



**RAJASTHAN JOINT VENTURE**

**GUJARAT - FRAMEWORK**

**LAND ACQUISITION AND COMPENSATION**

**PLAN**

**MARCH 2008**

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## 1. INTRODUCTION

Cairn India Limited (Cairn India) is an upstream oil and gas exploration and production company, incorporated in August 2006 and listed on the Bombay Stock Exchange Limited and the National Stock Exchange of India. Prior to the incorporation and listing of Cairn India, Cairn Energy PLC (Cairn Energy), a UK listed company, held interests and operated in India through a number of wholly owned foreign subsidiaries. Subsequent to the listing of Cairn India, Cairn Energy remains the majority shareholder, with 69 per cent shareholding as at the date of this document with the balance held by a variety of domestic and foreign investors.

Prior to listing, Cairn India acquired from Cairn Energy the wholly owned foreign subsidiaries and now holds its interests and operates in India through these same subsidiaries. Cairn India Limited and the wholly owned foreign subsidiaries are referred to as the Cairn India Group (the “Group”).

The Cairn India Group’s existing production is concentrated in two areas, the Ravva Field in Andhra Pradesh and Lakshmi and Gauri Fields in Gujarat (both producing oil and gas). The Cairn India Group is active in exploration in a number of other areas in India.

Cairn Energy India Pty Limited (CEIL) is an important subsidiary of Cairn India as it is not only a party to RJ-ON-90/1 Block Production Sharing Contract (PSC) dated 15th May, 1995 but also its Operator. Over the last few years, CEIL has conducted an intensive exploration and appraisal programme in this Block which has yielded significant discoveries in Rajasthan (situated in north-western part of India). Oil and Natural Gas Corporation Limited (ONGC), a Central Government Company, the Licensee of this Block, has also been given a 30% interest in Mangala, Aishwariya, Raageshwari, Saraswati, Bhagyam and Shakti fields of the Block, as required by the Government of India under the provisions of the PSC.

The Govt. of India accorded ‘in principle approval’ to Cairn India and ONGC (Rajasthan JV) in August 2007, to acquire ‘Right of User’ (ROU) for laying crude oil transportation pipeline from Barmer, Rajasthan to Salaya, Gujarat. Consequently, Rajasthan JV is implementing the Barmer-Salaya Pipeline (BSPL) project - approximately 600 km of buried insulated pipeline from Barmer, Rajasthan to Salaya, Jamnagar district, Gujarat.

The implementation of the above hydrocarbon development and crude evacuation projects require certain lands to be acquired on a temporary basis for exploratory work (seismic surveys, exploratory drilling, appraisal, approach roads etc), and certain others on permanent acquisition basis for establishing the facilities (well-pads, well-sites, process facilities etc), and acquisition of Right of User (ROU) for laying the pipelines.

The Cairn India Group Framework Land Acquisition and Compensation Plan (LACP) outlines the principles and guidelines being followed in acquiring land/ROU for any of the Group’s operations in India and in providing associated compensation covering loss of the use of land, physical displacement, impacts to assets such as built structures, seasonal and perennial crops and impacts to livelihoods.

The Rajasthan JV - Gujarat Framework Land Acquisition and Compensation Plan (Gujarat LACP) document covers the Rajasthan JV operations with regard to project land acquisition in Gujarat. This document describes the existing land acquisition and compensation process undertaken in accordance with the following manners of acquisition, depending on the project specific requirements:

- Permanent land acquisition in accordance with the Land Acquisition Act (LAA), 1894;
- Permanent land acquisition through direct negotiation with the land owners
- Temporary land acquisition in accordance with the direction of the Government Revenue Department
- Temporary land acquisition through direct lease arrangement with the land owners
- Right of User (ROU) acquisition in accordance with the Petroleum Minerals and Pipelines Act (PMP Act), 1962

### **1.1 PERMANENT LAND ACQUISITION UNDER THE LAND ACQUISITION ACT, 1894**

A Central Legislation called 'Land Acquisition Act, 1894' governs land acquisition in India. It is a very comprehensive legislation and addresses all the facets of the land acquisition process in detail. While it recognises the State's right to acquire lands for 'public purposes', it also recognises the interests and concerns of the all interested persons and provides for a fair and equitable method to compensate them. The acquisition is administered under the nodal authority of State Government nominated Land Acquisition Officer (LAO).

At every stage of the land acquisition process there is adequate flow of communication by virtue of publication of various notifications, declarations, notices in the Government Gazette, local press, local areas and so on. This ensures provision of timely and reasonable opportunity to all the interested persons to claim rights and compensation. The Land Acquisition Act provides for a creditable mechanism to determine the quantum of compensation, giving due consideration to land value, loss of standing crops or trees, damage caused due to severance from his or her other land, damage caused on account of affecting his or her other property - movable or immovable, in any other manner or his or her earnings. The process is transparent and the method provides for redressal of any grievance of the affected individuals with efforts made to obtain 'consent awards'.

### **1.2 PERMANENT LAND ACQUISITION THROUGH DIRECT NEGOTIATION WITH THE LAND OWNERS**

This form of land acquisition may be adopted where isolated small separate pieces of land spread over considerable distances are required to be acquired (e.g for well pads, heating stations etc). In such cases direct negotiation is held with the land owner(s). If negotiations fail, every effort will be made to seek alternate land where the land owner is willing to sell voluntarily. The services of the district revenue officials and independent lawyers/law firm will be availed to establish the title, interest in the lands concerned and also encumbrances, if any, over such lands. The compensation amounts to be paid for land will be based on current market rates or replacement costs and will be by mutual consent of the seller and the buyer. Due compensation is also payable for standing crops, trees, and damage caused on account of related damage to any other property of the landowner (movable or immovable built structures), in any other manner or which may affect the land owner's earnings and livelihood. Other provisions of this Corporate Framework LACP and IFC's Performance Standard 5 on Land Acquisition and Involuntary Resettlement will be addressed in undertaking a negotiated settlement, consulting with affected people and households, determining compensation rates at fair market value, etc.

### **1.3 TEMPORARY LAND ACQUISITION IN ACCORDANCE WITH THE DIRECTION OF THE GOVERNMENT REVENUE DEPARTMENT**

Land required for exploratory drilling or other temporary use requirements is usually acquired on temporary lease under the provisions of the Land Acquisition Act. The Land Acquisition Officer or the local Sub Divisional Magistrate (SDM) will verify, assess and determine the compensation /rental payable.

### **1.4 TEMPORARY LAND ACQUISITION THROUGH DIRECT LEASE ARRANGEMENT WITH THE LAND OWNERS**

In cases of isolated temporary acquisitions of land, acquisition is carried out based on direct lease arrangements with the land owner(s) concerned. Direct negotiation is held with the land owner(s). If negotiations fail every effort will be made to seek alternate land where the land owner is willing to lease voluntarily. The services of the district revenue officials and an independent law firm will be availed to verify the ownership of the lands and mortgages/charges if any over such lands. The compensation amounts to be paid to lease the land will be based on current market rates. Due compensation is also payable for standing crops, trees, and damage caused on account of related damage to any other property of the landowner (movable or immovable built structures), in any other manner or which may affect the land owner's earnings and livelihood.

### **1.5 RIGHT OF USER (ROU) ACQUISITION IN ACCORDANCE WITH THE PETROLEUM MINERALS AND PIPELINES ACT (PMP ACT), 1962**

Pipeline projects require the acquisition of 'right of user' in land for laying pipelines across private / public land. The 'Right of User' (ROU) is granted to projects for 'public purpose' and the acquisition of right of user is done in accordance with the Petroleum and Minerals Pipeline (Acquisition of RoU in Land) Act, 1962. The acquisition of ROU is carried out by the 'Competent Authority' (CA) duly nominated by the State Government concerned, and notified in the Gazette by the Central Government. The said Act prescribes the procedure to be followed for acquisition of ROU after following due process of law, including publication of notifications informing the land owners/interested persons about the project; its requirement for ROU; inviting objections, if any, for the same etc. Following this there will be inquiries by the Competent Authority appointed under the said Act to look into the merit of the claims/objections made, conduct inquiries and to decide on them, including determination of compensation payable in respect of grant of ROU. The compensation includes value of the lands in respect of which ROU is granted, value of encumbrances (such as standing crops/trees) as determined by the CA in accordance with the said Act. After the pipeline has been constructed and buried about one and half metres depth, the lands concerned can be utilised by the land owners as before, subject to some reasonable restrictions meant for the safety and integrity of the pipelines (e.g. no construction of built structures or planting of trees over the pipeline).

This document also addresses means to close some gaps between the Land Acquisition Act and the Petroleum and Minerals Pipelines Act requirements and international good practice, such as the requirements of the International Finance Corporation's (IFC) Policies and Performance Standards on Social and Environmental Sustainability (in particular the section on land acquisition contained in Performance Standard 5 - Land Acquisition and Involuntary Resettlement and Performance Standard 7 - Indigenous Peoples, if applicable).

## 1.6 SCOPE OF THE RAJASTHAN JV - GUJARAT FRAMEWORK LAND ACQUISITION AND COMPENSATION PLAN

The Gujarat Framework LACP will:

- Provide a brief outline of the project related activities being carried out in the block and the nature of land acquisition needs
- Provide a summary of relevant baseline information on affected populations; assessment of their relevant socio-economic circumstances; identify key issues faced in terms of land acquisition and compensation; and options and strategies for minimizing impacts on current land use activities
- Summarize the legal framework, policies, principles and objectives that govern the land acquisition and compensation processes
- Set out the land acquisition and compensation processes and consultation and grievance redressal mechanisms
- Describe implementation responsibilities, and a process for monitoring and evaluation

As stated above, the Rajasthan JV - Gujarat Framework LACP takes into account the requirements of the applicable laws of the country as well as the requirements dictated by international good practice such as the IFC's Policy and Performance Standards in particular the section on land acquisition contained in *Performance Standard 5 - Land Acquisition and Involuntary Resettlement*. It will also give due cognizance, where applicable to the requirements of *Performance Standard 7 - Indigenous People*.

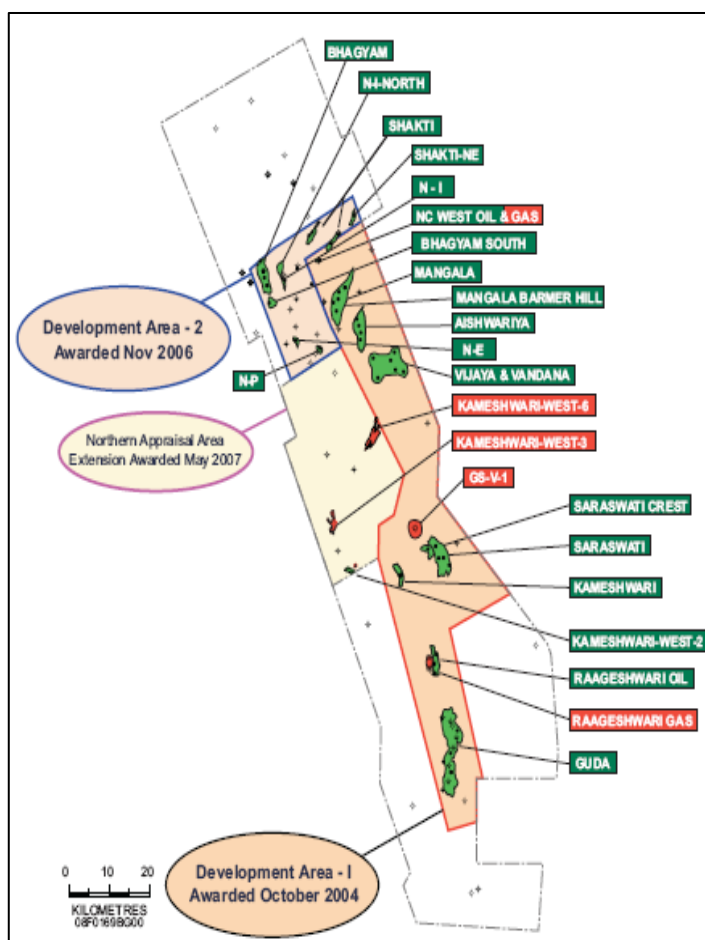
## 2. PROJECT DESCRIPTION

### 2.1 PROJECT COMPONENT: ACTIVITIES IN THE RJ-ON-90/1 BLOCK

The RJ-ON-90/1 Block straddles the Barmer and a small portion of the Jalore districts in south-west Rajasthan. It is spread across six tehsils namely Barmer, Baytoo, Shiv and Gudhamalani tehsil in Barmer district and Sanchole and Bhinmal tehsil in Jalore district. Cairn Energy India Pty Limited (CEIL) is the operator of the Rajasthan Block. The hydrocarbon development area of the block presently consists of:

- The Mangala, Aishwariya, Raageshwari and Saraswati (MARS) development area (1,859 km<sup>2</sup>), awarded to the Rajasthan JV in October 2004 and which includes the Mangala, Aishwariya, Saraswati and Raageshwari fields (the “Development Area-1”) until 2020; and
- The Bhagyam and Shakti (B&S) development area (430 km<sup>2</sup>), awarded to the Rajasthan JV in November 2006 and which includes the Bhagyam and Shakti fields (the “Development Area-2”);
- Application filed by the Rajasthan JV to the Government of India seeking a further development area in Kaameshwari-West (1178 km<sup>2</sup>) carved out of the earlier appraisal area. The application is under consideration with the Government.

Figure 2.1 Discovered Fields in RJ-ON-90/1 Block



Over the last few years, the Rajasthan JV has conducted an intensive hydrocarbon exploration and appraisal programme in Rajasthan, which has yielded significant discoveries including several world-class finds. More than 140 wells have been drilled to date in Rajasthan and have made over twenty hydrocarbon discoveries in the block, with significant oil discoveries such as the Mangala, Bhagyam, and Aishwariya. There are also smaller discoveries in the Southern Zone of the block, known as Saraswati and Raageshwari. The map of RJ-ON-90/1 block showing all the discovered fields is given in Figure 2.1.

The Barmer Basin has been informally subdivided into the Northern Fields and Southern Fields at an approximate line of latitude immediately north of the Saraswati field. The Northern Fields are generally relatively

simple large scale tilted fault blocks, with a series of stacked fluvial sandstones of the Fatehgarh Group as the principal reservoir rocks. The Southern Fields consist of two



principal plays: a shallow crude oil accumulation in fields such as Saraswati, Guda and Raageshwari oil, and a deeper gas accumulation beneath these fields, such as in the Raageshwari Deep gas field.

Final Government approval has been obtained for the MARS Field Development Plan (FDP's) and B&S Field Development Plan (FDP) application has been submitted to the GoI and is under consideration. The Declaration of Commerciality (DoC) document for the Kaameshwari-West development area has been submitted to the GoI and is under consideration for approval. Regulatory approvals are also in place for the MARS field development.

The land acquisition for the Mangala field development has been completed and the contract for the construction and erection of the Mangala terminals has been awarded. The present schedule is to have the flow the 'First Oil' from Mangala by H2 2009.

In August 2007, on a specific application from the Rajasthan JV, the Ministry of Petroleum and Natural Gas (MoPNG), Government of India agreed in principle for the grant of ROU to the consortium of Cairn India Limited (CIL) and Oil and Natural Gas Corporation Limited (ONGC) to lay a pipeline from RJ-ON-90/1 Contract Area in Barmer, Rajasthan to Salaya, Gujarat for evacuation of crude oil, in compliance to the rules / procedures under the Petroleum and Minerals Pipeline (PMP) Act, 1962 for formal acquisition of ROU. It further stipulated that as per the provisions of the PMP Act, Competent Authority (CA) is to be notified by the Central Govt. for the acquisition of the ROU.

Rajasthan JV performed various conceptual / technical studies in 2006, considering the nature of the crude from the Rajasthan oil fields to be waxy crude oil with a pour point of approximately 40°C, i.e. the crude will solidify at ambient ground conditions. The concept selected, in early 2007, after consideration of a wide range of possible alternatives was to construct a "heated" pipeline which can continuously maintain the temperature of the oil above the Wax Appearance Temperature ("WAT") of 50-65°C and re-heat the oil to greater than the Wax Dissolution Temperature ("WDT") of 70-75°C. The design flow rate is 150,000 bopd with a 30,000 bopd minimum turndown, but will have the potential for a maximum throughput of 180,000 bopd.

## **2.2 PROJECT COMPONENT: CRUDE OIL EVACUATION PIPELINE (BARMER TO SALAYA)**

The selected concept for the Barmer to Salaya Pipeline ("BSPL") is a Crude Oil 24" heated insulated and buried carbon steel pipeline. The pipeline design flow rate is 150,000 bopd with a 30,000 bopd minimum turndown, but will have the potential for a maximum throughput of 180,000 bopd. The pipeline is heated using the Skin Effect Heat Management System ("SEHMS") method described below.

In order to ensure continuous power supplies for the SEHMS an 8" Carbon steel gas pipeline will be installed in the pipeline trench beside the oil export line in order to supply fuel to the 1MW gas engine generators installed at the 28 gas driven heating stations every 18 km (approx) along the route. This line will operate at a normal throughput of 6 mmscfd. The oil entering the pipeline from the Mangala tank farm will be at 90°C, therefore the first four heating stations from the Mangala terminal will be required only in case of a shutdown situation beyond 15 days or at initial start up (commissioning). These stations will not be used on a routine basis and are designed to be diesel driven and when required rented, diesel generators will be used.

All river, canal and rail crossings will involve the boring (or drilling) of a hole beneath the obstacle to provide a conduit for the pipeline. Major road crossings will be performed in the same manner and only single-lane roads will be crossed using an open cut trench.

Pigging facilities for the oil pipeline will be installed at ~150 km intervals to allow removal of any wax deposited on the pipeline and intelligent pigging operations (where a pig with a number of measuring devices that can identify any potential erosion or pitting of the pipeline is sent down the line using the oil flow as a driving force). Normal pigging operations will be performed if any increases in pressure drop are observed along the pipeline. However, as the pipeline should continuously contain oil at a temperature above the WAT, this should not be necessary. Intelligent Pigging Operations will be performed on a 5 yearly basis as per industry norms.

There will be one head pump station at Mangala and one intermediate pump station at Viramgam both with normal outlet pressures of 71 barg and 50 per cent sparing on the pumps (i.e. a 2 out of 3 operating philosophy). This spacing (approx 300km) of the pump stations is a normal design.

Storage terminals will be installed at Viramgam, Ahmedabad district Gujarat and at Nana Lakhi, Jamnagar district, Gujarat. These terminals will have crude storage and distribution pumps with associated power generation facilities. At the Viramgam terminal, two crude oil buffer storage tanks will be installed each of 5,000 m<sup>3</sup> capacity totalling to 10,000 m<sup>3</sup> of crude storage. The terminal at Nana Lakhi will have six (6) tanks each of 50,000 m<sup>3</sup> capacity totalling a crude storage of 300,000 m<sup>3</sup>.

### 2.2.1 PIPELINE

The proposed insulated buried crude oil pipeline connecting Mangala terminal in Rajasthan to Salaya terminal in Gujarat is approximately 600 km in length. The pipeline will traverse two districts of Rajasthan State and six districts of Gujarat State. The pipeline alignment has been selected after detailed cadastral level survey of the entire route. The proposed alignment largely avoids built-up areas, forest areas, water bodies and other environmentally sensitive areas and keeps a safe distance from human habitats. The crude oil pipeline is of carbon steel - 24" diameter (API-5L-X65). The crude oil design pressure is 93 barg and design temperature of 90°C. The pipeline is insulated with 3 layers of Polyurethane Foam (PUF) and encapsulated in a High Density Polyethylene outer sheath to protect it from corrosion and accidental damage. The insulated pipeline will be laid with a minimum cover of 1.0 m below the ground level and the land will be reinstated to its almost original land use after completion of laying the pipeline.

A carbon steel gas trunk line 8" diameter (API-5L-X56 grade) will supply natural gas from the Raageshwari gas field to the SEHMS stations and the terminals at Viramgam and Salaya. The gas pipeline will be routed along the crude oil pipeline alignment and will be corrosion protected with 3 layers of polyethylene (3LPE). The gas pipeline design pressure 49 barg and design temperature of 41°C.

A pipeline corridor of 30 m width will be acquired on 'Right of User' (ROU) basis in accordance with the rules / procedures laid down under the Petroleum and Minerals Pipeline (PMP) Act. The pipeline corridor will accommodate the crude oil pipeline, gas trunk line, optical fiber cable, etc.

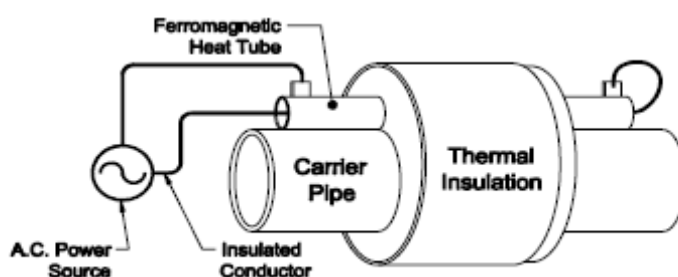
The proposed pipeline crosses network of National Highways, State Highways, Village Roads, Canals, Railway Lines and Rivers. Statutory approvals on design of crossings, construction methodology and safety requirements will be obtained and complied with.

In general, the pipeline and its associated facilities have been kept at a minimum distance of 100 m from any organised habitat as per Oil Industries Safety Directorate (OISD) guidelines. Therefore, Rehabilitation and Resettlement (R & R) issues will not be associated with the project. The storage locations at Viramgam and Salaya are located at safe distance from public utilities such as national and state high ways, settlements, etc.

The evacuation pipeline facilities will be designed and constructed to meet the National and International standards and complies with HSE and legislation requirements. The integrity and safety of the pipeline will be monitored through computerized Supervisory Control and Data Acquisition (SCADA) and leak detection systems.

### 2.2.2 SKIN EFFECT HEAT MANAGEMENT SYSTEM (SEHMS)

In the SEHMS, heat is generated on the inner surface of a ferromagnetic heat tube that is thermally coupled to the pipe to be heat traced. An electrically insulated, temperature-resistant conductor is installed inside the heat tube and connected to the tube at the far end. The tube and conductor are connected to an AC voltage source in a series connection.



This method of heating is called skin-effect heating because the return path of the circuit current is pulled to the inner surface (approximately 1 mm) of the heat tube by both the skin effect (fluctuating magnetic field) and the proximity effect between the heat tube and the conductor. The outside surface of the heat tube is at ground potential, while the inner surface of the tube carries full current. The circuit impedance is mainly resistive, generating heat in the heat tube wall and, to a lesser extent, in the insulated conductor. Additional heat results from eddy currents induced in the heat tube wall by the current flow through the insulated conductor. The allowable circuit length is determined by the power output, heat tube size, conductor size, and the carrier pipe temperature.

The SEHMS is designed to maintain the temperature at 65-70°C (i.e. above the Wax Appearance Temperature (WAT)) to prevent wax deposition which may effect the throughput of the pipeline. It will, however, be rated at ~75°C (i.e. above the Wax Deposition Temperature (WDT)) to allow melting of wax after the pipeline has cooled below the pour point and the crude has solidified. With the pipeline operating normally prior to a prolonged shutdown of the heating system it is expected that it would take more than 11 days for the oil to cool down to pour point. On restart the SEHMS will heat the static oil over a period of several days to enable dissolution of the wax. For a pipeline with the entire length cooled to below pour point it has been calculated the restart of the line at low rates could be achieved within at most 5 days and at full rates within 13 days.

### 2.2.3 VIRAMGAM TERMINAL

Viramgam terminal will primarily consist of storage, handling and pumping stations. The terminal will have 10,000 m<sup>3</sup> storage capacity of crude oil. The terminal will have two crude oil receipt tanks of 5,000 m<sup>3</sup> capacity each along with intermediate pumping stations. Adequate storage facilities with fire fighting and waste disposal facilities along with dyke and bunds for crude oil, fuel oil, chemicals and water will be planned as per the OISD guidelines. The land area required at this terminal is approximately 35ha. Viramgam terminal requires 8 MW power for heating and pumping the crude oil. Power requirement will be met sourcing power from either the state power grid and / or through captive power generation with primary fuel as natural gas and standby fuel as Diesel.

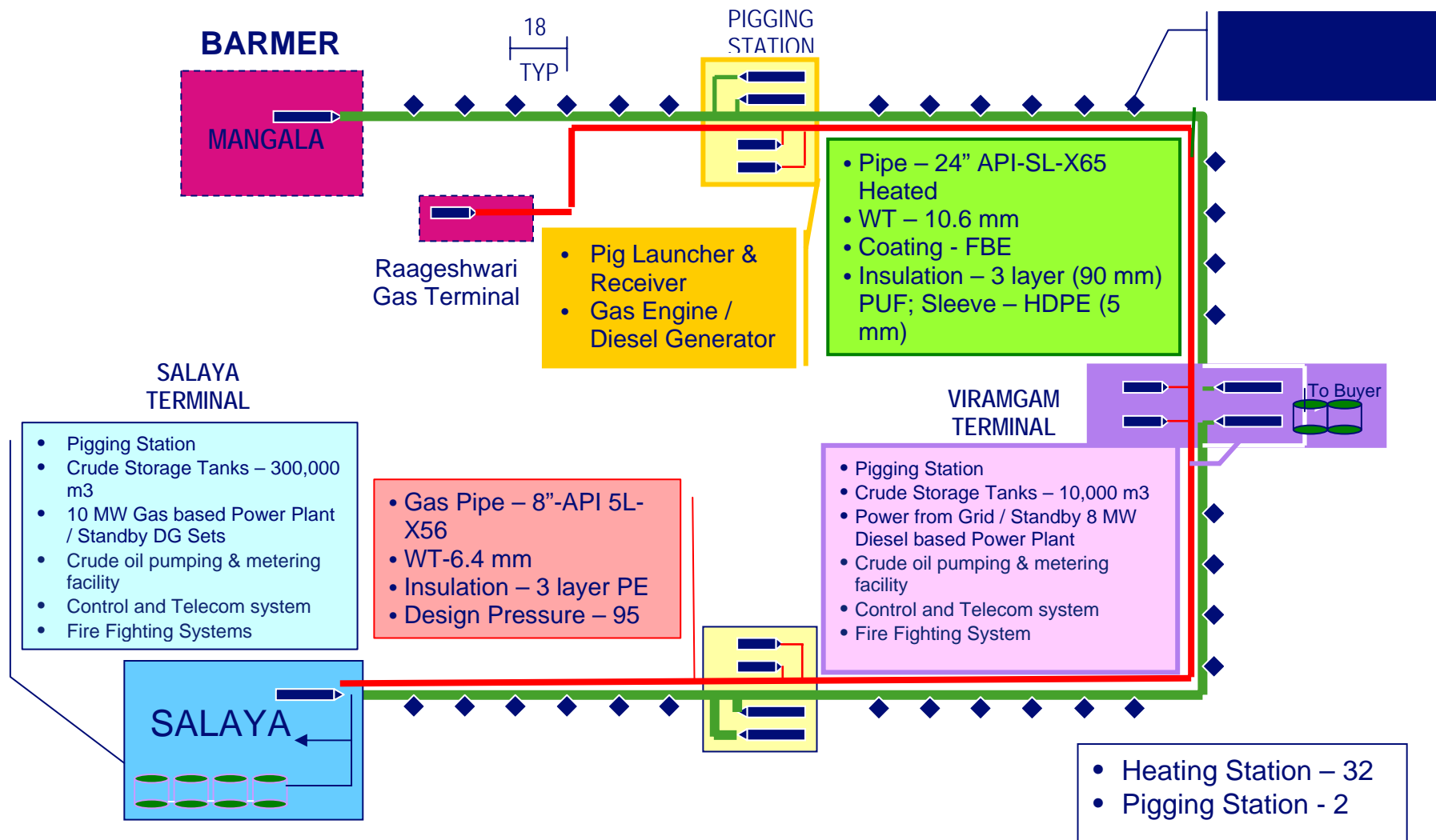
This terminal will be having electrical sub-stations, metering facilities, telecom system and control room. Fuel gas and sewage treatment package units will be installed at this terminal.

#### **2.2.4 SALAYA TERMINAL**

Salaya terminal is located near Jamnagar in Gujarat state having 300,000 m<sup>3</sup> storage capacities of crude oil and diluents. The capacity will be spread into six storage tanks of 50,000 m<sup>3</sup> each. The facilities at Salaya terminal will primarily consist of storage tanks, blending facilities, crude oil pumps to consumers, utilities, power generators, control systems and terminal buildings. OISD guidelines will be followed for establishment of storage facilities. The land area required at this terminal is 100 ha. Salaya terminal requires 10 MW power for heating, diluents mixing and pumping the crude oil.

#### **2.2.5 HEATING AND PIGGING STATIONS**

Heating and pigging stations will be installed along the pipeline route. Captive power generating facilities will be established at all heating stations and Viramgam and Salaya terminals. Gas and/or diesel based Generators of 1.0 MW rating will be established at every 18 km interval along the pipeline route to supply power for these heating and pumping stations. A parallel gas pipeline of 8" diameter from Raageshwari gas terminal will be laid along the main crude oil pipeline corridor for supply of natural gas. Power requirement will be met by captive generating sources of dual fired generators based on gas and/or oil. Suitable systems shall be provided for emergency power, DC power systems, and uninterrupted power supply. The system shall meet DGMS, Hazardous Area Classification and other standards applicable.



## **2.2.6 WATER REQUIREMENT AND WASTEWATER GENERATION**

Water is required for civil works and drinking water at construction camps during the construction phase is approximately estimated on average basis to be 50 m<sup>3</sup>/day of water for a period of 8 months during the construction of the terminals at Viramgam and Salaya. The SEHMS stations would require approximately 5 m<sup>3</sup>/day of water for a period of 6 months during the construction phase. Water will be sourced from authorised and permitted suppliers in the local area and no ground water abstraction wells are proposed under the project.

Water required for testing of pipeline will be obtained from the Mangala terminal facility and the hydro-testing will proceed in sections. The residual hydro testing wastewater at the end of the testing will be collected in holding ponds and tested for its toxicity and biodegradability. Depending upon the quantity of wastewater generated, the wastewater treatments will be either solar evaporated or sent to municipal Effluent Treatment Plant for treatment and disposal.

There will be no requirement of water for the pipeline during the operation phase. However, water will be required for domestic use and green-belt maintenance at the storage terminals during operation phase. The total water requirement during operational phase is estimated to be approximately 65 m<sup>3</sup>/day of water at Salaya terminal and 50 m<sup>3</sup>/day of water at Viramgam terminals. Water required during the operation phase will be sourced from authorised and permitted suppliers.

The sewage generated from construction camps and the terminal and pigging and heating station operation will be treated in septic tanks followed by soak pits.

## **2.2.7 MITIGATION MEASURES AND ENVIRONMENTAL STANDARDS**

The project has adopted procedures in internalizing the environmental and safety parameters into the design of the project. The components are route selection based on extensive survey, design practices, safety criteria and integrated construction methodology. The entire length of pipeline shall be monitored at Mangala and Viramgam terminals for various parameters like temperature, pressure, and other pipeline condition monitoring parameters. Voltage, current and other important parameters associated with the Skin Effect Heat Tracing System will also be monitored. Motor operated valves / shut down valves / remote operated valves will be provided at the entire length of pipeline at suitable locations.

## **2.2.8 SAFETY PROVISIONS AND FACILITIES**

### ***2.2.8.1 External/Internal Corrosion Coating***

Suitable anti-corrosive coating would be provided for external corrosion protection. Compatible joint material shall be provided at the joints following welding. As the crude oil and gas to be transported through the proposed pipeline is sweet, no internal coating is envisaged. However this aspect will be taken into consideration during the detail design phase.

### ***2.2.8.2 Insulating Joints***

Insulating joints would be provided between underground and aboveground portions of the pipeline for electrical isolation. Insulating joints would be of monoblock type and suitable for aboveground /underground installations.

### ***2.2.8.3 Cathodic Protection***

The proposed Gas pipeline only would be cathodically protected by an impressed current system. Cathodic Protection (CP) stations would be located at approximately 18 km intervals. The power source would be either power generating unit or Grid power. These provisions will be finalised during detailed engineering design stage.

#### ***2.2.8.4 Leak Tests before Operation***

The pipeline will be hydraulically tested to a pressure as per the design code requirements of the pipeline system. Also, the hoop stress will not be allowed to exceed 90 per cent of the specified minimum yield stress (SMYS). The maximum operating pressure of the pipeline is 90 barg. The hydraulic test will be for a minimum of 24 hours and will be conducted as required by the internationally accepted standard for high pressure pipeline design, construction and testing. Any test issues which are not addressed in the above standard and those specific to pipelines on land, will be referred to ASME 31.8.

#### ***2.2.8.5 Leak Tests during Operation***

The construction standard will require all welds to be totally radiographed by X-ray and then followed by the hydraulic test. This will ensure that there are no leaks from the pipe manufacturing source or the construction work. In order to ensure that the pipeline can be controlled, should there be any leaks due to third party interference, then section line valves (block valves) will be installed in accordance with the design at intervals. The entire pipeline system will be monitored continuously from a control station. This monitoring will be electronically supervised by a Supervisory Control and Data Acquisition System (SCADA). The monitoring station will be manned continuously. An electronic leak detection system capable of closing down transmission of gas / hydrocarbon automatically will be provided by the SCADA system.

#### ***2.2.8.6 Leak Detection System***

An integrated approach to meet the objective of accurate pipeline leak detection and location in a speedy manner, while minimising false alarms and keeping in view, simplicity of design and ease of interfacing with SCADA system has been proposed for the pipeline.

#### ***2.2.8.7 Fire Fighting System***

Before the pipeline is commissioned, various documents will be prepared. These documents will include a Safety Case (SC), a Major Accident Prevention Document (MAPD) and an Emergency Response Document (ER). This ER document will address the problem of an emergency such as a leak or fire and a procedure will be considered in detail within the document. This procedure will identify the involvement of all emergency services and will list the contact names and telephone numbers of Police, Fire and Ambulance officials. Hospital contacts will also be listed. Details of how people in remote areas can be transferred quickly to hospitals, in an unlikely event, will be addressed. This emergency procedure will be agreed with all emergency services and will be practised from time to time. In this way, improvements will be identified and the procedure will be revised accordingly.

#### ***2.2.8.8 SCADA System***

The pipeline is proposed to be provided with latest state of the art Computer based Supervisory Control and Data Acquisition System (SCADA) for safe and efficient operation of the pipeline. The Master Control Centre (MCC) of the pipeline SCADA system will be located at Mangala. MCC shall perform data gathering, monitoring and control of the complete pipeline through SCADA and Pipeline Application Software running under multi-programming, multi-tasking, real time operating system environment which will be modular in structure for efficient maintenance and taking care of future expansion needs. The remote terminal units (RTUs) installed at each station location

shall provide interface between station instrumentation and the SCADA system. Dedicated telecommunication system will be provided for data transfer.

The main features of SCADA system besides remote plant monitoring and control functions are pipeline applications such as leak detection, batch scheduling, batch-tracking, pig-tracking, interface detection, instantaneous reporting of alarm/events, pipeline operation optimisation, simulation of operations for training the operators, keeping inventory of the pipeline, MIS functions, Mimic display, Monitoring of data from the connected CP locations and self diagnosis. In addition to these features, it is also proposed to incorporate the operating status and mimic display of the tanks from which the products will be drawn as well as the status of the tanks at respective destinations in which the gas is proposed to be delivered.

The system shall be provided with Uninterrupted Power Supply (UPS) system for continuous working.

#### **2.2.9 GREENBELT DEVELOPMENT**

A green belt with a combination of trees and shrubs would be developed in and around the permanent installations in the production facilities. Specialist organisations with experience in arid / semi-arid area green belt developed will be consulted to design the green belt program with due care to the soil and water quality and the prevailing climatic conditions.



### 3 REGULATORY FRAMEWORK

This section covers the laws of the land and policies pertaining to land acquisition and compensation issues in India. It also refers to the international good practice, as applicable.

#### 3.1 THE LAND ACQUISITION ACT, 1894

An important phase of any project implementation requiring land is the land acquisition phase. It is important to see that this process is carried out with due sensitivity to the interests and concerns of all parties and also the compliance with the law of the land.

A Central Legislation called 'Land Acquisition Act, 1894' governs land acquisition in India. It is a very comprehensive legislation and addresses all the facets of the land acquisition process in detail. While it recognises the State's right to acquire lands for 'public purpose', it also recognises the interests and concerns of the all interested persons and provides for a fair and equitable method to compensate them.

At every stage of the land acquisition process there is adequate flow of communication by virtue of publication of various notifications, declarations, notices in the Government Gazette, local press, local areas etc. This ensures provision of timely and reasonable opportunity to all the interested persons to claim rights and compensation.

At the first level, the method is transparent and also provides for due opportunities to all concerned persons and households for review of information, before the determination of the quantum of compensation and the persons entitled to receive it. At the second level, the method provides for redressal of any grievance arising out of the aforesaid first level determinations. An aggrieved person can seek reference to the court to look into the grievances concerning the measurement of the land, the amount of compensation, eligibility to receive compensation, apportionment of compensation amongst the interested persons, etc.

Further, the Land Acquisition Act provides for a creditable mechanism to determine the quantum of compensation, according to which the following shall receive due consideration:

- Market value of the land prevailing at the time of the first-ever notification under the Land Acquisition Act (known as sec 4(1) notification)
- Damage sustained by the person interested on account of loss to standing crops or trees over the land while taking possession
- Damage sustained by the person interested on account of severance his or her land from his or her other land
- Damage sustained by the person interested, while taking possession, on account of affecting his or her other property - movable or immovable, in any other manner or his or her earnings
- If in consequence of the acquisition of the land, the person interested is compelled to change his or her residence or place of business, reasonable expense incidental to such change

- Bona fide damage resulting from diminution of the profits of the land during the intermediate times

The above criteria are well conceived and are meant to protect the concerns and interests of the interested parties. The same criteria are applicable for both the first and second levels (as aforesaid) of determination of compensation. If any injustice is caused during the first level it would get corrected at the second level. The interested party will have due opportunity to represent his or her case at both the levels.

Further, in addition to the market value of land as stated above, the Land Acquisition Act requires payment of an extra sum equivalent to 30% of the market value of the land. This additional sum is called 'solatium'.

Under the provisions of the Land Acquisition Act, the authority concerned is obliged to see that all due procedures are followed and proper compensation is determined as per prescribed criteria and disbursed to the interested party concerned. The said authority has requisite powers to ensure that the due process is completed appropriately.

The scope and process of the Land Acquisition Act, is clear, comprehensive, rational, reasonable, equitable and transparent to all the parties concerned. This process is on par with international standards.

There are other laws of the land which deal with the rights of the owner's vis-à-vis other categories - such as possessors, easement holders, tenants etc. Any legal right accruing by virtue of these laws will get recognised and acted upon by the authorities under the Land Acquisition Act as also the courts concerned with the references made against the land acquisition awards.

The Land Acquisition Act also mandates against acquisition of houses falling partially or completely within the land being acquired against the wishes of the interested parties or owners occupying the house. In such cases the full-house is required to be acquired and due compensation paid. Applying the criteria aforesaid, the interested parties will be entitled to compensation, not only for the market value of the structure but also on all other applicable counts.

### **3.2 THE PETROLEUM AND MINERALS PIPELINES (ACQUISITION OF RIGHT OF USER IN LAND) ACT, 1962**

The proposed pipeline would require the acquisition of right of user in land for laying pipelines across agricultural fields, government land or any other utilities. The Act specifies all the formalities that government or any corporation will have to adhere to with respect to publication of notification for acquisition, power to enter and survey the proposed land, hearing of any objections, declaration of acquisition of right of user, restrictions regarding land-use and compensation.

The key tenets of this Act which are applicable for the proposed pipeline include:

- Establishment of a Competent Authority to decide on matters of land, compensation, hearing objections and dispute settlement
- Prior notification declaring the intention of acquiring right of user must be obtained from the Competent Authority before entering, surveying or inspecting land

- Minimum damage or injury is to be caused to the land under inspection, survey or to mark levels and boundaries
- It should be ensured that no pipeline is to be laid under a permanent residential structure or dwelling as defined by the Act
- Restrictions upon use of land for construction any building or permanent structure, plant trees, construct or excavate wells on the land under which the pipeline is laid, and
- Fixing of compensation by the Competent Authority to the owner of the land for right of use and damage to assets, crops and also compensate for future potentialities of the land. The Act proposes to pay ten percent of its value of the land concerned for right of use

### **3.3 NATIONAL POLICY ON RESETTLEMENT AND REHABILITATION (NPRR), 2007**

The proposed pipeline is not intended to involve any significant physical displacement of families or any particular community due to the project. The National Policy on Resettlement and Rehabilitation (NPRR) governs the resettlement and rehabilitation in India.

The proposed project will not involve the application of the NPRR 2007 requirements. However, for the sake of completeness, the salient features of the new NPRR 2007 policy and key changes with respect to NPRR 2003 India are detailed below.

- It includes displacement for any reason, unlike the 2003 policy that focused on displacement due to land acquisition
- The minimum number of people being displaced to trigger the policy has been reduced both in plains and in the hills, tribal areas and Desert Development Programme (DDP) blocks. Now the NPRR will be triggered if there are more than 400 families displaced in plain areas and more than 200 in hills and DDP areas
- It will be mandatory for the Requiring Body to prepare a Social Impact Assessment (SIA)
- SIAs will go through a clearance process similar to the Environmental Clearance process, and public hearings will include social impact issues and, where the EC process does not require a Public Hearing, a separate hearing for the SIA will be held
- Draft resettlement and rehabilitation plans need to be discussed in the gram sabha in rural areas and through public hearings in urban and rural areas without gram sabhas
- Provision of shares, cash benefits, employment, pensions etc to the affected family as a part of the rehabilitation grant, if the Requiring Body is a corporate organization/company

### 3.4 INTERNATIONAL FINANCE CORPORATION'S PERFORMANCE STANDARDS ON SOCIAL AND ENVIRONMENTAL SUSTAINABILITY

International good practice guidelines and standards such as the IFC Performance Standards on Social and Environmental Sustainability and in particular the requirements contained in the section on land acquisition - (*Performance Standard 5 - Land Acquisition and Involuntary Resettlement*) expect its clients to manage their social and environmental risks and impacts of their projects. Where land acquisition and resettlement are the responsibility of the government, the client is expected to collaborate with these agencies to achieve outcomes that are consistent with the objectives of these Performance Standards. These performance standards and guidelines provide ways and means to identify impacts and affected stakeholders and lay down processes for management and mitigation of adverse impacts.

The project will also factor-in, wherever applicable, the relevant provisions of the *IFC Performance Standard 7 - Indigenous Peoples*. Performance Standard 7 recognises that Indigenous Peoples, as social groups with identities that are distinct from dominant groups in national societies, are often the most marginalised and vulnerable segments of the population, particularly if their lands and resources are transformed, encroached upon, or significantly degraded. Projects may expose Indigenous Peoples to different types of risks and severity of impacts including loss of identity, culture and natural-resources based livelihoods as well as exposure to impoverishment and diseases. Performance Standard 7 provides ways and means to identify impacts and affected stakeholders and lay down processes for management and mitigation of adverse impacts.

### 3.5 PANCHAYATI RAJ IN THE PROJECT AREA

The panchayats have been designated with powers to identify and establish rights and ownerships over village, forest and community land. Apart from this the panchayats also have powers to grant permission for expansion of village roads and recommend cases of diversions in land use. The Panchayati Raj Act, 1994 provides for a three-tier structure of Panchayats for rural self-governance. The Zila Panchayat forms the apex institution at the district level, under which is the Taluk/Tehsil Panchayat for each block which further comprises of Gram Panchayat at the grass-root level. These Gram Panchayats are the lowest rung of local self-governance and any development schemes, funds or grants are routed to them. One gram panchayat may consist of one or more revenue villages. This decentralization empowers the local bodies to put across their concerns, raise their voice against injustice, plan and instrument their own development.

## 4 SUMMARY OF SOCIO-ECONOMIC BASELINE IN THE PROJECT AREA COVERED BY THE BARMER-SALAYA PIPELINE

The following section summarises the social baseline of the Rajasthan JV Barmer-Salaya pipeline project area in the state of Gujarat. A more detailed baseline study is attached as Annex A of the ERM Report *Social Baseline and Impact Assessment Study for the proposed Barmer Salaya Pipeline (BSPL) Project (January 2008)*.

### 4.1 THE PROJECT AREA

The Rajasthan JV 600 km long pipeline project starts at the Mangala Processing Terminal in Barmer, Rajasthan and enters the state of Gujarat from Jalore district of Rajasthan. Around 450 km of the said pipeline traverses through Gujarat and passes through the north-western districts namely Banaskantha, Patan, Ahmedabad and Surendranagar and those in Saurashtra (also referred to as Kathiawar) namely Jamnagar and Rajkot. The 30 m wide pipeline corridor will be acquired on ROU basis in accordance to the rules / procedure of the Petroleum and Minerals Pipelines Act, (PMP) 1962.

Broadly, the project area in Gujarat, in terms of physiography and climatic conditions, may be divided into two broad categories:

- **North and north-west Gujarat:** This comprises the districts of Banaskantha, Patan, Ahmedabad and parts of Surendranagar. The area is semi-arid with average rainfall ranging from 450 mm to 500 mm. The region has a good store of groundwater but this has depleted over the years because of over-exploitation without adequate recharge due to erratic rainfall.
- **Saurashtra:** The pipeline passes through inland Saurashtra, comprising parts of Surendranagar and Rajkot into Jamnagar which is a part of coastal Saurashtra. Annual average rainfall in the region is about 500 mm to 600 mm. Since the inland region is hilly (a plateau), it has short rivers, which dry up in the summer. The coastal region has low rainfall and the soil and groundwater is mostly saline.

**TABLE 4.1: Physiography of the Project Area in Gujarat**

	North-west Zone	Saurashtra
Areas (Districts and Talukas)	Dhrangadra and Dasada in Surendranagar, Viramgam and Mandal in Ahmedabad, Sami and Harij in Patan and Banaskantha	Whole of Jamnagar, Paddhari and Wankaner Talukas in Rajkot, Wadhwan, Muli and Chotila in Surendranagar
Rainfall (mm)	250 to 500	400 to 700
Type of Soil	Sandy and saline	Shallow, medium black
Soil characteristics & Land-use Classification	Cultivated and grass land	Cultivated and grass land
Crops	Cotton, Jowar, Groundnut, Bajra & Wheat	Groundnut, Cotton, Wheat, Bajra, Jowar & Sugarcane

\*Source: <http://agri.gujarat.gov.in/informations/>

In terms of physical infrastructure the area is connected through National and State highways to major cities and towns. Roads and transport system is not very good as one

approaches the interior areas, though the major urban centres have a good network. The area is relatively well-developed in terms of telecommunication, which is indicated by the widespread availability of mobile phone connections in a good number of villages. Power situation in Gujarat is relatively better than that in its neighbouring state of Rajasthan. However, within Gujarat, the power situation is relatively better in urban and more industrialised areas as compared to rural and remote areas.

Accessibility to health services is relatively good in Gujarat. However, accessibility and affordability of quality healthcare remains a cause of concern especially for women who are confronted with maternal and child health problems.

## 4.2 DEMOGRAPHY

The state of Gujarat has shown a consistent rise in population with compounded average growth rate being 1.54 between 1981 and 1991 and 2.05 between 1991 and 2001. The density of population has increased from 211 in 1991 to 258 persons per sq. km in 2001. The proportion of urbanization has increased from 34.49 per cent in 1991 to 37.36 per cent in 2001 with Ahmedabad being the most urbanized district.

Most districts covered under the project area have a predominantly Hindu society with patriarchal and feudal traditions affecting day-to-day interaction across religion, caste, occupation and gender. Among the Hindu community, the overall proportion of Scheduled Tribes (STs) in the project area is relatively small and distributed throughout the pipeline alignment route, whereas the other castes constitute a more sizable proportion. Education and exposure to urban conditions have significantly reduced the degree of discrimination practiced in the area. The traditionally backwards castes have become active in local governance and politics with steadily increasing influence mostly due to their population and improved economic status.

The genesis of caste in India and its linkages to the socio-economic status dates back to history. The constitution of India in recognition of the need of these groups accorded them special status in the constitution by classifying them into Schedule castes, Schedule tribes or backward castes and providing them with special incentives like reservation in jobs and education institutions, financial benefits etc. Thanks to the government and civil society efforts, these groups (like the schedule caste, backward and other backward caste) which were earlier looked upon as marginalised and vulnerable have seen their influence and clout growing and have to a large extent been mainstreamed with the other castes.

The literacy rates in Gujarat have shown a marked improvement, up from 44 per cent in 1981 to 61 per cent in 1991, to 70 per cent in 2001. This increase has been observed for both males and females, in rural as well as urban areas. The female literacy rate has increased from 38 per cent in 1981 to close to 60 per cent in 2001. The same trend has been mirrored across all the districts in the project area which implies a successful effort of universalizing primary education at the village level, however the increase is not significant.

The entire project area is negatively skewed as far as sex ratio is concerned. The range hovers between 920 to 960 females per 1000 males.

In terms of local self-governance, the three tier *Panchayati Raj* Institutions influence rural development and decision making in the villages with schemes being executed and funds being allocated from the district level (*Zila Parishad*), to the block level (*Panchayat*

*Samiti*) to the village level as the *Gram Panchayat*. In addition to this formal system of governance, a lot of local conflict issues are also referred to a wider audience of five to ten neighbouring villages. Generally these issues are related to land disputes within a family, or discussion on external projects common to these villages. The influential people at the village/*Panchayat* level are the ex-*Sarpanches* and their family members along with the schoolmaster, the *Gram Sevak* and the village elders.

### 4.3 ECONOMY AND LIVELIHOODS

Majority of the working population in the state of Gujarat is engaged in agriculture and allied activities like animal husbandry. Very few people are involved in their own household industries while the landless earn their livelihood as agricultural labour.

According to the Human Development Report of 2004 of Gujarat, as regards the diversification of the working population, the share of agricultural employment (cultivators & agricultural labourers) has declined from 56.30 per cent in 1991 to 52.05 per cent in 2001. The share of agricultural labourers in the agricultural workforce has increased from 40.71 per cent in 1991 to 46.97 per cent in 2001. Number of people engaged in household industries and other workers have both shown an increase. Other workers include people engaged in private/public sector employment as well as government workers, shop keepers etc.

**Table 4.2: Trends in Occupation Patterns in the Project Area in Gujarat**

Occupation	Gujarat
Cultivation of cash crops	Increasingly, land under cultivation is changing from food crops and pulses to cash crops and oilseeds due to better agricultural infrastructure
Livestock	The dairy and co-operative movement is not equally spread across districts but it has helped in farmers relying on animal husbandry for a steadier source of income.
Agricultural labour	As land gets more fragmented and not suitable for cultivation, there is a tendency to sell off land and work as labourers on agricultural land.
Migration	There is a tendency to move out of agricultural labour and acquire skills in factories, mills etc. This is very seasonal in nature and income from migration fluctuates depending upon availability of work and cost of living in another place.
Private/ Government Jobs	Every village has four or five people engaged in a government or private job and they commute daily to the nearest urban centre.
Self employed/ Entrepreneurs	Every village has a few independent ventures like tailoring, floor units, provision stores etc. Rural artisans in the villages supply their wares only locally and not in any market.
Alternate sources of livelihood	Jobs as contractors, real estate work, suppliers and vendors to nearby industries etc.

*\* Source: Primary consultations.*

*NREGA: The National Rural Employment Guarantee Act that gives the right to every unemployed person a minimum of 100 days of wage labour in a year. An unemployed person can demand this from the Panchayat as a right. In case the Panchayat and the*

*development machinery is unable to provide the specified number of days of employment, the government is bound to give wages for those many day anyway.*

Agricultural growth has spread mainly in the areas where there is assured water supply made available through irrigation facilities. Cattle based livelihood is the second most important source of income in the project area. The proportion of permanent pasture and grazing land is close to 8 per cent of the total area in Saurashtra whereas it is only around 4 per cent in the north-west of Gujarat. This coupled with degraded pasture land has led to increased migrant pastoralism from Banaskantha and Patan towards Saurashtra in the lean agricultural season.

#### **4.4 LAND**

The main land use type in the entire project area along the pipeline route in Gujarat is agriculture, followed by grasslands and wastelands, especially in the Saurashtra region.

Land in the project area in the north-western region of Gujarat (Ahmedabad, Banaskantha etc.) is mostly saline and sandy. Land is mostly used for cultivation, wherever possible, or else left fallow as grasslands with some dry cultivation fields growing millets. Cotton, Jowar, Groundnut and Wheat are the major crops grown in this region where there are irrigation and other facilities.

Land in the project area in Saurashtra region of Gujarat (Jamnagar, Rajkot etc.) is shallow to medium black and gently undulating and falling terrain. Land is mostly used for cultivation, wherever possible, or else left fallow as grasslands with some dry cultivation fields growing millets. Cotton and sugarcane are prominent crops where irrigation facilities are available.



## **5 SOCIO-ECONOMIC IMPACT ASSESSMENT**

### **5.1 INTRODUCTION**

Temporary use of land occurs in course of exploration and seismic surveys. Subsequently, in order to bring the discovered hydrocarbon fields into production, permanent land will need to be acquired for setting up the processing facilities and the well pads. In addition land under 'Right of User' for buried pipeline corridors would be required affecting private as well as government land.

The Barmer - Salaya crude oil evacuation pipeline corridor from Barmer, Rajasthan to Salaya, Gujarat propose to be acquired on 'Right of User' basis in accordance to the rules / procedures of the Petroleum and Minerals Pipelines Act, 1962. The Competent Authority (CA), the nodal authority for the said acquisition, has been nominated by the Government of Rajasthan and has been notified by the Government of India (Ministry of Petroleum and Natural Gas - MoPNG).

Socio economic impacts of permanent land acquisition on affected families will mainly be in the form of loss of land and assets. Every reasonable effort will be made to minimise damage to existing permanent structures by re-routing of pipelines and access roads and by altering the siting of well pads, to the extent feasible making use of directional drilling techniques. The project does not have any significant displacement of people and thus, accordingly the National Policy for Rehabilitation and Resettlement (NPRR), 2007 provisions are not applicable.

Besides the impacts related to land acquisition, a major project activity could result in other potential project impacts such as pressure on local resources and socio-cultural changes due to influx of labour and staff, unless suitable measures are taken to mitigate the potential impacts all of which will be discussed in the following sections.

### **5.2 TEMPORARY LAND ACQUISITION**

Typically exploratory drilling and associated camp sites, temporary warehouse, pipe-lay facilities are acquired on temporary lease basis since the said land is required for a temporary duration. The temporary land acquisition will generally be carried in one or more manner as listed below, depending on the project specific requirements

- Temporary land acquisition in accordance with the direction of the State Government Revenue Department
- Temporary land acquisition through direct lease arrangement with the land owners

#### **5.2.1 TEMPORARY LAND ACQUISITION IN ACCORDANCE WITH THE DIRECTION OF THE STATE GOVERNMENT REVENUE DEPARTMENT**

Land required for exploratory drilling or other temporary use requirements is usually acquired on temporary lease acquisition under the provisions of the Land Acquisition Act, 1894. The Land Acquisition Officer (LAO) or the local Sub Divisional Magistrate (SDM) will verify, assess and determine the compensation/rental payable.

## **5.2.2 TEMPORARY LAND ACQUISITION THROUGH DIRECT LEASE ARRANGEMENT WITH THE LAND OWNERS**

In cases of isolated temporary acquisitions of land, acquisition is carried out based on direct lease arrangements with the land owner(s) concerned. Direct negotiation is held with the land owner(s). If negotiations fail every effort will be made to seek alternate land where the land owner is willing to lease voluntarily. The services of the district revenue officials and an independent law firm will be availed to verify the ownership of the lands and mortgages/charges if any over such lands. The compensation amounts to be paid to lease the land will be based on current market rates. Due compensation is also payable for standing crops, trees, and damage caused on account of related damage to any other property of the landowner (movable or immovable built structures), in any other manner or which may affect the land owner's earnings and livelihood.

## **5.3 PERMANENT LAND ACQUISITION**

The permanent land required for any hydrocarbon field development activities will typically consist of lands required for the following purposes:

- Construction of Production / Injection wells / well pad facilities
- Construction of Hydrocarbon processing facilities, including related infrastructure such as power plant, water and waste water treatment system, waste management facilities, administrative offices, green belt area, internal roads, safety zones, etc
- Saline water well field installation and distribution network
- Interconnecting Pipeline and Road corridors on 'Right of User' (ROU) basis
- Power distribution and transmission network
- Living Quarters and Training facilities
- Helipads
- Pigging and Heating Stations
- Crude Oil Storage Terminals
- Permanent Warehouse facilities
- Telecommunication Stations

The extent and location of land required will vary depending on the project requirements. The land requirements for specific development project will be detailed in the Project Specific Information (PSI) document. The land acquisition will generally be carried in one or more manner as listed below, depending on the project specific requirements

- Permanent land acquisition in accordance with the Land Acquisition Act, 1894
- Permanent land acquisition through direct negotiation with the land owners

### **5.3.1 PERMANENT LAND ACQUISITION UNDER THE LAND ACQUISITION ACT, 1894**

A Central Legislation called 'Land Acquisition Act, 1894' governs land acquisition in India. It is a very comprehensive legislation and addresses all the facets of the land acquisition process in detail. While it recognises the State's right to acquire lands for 'public purpose', it also recognises the interests and concerns of the all interested persons and provides for a fair and equitable method to compensate them. The acquisition is administered under the nodal authority of State Government nominated Land Acquisition Officer (LAO). This very comprehensive legislation addresses all the

facets of the land acquisition process in detail and provides a creditable mechanism to determine the quantum of compensation.

At every stage of the land acquisition process there is adequate flow of communication by virtue of publication of various notifications, declarations, notices in the Government Gazette, local press, local areas etc. This ensures provision of timely and reasonable opportunity to all the interested persons to claim rights and compensation. The Land Acquisition Act provides for a creditable mechanism to determine the quantum of compensation, giving due consideration to land value, loss of standing crops or trees, damage caused due to severance from his other land, damage caused on account of affecting his other property - movable or immovable, in any other manner or his earnings. The process is transparent and the method provides for redressal of any grievance of the affected individual and efforts will be made to obtain 'consent awards'.

As the first step in the land acquisition process survey is carried out to establish the ownership of the parcels of land proposed to be acquired for the specific project. The land ownership details will be obtained from the village revenue officials and through discussions with concerned persons and village elders (panchayat officials). Application for acquisition of land for the project is then made in strict compliance to the requirements of the Land Acquisition Act.

The Land Acquisition Officer will scrutinise the project land requirements and recommend to the Government to issue notification to declare that the lands were being acquired are for public purpose. The Land Acquisition Act, provides for a transparent and documented consultation process at every stage of the acquisition process and the Land Acquisition Officer is entrusted with the responsibility that this is complied with in letter and spirit.

### **5.3.2 PERMANENT LAND ACQUISITION THROUGH DIRECT NEGOTIATION WITH THE LAND OWNERS**

This form of land acquisition may be adopted where isolated small separate pieces of land spread over considerable distances are required to be acquired (e.g for well pads, heating stations etc). In such cases direct negotiation is held with the land owner(s). If negotiations fail, every effort will be made to seek alternate land where the land owner is willing to sell voluntarily. The services of the district revenue officials and independent lawyers/law firm will be availed to establish the title, interest in the lands concerned and also encumbrances, if any, over such lands. The compensation amounts to be paid for land will be based on current market rates or replacement costs and will be by mutual consent of the seller and the buyer. Due compensation is also payable for standing crops, trees, and damage caused on account of related damage to any other property of the landowner (movable or immovable built structures), in any other manner or which may affect the land owner's earnings and livelihood. Other provisions of this Corporate Framework LACP and IFC's Performance Standard 5 on Land Acquisition and Involuntary Resettlement will be addressed in undertaking a negotiated settlement, consulting with affected people and households, determining compensation rates at fair market value, etc.

### **5.4 RIGHT OF USER (ROU) ACQUISITION IN ACCORDANCE WITH THE PETROLEUM MINERALS AND PIPELINES ACT (PMP ACT), 1962**

Pipeline projects require the acquisition of 'right of user' in land for laying pipelines across private / public land. The 'Right of User' (ROU) is granted to projects for 'public purpose' and the acquisition of right of user is done in accordance with the Petroleum and Minerals Pipeline (Acquisition of RoU in Land) Act, 1962. The acquisition of ROU is

carried out by the 'Competent Authority' (CA) duly nominated by the State Government concerned, and notified in the Gazette by the Central Government. The said Act prescribes the procedure to be followed for acquisition of ROU after following due process of law, including publication of notifications informing the land owners/interested persons about the project; its requirement for ROU; inviting objections, if any, for the same etc. Following this there will be inquiries by the Competent Authority appointed under the said Act to look into the merit of the claims/objections made, conduct inquiries and to decide on them, including determination of compensation payable in respect of grant of ROU. The compensation includes value of the lands in respect of which ROU is granted, value of encumbrances (such as standing crops/trees) as determined by the CA in accordance with the said Act. After the pipeline has been constructed and buried about one and half metres depth, the lands concerned can be utilised by the land owners as before, subject to some reasonable restrictions meant for the safety and integrity of the pipelines (e.g. no construction of built structures or planting of trees over the pipeline).

## **5.5 CONSULTATION MECHANISM**

In all the above cases a transparent and robust consultation mechanism will be adopted in determining land ownership, receiving and hearing objections, evaluating and awarding land, crop and other encumbrance compensation and implementing a grievance redressal mechanism. Efforts will be made to minimise the impacts due to land take and have in place socio-economic development programs for the project affected community.

The Land Acquisition Act, as described in Section 3, provides for a transparent and documented consultation process at every stage of the acquisition process. The Land Acquisition Officer is entrusted with the responsibility, as per the Act, to ensure that this is complied with in letter and in spirit.

The IFC Performance Standards for Social and Environmental Sustainability emphasizes on a structured and planned public consultation and disclosure process. The Rajasthan JV - Gujarat Framework Public Consultation and Disclosure Plan (Gujarat PCDP) document discusses the consultation mechanism in detail.

## **5.6 POTENTIAL CATEGORIES OF IMPACTS DUE TO LAND ACQUISITION**

This section identifies potential project impacts due to the planned project components and related land requirements. For more details on the socio-economic impacts of land acquisition for the proposed Barmer-Salaya pipeline project, please refer to the ERM Report Social *Baseline and Impact Assessment Study for the proposed Barmer Salaya Pipeline (BSPL) Project (January 2008)*.

Any land acquisition is bound to impact the land owner and the community at large to some extent or the other. These impacts need to be mitigated by monetary compensation and additional rehabilitation measures where applicable.

Some of the main issues and impacts resulting from land acquisition are:

### **5.6.1 LOSS OF LAND AND RELATED ASSETS LIKE CROPS AND TREES**

#### ***5.6.1.1 Temporary Land Acquisition***

As mentioned earlier, in case of temporary land acquisition, the concerned district revenue authority verifies, assesses and determines the compensation/rental payable for the period of temporary land acquisition/lease. The compensation / rental payable is

determined keeping in mind the size of land acquired, the duration of acquisition, loss of assets like crops for the period that the land may not be available for farming, trees that may have to be uprooted from the land and other such considerations. The lands at the end of the lease period is either returned back to the land owner or in case of a successful discovery or for any other related permanent use are acquired on a permanent acquisition basis in accordance to the permanent land acquisition process.

The drill site locations are selected to avoid homesteads or buildings wherever possible. Thus, the impact on livelihood due to the temporary acquisition is minimal. The land owners are invariably employed by the contractor during the construction of the drill site which provides additional ready income to the affected households.

#### ***5.6.1.2 Permanent Land Acquisition***

Construction of the crude oil terminal, well pads, staff quarters, roads, pigging and heating stations and crude oil storage terminals and other components will require permanent acquisition of land. This would result in loss of land, permanent structures thereon, standing crops and / or trees, other assets etc.

#### ***5.6.1.3 ROU Acquisition***

The ROU acquisition may be considered as a temporary incursion into private or public land and requires the ROU land to be handed back to the land owner(s) in a manner by which the original land use is not adversely impacted. The ROU at several places may have assets, both public and privately owned, that could be impacted due to the laying of pipeline. However, efforts will be taken to minimise impacts / damage on fixed encumbrances during the pipeline corridor alignment finalisation. The compensation process for the ROU, under the Petroleum and Minerals Pipelines (PMP) Act, 1962 will take into consideration any loss to the affected families from uprooting of privately-owned trees, standing crops etc. The Competent Authority (CA) will compensate for the loss of standing crop based and for the period land will not be available for farming. In addition, the CA will determine the market value of the land and pay land lease compensation based on above determination and in accordance to the provisions of the Act.

### **5.6.2 LOSS OF RESIDENTIAL AND / OR COMMERCIAL STRUCTURES**

#### ***5.6.2.1 Temporary Land Acquisition***

Under temporary land acquisition, as mentioned earlier, all efforts will be made to minimise / mitigate impacts on permanent residential or commercial structures and consequent physical displacement of people. In case unavoidable, suitable compensatory measures will be mutually agreed with the affected families including if necessary, restoration and repair of affected structures at the time of handing over of the leased land.

#### ***5.6.2.2 Permanent Land Acquisition***

While identifying the land required for permanent acquisition, pipeline laying etc, all possible efforts will be made to avoid the residential, commercial structures with a view to reducing the impacts on the project-affected families. When displacement happens from lands/structures appropriate means to provide new dwellings, subject to consultation with the project-affected families, in alignment with the IFC Performance Standard 5 - Land Acquisition and Involuntary Resettlement and in accordance to the specific agreement reached between the land owner and the Land Acquisition Officer / Competent Authority will be finalised.

In the case of direct negotiated purchase of land, should there be an acquisition of residential and / or commercial structures, the valuation of dwellings and other permanent structures would be factored into the mutually agreed land sale price.

#### ***5.6.2.3 ROU Acquisition***

In the case of ROU acquisition, efforts will be made to avoid impact on permanent dwelling structures by locally realigning the pipeline alignment. In case this is unavoidable, the Competent Authority will take due consideration of the value of the permanent structure impacted and compensation paid accordingly.

### **5.6.3 IMPACTS ON COMMON PROPERTY / CULTURAL PROPERTY**

Government land, normally used as *common* grazing grounds, community *tankas*/ ponds, cultural property like graveyards, meeting places etc. may be impacted. The siting of the various facilities and the interconnecting pipeline and roads will be so selected to avoid any property of cultural importance or of common community usage such as burial grounds, or common heritage areas.

### **5.6.4 LOSS OF LIVELIHOOD**

This could be one of the potential impacts of land acquisition, in case of those households who may lose a significant portion of their land.

#### ***5.6.4.1 Temporary Land Acquisition***

If the land has been temporarily acquired in accordance with the direction of the State Government Revenue Department, the affected households would be paid a rental for the lease of land. The lease amount would take into account compensation for loss of livelihood as applicable from the use of the said land. The compensation amount will be decided by the Land Acquisition Officer in consultation with the affected land-owner. In case the land is temporarily acquired through direct lease agreements with the land owners, the compensation will be based on the mutual consent of the land-owners taking the above factors into account.

#### ***5.6.4.2 Permanent Land Acquisition***

In the case of permanent land acquisition for the land owners, the loss of livelihood occurs due to loss of income from that piece of land, loss of income from trees, impact on livestock rearing and other land based activities. For commercial establishments, land acquisition could mean potential loss of income till the time they can re-establish their business.

The Land Acquisition Act recognises and addresses these issues and the Land Acquisition Officer arrives at the land compensation amount after due consideration of all above concerns. In addition specific measures / assistance will be extended in consultation with the project-affected families and the Land Acquisition Officer as detailed in Section 7.

#### ***5.6.4.3 ROU Acquisition***

For the pipeline, the Right of User (ROU) permits continuance of agricultural activities and other land-use activities with certain restrictions after pipeline construction. There would be short term impacts during the construction phase, such as temporary loss of access to land, disruption to agricultural activities, damage to crops during transportation of construction material, etc., which would be duly compensated. However the project will make every effort to avoid significant impacts by re-routing the pipeline/road where

necessary and feasible. In fact, for the Rajasthan JV project, these considerations have been taken into account during the planning and design stages and therefore, the actual impact is expected to be minimal. In addition, as stated earlier, free access will be provided to the local community on and across the road / pipeline corridors subject to considerations of safety and security.

## **5.6.5 ACCESS ISSUES**

### ***5.6.5.1 Temporary Land Acquisition***

While demarcating the land for temporary acquisition, consideration on existing access to other pieces of land of the owner will be taken into account. In case temporary acquisition leads to an orphan land situation, the orphan land would also be taken for temporary land acquisition and compensation paid. Efforts will be taken to ensure that common community access is not adversely impacted and if unavoidable, local community consultation will be undertaken for a mutually agreed resolution in consultation with the District Administration.

### ***5.6.5.2 Permanent Land Acquisition***

Large contiguous pieces of land acquisition could cause disruption in access to adjoining lands of the land-owners and community's common access facilities such as schools, water wells, public utilities etc. As stated above, on case to case basis, resolution will be achieved by realignment of the land to be acquired, engineering changes, acquiring additional pieces of land and earmarking for common community access use, procuring orphan lands etc. The resolution will be done in consultation with the land owner, community leaders and as per the directions of the District Administration.

### ***5.6.5.3 ROU Acquisition***

Access routes, both temporary and permanent, are likely to be impacted due to the laying of pipeline, though for a short duration of time till the pipeline laying process is under way. At most places, these access points may be either internal roads leading to agricultural fields or access routes linking the different village settlements. The Competent Authority would make an assessment any such disruption of access for the affected families and accordingly compensate them.

The pipeline, in its route may also cross state and national highways, railway crossings, lined and unlined canals and river crossings which may lead to access disruption and inconvenience to the users. The crossings of public utilities will be carried out under the direction and permission of the relevant government public utility authorities. The work will be so planned that impact to other users are minimized and limited to short duration.

## **5.7 DISPLACEMENT**

The Rajasthan JV project does not involve any significant displacement of people and therefore the provisions of the National Policy for Rehabilitation and Resettlement (NPRR), 2007 are not applicable here. However, in specific case should there be any displacement of certain households, the Rajasthan JV, as stated earlier, will provide suitable mitigation measures, subject to the consultation with the project-affected households, in accordance to the specific agreement reached between the land owner and the Land Acquisition Officer / Competent Authority and as per the applicable laws.

## **5.8 SPECIFIC IMPACTS ON VULNERABLE COMMUNITIES**

There are communities along the pipeline route, based on the initial social baseline survey that is designated as 'Schedule Tribes' as per the Constitution of India. However, it was observed that along the pipeline route members of scheduled castes and tribes

live amongst other members of mainstream society, are not isolated or disconnected from larger socio-economic structures of the area, and do not have separate ancestral territories or settlements. The availability of infrastructure, economic opportunities, educational and health facilities was common to society at large and fair degree of integration has taken place with the main stream society and were not assessed to be vulnerable on account of their belonging to 'scheduled tribes' and as compared with other sections of the rural community. As such they do not meet the key characteristics of indigenous people as defined in IFC's Performance Standard 7. However, cognizance has been taken of the socio-economic circumstances of members of scheduled castes and tribes in identifying vulnerable groups, assessing impacts and in planning appropriate mitigation measures.

Land acquisition would raise specific concerns in case of women also. Women are involved in agricultural work, livestock management and accessing common properties and are generally more vulnerable to land acquisition related impacts.

Rajasthan JV will specifically identify vulnerable groups and monitor any impacts to these communities and, if necessary, take specific actions to mitigate negative impacts in accordance with the applicable laws and regulatory framework as well as the good international practices.

## **5.9 IMPACT ON LOCAL RESOURCES**

### **5.9.1 USE OF WATER**

Requirement of fresh water for construction activities and for use by staff and workforce during the construction phase could add pressure on local water resources. However, the Rajasthan JV, as a general practice, proposes to use only saline water for its construction and operational needs, and if required source water for potable needs from the municipalities / panchayat authorised, permitted locations, and thus, the impact on local fresh water resources may not be significant.

### **5.9.2 USE OF VILLAGE LAND**

There may be a requirement for land in and around villages to set up labour camps during the construction and operation phase of the project. There are vast tracts of vacant land in the area and thus setting up of temporary labour camp is not expected to cause any adverse impact. The Rajasthan JV will ensure that the influx of migratory labour population in to the area is minimised and labour camps are provided with proper sanitation and waste handling facilities.

## **5.10 IMPACT OF WORKFORCE ON THE COMMUNITY**

Labour requirement would be integral to the project in the construction phase. Though the exact number of labourers would depend on the scale of the specific project being developed, there could be potential impacts on the local community in terms of pressure on resources, health risks as well as social conflicts that are required to be mitigated. These would need planning and management and measures will be taken to ensure that workers employed by the project are aware of, and respect local customs, culture and traditions.

To contain the above impacts, efforts will be made to employ a substantial number of unskilled labours, who will be preferentially sourced from the local community, during the construction phase, subject to unskilled workforce required and meeting fitness and skills requirements. The Rajasthan JV appointed construction contractor will be encourage to



give priority to local residents near to the project work site to minimise migrant labour impact and social conflicts.

While laying the linear pipeline, there may be presence of migrant labour and truckers in the villages for a short duration of time. The Rajasthan JV will make all efforts to ensure that the impacts on the communities by their presence are minimised / mitigated. The migrant labour will in general be limited to the semi-skilled and skilled categories required for the execution of the work. These migrant labourers will be housed in dedicated camps with provisions for food and sanitation. Awareness and orientation programmes will be carried out to sensitise migrant labour on cultural sensitivities, health issues, use of community resources etc. Appropriate and timely consultation with the local community will be done to address any conflict issues for speedy resolution.

## **5.11 IMPACT ON COMMUNITY HEALTH**

The dust and noise emanating from construction activities could increase stress levels of the local community as well as increase incidence of respiratory problems. There is an increased risk of communicable diseases due to greater assemblage of people in the rural community areas. This could arise due to inadequate sanitation and unmanaged interactions with local communities.

The Environment and Social Management Plan (ESMP) for the project have identified the potential environmental and social impacts and has stated the mitigation measures that are required to be followed both during the construction and the operation phase. During the project planning stage, attention is being given to the provision for adequate sanitation for the labour camps, clean drinking water, waste management practices to be followed and living quarter facilities that would effectively separate the labour force from the local community.

As mentioned earlier, the laying of the pipeline may lead to presence of migrant labour and truckers in the villages for short duration. The Rajasthan JV will make all efforts to ensure that the impacts on the communities by their presence are minimised / mitigated and the interactions between the local communities and migrant labour and truckers are limited.

## 6 FRAMEWORK FOR COMPENSATION AND MITIGATION MEASURES

The framework addresses both the principles of monetary compensation as well as the rehabilitation assistance to be provided to the families affected by the land acquisition process. For more details on compensation and mitigation measures, please refer to the ERM Report *Social Baseline and Impact Assessment Study for the proposed Barmer Salaya Pipeline (BSPL) Project (January 2008)*.

### 6.1 PRINCIPLES

The policy objective influencing the Rajasthan JV - Gujarat Framework LACP is to minimize, to the extent possible, the impact of the land acquisition upon the families affected by the land acquisition, and also to mitigate common impacts thereof upon the community. Towards this end the project has considered the comprehensive provisions of the Land Acquisition Act, 1894 the terms and conditions of the Petroleum and Minerals Pipelines (PMP) Act, 1962, and the intent and requirements of international good practice and standards, such as the IFC Performance Standard 5 - Land Acquisition and Involuntary Resettlement. As mentioned earlier, the National Policy on Resettlement and Rehabilitation, 2007 and the IFC Performance Standard 7 - Indigenous Peoples are not applicable for the Rajasthan JV project.

#### 6.1.1 FRAMEWORK FOR RELIEF AND REHABILITATION

The principles underlying the Rajasthan JV - Gujarat Framework LACP for relief and rehabilitation include:

- Compensating project-affected people for both loss of land/fixtures thereon as well as for impact on livelihoods
- Recognition of the fact that the Land Acquisition Act, 1894 provides for comprehensive, equitable, transparent and judicious method to determine compensation for the project-affected people. The project also recognises the fact that the Land Acquisition Act considers not only the land-owners but also interested persons in accordance with the laws of the land
- Recognition that the Land Acquisition Act processes will duly establish and identify the 'interested persons' in accordance with law and such persons will be considered as 'interested persons' for any purpose of the project
- Recognising the need for a dedicated authority for undertaking the land acquisition and compensation work under the Land Acquisition Act, to not only complete the work expeditiously, but also to reach the compensation to the project-affected people
- The project-affected people, if aggrieved with the award under the Land Acquisition Act, will have the opportunity to get the matters such as quantum of compensation, its apportionment amongst eligible persons, identity of persons eligible to receive it etc. addressed by the local court
- Facilitation of common benefit programmes as may be necessary to mitigate the concerns of the project affected people. Criteria for these will be evolved by the Land Acquisition Officer in consultation with the community and the Rajasthan

JV. The Community development programs will also take note of these aspects amongst other things

- Recognition that the Land Acquisition Act processes will compensate the project-affected people in terms of money and not in kind. The individual wishes of the project-affected people to receive monetary compensation will be respected. If they wish to acquire alternative land with the monetary compensation they received, necessary assistance will be rendered by the project
- For ROU Acquisition, the provisions under Petroleum and Minerals Pipelines Act, 1962 will be adhered to by the Competent Authority to address all issues, including compensation, rehabilitation assistance, of the project-affected families

## **6.1.2 REHABILITATION ASSISTANCE**

### ***6.1.2.1 Permanent land acquisition***

Though the project in general does not involve any significant physical displacement of people, the Rajasthan JV recognises that there may be a need for rehabilitation assistance over and above the land compensation award. The rehabilitation assistance will primarily be in the form of (i) preferential employment to one member from each project-affected family during the construction phase of the project, subject to unskilled workforce required and meeting fitness and skills requirements of the construction contractors, (ii) training and skill development for income generation activities, and (iii) undertaking common community development activities designed and implemented to contribute additional assistance to the rehabilitation of the affected households and communities in consultation with the community leaders and District Administration.

### ***6.1.2.2 ROU Acquisition***

Land under Right of User is accessed and used for the pre-determined limited use (i.e. the laying of product pipeline with more than one metre depth), under the provision of the Petroleum and Minerals Pipelines (PMP) Act, 1962. Though above Act puts some partial restrictions on the use of such lands - such as against construction of permanent structures, raising trees etc, it leaves the other uses of the land untouched.

Under the aforesaid Act, the land compensation for 'Right of User' is payable as a one time compensation. The compensation amount will be determined by the Competent Authority. If and when any damage is caused to the standing crops, permanent encumbrances, temporary denial of access, etc. while accessing the land meant for Right of User, due compensation as assessed by the Competent Authority is payable.

While land owners will be given back possession of land after the pipeline has been laid, there would be restrictions on activities like construction over the land and planting of trees, as directed by the Act. While the government norms do compensate for crop and right of use, this opportunity cost for not being able to use the land in some ways, and the disruption effect, will be considered by the Competent Authority while finalising the ROU compensation.

## **6.2 REHABILITATION MEASURES**

### **6.2.1 SUPPORTING COMMUNITY DEVELOPMENT ACTIVITIES UNDER ROU ACQUISITION**

Through appropriate consultation process with the district administration and community leadership, the Rajasthan JV will design and implement common community socio-economic development projects in the villages affected by the ROU acquisition. These programmes will aim at increasing awareness and capacity building on health and education and integrate with the existing government development projects for enhancing service delivery and efficiency. Common community infrastructures may also be developed in the ROU affected villages.

## **7 IMPLEMENTATION MECHANISM AND MONITORING AND EVALUATION FRAMEWORK**

This section of the Rajasthan JV - Gujarat Framework LACP outlines the implementation mechanism and monitoring and evaluation framework for the land acquisition and compensation process for temporary, permanent and right of user acquisition.

### **7.1 IMPLEMENTATION MECHANISM**

#### **7.1.1 TEMPORARY LAND ACQUISITION**

As already mentioned, for temporary land acquisition, the concerned district revenue authority (Sub-Divisional Magistrate or the Land Acquisition Officer) will verify, assess and determine the compensation / rental payable.

#### **7.1.2 PERMANENT LAND ACQUISITION**

The District Collector designates Land Acquisition Officer (LAO) in consultation with the State Government authorities under the provisions of the Land Acquisition Act to regulate the land acquisition process. The LAO ensures that all rules, procedures, including consultation requirements and grievance redressal mechanisms are adhered to under the provisions of the Act while carrying out the said acquisition.

#### **7.1.3 ROU ACQUISITION**

As stated earlier, the proposed pipeline would require the acquisition of right of user (ROU) in land for laying pipelines across agricultural fields, government land or any other utilities. The Petroleum and Minerals Pipelines (PMP) Act, 1962 specifies all the formalities that government or any corporation will have to adhere to with respect to publication of notification for acquisition, power to enter and survey the proposed land, hearing of any objections, declaration of acquisition of right of user, restrictions regarding land-use and compensation. The Competent Authority nominated under the Act will preside on matters of land, compensation, hearing objections and dispute settlement.

Once the land acquisition plan is finalised, and before displacement, if any, the following activities need to be completed.

### **7.2 CONSULTATION AND INFORMATION DISSEMINATION**

The Land Acquisition Act / Petroleum and Minerals Pipelines Act requires consultation and provisions for hearing of objections at every key stage of the land acquisition / ROU process. Consultation on the intended acquisition and the purpose for such acquisition commences right from the stage of ownership data collection for filing application for land acquisition. The Land Acquisition Officer / Competent Authority and the village revenue officials continue the consultation while verifying the ownership, land measurement, hearing on compensation and any other objections pertaining to any element of the acquisition process. The key consultations are documented.

### **7.3 REHABILITATION ASSISTANCE**

Rehabilitation Assistance in cash and other mechanisms, as described earlier, needs to be put in place and executed for the project-affected families.

## **7.4 SETTING UP OF THE GRIEVANCE REDRESSAL (GR) MECHANISM**

An independent GR mechanism will be set up that will have the responsibility to resolve ordinary and quasi judicial conflicts concerning the project. The GR mechanism will be governed by the rules / provisions of the applicable Act including the means for judicial appeal. In consultation with the said authorities, appropriate GR mechanism will be implemented. A generic description of the GR mechanism that may be followed is provided later in this section.

## **7.5 OPERATOR CORPORATE STRUCTURE**

The designated senior management representative of Cairn India will oversee the land acquisition process. This will be supported by a multi-functional team including the Land Acquisition and the Community Development groups. The management will ensure that the community development aspects and the monitoring requirements set out in the Rajasthan JV - Gujarat Framework LACP are implemented in its intent and spirit.

The Cairn India management through the concerned functional groups will coordinate with other stakeholders on land and community development related matters that have stakes in the project. The specific roles and responsibilities of the concerned functional groups are detailed below.

### **7.5.1 MANAGER LAND ACQUISITION**

The primary role of the Manager Land Acquisition, is to liaise with the Land Acquisition Officer, the District Administration, the Sub-Divisional Magistrate, the Competent Authority and any other regulatory agency and manage the land acquisition process - temporary, permanent and ROU acquisition as may be the case. The Manager Land Acquisition will work in close consultation with the Head - Legal in all matters related to land lease / permanent acquisition and ensure that all laws, policies and regulatory requirements are complied with. He will also be responsible for coordinating with Manager Corporate Social Responsibility (CSR) to ensure that the information relevant for Land Acquisition is adequately disclosed to the community periodically.

### **7.5.2 MANAGER CORPORATE SOCIAL RESPONSIBILITY (CSR)**

The Manager CSR is responsible to advise on and monitor the implementation of the community development programs. He or she will work in close coordination with the Manager Land Acquisition in identifying and directing the socio-economic development programs benefit the land losers and the community at large in the villages affected by the land acquisition. He or she will be responsible for Monitoring & Evaluation (M&E) programmes and report the performance / development indicators to the concerned internal and external stakeholders and make sure that compliance is met with international good practices and policies, as applicable.

### **7.5.3 FIELD TEAM**

The operator will maintain a competent cross-functional Field Team to manage the land acquisition and compensation process in an efficient and effective manner. The Field team will have the following responsibilities (and indicative list) as detailed below.

- Manage the implementation of the community development programme of the Rajasthan JV in consultation with the district administration, NGO partners and village committees

- Community consultations to ensure that community makes an informed participation in the rehabilitation assistance and the community development programmes
- Work closely with NGO partners and village communities in developing and implementing rehabilitation programmes
- Be responsible for quarterly monitoring and reporting of the progress in the LACP and maintaining all land-records, permits and approvals, data of project-affected families and impacts of the community development programmes
- Assist in providing information to the corporate cross-functional teams of the land acquisition, compensation and rehabilitation programs with particular emphasis on socio-economic impacts to the project-affected households

## **7.6 GRIEVANCE/ DISPUTE REDRESSAL MECHANISM (GENERIC)**

As stated before, the GR mechanism will be governed by the rules / provisions of the applicable Act including the means for judicial appeal.

In general, the District Administration or the said authority, in consultation with the Rajasthan JV, will nominate a Grievance / Dispute Redressal Committee (GRC). The committee will have representation of key stakeholder groups and will report to the District Collector or his or her nominee on all matters related to community grievance / complaints arising out of the Rajasthan JV operations.

The Grievance Redressal Procedure will be designed to address the following specific objectives:

- To facilitate timely feedback from local communities about JV and Contractor/Subcontractor performance in order to support JV commitment
- To ensure effective and timely resolution of grievances thereby reducing the risk of escalation of conflicts and avoiding unnecessary costs
- To ensure careful documentation of grievances and remedial actions to enhance accountability and to reduce liability

The Grievance Redressal Procedure (generic form) has been detailed in the Rajasthan JV - Gujarat Framework Public Consultation and Disclosure Plan (PCDP) document.

## **7.7 MONITORING AND EVALUATION**

Periodic monitoring of the effectiveness of resettlement measures will be done by the Rajasthan JV to ensure that the commitments made in the Rajasthan JV - Gujarat Framework LACP is being delivered. Objectives for monitoring the project are as follows:

- To monitor that actions described in the Rajasthan JV - Gujarat Framework LACP are completed in a timely and efficient manner for temporary, permanent and ROU land acquisition
- To confirm that eligible Project affected people receive their compensation entitlements in full and within agreed time frames

- To monitor that the community development programmes are effective in benefiting the project-affected families and the community affected by the land acquisition for the specific project
- To check that any grievances expressed by project affected people are followed through and that, where necessary, appropriate corrective action is implemented

## **7.8 GUJARAT LACP MONITORING FRAMEWORK**

The framework proposes both internal and external monitoring. The internal monitoring processes will include monitoring by the Field Team as well as the overall monitoring by the corporate cross-functional teams. The external monitoring, annually or when required, will be undertaken by an independent third party, supported by the JV team. The framework ensures coordination between all three tiers of the monitoring process. This framework is designed to tie up with the over all organisational and implementation arrangements of the Rajasthan JV - Gujarat Framework LACP.

### **7.8.1 INTERNAL MONITORING ACTIVITIES**

Internal monitoring focuses on measuring and reporting on progress with implementing Rajasthan JV - Gujarat Framework LACP activities for temporary, permanent and ROU land acquisition and may include the following activities.

- Liaison with the relevant departments like Operations, the Corporate office and Legal department, Land Acquisition group, construction contractor and project affected communities to review and report on progress with land acquisition, compensation and resettlement
- Verification through interviews with a cross section of project affected households and the community that land and compensation entitlements are being delivered in accordance with the Rajasthan JV = Gujarat Framework LACP commitments
- Verification that measures for rehabilitation assistance as described in the Rajasthan JV - Gujarat Framework LACP are being implemented
- Identification of any problems, especially problems facing any vulnerable households, unresolved issues from land acquisition
- Review grievance records and check that grievance logs are being correctly completed and maintained
- Selection of a random sample of grievances and follow up with the complainants that appropriate corrective actions have been taken and that outcomes are satisfactory
- Review reports on incidents connected with land acquisition, compensation and resettlement issues and follow up with the complainants that appropriate corrective actions have been taken and that outcomes are satisfactory
- Preparation of brief quarterly progress and compliance reports for JV, and other external stakeholders



## 7.8.2 EXTERNAL MONITORING ACTIVITIES

Rajasthan JV will engage an independent external organisation to undertake annual audits of Project related LACP activities. The purpose of the external monitoring audit is:

- To assess overall compliance with the Rajasthan JV - Gujarat Framework LACP document
- To verify that measures for rehabilitation assistance as described in the Rajasthan JV - Gujarat Framework LACP are being implemented
- To recommend any corrective actions necessary

Activities to be undertaken as part of external monitoring include the following:

- Review of the internal monitoring procedures, reporting, and grievance recording to check these activities are being adequately performed
- Review of internal monitoring records and progress reports as a basis for identifying any areas of non-compliance
- Review of grievance logs (JV and Contractors') and assessment of the Grievance Redressal Mechanism and suggestions for any areas of improvement
- Meet with a cross-section of local government officers, community leaders and representatives, Project affected people and vulnerable households to assess the implementation of the process and procedures stated in the Rajasthan JV - Gujarat Framework LACP, including consultation activities, information dissemination grievance management, benefits of the community development programs
- Prepare a report for the Rajasthan JV Management on Project compliance with the Rajasthan JV - Gujarat Framework LACP commitments, identifying gap areas and recommending any necessary corrective actions and identifying areas of residual social risk

## 7.9 RAJASTHAN JV - GUJARAT FRAMEWORK LACP MONITORING SCHEDULE AND REPORTING

Rajasthan JV - Gujarat Framework LACP monitoring reports will be prepared in accordance with the schedule given below.

Report Type	Frequency	Prepared by	For	Description
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Report Type	Frequency	Prepared by	For	Description
Internal LACP Monitoring Report	Quarterly	Cross-functional teams (Corporate and site)	Rajasthan JV & Cairn India	8-10 page report & supporting documentation, summarizing progress against LACP; any social issues arising; grievance and incidents status & outcomes of any consultation activities.
External LACP Monitoring Report	Annually	Independent External Organisation	Rajasthan JV, Cairn India Board and interested External Stakeholders	20-25 page report summarising overall compliance with the Rajasthan JV - Gujarat Framework LACP; any non-compliances & related corrective actions; assessment of progress towards completing livelihood restoration; and, comment on any related social risks or concerns.

## 7.10 GUJARAT FRAMEWORK LACP MONITORING PERFORMANCE INDICATORS

The intent of the Monitoring and Evaluation (M&E) program is to ensure that the Land Acquisition process for temporary, permanent and ROU acquisition is being implemented in compliance to the applicable regulatory requirements, and that the social issues resulting from the land acquisition is being effectively managed.

The performance indicators for monitoring Rajasthan JV - Gujarat Framework LACP commitment implementation will be developed to address the following key questions:

- Has the actual implementation of the land acquisition and management of social and community issues been compliant to the regulatory requirements, and to the requirements of IFC's Performance Standard 5 - Land Acquisition and Involuntary Displacement and Performance Standard 7 - Indigenous Peoples, if applicable?
- Has the process followed been in compliance to the intent and commitment stated in the Rajasthan JV - Gujarat Framework LACP, specifically with respect to physical and economic displacement, if any, and livelihood restoration?
- Have there been sufficient adequate consultation and flow of information during the land acquisition process to the project-affected families?
- Have safeguards under the law and the intent of the Rajasthan JV - Gujarat Framework LACP been observed before entry into the acquired lands?
- Have the project-affected families received land compensation and other agreed benefits within the time-frame agreed with the Land Acquisition Officer or the Competent Authority as may be the case?
- Has the Grievance Redressal Mechanism functioned in a free and fair manner and in accordance to the law of the land?
- Have the project-affected families benefited from the Project related activities? Has the community benefited from the community development programmes?

## 8 CONSULTATION AND DISCLOSURE

The land acquisition process and the related Rehabilitation Assistance measures will be communicated through a comprehensive communication process. The communication will engage all concerned stakeholders and the key principles and procedures have been detailed in the Rajasthan JV - Gujarat Framework Public Consultation and Disclosure Plan (Gujarat PCDP).

The Gujarat PCDP has been developed as a process oriented document, it is a “living document” and is amenable to changes and updates as the project progresses and as requirements from the PCDP undergoes change. The document addresses the types of information that will be publicly disclosed, the manner in which this communication will be effectively achieved and the grievance redressal mechanism that will be instituted to receive and respond to enquiries / complaints / grievance from the stakeholders.

## ***REFERENCES***

- Environmental Impact Assessment for Hydrocarbon Development Project, July 2005
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