conclusion of the Construction Phase	♦ Develop and implement a Retrenchment Plan. ♦ Include Local Employment Policy requirements and retention targets in contractor's' Special Conditions of Contract. ♦ Clearly define and publicise recruitment policies in potential labour-sourcing areas. ♦ Include promotion of local, female and youth employment within employment policy ♦ Provide local employees with confirmation of employment documents for work undertaken and certificates of completion for in-house training to assist in seeking alternative employment once construction is complete. ♦ Implement a structured stakeholder engagement process and grievance mechanism, as well as direct communication channels to surrounding communities	Retrenchment Plan	Continually, during construction

Impacts	*Activity*	*Mitigation Measures*	*Recommended Action Plans*	*Time period for implementation*
Influx of workers leading to increase in population	Employment generation for construction work at Mine Site	• The Project will implement **Grievance Redressal Mechanism** with provisions to allow for local communities to file grievances with relevant staffing and resources allocated for this purpose. • Conduct regular socio-economic surveys and review census data for communities in the vicinity of the Project throughout the life of the Project to understand the extent of population growth and any problems that it may cause. • Continue with the current Community Development initiatives (CDIs) and based on the monitored changes in the social landscape of the local study area, consider upgrade/ additional of socio-economic infrastructure, particularly access to clean water and provision for additional education and health services. • Awareness campaigns should be carried out in the surrounding communities, which focus on social ills and their consequences. • Continue to implement **Local Employment Policy**. • Include provisions for Cultural Sensitivity trainings and trainings related to community health and safety in the **Labour Management Plan**.	• Labour Management Plan • Grievance Redressal Mechanism (if not already in place by contractors)	Continually, during construction
Operations Phase				
Induced Employment	Project operations activities	• Ensure preferential recruitment of local candidates, especially poor and vulnerable individuals, provided they have the required skills and qualifications. • Include local employment targets in contractors' Special Conditions of Contract including targets for women and vulnerable individuals.	Local employment policy	Continually, during operations

Impacts	*Activity*	*Mitigation Measures*	*Recommended Action Plans*	*Time period for implementation*
		♦ Include an assessment of the contractor's commitment to local procurement and local hiring in the tender evaluation process. ♦ Coordinate recruitment efforts related to non-skilled labour, including those positions required by contractors. ♦ Determine and apply what is 'fair and transparent' in recruitment, including the distribution of jobs between different community groups, in consultation with local communities and their leaders. ♦ Develop and implement local employment and procurement strategies. ♦ Clearly define and publicise recruitment policies in potential labour-sourcing areas. ♦ Continued use and improvement of the current registry for jobseekers to document relevant qualifications/experience. ♦ Provide local employees with confirmation of employment documents for work undertaken and certificates of completion for in-house training. ♦ Implement a structured stakeholder engagement process and grievance mechanism, as well as direct communication channels for surrounding communities		
Improved infrastructure, health, and education outcomes	Social development and uplift initiatives	♦ Formulate a Community Development Plan, including: ♍ A needs assessment of all local communities across the Project facilities. ♍ Provision for continual engagement with the local community stakeholders to involve them in the planning and decision-making processes of the	Community Development Plan	Continually, during operations

Impacts	*Activity*	*Mitigation Measures*	*Recommended Action Plans*	*Time period for implementation*
		social development projects to ensure project outcomes are reflective of community needs. ♍ Tailoring development projects to the needs of the identified communities. ♍ A monitoring and evaluation system to track the progress and effectiveness of social development projects. ♦ Prioritise women and vulnerable groups for planned social development projects. ♦ Establish partnerships with educational institutions and local NGOs to enhance the quality of education and promote skills development. ♦ Involve local community members in the planning and decision-making processes of the social development projects to ensure project outcomes are reflective of community needs. ♦ The Project will commit 0.4% of its revenue toward community development and initiatives as per its Mineral Agreement. ♦ The Project will ensure that the upgraded or newly constructed healthcare and educational infrastructure account for the increased flood-related risks. ♦ The Project will consider CSR-related funding toward the drainage and flood management infrastructure of local communities.		
Unmet community expectations due to distribution of jobs and access to development initiatives	Employment generation and social development initiatives	♦ Develop a **Stakeholder Engagement Plan** that captures community perceptions and concerns through regular engagements, feedback and monitoring activities.	♦ Stakeholder Engagement Plan ♦ Community Development Plan	Continually, during operations

Impacts	*Activity*	*Mitigation Measures*	*Recommended Action Plans*	*Time period for implementation*
among local communities		• Prioritise women and vulnerable groups for stakeholder engagement as well as development initiatives. • Develop a Community Development Plan, including: ♍ A comprehensive needs assessment for the surrounding communities. ♍ Continual engagement with the local community to gather input on their needs, priorities, and aspirations relating to community development. ♍ Adoption of social, economic, environmental, and cultural considerations into the Plan. • Continue implementation of the **Grievance Redressal Mechanism** and update it for the operations phase of the Project.		
Increase in cost of living	Stimulation of economic activity due to Project activities	• Consultations with business owners and local government groups with respect to cost-of-living concerns as part of the **Stakeholder Engagement Plan**. • As part of stakeholder engagement, conduct regular community consultations to inform the local community about the factors contributing to inflation, to clarify the Project's role in the local economy, and to address any misconceptions or attributions of price increases to the Project. • The Project will ensure that local communities are informed about how climate change may impact commodity prices and healthcare costs in the future • The Project will inform local communities prior to any expected extreme weather events and other potential climate-related disruptions.	Stakeholder Engagement Plan	

Impacts	*Activity*	*Mitigation Measures*	*Recommended Action Plans*	*Time period for implementation*
Influx of workers leading to increase in population	Employment generation due to operations works at the Mine Site	♦ The Project will repurpose the construction labour camps to living facilities and upgrade the amenities if necessary to ensure that dependence of the workforce on community infrastructure is minimised. ♦ The Project will continue its CSR activities aimed at the upgrading of the healthcare and educational infrastructure for the nearest communities to the Mine Site. ♦ Include provisions for Cultural Sensitivity trainings and trainings related to community health and safety in the Labour Management Plan.	Labour Management Plan	Continually, during operations
Proliferation of illicit substances and activities	Influx of workers, drivers, and other personnel through the Road Transport Route	♦ The Project will develop a **Worker's Code of Conduct,** which is signed by all project employees including both direct employees and sub-contractors. ♦ The Project will provide recreational facilities, fitness programmes, and mental health resources to support the physical and emotional health of Project personnel, including sub-contractors. ♦ Conduct community sensitisation sessions as part of the Stakeholder Engagement Plan to educate community members about the dangers of drugs and other harmful substances, encouraging them to refrain from their use.	Stakeholder Engagement Plan	Continually, during operations

8. Monitoring Plan

Aspects that will be monitored with respect to the socioeconomic environment are presented in **Exhibit 8.1**.

Exhibit 8.1: Environmental Monitoring Plan — Socioeconomic Environment

Aspect	*Type of Monitoring*	*Monitoring Frequency*
Construction Phase		
Community Engagement	Community consultations supported by consultation logs. Consultation logs should include: • Names of participants • Location and time of consultation • Pictorial evidence.	Monthly
Development Activities and Equitable Hiring	As per **Community Development Plan**. At minimum: • Review of Human Resources records. • Compile following indicators: ℘ Number of women hired (% of total) ℘ Expenditure on skill development and infrastructure development (PKR)	Quarterly
Pressure on Local Infrastructure	As per local employment and procurement strategies but as a minimum: • Consultations with Local Government and Civil Society Representatives • Compile indicators on: ℘ Project's expenditure toward development of alternatives to existing infrastructure such as schools, housing, and medical facilities (PKR) ℘ Number of beneficiaries from Project's CSR activities (persons/month).	Monthly
Operations Phase		
Community Engagement	Community consultations supported by consultation logs. Consultation logs should include: • Names of participants • Location and time of consultation • Pictorial evidence.	Monthly
Development Activities and equitable hiring	As per **Community Development Plan**. As a minimum: • Review of Human Resource (HR) records • Compile following indicators: • Number of women hired (% of total) • Expenditure on skill development and infrastructure development (PKR).	Quarterly
Pressure on Local Infrastructure	As per local employment and procurement strategies but as a minimum:	Monthly

Aspect	*Type of Monitoring*	*Monitoring Frequency*
	• Consultations with Local Government and Civil Society Representatives • Compile indicators on: ♍ Project's expenditure toward development of alternatives to existing infrastructure such as schools, housing, and medical facilities (PKR) • Number of beneficiaries from Project's CSR activities (persons/month).	

9. Conclusions and Recommendations

9.1 Specialist Impact Statement

The Project will have both positive and negative impacts on the socioeconomic environment. However, provided the mitigations identified in this report are implemented and subsequently monitored, the positive impacts will be enhanced, and the negative impacts will become insignificant.

9.2 Key Recommendations

The key findings and recommendations of this Study are summarised below:

- Regular consultations should be carried out with the local communities to ensure that concerns are captured and addressed appropriately. The Project will develop a Stakeholder Engagement Plan and a Grievance Redressal Mechanism (GRM) to ensure that stakeholder concerns are identified and addressed in a transparent and timely manner.
- No Indigenous People (IPs) were identified in the Study Area. Gender and security related impacts have been classified as a contextual risk; however, the Project will ensure that the associated benefits are cognisant of gender inequality to the extent possible.

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