Indigenous Peoples Plan

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Proposed Loan
Sarulla Operations Limited, Sarulla Power Asset Limited, Kyuden Sarulla Private Limited, OrSarulla Incorporated and PT Medco Geopower Sarulla

Sarulla Geothermal Power Development Project (Indonesia)

Prepared by

Sarulla Operations Ltd

DRAFT FINAL REPORT

Volume III: Indigenous Peoples Plan

Development of Sarulla Geothermal Field and Power Plant of 330 MW Capacity

North Tapanuli Regency, North Sumatera Province

October 2013

TABLE OF CONTENTS

UNITS AND ABBREVIATIONS

ADB	Asian Development Bank
AIDS	Acquired Immune Deficiency Syndrome
AMDAL	Analisis Mengenai Dampak Lingkungan
ANDAL	Analisis Dampak Lingkungan
BBM	Bahan Bakar Minyak (also known as Fuel in English)
BLH	Badan Lingkungan Hidup (also known as Environmental Agency in English)
BOP	Blow Out Preventer
CDP	Community Development Program
CSOs	Civil Society Organisations
CSR	Corporate Social Responsibility
dB	Decibel
dBA	Average Decibel
EHS	Environmental, Health, and Safety
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
ESMP	Environmental and Social Management Plan
EPC	Engineering Procurement Contracting
EPFIs	Equator Principles Financing Institutions
ERM	Environmental Resources Management
ERP	Emergency Response Plan
ESC	Energy Sales Contract
ESIA	Environment and Social Impact Assessment
ESMP	Environmental and Social Management Plan
EMS	Environmental and Social Management System
FE	Final Evaluation
FGDs	Focus Group Discussions
FI	Financial Intermediary
FPIC	Free, Prior, and Informed Consent
GCCU	Geothermal Combined Cycle Unit
GTRM	Grievance Tracking and Redress Mechanism
H_2S	Hydrogen Sulphide
HIV	Human Immunodeficiency Virus
HR Dept.	Human Resources Department
HSE	Health, Safety and Environmental

ICP	Informed Consultation and Participation
IEC	Information Education Consultation
IEE	Initial Environmental Examination
IFC	International Finance Corporation
IGCCU	Integrated Geothermal Combined Cycle Unit
ILO	International Labour Organization
IPP	Indigenous Peoples Plan
IPs	Indigenous Peoples
JOC	Joint Operation Contract
KPIs	Key Performance Indicators
LOI	Letter of Intent
MOE	Ministry Of Environment
MSDS	Material Safety Data Sheet
MW	Mega Watt
NIL	Namora I Langit
NGOs	Non-Governmental Organisation
Nm^3	Nano Meter Cubed
NO_X	Nitrogen Oxides
OEC	Ormat Energy Converter
OEM	Original Equipment Manufacturers
OHS	Occupational Health and Safety
ORC	Organic Rankine Cycle
Pb	Lead
PLTP	Pembangkit Listrik Tenaga Panas (also known as Geothermal Energy Power Plant in English)
PLN	PT. Perusahaan Listrik Negara
ppm	part per million
PS	Performance Standards
RKL	Rencana Pengelolaan Lingkungan
RPL	Rencana Pemantauan Lingkungan
SIL	Silangkitang
SOL	Sarulla Operations Limited
SOx	Sulphur Oxides
SPS	Safeguard Policy Statement
SR	Safeguard Requirements
STIs	Sexually Transmitted Infections
UKL	Upaya Pengelolaan Lingkungan

UNSG	Unocal North Sumatera Geothermal
UPL	Upaya Pemantauan Lingkungan
USEPA	United States Environmental Protection Agency
WHO	World Health Organisation

ES EXECUTIVE SUMMARY

ES1 INTRODUCTION

Sarulla Operations Limited (SOL) is the operation company established by the Consortium of Itochu Corporation, Kyushu Electric Power Co., Inc., Ormat International, Inc. and PT. Medco Energi International Tbk. SOL plans to develop the geothermal field and power plant combined capacity of 330 MW in Sarulla, in Pahae Jae and Pahae Julu Districts, North Tapanuli Regency, North Sumatera Province (Figure ES-1). Details of the Project are provided in Table ES-1.

Table ES-1 Summary of the Project for Development of the Geothermal Field and Construction of PLTP Sarulla

Item	*Contents*	
Project Name	Sarulla Geothermal Power Project	
Location	North Sumatra, Indonesia	
Capacity	320.8 MW, net (1 Unit of 105.4 MW net at Silangkitang ("SIL") and 2 Units of 107.7MW net at Namora-I-Langit ("NIL-1" and "NIL-2"))	
Sponsors	PT Medco Power Indonesia ("Medco") Itochu Corporation ("Itochu") Kyushu Electric Power Co., Inc. ("Kyuden") Ormat International, Inc. ("Ormat")	:37.25% :25.00% :25.00% :12.75%
Project Co.	Sarulla Operations Ltd. ("SOL")	
Commercial Operation Date	SIL: 29 months after financial close NIL-1: 40 months after financial close NIL-2: 46 months after financial close	

In relation to the Regency Spatial Plan, the Government of North Tapanuli Regency issued North Tapanuli Regency Regulation No. 19 of 1994 regarding North Tapanuli Regency spatial planning, which designated the sub districts of Pahae Jae (Silangkitang area or SIL) and Pahae Julu (Namora I Langit or NIL) as areas of geothermal natural resources.

Figure ES-1 Location of the Project for Development of Geothermal Field and Construction of PLTP Sarulla

ES1.1 PROJECT OBJECTIVES AND BENEFITS

The proposed Project has the following objectives:

- To overcome electricity shortage in Indonesia, especially in North Sumatera;
- To support the Government of Indonesia policy in energy diversification and fossil fuel consumption reduction; and
- To optimize the use of geothermal energy that has a high economic and environmental potential.

The Government of Indonesia will benefit from this proposed Project through an increase in electricity supply of 330 MW from geothermal energy which is environmentally friendly compared to traditional sources of electricity generation and is locally available in an area with an increasing energy demand. This project can help to reduce fossil fuel dependency in producing electricity by utilizing the renewable energy of geothermal.

The benefit will also reach local governments and the community in the North Sumatera Region as the direct beneficiary of the power generated from this project. It will help to improve the local economy by providing business and employment opportunities, particularly at the project location.

This project will provide economic, social and technological benefits at national and regional levels. The benefits are as follows:

- Bolsters energy security through use of domestic renewable resource;
    - Limits exposure to fossil fuel market volatility by diversifying the Indonesian power generation profile and reducing reliance on diesel/fuel oil;
    - Reduces critical energy shortage in Sumatra Interconnection System caused by very low reserve margins;
- Improvements in regional industry and economy;
    - Providing multiplier effect to local economy, which is expected to be sustained;
    - An increase in regional incomes at provincial and regency level, through tax and non-tax incomes;
    - Creating job opportunities for local communities, according to Company's requirements and conditions;
- Supports the Indonesian Government's Energy Vision 25/25 through the use of a low-carbon, highly-reliable renewable resource for baseload power;
    - The emissions from power generation from the Sarulla geothermal development equates to 574,563 tCO2e per year. Power generation from this additional energy from traditional sources represents 1,946,087tCO2e (using a 0.748 emission factor for Sumatera). The Project therefore represents a net emissions reduction of

1,371,524tCO2e per year for 330 MW generation;

- Promotes least-cost generation; and
    - Brings online 330 MW under a highly-competitive tariff, supporting Indonesia in a more sustainable development path.

ES 2 THE PROJECT

ES2.1 PROJECT OVERVIEW

The Project was initiated by Unocal North Sumatera Geothermal (UNSG) in 1993. An extensive exploration activity was conducted in geology, geochemistry, geophysics investigations, and certain infrastructure development including well pad and its access road and followed by drilling activity starting from 1994 to 1998.

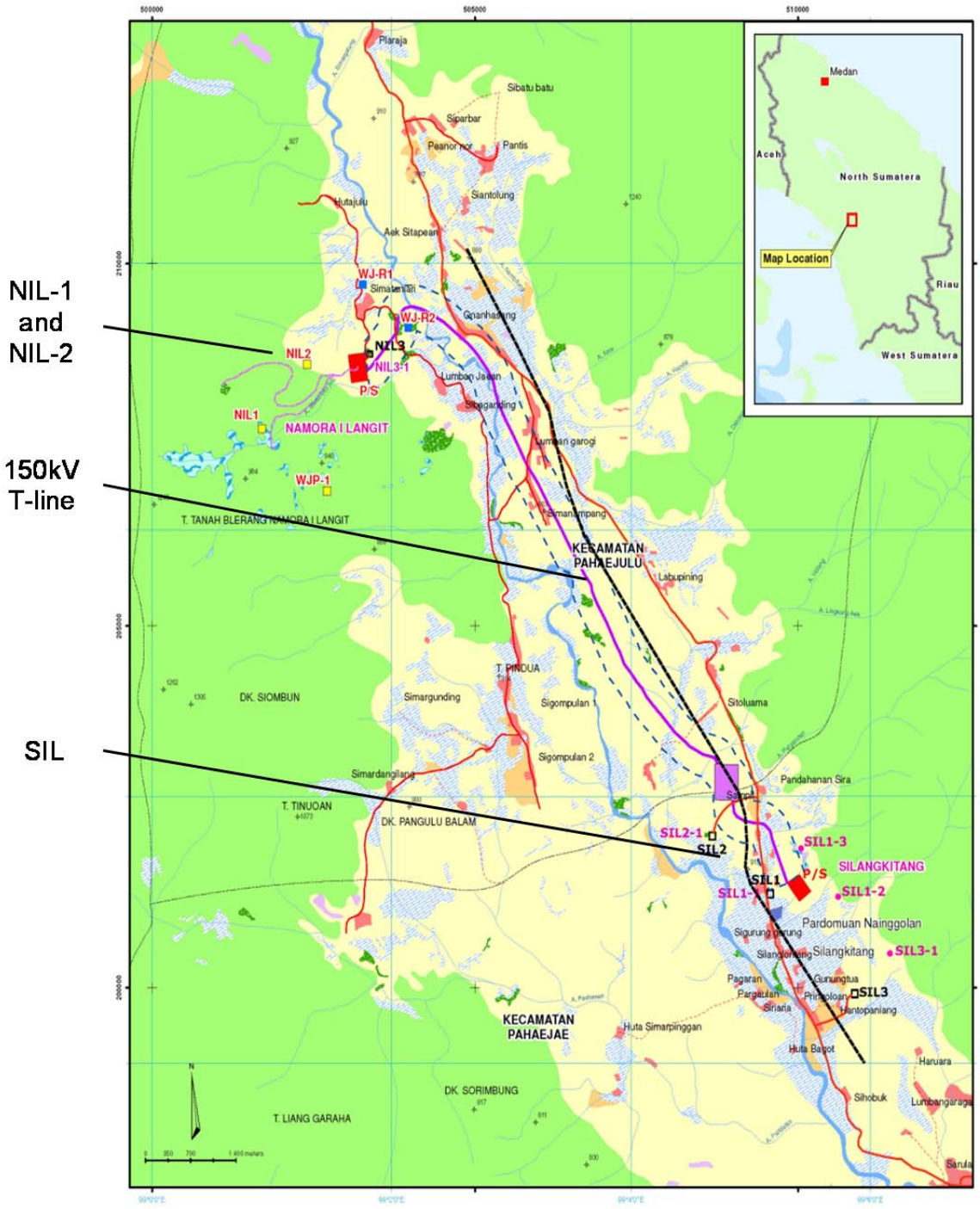
SOL's development of Sarulla geothermal field and 330 MW power plant includes the following activities:

- The development of Sarulla geothermal field i.e. Silangkitang (SIL) field and Namora I Langit (NIL) field;
- The construction and operation of a combined capacity of 330 MW geothermal power plant, one unit at SIL and two units at NIL each with a nominal capacity of 110 MW;
- The construction of a combined length of approximately 14kms of 150 kV (high voltage) overhead transmission line from Silangkitang field (SIL 1) to PLN Substation and from Namora I Langit field (NIL 1) to PLN substation.

Drilling activities for new production and injection wells in SIL are to take place at the existing well pads previously developed by UNSG. For NIL, all are planned to be on new well pad locations. A total of 23 production wells, 11 reinjection wells will be developed from 2 well pads at SIL and 5 well pads at NIL. The NIL new well pads are located on farmland and mixed forest areas.

The Project development overview is illustrated in Figure ES-2.

Figure ES-2 Project Development Overview



ES2.2 PURPOSE OF THIS INDIGENOUS PEOPLES PLAN (IPP)

The Project has the following approvals under Indonesian environmental regulations:

- ANDAL, RKL/RPL Sarulla geothermal field development (PLN, 2005). Approved November 2005;
- ANDAL, RKL/RPL Sarulla Geothermal 330 MW Capacity. Approved August 2009 (disclosed on ADB's website for 120 days);
- Addendum ANDAL, RKL/RPL 2013 (approval predicted 4Q 2013).

SOL, as part of this development plan is seeking a financial investment from the Japan Bank for International Cooperation (JBIC), Asian Development Bank (ADB) and a group of Equator Principles Financing Institutions (EPFIs). Project proponents seeking financing from JBIC, ADB and EPFIs are required to comply with the applicable bank's environmental, social and health policies, developed for managing the environmental and social risks associated with project finance.

The IPP is prepared to fulfil the requirements of the ADB 2009 Safeguard Policy Statement (SPS), particularly the Safeguards Requirement 3 on Indigenous Peoples and other social policies and requirements covering gender and development, labour and social protection. The people affected by the Project are considered Indigenous Peoples by ADB under the ADB SPS. These are the Batak people from various clan groups whose land and livelihood is affected by the project construction and operations. This IPP forms part of five (5) Volumes for the proposed development of the Sarulla Geothermal Field and Power Plant of 330 MW Capacity, North Tapanuli Regency, North Sumatera Province. All Volumes are as follows:

- Volume I: Environmental Compliance Audit Report and Corrective Action Plan;
- Volume II: Environmental and Social Impact Assessment (ESIA) Addendum;
- Volume III: Indigenous Peoples Plan (IPP) (this report);
- Volume IV: Social Safeguards Compliance Audit Report and Corrective Action Plan; and
- Volume V: Resettlement Plan.

The objective of this IPP is to present the affected Batak people's socio-cultural aspirations of life ("*hamoraon, hagabeon, hasangapon*"), their perceptions of the Project impacts on them, and the local community's needs and priorities. The IPP, as per the ADB's Safeguard Requirements 3, aims to evaluate and assess the potential Project impacts on the villages in the Project area based on available Project data and socio-economic information gathered during social surveys. An Integrated Social Program (ISP) is also discussed that sets out the social mitigation measures and community development activities required for implementation by the Project. The followings sections present the findings of these activities.

ES3 SOCIAL IMPACT ASSESSMENT

The AMDAL identified 8 Project villages within the Project area that may be impacted by Project activities; these are:

- 4 villages in Pahae Jae Sub-district: Silangkitang, Sigurung-gurung, Pardomuan Nainggolan, and Pardamean Nainggolan; and
- 4 villages in Pahae Julu Sub-district: Sibaganding, Lumban Jaean, Simataniari, and Onan Hasang.

In order to gain a comprehensive understanding of the communities in these 8

villages the ERM undertook the following activities:

A desktop review of existing relevant data obtained from SOL and other data sources at the sub-district office. In addition to the secondary data sources the ERM team gathered primary data in the Project area during the months of June and July 2013 with the assistance of local researchers who were familiar with the local conditions and characteristics. The techniques applied in the field included:

- Conducting a Community Social Assessment (CSA) Survey;
- Conducting a Land Acquisition (LAQ) Audit Census; and
- Undertaking Focus Group Discussions (FGD) with males, females and youth and in-depth interviews with selected key informants; and
- Observing land acquisition consultations with land owners for the transmission line, Road 5, WJP 1N, NIL 1N and 4A Expansion, WJR 2N and Access Road.

ES3.1 SOCIAL BASELINE INFORMATION

Batak is the predominant ethnic group in Sumatera Utara. The social surveys identified two main Batak sub-groups in the Project area, i.e. Batak Toba and Batak Karo. In addition to the Batak other minority ethnic groups residing in the area are in-migrants (Javanese, Sundanese, and Nias). Batak is known for its patrilineal lineage system called *Tarombo* which consists of various different clan groups.

Most of the population are of a productive age (i.e. between 15 to 64 years old); with the minority of the population being younger than 15 or older than 64 years of age.

The majority of households in the Project area depend on the agricultural sector for their livelihood, followed by civil servant employees and merchants. Based on the provincial poverty line set by BSP all the villages apart from Onan Hasang are below the poverty line.

The ADB consider the Batak group in the project area as Indigenous Peoples (IPs)[1] because their close association to land because they meet the following criteria set in the SPS:

- Criteria 1. Collective attachment to land – Batak people feel a strong collective attachment to land of their ancestors and the underground ancestral burial grounds etc;
- Criteria 2. Batak people have their own distinct language different from national language;
- Criteria 3. Batak people have their own distinct customs and traditions which they continue to display; and

[1] This status (i.e. IP) has not yet been confirmed by the other Project lenders such as JBIC or the IFC.

- Criteria 4. Batak self-identify and are identified by others as a distinct ethnic group.

Moreover, given the proximity of these villages to the Project area it can therefore be predicted that, without appropriate mitigation measures in place, the Project may result in adverse impacts on the Batak people.

A number of vulnerability categories were considered as part of this IPP; the findings were that within the Project area there are four villages in particular that can be considered more vulnerable (due to a culmination of low income, close proximity to the Project area, limited economy and poor access to facilities); these are Simataniari, Lumban Jaean and Sigurung-gurung and Sibaganding. However households in the other villages may also be vulnerable or become more vulnerable due to the Project, in particular those who may have the majority or all of their land acquired.

The existence of the Project within the Project area is likely to result in high expectations within the community. The FGDs identified a number of expectations and concerns amongst the community with regards to the Project; these included prioritising local employment, training and business opportunities, community development programs and capacity building activities.

The FGDs conducted during the baseline survey identified high employment expectations within the Project affected communities. The survey also identified the following relevant skills within the communities:

- Labour skills: automotive vocational school graduates, computer operator/ administration/ accounting, construction, driver and heavy equipment operator, welder, chief, tailor, security; and
- Local business skills: laundry and cleaning service, catering, canteen, car rental, equipment rental, and tailor services.

The findings from the consultations indicate that the majority of livelihoods are dominated by men who act as the main income earners. Female roles centre mainly on domestic/household activities such as cooking and looking after the children. However, females do participate in the household farming business; supporting their husbands in the paddy and plantation fields and have expressed an interest in being employed by the Project.

There are 2 types of land utilised to meet the community's needs: wet land and dry land. The community within the Project area uses their own term for these land areas - *turpuk*. Most of the community own their land privately based on the certification of buying and selling; however there are number of household who haven't legalized their land ownership yet. For these households their ownership status is recognized from their neighbourhood or village head. They usually obtain their land through traditional inheritance from their parents.

Markets are one of the main economic facilities for community trading activities in the Project area. The survey identified that the market is located near most of the community in Pahae Jae, but around an hour's drive from Pahae Julu. Access to other community services such as basic education and health facilities was available in most villages. However, only primary healthcare facilities are available with no hospital and few doctors in the Project area. In addition there are limited secondary or tertiary education facilities available.

Health issues were not identified as a key concern in the Project area; respiratory illnesses and hypertension were the more common diseases amongst the Project affected communities. However the baseline identified a number of environmental health issues such as limited waste disposal and sanitation facilities. Potable water was generally sources mountain spring water.

ES3.2 SOCIAL IMPACT ASSESSMENT

A summary of the key Project activities identified as potentially resulting in significant social impacts on the eight IP communities is presented in Table ES-2. It is noted that some of the affected households are not Batak however it is assumed that the assessment of impacts and proposed management measures will adequately manage the potential impacts placed on these households.

Table ES-2 Summary of Project Activities and Potential Impacts

Project Activity	*Potential impact*	*Phase*		
		PC	*C*	*O*
Land acquisition for access roads, additional well pads, power plants in NIL and SIL locations, transmission lines and laydown areas etc.	• Loss of income from loss of paddy, crops and trees (rubber, coffee and fruit etc.) • Increasing vulnerability for female headed households and elderly landowners losing >50% of land or those whose remaining land is unviable (less than 400 sq.m.) or those earning below the regional poverty line • Impact on IPs cultural beliefs and customs			
Workforce recruitment of 354 workers during well development, 1,270 for construction of the power plant and 226 during operations.	• Economic benefits to IPs and region through increased income • Increased income may lead to increased alcohol or illegal drug consumption • Unrealistic community expectations regarding employment opportunities • Influx of opportunity seekers and families of workers to the area and associated influx impacts			
Project requirement for goods and services	• Economic benefits to local businesses through provision of goods and services • Increased social unrest due non-local business participation • Unrealistic community expectations regarding procurement opportunities			
Presence of non-local workforce interacting with local communities	• Economic benefits to local businesses through provision of goods • Communicable disease transmission such as STIs and TB • Increased social unrest due to jealousy or ethnic tensions • Impact on IP cultural beliefs and customs			
Project road traffic transporting workers, equipment, goods etc. for construction of the power plants, transmission lines and well development	• Increased risk of a third party traffic incident • Increased dust and air quality emissions			
Infrastructure development including improvements the Sumatera highway, and other local roads and bridges	• Increased risk of a third party traffic incident • Improved access to markets and other community services • Enhanced road safety			
Construction activities for new production and reinjection well pads at SIL (10) and NIL (26), power plants and transmission lines	• Increased dust, noise and air emissions • Impact to IP cultural heritage • Drill cuttings and other waste and waste effluents disposed incorrectly • Soil erosion and increased surface runoff impacting communities land or residential areas • H_2S emissions leading to odour issues • Negative community perceptions around water use impacting irrigation water and groundwater quality as well mudslide, earthquake and other health and safety fears			
Operation of power plant and transmission lines	• H_2S emissions leading to odour issues • Excessive noise levels • Contamination of local water supply • Negative community perceptions around radiation from the transmission lines, earthquake/landslides risk from the power pants			

*PC=Pre-Construction, C=Construction, O=Operations

The above Project activities and potential impacts were evaluated and assessed for significance. The following impacts have been identified as moderate or major and require mitigation:

- Gender impacts such as males employed by the Project consuming excessive alcohol volumes, squandering of household income, increased domestic violence and crime, adultery and increased demand of prostitution. Furthermore female headed households, who may lose the majority or all of their land, being impacted by the loss of income and subsistence.
- Based on the results of the social safeguards compliance audit (involving 151 landowners), the total number of households who may experience significant economic displacement as a result of land acquisition through negotiated settlement is 131 (total number of those losing 10% or more of productive assets), of which 100 land owners have lost all or the majority of their land such that the their remaining land is unviable (equal to or less than 400m^2). Of importance are the 18 land owners who were female households.
- In addition, there are approximately 57 landowners who may be significantly affected by the remaining land acquisition for the transmission line and access roads, etc. This lost income is considered a major impact as no livelihood restoration program is currently in place and, of those who were surveyed in SIL; few indicated they would buy new land with their compensation money.
- Given the existing skill sets within the community and the Projects requirements for workers and goods and services some of these expectations will be met. The Project will employ a number of workers during the construction and operation phase; some of whom will be from the 8 Project villages. However the number of realistic job positions during construction and operations for the local community versus the number of individuals seeking employment indicates expectations require management. The same applies for local business opportunities. Should they not be managed the community may become disgruntled with the Project, social jealousies of those who have been employed and who have not may develop and potential damage of relations between the Project and the communities which could lead to community protests, delays and escalating Project costs.
- The Project employment opportunities which will potentially increase local community income may aggravate the alcohol and tobacco consumption habits which may risk community health as well as increase violence and crime levels.
- Influx of migrant workers, their families and other opportunity seeks may result in a number of potential social impacts occurring. This includes social jealousies due to the perception/reality of non-locals are being favoured over locals for employment and provision of goods and services. Impacts associated with community health, particularly increased communicable disease transmission may occur. Given the number of

single non-local males moving to the local area the possibility of increase disease transmission exists. Diseases such as cholera and diarrhoea may also occur should unplanned settlements develop without any sanitation, waste or water facilities. An influx of non-locals may also place additional pressured on the communities' natural resources (e.g. the rivers and forests) as well as public infrastructures (local roads, health and education facilities) which are already under resourced. There will also be an increased demand for resources and services, as well as increased domestic waste production. It is unlikely that any of the villages will have capacity to absorb significant numbers of migrants. Furthermore the presence of non-local workers and this demand on natural resources may also disrupt cultural belief and customs practices by the Batak people.

- Road conditions are poor in many villages and road safety awareness is limited hence an increase in Project traffic will result in an increased risk of a traffic accident. Given the likely periods of congestion a decrease in access to services may occur in some villages. Furthermore the narrow roads with residential houses along them are most likely to be impacted by increasing dust, noise and air emissions from the assessing trucks. As respiratory infections are the key health condition in the area this is a high concern amongst the community.
- The communities use spring water as the main source of community life for bathing, washing and cooking. In addition to household usage the majority use spring water for farming purposes where spring water is considered indispensable for rice paddy cultivating. Impacts on irrigation water were raised on multiple occasions during the consultations with land owners. Although the Project is unlikely to impact water availability, given the community concern regarding water pollution, the heavy reliance the community has on surface water for daily life and agriculture and that fact it is unclear how the Project will dispose of its waste water this impact is rated significant.
- During the consultation sessions the communities raised concerns around the potential for an increase in landslides due to deforestation etc. and earthquakes given the areas vulnerability to elements such as this. In addition there may be potential impacts as a result of community members entering project construction areas and being involved in an accident. Due to the communities level of concern around this issue, the fact that incidents have occurred historically that have been associated with the Project (e.g. damage to irrigation systems), the close proximity between the sites and communities, the impact is rated significant.

All of the above listed impact will require mitigation and management by SOL and its contractors during construction and operations.

Furthermore the following positive benefits were identified as a result of the Projects activities:

- Employment and procurement of local good and services has the potential to enhance community incomes. Currently the agricultural sector is the main form of income for the community in the 8 villages within the Project

area. a number of different skills are possessed by locals (including females), such as automotive skills, computer operator/ administration/ accounting, building construction, driver and heavy equipment operator, welder, chef, tailor, and security. These existing skills, the willingness to be employed by the Project, the Projects demand for semi and unskilled workers will likely create positive economic benefits to the PAHs. Opportunities for females will also likely result in positive benefits for the households due to increased income, enhanced nutrition levels, improved sanitation conditions and, education status.

- SOL had committed to improvements of local roads and bridges to ensure they withstand the demands of its heavy goods vehicles during construction and operation. These improvements which include road widening and bridge improvements will also benefit the communities who will also be able to utilise this infrastructure once the upgrades are complete. This will improve their access to other villages, facilities and services which inevitable will result in improved economic outcomes for the communities. Given the poor conditions of some of the current roads and the fact the community has requested that the Project support them in upgrading their bridges and roads this impact has been rated positive.

ES4 INTEGRATED SOCIAL PROGRAM - MITIGATIVE AND BENEFICIAL MEASURES

To respond to the social impacts and incorporate the affected people's concerns and expectations in the design, the IPP presents the mitigative and beneficial measures in the form of an Integrated Social Program (ISP). SOL's ISP consists of social management plans that SOL intends to implement to manage the identified adverse impacts and positive benefits of its activities during construction and operation. These are also discussed in detail in Volume II: ESIA Addendum. These plans have been developed for implementation by the construction EPC and SOL. The aim of these measures is to avoid adverse impact on IPs (and other community members) where possible. Where this is not possible, the plans set out actions for the EPC and SOL to minimise, mitigate and compensate for unavoidable negative impacts on the IPs.

The ISP also contains activities SOL will implement associated with community development. During the IP consultations undertaken for this IPP community expectations and needs were identified. The ISP aims to provide a strategy to meet the communities priority needs, whilst building IP capacity, resources and facilities.

Since the overwhelming majority of the affected community is Batak, this IPP is to be implemented in tandem with the overall project management plans as identified in Table ES-3 below.

Table ES-3 Specific Management Plans and Policies

Management Plan	*Objective / Content*
Stakeholder Engagement and Communication and Grievance Mechanism	Develop a comprehensive engagement and communications framework for key stakeholders and relevant communities that: • results in the distribution of timely information about the Project; and • provides a formal process by which grievances can be raised
Labour and Working Condition	Address potential labour issues such as equity in employment benefits. The plan will include: • Labour practices policy for non-discrimination, anti-child labour, anti-forced labour, freedom of union/association, minimum wages, social/medical insurance, and right for capacity building; • Local labour recruitment policies; and • Local procurement plan; and • A formal process by which grievances can be raised by the workforce, and allow structured investigation by SOL.
Workforce Environmental Training	Ensure that all personnel responsible for the implementation of the ESMP are competent and are provided with environmental and social aspects training appropriate to their scope of activity and level of responsibility.
Contractual Workers Decommissioning Plan;	Ensure that decommissioning of contractual workers runs smoothly and as much as possible to minimise any potential impacts to the workers
Community Health and Safety	• Management of labour influx; • Avoid or minimize transmission of communicable diseases associated with the influx of the Project migrant workers within its area of influence; • Protocols for migrant workers interaction with local communities; • Camp follower and camp habitation management; and • Health outreach program (e.g. support improvement of public health facilities, monitoring community health, HIV/AIDS awareness program for community and workers).
Occupational Health and Safety	Provide a safe working environment through implementation of procedures to address: • Violation & Infringement • Appreciation Award • Working within Company Premises • Employee Requirements • Emergency Preparedness & Evacuation • Roles Played by Everybody • Safety Induction • Smoking • Alcohol and/or Controlled Drugs • Safety Signs • Environmental Control • Permit-to-Work • Worksite Visit • House keeping In addition, SOL will develop Standard Operating Procedure (SOP) which is a routine step-by-step task instruction or a sequence of task to

Management Plan	*Objective / Content*
	operate and maintain the equipment & facility.
H_2S Monitoring Plan	Describe the programme for monitoring H2S in ambient air and collection of data on health effects.
Emergency Response Plan	Ensure processes are in place to effectively manage the response to emergency events and minimise risk to the workforce and environment. Emergency response may include: • Oil spill response plan; • H^2S release monitoring and response plan; • Drills; • Fire • Community Emergency response plan.
Water Management	Monitor surface and ground water quality Implement measures to stop contamination if identified and provide alternate water source.
Brine Management	Minimise and control brine discharges during well production tests or in case of re-injection failure during operation.
Effluent Disposal Management Plan	Minimise and control effluent discharges.
Erosion Management Plan	Implement measures to reduce erosion and enhance rehabilitation.
Spoils And Drill Cuttings Disposal Management Plan	Appropriate storage, handling, testing, transport and reuse of drilling mud or cuttings onsite or disposal.
Solid and Hazardous Waste Management Plan	Identify measures for minimisation of waste. Appropriate storage, handling, transport disposal of waste.
Spill Response Plan	Appropriate storage, transfer and use of chemicals on site. Identify responsibilities and equipment required to deal with a spill.
Land Contamination Management Plan	Implementation of processes to prevent soil contamination. Implementation of processes to remediate previously contaminated land disturbed by Project activities.
Traffic Management Plan	Minimise the impact of Project activities in regulating and managing traffic.
Ambient Air And Noise Management Plan	Reduction of Project impacts on ambient air quality and noise. Optimising best methods of technology to reduce greenhouse gases

SOL is also planning to undertake a number of community development activities in the Project affected communities. These will be tailored to the communities needs and prioritised in short, mid and long term time implementation periods focussing on priority needs initially such as livelihood restoration activities. The target beneficiaries will include the land owners directly affected by the Project, the broader impact communities and also the wider sub-district areas. SOL will implement programs to enhance, or at least restore, the livelihoods of all affected persons in real terms relative to pre-project levels. SOL will also specifically target and prioritize assistance to those land owners who are (i) considered **potentially vulnerable** (i.e. households

headed by women, elderly landowners, households losing >50% of land or those whose remaining land is unviable [equal to or less than 400 sq.m.]) and poor (i.e. those living below the poverty line); and (ii) significantly affected by land acquisition (i.e. those have lost more than 10% of their land). SOL will seek to improve the standards of living of the displaced poor and other vulnerable groups.

SOL aims to undertake these community development programs, where possible, in partnership with other key stakeholders such as the local community, government, education and health services and NGOs.

SOL's community development activities, although not developed in detail as of yet, will be focused on the following areas:

- Education;
- Health;
- Infrastructure;
- Agricultural and livelihood restoration;
- Culture; and
- Employment.

SOL will undertake monitoring, evaluation and reporting on the ISP activities to ensure they are meeting the communities' needs. This will be undertaken via internal and external monitoring audits and inspections.

ES5 INFORMATION DISCLOSURE, CONSULTATION AND PARTICIPATION ACTIVITIES

SOL's Information Disclosure, Consultation and Participation activities conducted have been undertaken to meet the requirements set out in the ADB SPS, the IFC PS and applicable laws and regulations of the Indonesian Government. In addition to complying with lender requirements SOL's objectives for consulting and disclosing Project information are to:

- Carry out meaningful consultation with the Project's affected people and facilitate their informed participation;
- Ensure women's participation in consultation;
- Involve stakeholders, including affected people and concerned Non-governmental organisations (NGOs), early in the Project preparation process and ensure that their views and concerns are made known to and understood by decision makers and taken into account; and
- Continue consultations with stakeholders throughout Project implementation as necessary.

SOL's Information Disclosure, Consultation and Participation activities have involved:

- Provision of information education consultation (IEC) materials;
- Agreement of communication protocols with village heads; and

- Consultation activities from 2008 until 2013.

To date SOL has undertaken consultation in a culturally sensitive manner using both Indonesian and Batak languages to conduct meetings with all the Project affected communities. Consultation activities were conducted, where possible, in a venue closest to the local communities. Where this was not possible SOL provided transportation for the community.

Meeting participants consisted of men, women and youth who were given equal opportunities to voice their concerns and expectations during the question and answer sessions. Key stakeholders consulted to date by SOL have included:

- Head of the impacted villages and sub-districts;
- Representatives of local communities;
- Land owners;
- Representatives of Local Government (sub district and regency);
- Youth groups;
- Community elders;
- Church leaders;
- NGOs; and
- BPN (Land Agency Office).

During the consultations undertaken between 2008 and 2013 a series of Project topics were discussed including:

- Explanations on the Project plan and activities;
- The Project plan for the re-injection line route;
- The Project impacts on community life and the environment;
- Ceremony events prior to commencing the well work over activity;
- Discussions related the Project's community development program; and
- Socialisation and negotiations on the land acquisition process and compensation price for land and crops.

Community concerns and issues discussed with SOL during these sessions were focussed on:

- Environmental impacts of the Project due to land clearing, water pollution affecting crops and inappropriate waste disposal;
- Health and Safety issues related to a well blow out, increased traffic and radiation from the transmission lines;
- Project employment and business opportunities – prioritising local participation;
- Community development through the Project's ISP activities improving local community infrastructure, facilities and services as well as providing

scholarships to students and establishing capacity building and skills development programs;

- Ensuring SOL disclose all relevant Project information, explain the grievance process and discuss project impacts clearly; and
- SOL's land acquisition process and compensation offered.

In the socialisation and consultation sessions held with the Project's stakeholders, where possible, SOL responded to each of the concerns raised.

Aside from the consultation and participation activities that have been conducted to date, SOL will continue to conduct public consultation and disclosure activities in various forms. Throughout the Project, regular meetings and co-ordination with stakeholders will be planned and scheduled. This will include disclosure of the ESIA, ESMP and ISP.

ES6 GRIEVANCE MECHANISM

The Lenders emphasise specific requirements for establishing a grievance mechanism that receives and facilitates the resolution of affected people's concerns, complaints, and grievances about a Project's environmental and social performance. Therefore SOL has established and implemented a Grievance Mechanism in order to adhere to these requirements and also to ensure that affected community grievances are managed in a fair and timely manner.

SOL's grievance mechanism has been designed as a locally based, Project specific design that assesses and resolves community complaints and concerns related to all Project activities. The Project grievance mechanism offers a package of widely understood and effective processes to address affected communities' concerns and complaints.

The Project Grievance Tracking and Redress Mechanism (GRTM) that is triggered the instance a community complaint is received in a five step process:

- Step 1: Receipt of grievance record;
- Step 2: Assessment and fact finding;
- Step 3: Resolution or appeal;
- Step 4: Feedback; and
- Step Close-out.

Grievances are communicated by the community to SOL orally via community representatives in each sub-district or written to SOL's External Relations Department. Details of the mechanism were disclosed to the local communities during the land acquisition socialization activities between April and May 2013. As the Project progresses, disclosure of the grievance mechanism will continue with other key stakeholders including municipal and central government offices and NGOs.

ES7 MONITORING, REPORTING AND EVALUATION

SOL seeks to implement sustainable strategies to meet its environmental and social objectives. An adaptive management will be adopted to ensure that SOL is prepared for the unexpected and has an integrated system in place which can adjust and learn from various environmental, economic political and social factors and direct its social interventions towards sustainability.

Internal monitoring will be undertaken by the SOL external relations team who will report to ADB and other lenders semi-annually. This reporting will present progress against the schedules and milestones set, identify potential difficulties and corrective measures taken, and report on changes in household income from affected land uses, as well as from livelihood restoration and development activities. SOL will prepare a mid-term report on ISP implementation after commercial operations date (COD).

External consultants, comprising well qualified experts in involuntary resettlement and indigenous peoples monitoring, will be contracted with the objective to ensure compliance with the social obligations set out in this IPP. External experts will visit the site together with the lenders and prepare semi-annual external monitoring reports during the construction and operation phase of the project until such time that the objectives of the IPP (and RP) has been met. Periodic socio-economic surveys will be conducted and a post-evaluation report prepared two years after COD. Semi-annual external monitoring reports will be made available for public disclosure.

ES8 INSTITUTIONAL ARRANGEMENTS

SOL has a land acquisition team dealing with land acquisition and compensation negotiation. In addition SOL also has an external relations team with community facilitators hired from the affected villages and belonging to the Batak ethnic group. SOL plan to form a social team who will work closely with the land acquisition team to implement the livelihood restoration program for affected landowners, liaise with relevant government agencies, potential implementing organizations and with the help of community facilitators oversee the implementation of programs under the ISP.

The community have a high expectation in relation to Project employment, therefore the roles and responsibilities of the SOL human resources department (HRD), EPC HRD and the SOL legal department will need to be specified. EPCs contracts should reflect the stated employment during construction to enable SOL to meet the set targets in this IPP.

Currently SOL is in the process of planning and therefore the details of the implementation are still being worked through. Subsequent to this planning phase SOL will update this IPP with a more detailed overview of the ISP implementation including institutional arrangements, budgeting and monitoring and evaluation.

ES9 BUDGET

SOL has an estimated budget of about IDR 650,000,000 per annum for its planned ISP activities related health, culture, education, agriculture and livelihood restoration, and community infrastructure. This excludes the budget for institutional requirements (human resource requirements, training and capacity building of staff), independent M&E, consultation and participation activities, among others. A contingency of 15% of the total budgeted amount will be added once cost estimates for institutional arrangement, M&E and participation activities are identified.

ES10 CONCLUSION

The Indigenous Peoples Plan (IPP) has been prepared as per ADB's Safeguard Requirement 3, for the development of the geothermal field and power plant combined capacity of 330 MW in Sarulla, in Pahae Jae and Pahae Julu Districts, North Tapanuli Regency, North Sumatera Province (the Project).

This IPP presents information on the social baseline for the potentially impacted IP communities, the identified significant impacts as well as SOL's social management measures and ISP.

The conclusions of the IPP are as follows:

- A number of significant social impacts have been identified particularly around gender impacts, loss of income due to the land acquisition process, meeting community expectations, increased anti-social behaviour, in-migrant influx, increased Project traffic, water pollution due to Project activities and community health and safety concerns.
- The identified social impacts will be mitigated to acceptable levels on the adoption of the ESMP measures which include on-going stakeholder consultation and implementation of a grievance mechanism.
- Furthermore, SOL has committed to implementing a number of community development activities under its ISP which will target the affected landowners and broader impacted communities. ISP focus areas include education, health, infrastructure, agricultural and livelihood restoration and culture.
- SOL will continue to undertake consultation with the Project's key stakeholders during pre-construction, construction and operations to ensure all are updated on the Projects activities, impacts and opportunities, mitigation measures and participate in the developing of ISP activities.

This IPP will be updated prior to implementation to adapt to the needs of Indigenous Peoples in the Project Area. The updated IPP will further clarify the specific programs and activities, responsibilities and resource requirements. However, the standards set up under this IPP will not be downgraded after updating.

1 INTRODUCTION

1.1 PROJECT PROPONENT

SOL or "Sarulla Operations Limited" is the operation company established by the Consortium of Itochu Corporation, Kyushu Electric Power Co., Inc., Ormat International, Inc. and PT. Medco Energi International Tbk. SOL plans to develop the geothermal field and the power plant in Sarulla, in Pahae Jae and Pahae Julu Districts, North Tapanuli Regency, North Sumatera Province. Project proponent contact details can be found below:

Company: **SARULLA OPERATIONS Ltd. (SOL)**
Address: The Energy Building 51st Floor
SCBD Lot 11A, Jl Jend Sudirman
Jakarta 12190
INDONESIA

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In the development of the Sarulla geothermal field and power plant at 330 MW capacity, the Consortium and SOL signed a DOA with PT. PLN (Persero); a JOC with PERTAMINA Geothermal Energy; and an ESC 1 with PERTAMINA Geothermal Energy - and PT. PLN (Persero) on 14 December 2007.

1.2 REPORT CONTEXT

The Indonesian electricity business is largely conducted by the State and carried out by The State own enterprise (PLN). Indonesia's energy demand is increasing with a growth of electricity demand estimated at 7.1% annually (2006-2026) and there is currently a shortage of electricity supply in several provinces, particularly in Java and Sumatera (Djamin, 2008). Operative, private sector and local enterprises have an opportunity to participate in electricity business as Independent Power Producers.

Indonesia is estimated to hold approximately 40% of the World's estimated geothermal resource. These resources are concentrated within tectonic areas in Sumatera, Java and Sulawesi, in the same areas where electricity demand is under met. With traditional fossil fuels widely developed, the Indonesia Government has placed a priority on alternative energy development including renewable energy to enhance energy security.

SOL is proposing the Sarulla Geothermal Field and Power Plant Development Project to further develop the geothermal potential in Sumatera, commenced in 1993 by Unocal North Sumatera Geothermal (UNSG). As part of this development plan, SOL is seeking a financial investment from the Asian Development Bank (ADB) and a group of Equator Principles Financing Institutions (EPFIs). Project proponents seeking financing from the ADB and

EPFIs are required to comply with the applicable bank's environmental, social and health policies, developed for managing the environmental and social risks associated with project finance.

The ADB and EPFIs recognise the specific issues associated with private sector projects and manage these through the ADB Safeguard Policies and Equator Principles.

SOL commissioned Environmental Resources Management (ERM) to support the Project in the preparation of this Indigenous Peoples Plan (IPP).

This IPP document responds to ADB's SPS SR3 requirements addressing impacts on the Batak ethnic groups considered as IPs as per the SPS SR3. It also considers impacts on other affected people residing in the project area.

The IPP is one of a number of studies to provide additional information to the Lenders further to the ESIA conducted under the Indonesian environmental regulatory approvals process (AMDAL, 2009[2]). This report forms part of five (5) Volumes for the proposed development of the Sarulla Geothermal Field and Power Plant of 330 MW Capacity, North Tapanuli Regency, North Sumatera Province. All Volumes are as follows:

- Volume I: Environmental Compliance Audit Report and Corrective Action Plan;
- Volume II: Environmental and Social Impact Assessment (ESIA) Addendum,
- Volume III: Indigenous Peoples Plan (IPP) (this report);
- Volume IV: Social Safeguards Compliance Audit Report and Corrective Action Plan; and
- Volume V: Resettlement Plan.

1.3 STRUCTURE OF THE IPP

This report is structured as follows:

- Chapter 1: Introduction;
- Chapter 2: Project Description;
- Chapter 3: Social Impact Assessment;
- Chapter 4: Information Disclosure, Consultation and Participation;
- Chapter 5: Integrated Social Programs including beneficial and mitigative measures and capacity building activities and budgeting;
- Chapter 6: Grievance Redress Mechanism;

[2]The regulatory ESIA (ANDAL) report is available on ADB's website http://www.adb.org/projects/42916-014/documents

- Chapter 7: Monitoring, Reporting and Evaluation;
- Chapter 8: Institutional Arrangement; and
- Chapter 9: Budget and Financing.

2 PROJECT DESCRIPTION

2.1 PROJECT LOCATION

The proposed activity is located ± 40 km south of Tarutung at the side of the Trans Sumatera Highway (Tarutung – Sipirok). Administratively, the project is located in Pahae Jae and Pahae Julu Districts, North Tapanuli Regency, North Sumatera Province.

In relation to Regency Spatial Plan, the Government of North Tapanuli Regency issued North Tapanuli Regency Regulation No. 19 of 1994 regarding spatial planning, which designated the sub districts of Pahae Jae (Silangkitang area or SIL) and Pahae Julu (Namora I Langit) as areas of geothermal natural resources.

After receiving the right to develop the Project, the Consortium has re-evaluated the Sarulla exploration data in order to undertake the next strategy for the field development stage of the Sarulla Contract Area.

2.2 PROJECT OVERVIEW

The Project was initiated by Unocal North Sumatera Geothermal (UNSG), after the Energy Sales Contract (ESC) and Joint Operation Contract (JOC) were signed in 1993. Extensive exploration activities were then conducted including geo-scientific geology, geochemistry and geophysics investigations and the development of certain infrastructure such as well pads and access roads. This was followed by drilling activities between 1994 and 1998.

The development plan for the Sarulla geothermal field and 330 MW combined power plant includes the following activities:

- The development of Sarulla geothermal field i.e. Silangkitang (SIL) field and Namora I Langit (NIL) field;
- The construction and operation of 330 MW geothermal power plant, one unit at SIL and two units at NIL each with a nominal capacity of 110 MW;
- The construction of a combined length of approximately 14kms of 150 kV (high voltage) overhead transmission line from Silangkitang field (SIL 1) to PLN Substation and from Namora I Langit field (NIL 1) to PLN substation.

The Silangkitang field (SIL) has three (3) existing well pads developed by UNSG in 1994. The pads are SIL 1, SIL 2 and SIL 3 and located around the periphery of these coordinates:

- SIL 1 - N201,374 and 510,500;
- SIL2 - N202,126 and E508,614; SIL 3 - N199,925 and E510,910.
- SIL is located in Pahae Jae District, North Tapanuli Regency. The pad locations can also be described as follows:

- SIL 1 - located in Silangkitang Village, about 50 meter from Sumatera Highways (Tarutung – Sipirok);
- SIL 2 - located at the north-east of SIL 1, on the side of Aek Batang Toru which is part of Sigurung-gurung Village;
- SIL 3 - located at the south of SIL 1, in Pardomuan Nainggolan Village.

SIL 1 has three (3) existing wells, SIL 1-1, 1-2 and 1-3 drilled in 1994 through 1997 at the depth of around 2,000m. SIL 1-2 and 1-3 are planned to be used as permanent production wells for SIL PLTP. In 2008, these two wells underwent work-over to remove existing well plugs and in case of SIL1-3 repair a portion of the casing at 13-3/8" layer to prepare them for production testing and usage as permanent production wells. SIL 1-1 is not intended to be utilized as permanent well in the operation of SIL PLTP. It is intended to be used as a temporary reinjection well during the production flow testing of SIL 1-2 and SIL 1-3 (supplemental to SIL 2-1) and afterwards, the wells will continue to be used as monitoring point of reservoir. Three additional production wells (allowing 1 as allocation for failure) are planned to be drilled in this SIL 1 pad to obtain the geothermal fluid quantity needed for SIL PLTP operations. 2 reinjection wells are also planned to be drilled in this SIL-1 pad.

SIL 2 pad has one (1) existing well, SIL 2-1. SIL 2-1 drilled in 1995 at the depth around 2,100m is not intended to be used as permanent part of the wells during operation of SIL PLTP. This is to be used as temporary reinjection (as the primary with SIL 1-1 and 3-1 as supplemental) well during the production flow testing of SIL 1-2 and 1-3 and afterwards, the wells will continue to be used as monitoring point of reservoir. Three (3) new reinjection wells are planned to be drilled in this SIL-2 pad.

SIL 3 pad has one (1) existing well, SIL 3-1 drilled in 1995 at the depth of around 2,100m. SIL 3-1 is not intended to be used as permanent part of the wells during operation of SIL PLTP. This is only to be used as temporary reinjection (as the supplemental to SIL 2-1) well during the production flow testing of SIL 1-2 and 1-3.

Namora I Langit (NIL) field has three (3) existing well pads developed in 1997. The pads are NIL 1, NIL 2 and NIL 3 located around the periphery of these coordinates:

- NIL 1 - N207,509 and E501,941;
- NIL 2 - N208,245 and E501,131;
- NIL 3 - N208,745 and E503,328.

The pad locations can also be described as follows:

- NIL 1 - located in Sibaganding, Lumban Jaean, and Simataniari Villages (there is one investigation well);
- NIL 2 - located in Sibaganding, Lumban Jaean, and Simataniari Villages

(there are two investigation wells);

- NIL 3 - located in Sibaganding, Lumban Jaean, and Simataniari Villages (there is one investigation well).

None of the 3 existing well pads or 4 investigation wells will be utilized as locations for drilling the permanent (or initial/start-up) production wells. The existing well in NIL-3 pad will be used as a temporary reinjection well during the early stage of drilling the new production wells in NIL for well testing purposes until such time that permanent reinjection wells are drilled, afterwards, the well will continue to be used for monitoring the reservoir. The NIL new well pads are located on farmland and mixed forest areas.

The following permanent wells will be drilled on the following new well pads:

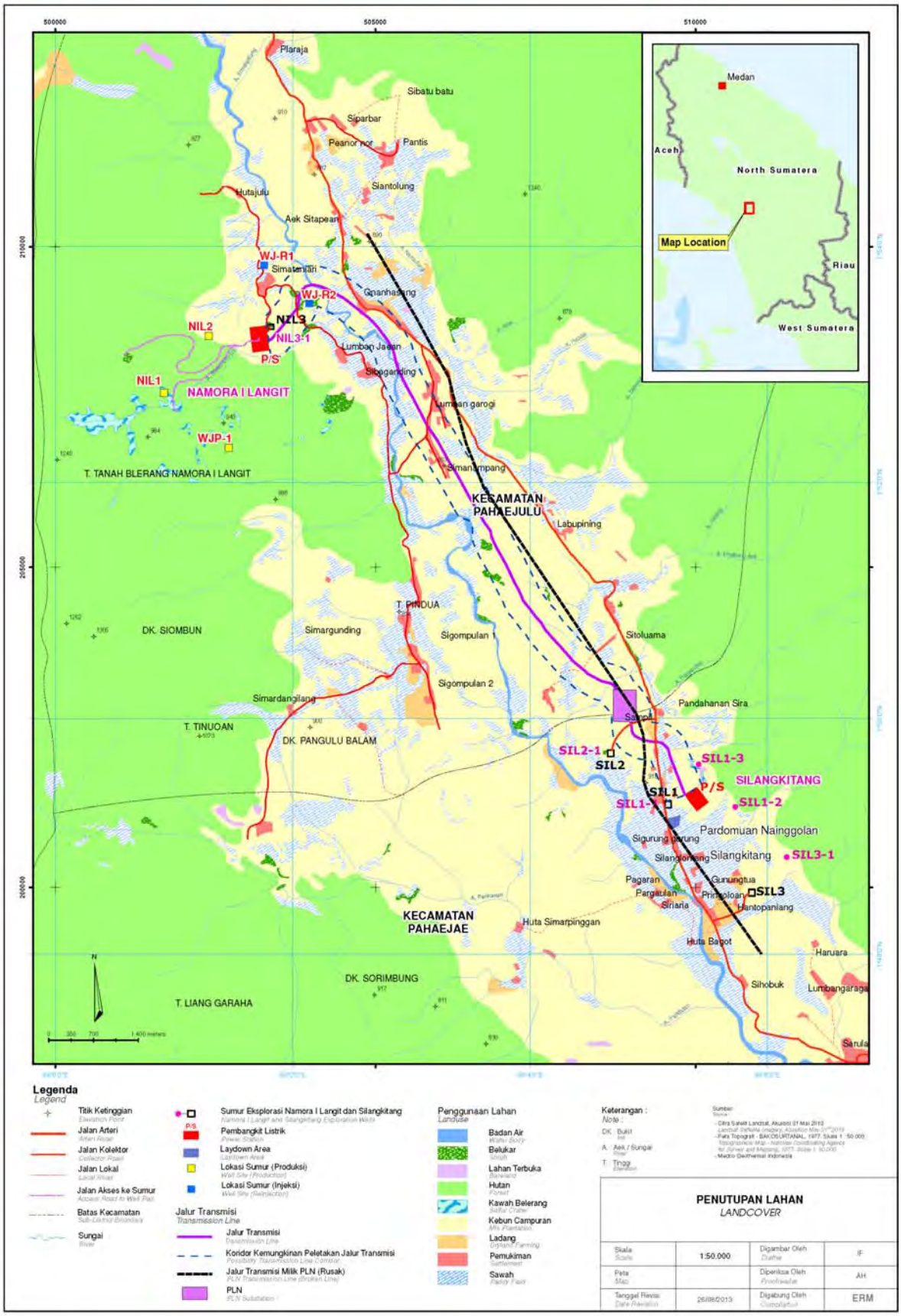
Table II-1 Number of wells be drilled on new well pads

No	*Location*	*Number of wells to be drilled*
1	NIL-1n	7 production wells (1 allocation for failure)
2	NIL-2n	8 production well (1 allocation for failure)
3	WJP-1n	5 production wells
4	WJR-1n	3 reinjection wells
5	WJR-2	3 reinjection wells

The power plant locations for both SIL and NIL will be at plantation areas. SIL is situated approximately 500 meter from the nearest residential area whilst NIL is located at least 1km far from a residential area.

The development plan for Silangkitang (SIL) and Namora I Langit (NIL) geothermal fields is shown in Figure II-1.

Figure II-1 Development Plan for Silangkitang (SIL) and Namora I Langit (NIL) Geothermal Fields



The project schedule for the development of Sarulla 330 MW power plant at SIL and NIL is displayed in Table II-2.

Table II-2 Project schedule for the development of Sarulla 330 MW power plant at Silangkitang (SIL) and Namora I Langit (NIL)

Time / Activity	Month						
	0	+10	+20	+30	+40	+50	>50
Preconstruction							
Construction							
SIL							
NIL 1							
NIL 2							
Operation							
SIL							
NIL 1							
NIL 2							

2.2.1 *Pre-construction Stage*

2.2.1.1 *The Development of Sarulla Geothermal Field*

This activity consists of preliminary study, detailed construction design, and land acquisition. Those activities are taken into consideration of complying with ADB safeguard policy and IFC performance standard.

1) Preliminary Studies

a. Technical planning

Technical planning includes:

- Planning of equipment for geothermal fluid production such as wells, separators, brine accumulators, distribution valves, and safety devices for geothermal field;
- Planning of equipment to anticipate abnormal conditions in steam production process; and
- Planning to distribute geothermal fluid to power plants and reinjection from power plants to reinjection wells.

b. Topographic measurement

This is to designate positions, area and determination of the subsequent construction boundaries including supporting facilities at the proposed well locations i.e. pipelines, roads, and transmission line.

c. Project socialization

The following consultation activities were conducted to socialize the development of Sarulla geothermal field and 330 MW power plant:

- Project socialization at Silangkitang on 5th February 2008;
- Public consultation in relation to AMDAL preparation in Pahae Julu on 28th March 2008;
- Project socialization with government institutions in Tarutung on 6th May 2008;
- Project socialization regarding the land acquisition process for reinjection route on 6th June 2008;
- Socialization/Seminar of Sarulla project to local NGOs groups, local communities and local Governments representatives, 25th June 2008;
- Socialization of well work over activity in Silangkitang on 15th July 2008;
- Well work over ceremony in Silangkitang on 15th August 2008;
- Dialogue forum with local communities and local NGO – IMARUPA & IARRP on 11th Jan 2011;
- Discussion/Meeting with local communities, representatives of North Tapanuli Local Government and IMARUPA/ IARRP on 24th March 2011;
- Project and AMDAL socialization/explanation in 11 villages on 23 March 2011, 15 -18 April 2011;
- Project and AMDAL socialization to land owners in Pahae Jae & Pahae Julu on 6th -7th May 2013.

While for socialization activities related land with land acquisition, SOL has conducted the following activities:

- Socialization on land acquisition to brine Injection line land owners on 25th November 2009;
- Negotiation meetings for Brine Injection line on 9th December 2010, 19th January 2011, and 24th March 2011; and
- Socialization meeting for land acquisition to land owners in Pahae Jae and Pahae Julu on 30th April 2013, 1-2 May 2013 and 6-7th May 2013.

2) Construction Design

This stage consists of a feasibility study and technical design on the development of Sarulla geothermal field which will supply geothermal fluid to power plants. Those activities are taken into consideration of complying with ADB safeguard policy and IFC performance standard.

Geotechnical investigation includes field investigations, laboratory testing, analysis and recommendations to understand the subsurface conditions for design and construction planning for the preparation of project location and civil engineering work. These investigation results are reflected to the design consideration such as landslide, erosion.

3) *Land Acquisition*

Land required for the Project is being procured through negotiated settlement. It is being undertaken in stages as the construction of the geothermal field progresses. The process will be conducted using direct negotiations and agreements between land owners and SOL. A total of 127 ha of land located in the districts of Pahae Jae and Pahae Julu, North Tapanuli Regency will be needed for the land use plan for the development at SIL and NIL is shown in Table II-3. To date, SOL has acquired approximately 4.3 ha of land in SIL for Brine Injection Line and it will be used for the Well test activity. While for the remaining estimated required land as listed in Table II-3 is still in the process and is expected to be completed within 2013.

Table II-3 Land Use Plan and Area Required for SIL and NIL

No	*Land Use Planning*	*Estimated Required Area (m^2)*
	NAMORA I LANGIT (NIL)	
1	Main Access Road	33,883
2	Well Pad NIL 2n & Access Road	57,231
3	Disposal 1 & 2 & Access Road	176,050
4	Borrow Area	91,468
5	WJR 1n & Access Road	35,513
6	Power Plant & Access Road	226,177
7	Laydown	80,000
8	Road 5	120,000
9	WJP 1	80,000
10	NIL1 Exp & Access Road	80,000
11	WJR 2n & Access Road	40,000
	Sub Total NIL	**1,020,322**
	SILANGKITANG (SIL)	
1	Disposal For Power Plant	12,340
2	Borrow Area	20,880
3	Well Pad SIL 1	13,344
4	Power Plant	65,465
6	SIL 2 Expansion & Access Road	30,000
7	Laydown 1	28,000
8	Laydown 2	20,000
9	Transmission Line 150 Kv	60,000
	Sub Total SIL	**250,029**
	TOTAL NIL & SIL	**1,270,351**

2.2.1.2 Construction of Geothermal Power Plant

SOL will construct, operate and maintain a power plant at 330 MW total installed capacity. To fulfil the capacity, three unit power plants will be constructed where each will generate approximately 110 MW. The first unit will be built at SIL and another two units at NIL.

Land Acquisition

The land required for the power plant construction is already taken into account in the land acquisition process for the development of geothermal field and construction of access roads. This is described further in Volume IV: Social Safeguards Compliance Audit Report and Corrective Action Plan. In the construction plan, one power plant unit will be built at SIL and two units will be built at NIL where each will have a capacity of 110 MW (a total of 330 MW). The amount of land required for the power plants is approximately 6.5 ha for SIL and 22.6 ha for NIL.

2.2.1.3 Transmission Line Construction between SIL and NIL

Land Acquisition

The process will be conducted using direct negotiations and agreements between land owners and SOL, facilitated by the government of North Tapanuli Regency. The land required to build the transmission towers is not yet purchased. The plan is not to use productive land, cemetery or residential areas.

The purchased land will be used as platforms for transmission towers and not for transmission lines. Approximately 47 towers will be built with an estimated distance of approx. 300 meters between each of the towers. It is estimated that each transmission tower will require 900 m^2, and therefore the total of land required for 47 towers is 4 ha.

2.2.2 *Construction Stage*

2.2.2.1 Sarulla Geothermal Field Development

This stage involves construction of new well pads, access roads, improvement of existing well pads, drilling of new wells, and installation of associated well pad equipment such as separators, accumulators, pipelines for well production testing. The geothermal field development construction is scheduled for approximately 3 years.

Workforce Recruitment

The estimated number of workforce at the peak who will be involved in the geothermal field development activities is as shown in Table II-4.

Table II-4 Workforce Numbers for Construction

Activity	*Estimated Workforce Required*				
	Expatriate	*Manager/ Engineer/ Supervisor*	*Skilled/ Semi-skilled*	*Unskilled*	*Total*
Infrastructure Construction	3	10	50	50	**113**
Well drilling operations (3 rigs operating simultaneously)	5	10	150	60	**225**
Central logistics		2	2	12	**16**
Total	8	22	202	122	**354**

Source: SOL Primary Data, 2013

Mobilisation of Equipment and Materials

Construction activities start with mobilisation of equipment and materials that will be used in the project. Construction equipment typically used in the roads and well pad construction and those for geothermal well drilling are to be mobilized including the following:

- Earth-moving equipment such as dozers, loaders, dump trucks, excavators;
- Drilling equipment and its associated facilities such as cementing units, diesel generators, pumps; and
- Mechanical construction equipment such as cranes, welding machines, cutting torches, etc.

Whenever possible, materials used in this project will be supplied locally. If not, the materials will be supplied from the nearest area. Materials will be transported inland by trucks using the route Medan–Tarutung – Sarulla towards storage facility around project location in SIL and NIL. Specialty materials such as casing and wellhead valves for the well drilling are expected to be imported

Land Preparation

The land preparation consists of two main activities as follows vegetation clearing and land clearance and removal.

Considering that the current land use is a combination of farmland, plantation or dry land (*tegalan*), and bushes, tree cutting will be at a minimum. Typically, the tree species that will be cut down after completion of the compensation process include rubber, pines, coffee, fruit, and small tree grades.

Stripped soil from the project site will be placed in the project's designated disposal areas. Re-vegetation of the soil disposal site will be done after the construction stage of the project aside from some portions that will continuously be used as spaces for project's supporting facility area during the stage of operation.

Civil Engineering Construction

i) Improvement of Sumatera Highway and Project Roads and Bridges

The main entry point of the power plant equipment to the Island of Sumatra is through the port of Belawan, near Medan. The plant equipment will then be transported through the Trans-Sumatra highway from Belawan to the Sarulla Project Site. A number of the plant equipment (i.e. turbines, generators, transformers, heat exchangers, containerized items) are of notable heavy loads and requires proper transportation planning.

Based on preliminary road survey made by the contractor, certain improvements of bridges along the Trans Sumatra Highways will be needed. No actual replacement of bridges has been identified as needed during the preliminary survey. Most of the improvements needed are reinforcement of bridges, some widening of roads along tight curves, and temporary removal of certain low lying overhead structures (i.e. advertising billboards).

The existing roads in the project sites that were previously built to access the existing well pads are mostly going to be utilized. Refurbishment, expansion and extension of these existing roads combined with constructing new ones are part of the project activity under the Infrastructure Construction scope of work. The existing steel truss bridge in NIL (called Hamilton Bridge) will undergo rehabilitation by adding various struts, cross members and other stiffeners to match the heaviest transport load expected to travel on it. A detailed design for this reinforcement procedure has already been conducted. These roads and bridges will be built as part of the permanent structures usable through the period of project operation.

ii) Well Pads for Well Drilling

The work includes construction of pads (to the designed size and elevations) where drilling activities will be performed. System for geothermal fluid separation will also be built on the well pads containing production wells.

iii) Construction of Temporary Facilities – Worker Accommodation Area and Working Area

The Contractor will provide all temporary facilities, including offices, worker accommodation area, storage materials area, and working area and also meet with the requirements of IFC performance standard. As per ADB requirements the EPC camp site will have adequate fencing and 24 hour, security.

iv) Disposal Area

All unused or excess materials during construction activity will be collected and deposited in a landfill by the contractor. In case of drilling mud, it will be collected the pit with liner sheet and treated as industrial waste.

v) Temporary Drainage during Site Preparation

Temporary drainage system will be provided by the contractor during the site preparation construction work. The system will include temporary ditches, collection pits and sedimentation basins for mud water treatment.

Drilling and Production Test

Drilling is conducted to prepare production and reinjection wells. It is anticipated that up to 34 wells will be drilled at SIL and NIL. The drilling activities will utilize water from Batang Toru River. Estimated usage of water during drilling is at an approximate rate of 200 gpm.

2.2.2.1.1 Construction of Geothermal Power Plant

Workforce Recruitment

The estimated number of workforce at the peak projected to be involved for the construction of the Power Plant is shown in Table II-5.

Table II-5 Workforce Recruitment for Construction

No	*Activity*	*Estimated workforce required*				
		Expatriate	*Manager/ Engineer/ Supervisor*	*Skilled/ Semi Skilled*	*Unskilled*	*Total*
1	Power Plant construction	20	50	500	700	1,270

Source: SOL Data, 2013

It was acknowledged that contractor shall best endeavour to use local labour and local contractor. The detail plan including local recruitment and accommodation will be developed at the later stage taken into consideration of IFC performance standard.

Mobilisation of Equipment and Materials

The power plant equipment that are imported such as the turbines and generators, heat exchanges, electrical components are planned to be off-loaded at the port of Belawan. They will then be transported from Belawan to the project site via land trucking through the Trans Sumatra highway. Various multi-axle trailers are to be utilized to keep the road loading to within the permissible limits. Based on initial transport surveys made most probable route would be through Belawan Port –Medan – Deli Serdang – Serdang Bedagai –

Tebing Tinggi – Pematang Siantar – Parapat – Balige – Tarutung – Sarulla project locations (Pahae Julu and Pahae Jae).

Certain construction equipment such as those used for earthmoving (dump trucks, dozer, and loaders) were identified available from within the North Tapanuli area. Others are planned to be sourced within North Sumatra Island and other parts of Indonesia.

Construction materials for civil, buildings and architectural are expected to be sourced locally and within Indonesia.

Land Preparation for Power Plant and Employee Residential Area

The sites will be prepared by removing all the top soil, grading and levelling to the required elevations. At NIL, an inventory of trees already undertaken, and the land clearing including tree cutting and levelling will be carried out according to the applicable regulations. The development platform of the Power Plant area:

- SIL

  Area: about 210m x 305m

  Elevation: 530 and 525 m above sea level (bi-level)

  The EPC camp will be located at Lay Down 2 approximately 1 km away from the nearest houses (3-4 houses) which are close to the SIL-1 well pad.

- NIL

  Area: about 500 x 435m

  Elevation: 823 and 813 m above sea level (bi-level)

  The EPC camp will be located adjacent to WJR 2 approximately 1 -2 km away from residential areas.

2.2.2.1.2 Construction of Transmission Line between SIL and NIL

This subsection provides an overview of the construction of transmission lines between SIL & NIL related aspects including associated facility.

Workforce Recruitment

The quantity of the workforce is included in the Power Plant construction projected workforce requirement.

Mobilisation of Equipment and Materials

The mobilisation will be using existing road network. Whenever possible, materials used in this project will be supplied locally. If not, the materials will be supplied from the nearest area. Materials will be transported inland by trucks using the route Medan – Tarutung – Sarulla towards storage facility around project location.

Land Preparation

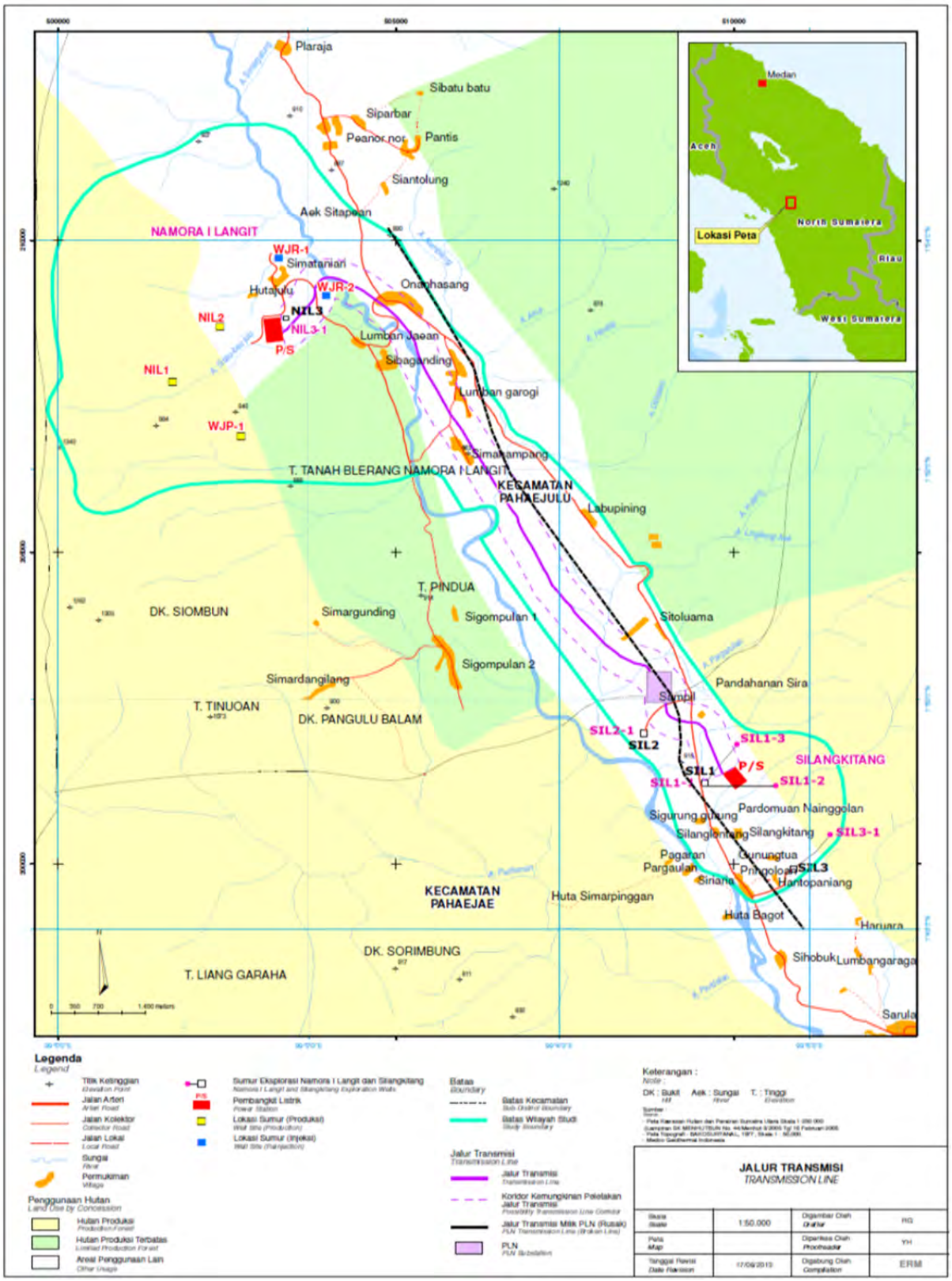
The land preparation consists of two main activities i.e. vegetation clearing, and land clearance and removal.

Land will be prepared for the locations of the transmission towers. SOL will not prepare the whole section of land; however some high trees will be cut.

Installation of Transmission Tower

This activity consists of constructions of towers for the 150KV Transmission Line. The towers will be constructed at approximately 300 meter intervals. The combined approximate length of the transmission line from SIL to PLN substation and from NIL to PLN substation is approximately 14 km (Figure II-2).

Figure II-2 Transmission Lines Connecting SIL and NIL to PLN Substation



Associated Facility – PLN 275 kV Transmission line

The 150 kV Transmission Lines will interconnect the Electricity Generation Facilities to PLN's 275 kV transmission line. SOL has no control or influence over PLN related to this transmission line. PLN is responsible for the construction of the 275 kV T/L and current activities that are being undertaken by PLN to complete the construction of this facility is land acquisition and also some construction work for tower foundation. Based on information given by PLN, EIA (AMDAL) document for this facility has been completed.

2.2.3 *Operation Stage*

The operation stage is to operate the steam production system to generate electricity. The system consists of production sources, well heads, safety valves, pipe lines, separators and brine accumulator units, and control tools.

Geothermal fluid from reservoir will be channelled to separators in order to separate steam and brine at the designed system operating pressure. Both steam and brine are used to generate electricity to achieve the 330 MW capacity.

The operation shall also include standard monitoring system used in similar geothermal projects to monitor and assess the behaviour of the geothermal resource and wells. The detailed monitoring plan will be developed at later stage.

2.2.3.1 *Workforce*

The planned quantity of workforce to be utilized during the operation of the facility is described in Table II-6.

Table II-6 Workforce During Operation Stage

No	*Activity*	*Estimated workforce required*				
		Expatriate	*Manager/ Engineer/ Supervisor*	*Skilled/ Semi Skilled*	Unskilled	*Total*
I	Sarulla Jakarta Head office support	5	8	12	1	26
2	Site Operations and Maintenance Team	3	5	91	101	200
	Total	8	13	103	102	**226**

It is expected that local labour can be used as G&A/Support during operation stage. The detailed hiring plan will be developed at later stage. During annual maintenance activities, third party contracted services will also add number of

workforce at the site. Depending on the actual maintenance activities being performed, between 50 and 75 people are expected to be involved. The crafts vary from labour force, skilled workers (i.e. welders, mill wright), consultants and representatives from the Original Equipment Manufacturers (OEM).

3 SOCIAL IMPACT ASSESSMENT

The aim of this IPP is to present the affected Batak people's socio-cultural aspirations of life ("*hamoraon, hagabeon, hasangapon*"), their perceptions of the Project impacts on them, and the local community's needs and priorities. Therefore this Chapter sets out the following information as per the Safeguard Requirements 3 for an IPP:

- A review of legal and institutional frameworks applicable to the Project IPs;
- A summary of the social baseline;
- An assessment of the potential adverse and beneficial Project impacts; and
- A summary of the communities needs as gathered during the FGDs.

3.1 LEGAL AND INSTITUTIONAL FRAMEWORK

3.1.1 National Framework

The government, through the Ministry of Social Affairs has its own definition of regarding IPs, which they commonly refer to as "Remote Indigenous Communities" (RIC or *Komunitas Adat Terpencil*). RICs are defined as "*social cultural group that is local and scattered and less or not involve in the network of social, economic and political services"*. This is stated in Article 1.1 of the Presidential Decree No. 111 Year 1999 on Social Welfare Development on Remote Indigenous Communities.

Under the Decree, there are 6 features that define RIC. These are:

- They form small communities, closed and homogeneous social institutions based on kinship relationship;
- They live in remote areas which are difficult to reach;
- They live on subsistence;
- They do not depend on the tools of technology;
- Their dependence on natural resources is high; and
- They have limited access to politics, economy and social services.

Apart from the Provincial Office of the Social Affairs Office, the Office of Cultural and Tourism Department has formulated what they call *'kampung adat'* or indigenous village. An Indigenous village is defined as:

- The location is separated from other dwellings in its vicinity and not easily accessible;
- Houses that are built using the natural resources provided from its environment and the house are uniform and has the tradition strongly supported by the community;
- The people are homogenous;
- The community is from one ancestor;
- The community members only have one belief or religion which came from

the teachings of their ancestors; and

- The community has a much respected community leader (elderly).

3.1.2 Nation Legal Provisions Relating to the Recognition of Indigenous Peoples

The following constitutions and acts which discuss the recognition of IPs are summarised below:

- **The 1945 Constitution of the Republic of Indonesia:** The existence of *adat* communities (Indigenous communities) is recognized in the 1945 Constitution, namely in Article 18 B para 2 (concerning regional government) and Article 28 I Para 3 (in the Chapter on Human Rights), which underlines that in regulating a self-governing region and *adat* communities, the government needs to respect the traditional customary rights in those territories as long as such rights remain in existence and in accordance with societal development and the principles of the Unitary State of Indonesia. These two articles, however, use two different terms, namely "adat law community" (Article 18 B) and "traditional community" (Article 28 I).
- **Act No.5 of 1960 concerning Basic Regulations on Agrarian Principles (or Basic Agrarian Law):** The Basic Agrarian Law provides general principles that accommodate the recognition of *adat* communities (Indigenous communities), *ulayat* land rights (customary communal land rights), and *adat* laws, as can be found in Article 2 para 4, Article 3 and Article 5.
- **Act No.10 of 1992 on Population and Prosperous Family:** This Act does not explicitly mention *adat* communities, however Article 6 implies recognition of the right to cultural integrity as groups and rights to use ancestral lands (territories). This article provides that the right to use ancestral territory guarantees that a population, that has developed a territory based on its *adat* land, is not to be subjugated in its interests by new comers. If the ancestral territory is used for development activities, then such population is given priority to benefit from the added value of such development activities.
- **Act No. 39 of 1999 on Human Rights:** Article 6 of Act 39/1999 provides an explicit formulation of the recognition and protection of *adat* communities and their cultural identity, and considers this recognition as protection as part of the implementation of human rights. Rights over *ulayat* (communal land) are considered by this Act to be part of the cultural identity of these communities and must be protected.
- **Agrarian Ministerial Decision No. 5 of 1999 regarding Guidelines for Communal Land Rights Dispute Settlement:** Para 1 clause 1 states that communal land rights of *adat* law community (*ulayat*), is the *adat*- law based authority over certain territories, which are the traditional habitats of the community member wherein they make use of and benefit from the natural resources, including land, in such habitats for the continuation of their life and livelihood. Such close physical and spiritual relations to land have taken place for generations without interruptions. Further, clause 3 states that *adat* law community is a group of people who are bound by their *adat* laws as a

common citizen of a legal association on the basis of common residence and common lineage.

- **Decree No. 32 of 2004 on Regional Government:** Para 2 clause 9 mentions that the State recognises and respects the *adat* law community units including their traditional rights as long as they continue to exist and are in line with the societal development.
- **Law Number 32 of 2009 Regarding Environmental Protection and Management:** Para 31 mentions that a customary law community is a group of people who have been living for generations in a certain geography due to lineage bonding, close attachment to the living habitats, and the existence of value systems shaping the economic, political, social and legal institutions.

3.1.3 The AMAN (the 'Nusantara' Indigenous People Alliance) Concept

The Nusantara Indigenous People Alliance (AMAN), is a consortium of IPs in Indonesia, which has defined IPs as "*a group of people who, based on ancestral origin, live in a specific geographical area, have a distinct value and socio-cultural system, sovereignty over their land and natural resources and control and take care of their survival by means of customary laws and institutions*".

According to AMAN Indigenous people can be identified using the following criteria:

- A group of people sharing the same cultural identities. IPs have distinct characteristics in terms of language, spiritual values, norms, attitudes and behaviours that distinguish one social group from another;
- Living area includes land, forests, sea and other resources, which cover not only goods but also religious and socio-cultural systems;
- Knowledge systems are also called "traditional wisdom" or "local wisdom", which is not only preserved but enriched/developed in line with the needs of indigenous people to sustain their existence; and
- A common regulation and governance system includes customary laws and institutions to regulate and govern themselves. (*http://www.aman.or.id/en/indigenous-peoples-archipelago/who-are indigenous-peoples.html*)

In 2010, AMAN estimated the population of IPs in Indonesia ranged between 50 and 80 million. From this population, 1,163 Indigenous communities in Indonesia are members of AMAN. AMAN recruits its members based on whether they have met the AMAN criteria of 'Indigenous People'. AMAN only accepts its members after studying and verifying whether they have met the IP criteria.

Unlike the RIC definition by the Office of Social Department or the 'Indigenous Village' defined by the Office of Cultural and Tourism Department, AMAN emphasises on advocacy and empowerment to those considered as IPs by highlighting their basic human rights, and social and cultural rights. In this case,

they sometimes have differences with the Office of Social Department who tends to see the IPs as culturally 'behind', and the Office of Cultural and Tourism Department whose sees them as unique and exotic entity for the benefit of tourism. The AMAN definition of IPs is considered to correspond more closely with the definition used by the World Bank, ADB and IFC.

3.1.4 ADB Indigenous Peoples Safeguard Requirements

The United Nations Declaration on the Rights of Indigenous Peoples was adopted by the United Nations General Assembly in September 2007. Many countries in Asia and the Pacific, including Indonesia[3], have voted in favour of this non-binding declaration. The ADB recognizes the rights of IPs to direct the course of their own development. IPs do not automatically benefit from development, which is often planned and implemented by those in the mainstream or dominant population in the countries in which they live. Special efforts are needed to engage IPs in the planning of development programs that affect them, in particular, development programs that are supposedly designed to meet their specific needs and aspirations. IPs are increasingly threatened as development programs infringe into areas that they traditionally own, occupy, use, or view as ancestral domain.

Safeguard Requirements 3 (SR3): Indigenous Peoples Safeguards. A Planning and Implementation Good Practice Sourcebook (Draft Working Document Revised June 2013)4, outlines the requirements that borrowers/clients are required to meet in delivering IPs safeguards to projects supported by ADB. The objective is to design and implement projects in a way that fosters full respect for IPs identity, dignity, human rights, livelihood systems, and cultural uniqueness as defined by the IPs themselves so that they:

- Receive culturally appropriate social and economic benefits;
- Do not suffer adverse impacts as a result of projects; and
- Can participate actively in projects that affect them.

Indigenous Peoples may be referred to in different countries by such terms as indigenous ethnic minorities, indigenous cultural communities, aboriginals, hill tribes, minority nationalities, scheduled tribes, or tribal groups. ADB identifies Indigenous Peoples as distinct and vulnerable socio-cultural groups possessing the following characteristics in varying degrees:

- Self-identification as members of a distinct indigenous cultural group and recognition of this identity by others;
- Collective attachment to geographically distinct habitats or ancestral

[3] The complete list of 143 countries who voted in favour of this declaration is available from http://www.un.org/News/Press/docs/2007/ga10612.doc.htm.

[4] http://www.adb.org/documents/indigenous-peoples-safeguards-planning-and-implementation-good-practice-sourcebook?ref=site/safeguards/publications

territories in the project area and to the natural resources in these habitats and territories;

- Customary cultural, economic, social, or political institutions that are separate from those of the dominant society and culture; and
- A distinct language, often different from the official language of the country or region.

The ADB requires any project with impacts on IPs for the borrowers to carry out meaningful consultation and to prepare and implement an Indigenous Peoples Plan (IPP). The plan includes measures to ensure that IPs benefit, and that adverse impacts are prevented, or where this is not possible, mitigated.

The ADB has classified the Batak people in the Project areas of NIL and SIL as IPs due to the following "distinctiveness" criteria:

- Batak self-identify and are identified by others as a distinct ethnic group;
- Batak people in the project area have a collective attachment to the project area. The project lands are closely related to and identified with particular clans. People feel a strong collective attachment to land of their ancestors in each of the affected villages;
- Batak people have their own distinct customs and traditions, which they continue to display; and
- Batak people have their own distinct language different from national language.

The Batak people in the project area are considered vulnerable (currently in poor condition) and may become more vulnerable as a result of the project. Therefore this IPP has been prepared to safeguard their vulnerability status by establishing measures that manage adverse impacts as well as providing benefits to the Batak people.

There is no physical displacement of IPs from traditional or customary lands from Project land acquisition. Associated impacts however, may include:

- Acquisition of land and assets that may affect the Batak's vulnerability in terms of their economic status and their cultural identity; and
- Feeling of vulnerability brought about by uncertainties about Project impacts.

3.1.5 Japan Bank for International Cooperation (JBIC) Guidelines for Confirmation of Environmental and Social Considerations

JBIC's Guidelines for Confirmation of Environmental and Social Considerations state that they "refer not only to the natural environment, but also to social issues such as involuntary resettlement and respect for the human rights of indigenous peoples". JBIC further defines sensitive areas in the social environment as including "ethnic minorities, indigenous peoples or nomadic peoples with traditional ways of life and other areas with special social value".

The rights of IPs, and vulnerable social groups, including women and children, the Environmental Guidelines have incorporated human rights issues in Section 1 of Part 2 under the heading of Environmental and Social Considerations for Funded Projects. For Projects with predicted impacts on IPs, JBIC state the following:

- Any adverse impact a project may have on indigenous peoples is to be avoided where feasible, exploring all viable alternatives. When, after such examination, it is proved unfeasible, effective measures to minimize impact and to compensate for their losses must be taken for indigenous peoples;
- When a project may have adverse impact on indigenous peoples, all of their rights in relation to land and resources must be respected in accordance with the spirit of the relevant international declarations and treaties. Efforts must be made to obtain the consent of indigenous peoples in a process of free, prior, and informed consultation; and
- Measures for the affected indigenous peoples must be prepared as an indigenous peoples plan (which, according to circumstances, may constitute a part of other documents for environmental and social considerations) and made public in compliance with the relevant laws and ordinances in the host country. In preparing the indigenous peoples plan, consultations must be made with the affected indigenous peoples based on sufficient information made available to them in advance. When consultations are held, it is desirable that explanations be given in a form, manner, and language that are understandable to indigenous peoples.

As discussed in Volume II: Environmental and Social Impact Assessment (ESIA) Addendum, Chapter 1 JBIC states that "for private sector limited or non-recourse project finance cases, or for where appropriate, JBIC ascertains whether the project meets the relevant aspects of International Finance Corporation Performance Standards". Therefore further reference to IFC Performance Standards regarding IPs also represent meeting JBIC standards.

3.1.6 The International Finance Corporation (IFC) Performance Standards

The IFC's requirements relating to IPs is detailed in IFC PS 7. The Performance Standard recognises that there is no internationally accepted definition of "Indigenous Peoples" but adopts the same four criteria as discussed for the ADB SPS (IFC PS 7; paragraph 5). The Performance Standard includes reference to

"communities or groups of Indigenous Peoples who maintain a collective attachment, i.e., whose identity as a group or community is linked, to distinct habitats or ancestral territories and the natural resources therein", with a specific application to groups or communities, rather than individuals. Among other definitions, this includes the following characteristics deemed of relevance to the Project:

- Communities of IPs who are resident upon the lands affected by the Project (noting that there is no physical relocation associated with the Project);
- Communities of Indigenous Peoples who do not live on the lands affected by the project, but who retain ties to those lands through traditional ownership and/or customary usage, including seasonal or cyclical use; and
- Groups of Indigenous Peoples who reside in mixed settlements, such that the Affected Indigenous Peoples only form one part of the more broadly defined community.

Where adverse impacts from a project cannot be avoided, the IFC requires the preparation of an Indigenous Peoples Plan (IPP) outlining:

- The actions to minimize and/or compensate for adverse impacts in a culturally appropriate manner.
- Actions to minimize and/or compensate for adverse social and economic impacts, and identify opportunities and actions to enhance positive impacts of the project on IPs.
- Where appropriate, measures to promote conservation and sustainable management of the natural resources on which the Indigenous Peoples depend, or measures by the project to manage land usage by the Affected Communities of Indigenous Peoples.
- A clear statement of roles and responsibilities, funding and resource inputs, a time-bound schedule of activities and budget.[5]
- IFC PS7 also requires informed consultation and participation (ICP), however in special circumstances this engagement process is also required to obtain the Free, Prior and Informed Consent (FPIC) of the Affected Communities of Indigenous Peoples. The process of ICP was undertaken for this IPP. Land acquisition was undertaken via a free negotiated settlement process and extensive consultation has been conducted. Although IPs were identified as impacted by the Project; the ADB has noted that FPIC is not triggered.

3.2 SOCIAL BASELINE

The Project's interaction with the communities surrounding SIL and NIL is inevitable. As such a socio-economic profile of the predominantly IP community within the Project area is required in order to fully understand the current

[5] IFC (2012). Guidance Note 7: Indigenous Peoples

baseline situation. This enables the identification and assessment of potential adverse social impacts on the community as a result of the Project's activities (during construction and operation) and allow for appropriate mitigation measures to be implemented. It also enables the identification of any positive impacts that the Project may have.

The following sections within this Chapter provide information on the socio-economic baseline conditions within the Project area including:

- Methodology and limitations in preparing this chapter;
- General overview of the Project area including a geographic and administrative description;
- Demographics including population distribution, density, growth, and household characteristics;
- Economics including regional economic, community livelihoods, income, land ownership, housing conditions, and economic infrastructure;
- Public health including maternity, mortality, illness and disease status, environmental health, community behaviour and awareness, and health infrastructure;
- Community services and infrastructure including education, religion, electricity, roads and traffic;
- Socio-economic profile of the Project Affected land owners;
- Ethnic profile; and
- Identification of vulnerable groups.

The following villages in the Tapanuli Utara Regency have been identified as potentially impacted by the Project and are the focus of this baseline:

- Four (4) villages in Pahae Jae Sub-district: Silangkitang, Sigurung-gurung, Pardomuan Nainggolan, and Pardamean Nainggolan; and
- Four (4) villages in Pahae Julu Sub-district: Sibaganding, Lumban Jaean, Simataniari, and Onan Hasang.

Figure II-2 illustrates the location of these villages.

3.2.1 Methodology

ERM conducted a thorough desktop review of existing relevant data obtained from SOL and other data sources at the sub-district and regency level in order to gain a broad understanding of the social conditions in the area. Data sources included:

- 2009 Environmental Impact Assessment (EIA/ AMDAL) and its Addendum, 2013 (currently in the review stage of the Indonesian environmental regulatory process);

- Tapanuli Utara Regency in Figure, 2012;
- Pahae Jae Sub-district in Figure, 2012;
- Pahae Julu Sub-district in Figure, 2012; and
- Regional regulations review at the http://taputkab.go.id.

In addition to the above secondary data sources the team gathered primary data in the Project area during the months of June and July 2013 with the assistance of local researchers who were familiar with the local conditions and characteristics. The techniques applied in the field included:

- Conducting a Community Social Assessment (CSA) Survey;
- Conducting a Land Acquisition (LAQ) Audit Census; and
- Undertaking Focus Group Discussions (FGD) and in-depth interviews with selected key informants;
- Observing land acquisition consultations with land owners for the transmission line, Road 5, WJP 1N, NIL 1N and 4A Expansion, WJR 2N and Access Road.

3.2.1.1 Community Social Assessment (CSA) Survey

A minimum of 10% of the population within the eight identified villages were interviewed as part of the CSA survey. The information gathered was populated in a database for processing and analysis. Table III-1 presents the number of respondents involved in the CSA.

Table III-1 CSA Respondent

No	Sub-district Village	Household Population	Household Respondent		
			Male	Female	Total
A. Pahae Jae					
1	Silangkitang	182	15	8	23
2	Sigurung-gurung	163	39	8	46
3	Pardomuan Nainggolan	237	25	5	30
4	Pardamean Nainggolan	169	21	3	24
B. Pahae Julu					
1	Sibaganding	105	27	1	28
2	Lumban Jaean	115	25	12	37
3	Simataniari	111	39	8	47
4	Onan Hasang	129	21	4	23
Total		**1,211**	**212**	**49**	**258**

Respondents in Silangkitang, Sigurung-gurung, Sibaganding, Lumba Jaean, Simataniari, and Onan Hasang villages consisted of two categories:

1. Households chosen by random sampling; and
2. Households who own land which has or will be acquired by the Project (the majority of who were male headed households).

3.2.1.2 Land Acquisition (LAQ) Audit Census

The Land Acquisition (LAQ) Audit Census was undertaken to understand the socio-economic profile of the Project affected land owners. A total of 151 people participated in the audit (Table III-2). At the time of reporting compensation had been provided for 22 land parcels in Pahae Jae; 7 parcels were still in the payment process and none of the 243 land parcels in Pahae Julu had been compensated for.

Table III-2 LAQ Audit Respondent

Affected Villages	Respondent				
	Male		Female		Total Respondent
	N	% of Total	n	% of Total	
Pahae Jae					
Sarulla	1	0.67	0	0.00	1
Silangkitang	10	6.67	8	5.33	18
Sigurung-gurung	23	15.33	4	2.67	27
Sub-total	***34***	***23.67***	***12***	***8***	***46***
Pahae Julu					
Sibaganding	19	12.67	1	0.67	20
Lumban Jaean	18	12.00	12	7.33	29
Simataniari	32	21.33	7	4.67	39
Onan Hasang	5	3.33	3	2.00	8
Janji Natogu	8	5.33	0	0.00	8
Sub-total	***82***	***54.66***	***23***	***14.67***	***105***
Total	**116**	**77.3**	**35**	**22.6**	**151**

3.2.1.3 Focus Group Discussions (FGD) and In-depth Interviews

Both activities were conducted in all 8 of the Project affected villages with various groups of the community, i.e. males, females and youth (youth were defined as those not married and in the age range of 17 to 23 years old). This aim being for the data gathered to be representative of the whole community.

However, during the FGDs female youths were consulted although not represented in every village. Therefore SOL will ensure that future consultations include female youths and that their expectations and concerns are reported in the updated IPP.

A total of 22 FGDs were undertaken (Table III-3 and Figures III-1 and III-2). The participants were invited by the Project through head of village.

Table III-3 FGD Sessions Undertaken

No	*Sub-district Village*	*FGD Session*	*Participant #*	*Participant %*
A. Pahae Jae				
1	Silangkitang	2	- **Total (19)** - Female (11) - Male (8)	- Female (58%) - Male (43%)
2	Sigurung-gurung	3	- **Total (48)** - Female (30) - Male (8) - Youth (2 Female, 8 Male)	- Female (63%) - Male (17%) - Youth (21%)
3	Pardomuan Nainggolan	2	- **Total (25**) - Female (14) - Male (11)	- Female (56%) - Male (44%)
4	Pardamean Nainggolan	3	- **Total (26)** - Female (7) - Male (14) - Youth (5 Male)	- Female (27%) - Male (54%) - Youth (20%)
B. Pahae Julu				
1	Sibaganding	3	- **Total (44)** - Female (13) - Male (24) - Youth (7 Male)	- Female (30%) - Male (55%) Youth (15%)
2	Lumban Jaean	3	- **Total (38)** - Female (16) - Male (11) - Youth (11 Male)	- Female (43%) - Male (29%) - Youth (29%)
3	Simataniari	3	- **Total (19)** - Female (5) - Male (5) - Youth (9 Male)	- Female (27%) - Male (27%) - Youth (48%)
4	Onan Hasang	3	- **Total (25)** - Female (9) - Male (9) - Youth (3 Female, 4 Male)	- Female (36%) - Male (36%) - Youth (25%)

Source: ERM Primary Data, June 2013

Figure III-1 FGD – Female Group Session

Figure III-2 FGD - Male Group Session

3.2.1.4 Land Acquisition Consultations for the Transmission Line, Road 5, WJP 1N, NIL 1N and 4A Expansion, WJR 2N and Access Road

ERM conducted a survey of 12 landowners in seven villages (Silangkitang, Sitoluama, Simanampang, Hutabarat, Lumban Jaean, Sibaganding and Janji Natogu). The survey covered 10% of potential landowners who will be affected by Project. The majority of land owners surveyed have land that will be acquired for the tower footprint 30 m x 30 m. During the site visit, it was identified that the type of land affected is largely rice-paddy and plantation.

3.2.2 Limitations

A number of limitations were identified whilst developing the social baseline, they included:

- The scope of the study area was discussed and agreed with SOL (to focus on the 8 villages mentioned previously in this Chapter). However during the CSA survey the team observed additional villages within the Project area that could be impacted by the Project activities. These include the villages of Janji Natogu, Lumban Garaga, and Hutabarat (see Figure II-2). However given the existing scope and limited time frame to deliver this IPP no data were gathered in these communities. Janji Natogu is located on the provincial road near Onan Hasang and therefore may be impacted by Project traffic. Lumban Garaga and Hutabarat are located on the village road which Project traffic will use to enter and leave the NIL area. Furthermore both villages are located in close proximity to the potential transmission line corridor and therefore may be impacted by the land acquisition process. It is therefore recommended that these three villages are included in SOL's next round of consultations (end of November 2013) and that appropriate socio-economic data is gathered to ensure the potential impacts on these villages are understood and accordingly managed.
- The process of the land acquisition was incomplete at the time of the survey and therefore data on all the Project affected land owners was not available for the audit or land owner profile.
- During the land acquisition audit census a number of land owners refused to participate due to the sensitivity of some of the questions (e.g. asset ownership and compensation). Furthermore some of the land owners who received compensation had moved elsewhere with no forwarding address and therefore were not included in the census.
- During the FGDs and in-depth interviews the majority of participants were unavailable due to work commitments therefore consultation activities held during this period had a lower participant rate than those in the afternoon and evening. Where possible consultation activities were held once the villagers had returned back to their villages for the day.
- The time frame to gather and analyse the data has been very constrained due to SOL's financing deadline. This has resulted in limited probing and further data collection in some areas e.g. for the land acquisition audit census.

3.3 SOCIAL OVERVIEW OF THE PROJECT AREA

Tapanuli Utara Regency is a highland area located in Sumatra Utara Province, on average 900 m above sea level with a land area of 3,793.71 km^2. The capital city of Tapanuli Utara is located in Tarutung, about 281 km south of Medan, the capital city of Sumatera Utara.

The agricultural sector drives economic development in Tapanuli Utara; it is the highest contributor to the regions income (rice, plantations, fisheries and livestock). Tapanuli Utara is also famous for tourism due to the presence of Lake Toba, the largest lake in South East Asia; 6.6 km area of Danau Toba is part of this regency. The regency is also derived of forestry. Of the 268,281.24 ha of forestry area, 55,562.15 is protected forest, while 2,228.51 is conservation forest.

Tapanuli Utara consists of 15 sub-districts and 252 villages. The regional government is led by a Regent, assisted by the Vice Regent and Regency Secretary who support in the development of policies and coordination with the following regional agencies:

- Education;
- Health;
- Social, worker, and transmigration;
- Public work;
- Interconnection, communication and information;
- Job creation and housing;
- Tourism and cultural;
- Forestry;
- Fishery and livestock;
- Farming and plantation;
- Cooperative, small and medium industry and trade;
- Mining and energy;
- Demographic and civil registration;
- Market, sanitation, and landscaping; and
- Regional income, financial and asset management.

In addition, to support the government in establishing regional regulations (legislative function), developing and approving the regional expenditure budget, and monitoring the implementation of regional regulations and expenditure budgets, a Regional Legislative Council (DPRD) has been established. The secretariat of DPRD consists of 35 members elected through a political party election, and divided into four working sections: (a) governance, (b) economic, development, and social, (c) administrative and general, and (d) regent expert staff.

Figure III-3 Tapanuli Utara Regency Map

Source: Tapanuli Utara Regency in Figure, 2012

The Project is located in 2 sub-districts, Pahae Jae and Pahae Julu. Pahae Jae is located 42 km away from Tarutung, while Pahae Julu Sub-district is closer to Tarutung, only about 22 km (see Figure III-3). Most of the 203 km^2 of Pahae Jae is less than 500m above sea level, while the whole Pahae Julu (166 km^2) is more than 500 m above sea level. From these areas, approximately 19.3 ha of Pahae Jae and 9.2 ha of Pahae Julu are categorized as forestry area.

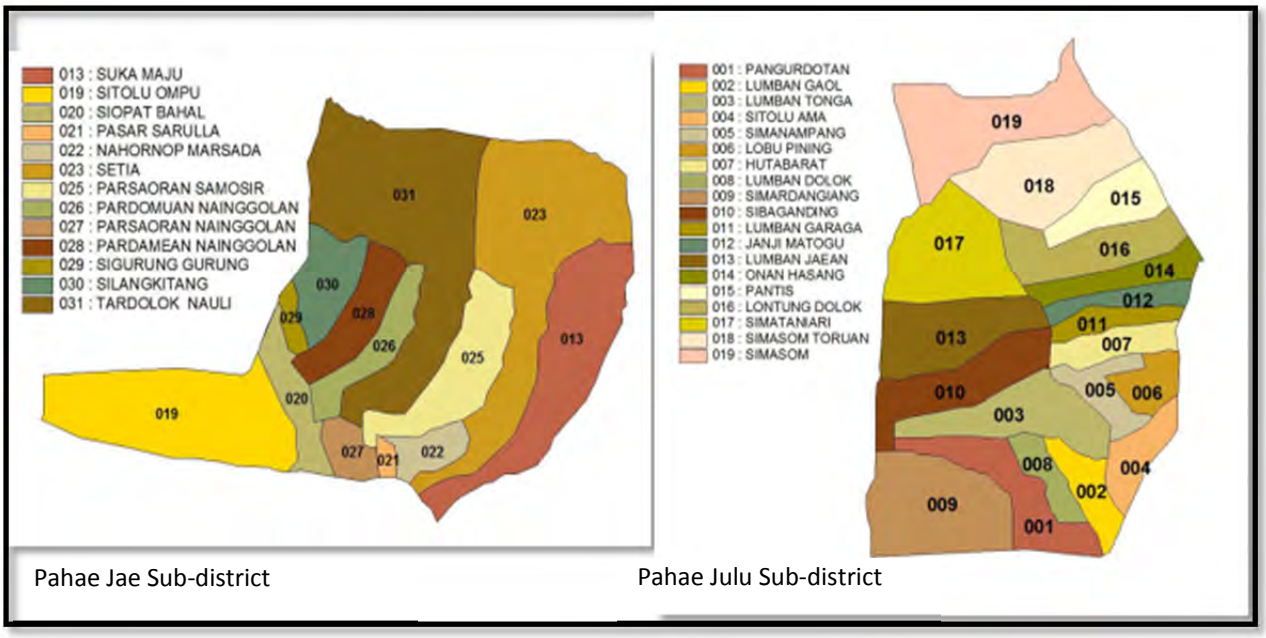
The areas within the 2 sub-districts which are likely to be affected by the Project development are categorized as villages as presented in Table III-4 and Figure III-4. All of the Project affected villages are less than 13 km^2 and in quite close-proximity to the sub-district capital.

Table III-4 Size of 8 Villages within the Project Area

Village Name	Large Area (km²)	Ratio to Large Area of Sub-district (%)	Distance from Head of Village Office to Sub-district Capital (km)
A. Pahae Jae			
Silangkitang	12.54	6.17	6.4
Sigurung-gurung	4	1.97	5.8
Pardomuan Nainggolan	4	1.97	4.2
Pardamean Nainggolan	6	2.95	4.8
Total	**26.54**		
B. Pahae Julu			
Sibaganding	8.79	5.3	5
Lumban Jaean	8.75	5.27	5
Simataniari	8.28	4.99	6
Onan Hasang	7.83	4.72	1
Total	**33.65**		

Source: Pahae Jae and Pahae Julu Sub-district in Figure, 2012

Figure III-4 Pahae Jae and Pahae Julu Sub-district Map



Source: Pahae Jae and Pahae Julu Sub-district in Figure, 2012

3.4 DEMOGRAPHICS

3.4.1 Population

The population of the eight villages in the Project area is presented in Table III-5. Pardomuan Nainggolan has the highest population density with more females than male, while Sibaganding has the lowest population density with the same gender ratio. The villages of Silangkitang and Simataniari are not densely populated with 60 people/km² in Silangkitang and 55 people/km² in Simataniari. Table III-5 also shows there are more females than males in all villages except in Pardamean Nainggolan and Simataniari.

Table III-5 Population and Gender Ratio

Village name	*Population (people)*			*Population Density*	*Gender Ratio**
	Male	*Female*	*Total*		
A. Pahae Jae					
Silangkitang	367	391	758	60	**94**
Sigurung-gurung	301	322	623	156	**93**
Pardomuan Nainggolan	476	532	1008	252	**89**
Pardamean Nainggolan	323	317	640	107	102
B. Pahae Julu					
Sibaganding	201	227	428	49	**89**
Lumban Jaean	237	263	500	57	**90**
Simataniari	240	212	452	55	113
Onan Hasang	214	255	469	60	**84**

Source: Pahae Jae and Pahae Julu Sub-district in Figure, 2012
*number of male to 100 females in the population

Furthermore the population growth rate over the period of 2005 to 2011 has been low. There was only a 0.82% growth rate in Pahae Jae from 2005 to 2006, and 0.74% growth rate from 2010 to 2011. In Pahae Julu, the population size decreased by 0.37% from 2005 to 2006; however grew by 0.86% from 2010 to 2011 (Table III-6).

Table III-6 Sub-district Growth Rates

Sub-district	*Population (people)*			
	2005	*2006*	*2010*	*2011*
Pahae Jae	10,458	10,544	10,625	10,714
Pahae Julu	12,177	12,132	11,801	11,902

Source: SOL EIS (2009) and Pahae Jae and Pahae Julu Sub-district in Figure (2012)

Table III-7 presents the sub-districts age distribution in 2012. This shows that most of the population is of a productive age (i.e. between 15 to 64 years old); about 57% in Pahae Jae and 54% in Pahae Julu. Both sub-districts have low a dependency ratio, with the minority of the population being younger than 15 or older than 64 years of age.

Table III-7 Age Distribution and Dependency Ratio

Sub-district	*Age Distribution (people)*			*Dependency Ratio**
	< 15	*15 – 64*	*>64*	
Pahae Jae	3838	6102	774	76
Pahae Julu	2173	3279	647	86

Source: Pahae Jae and Pahae Julu Sub-district in Figure, 2012
*: number of non-productive age to 100 productive ages in the population

3.4.2 Household Characteristics

Consistent with the population number, Pardomuan Nainggolan has the highest household population, while Sibaganding is the least populated area with the lowest household population number (Table III-8). The table also shows that all the villages have the same average number of people per household (four).

Table III-8 Household Population

Village	*Household Population*	*Average People per Household*
A. Pahae Jae		
Silangkitang	182	4
Sigurung-gurung	163	4
Pardomuan Nainggolan	237	4
Pardamean Nainggolan	169	4
B. Pahae Julu		
Sibaganding	105	4
Lumban Jaean	115	4
Simataniari	111	4
Onan Hasang	129	4

Source: Pahae Jae and Pahae Julu Sub-district in Figure, 2012

The baseline survey identified that most of the households in the Project area originate from the area; few are in-migrants but most have been settled in the area for more than 10 years (Table III-9).

Table III-9 Household Characteristics

Village	*Duration of Residence (%)*				
	Since Birth	*< 1 years*	*1-5 years*	*5 – 10 years*	*>10 years*
A. Pahae Jae					
Silangkitang	5.04	0.00	0.39	0.00	3.49
Sigurung-gurung	9.30	0.00	1.16	0.78	6.59
Pardomuan Nainggolan	2.71	0.00	0.00	1.94	6.98
Pardamean Nainggolan	3.88	0.00	0.39	1.16	3.88
B. Pahae Julu					
Sibaganding	10.08	0.78	0.00	0.00	0.39
Lumban Jaean	9.30	0.39	1.16	1.16	2.33
Simataniari	14.73	0.78	0.00	0.39	2.33
Onan Hasang	0.78	2.33	0.78	1.16	3.88

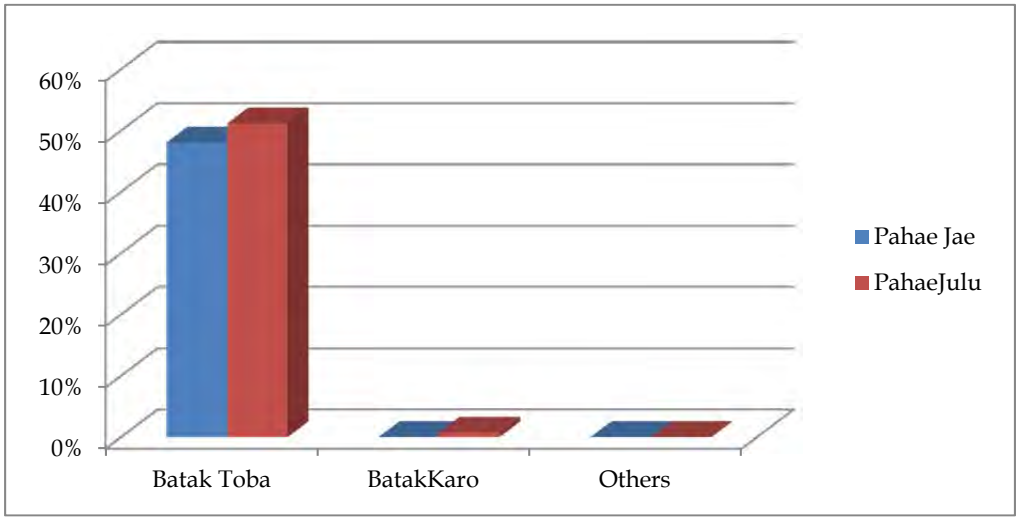
Source: Primary Data, Baseline Survey, 2013

3.5 *ETHNIC PROFILE*

3.5.1.1 *Indigenous Peoples and Ethnic Distribution*

Batak is the predominant ethnic group in Sumatera Utara, consisting of several different sub-groups distinct to each other either due to language, custom, or cultural practices. The surveys identified 2 main Batak sub-groups settled within the Project area, i.e. Batak Toba and Batak Karo. In addition to the Batak other minority ethnic groups residing in the area are in-migrants (Javanese, Sundanese, and Nias) (Figure III-5).

Figure III-5 Ethnic Distribution



Source: Primary Data, Baseline Survey, 2013

Figure III-5 shows that the Batak Toba is the predominant group within the 2 sub-districts; almost 50% of the community in Pahae Jae and Pahae Julu are identified as Batak Toba.

Batak is known for its patrilineal lineage system called *Tarombo* which consists of various different clan groups. It is important for Batak people to understand their genealogical to identify their position within their kinship networking within their social-cultural system. The main clan groups in the project area are: Sihombing Nababan, Sitompul, Nainggolan, and Simatupang Togatorop. Other clan groups found are Simorangkir, Hutabarat, Panjaitan, Panggabean, Parapat, Tambunan, Simanungkalit, Sianturi, Siburian, Simamora, Pakpahan, Tobing, Pasaribu and Sinegar.

Table III-10 presents the clan groups in the 8 Project affected villages; despite the variety of clans the communities reported they have a strong bond with each other as they all identify with the same socio-cultural values as Batak Toba.

The ADB consider the Batak group in the project area as Indigenous Peoples because they possess the following characteristics as per the SPS SR3[6].

1. Batak self-identify and are identified by others as a distinct ethnic group.
2. Batak people in the project area have a collective attachment to the project area. The project lands are closely related to and identified with particular clans. People feel a strong collective attachment to land of their ancestors in each of the affected villages.
3. Batak people have their own distinct customs and traditions, which they continue to display; and
4. Batak people have their own distinct language different from national language.

The survey findings indicate four villages, i.e. Simataniari (NIL), Lumban Jaean (NIL), Sigurung-gurung (SIL), and Sibaganding (NIL) are more traditional than others, as they located further from the city and the main province road. Given the proximity of these villages to the Project area it can therefore be predicted that, without appropriate mitigation measures in place, the Project may result in adverse impacts on the Batak people. This is further discussed in Chapter 4.

[6] This status (i.e. IP) has not yet been confirmed by the other Project lenders such as JBIC or the IFC.

Table III-10 Clan Groups in the 8 Project Affected Villages

Village	*Clan Group*	
	Main Group	*Other Group*
A. Pahae Jae		
Silangkitang	Sihombing Nababan (Raja Huta), Simorangkir, Hutabarat	Silaban, Lumban Toruan, Hutasoit
Sigurung-gurung	Sitompul (Raja Huta), Panjaitan, Panggabean, Parapat, Sihombing, Tambunan, Simanungkalit	
Pardomuan Nainggolan	Nainggolan (Raja Huta), Aritonang, Sitompul, Tampubolon	Simamora, Gultom
Pardamean Nainggolan	Simatupang Togatorop (Raja Huta), Sianturi, Siburian, Simamora, Pakpahan	Sitompul, Pasaribu, Gultom, Pardede
B. Pahae Julu		
Sibaganding	Sitompul (Raja Huta), Tobing, Pasaribu, Hutabarat, Sihombing	Simamora, Gultom
Lumban Jaean	Sitompul (Raja Huta), Pasaribu, Hutabarat	Siahaan, Situmeang, Sihombing, Siregar, Lumban Tobing
Simataniari	Sitompul (Raja Huta), Pakpahan, Tambunan, Silitonga, Sarumpaet, Lumban Tobing, Bakkara, Simatupang	
Onan Hasang	Siregar (Raja Huta), Pasaribu, Sitompul, Sinaga, Tambunan, Silalahi	

Source: Primary Data, Baseline Survey, 2013

Among the *Tarombo*, the majority clan group is called *Raja Huta* which is also known as the village founder. Each clan has its own customary leader; the customary leader holds the role to lead and manage any cultural practices.

The customary leaders from all clans in a village are organized into an institution called *Tonggo Raja*; Tonggo Raja holds the liaison role for different villages with the same socio-cultural attachments, as well being the figure whom the community consult with about customary matters.

3.5.2 Customs and Cultural Practices

The socio-cultural system of Batak Toba is *dalihan natolu*; it has 3 main elements with different roles for each element:

1. *Dongan sabutuha* or *dongan tubu*, refers to people from one clan based on their patrilineal lineage;

2. *Boru*, refers to sons and daughters in law, the father's sister and her husband, and their descendants. *Boru* holds the role of helping to organise a ceremony; and
3. *Hula-hula*, refers to all male family members of the wife in the family. This is considered the highest position in the *dalihan natolu* and they are trusted to give blessings in every cultural ceremony.

Batak Toba customs and cultural practices are based on 3 principles of life harmony and perfection, called *Hagabeon*, *Hamoraon*, and *Hasangapon*. These principles refer to the success of a Batak Toba in the family (indicated by their descendants having success in finding their vision of life). A Batak Toba who has already fulfilled these 3 principles will be considered as a role model figure in the community.
There are 3 main cultural practices performed by the Batak Toba community within the Project affected area, i.e. weddings, death rituals, and a ceremony to dismantle the bones of the dead (called *mangokal holi*). These Batak practices are still commonly performed in both sub-districts of Pahae Jae and Pahae Julu.

Other cultural practices which are occasionally performed by the community are related to farming activities, i.e. *marsiadapari* and *partamiangan gabe naniula*. *Marsiadapari* is a tradition of communal work in cultivating land and harvesting crops. This tradition is believed to encourage responsibility of every Batak Toba to help each other in the community. *Partamiangan gabe naniula* is a tradition of praying together to invoke blessings for the harvest. This is conducted in a church lead by the priest and customary leader.

3.6 ECONOMICS

3.6.1 Regional Economics

The success level of a regional development program can be identified from the Gross Regional Domestic Product (GRDP) which indicates the gross value of the region's economic activities. As discussed previously agriculture is the main economic sector in the Tapanuli Utara Regency contributing 53.19% to the GRDP in 2011 (Figure III-6).

The key agricultural products contributing towards the Tapanuli Utara economy include paddy and dry land crops, vegetables, fruits, plantation, livestock, fishery, and forestry crops (Table III-11). The table shows that paddy is the most produced crop in Tapanuli Utara with the largest harvest area of 27,000 ha; while cassava and corn have the highest production levels for dry land crops. Cabbage and chilli are the most produced vegetable crops in the area. Pineapples are the most produced fruit followed by durian.

Table III-11 Tapanuli Utara Crops Production

Type of Product	*Harvest Area (ha)*	*Production (ton)*	*Production Rate (ton/ha)*
Paddy and dry land crops	36,441	201,931.97	5.54
Vegetables	3,545	28,215.83	7.96
Fruits	4,505.42	60,180.61	13.36
Plantation	45,049.4	21,946.26	0.49

Source: Tapanuli Utara Regency in Figure, 2012

Figure III-6 Agricultural Activities

For plantations, most of the land is still cultivated by the community as no large plantation industry is operating in the area. Arabica coffee is the largest produced plantation crop (10,061.13 tons) followed by rubber (4,686.96 tons).

Other agricultural products contributing towards the Tapanuli Utara economy includes:

- Livestock in particular poultry (422,492 chickens), followed by pigs (37,727) and buffalo (9,249);
- Fishery is still quite small scale with approximately 1,096.5 tons produced through pond breeding, while 398.5 tons are caught in local lakes, rivers, and swamps; and
- Forestry crops including eucalyptus, pinewood, and charcoal wood.

Other than agriculture, other sectors contributing to the regional economy include the industrial sector such as convection and leather businesses (2,239 units are registered employing 4,221 workers.), tourism (there are 20 tourism objects, 2 hotels and 14 lodgings in Tapanuli Utar but not within the Project area), trading, restaurants and the services sector.

3.6.2 Labour Market

Tapanuli Utara Regency in Figure (2012) identified 208 job seekers registered in the Social, Manpower, and Transmigration Office of Tapanuli Utara. Among this number, only 84 persons were employed, while 118 persons were registered as unemployed. Table III-12 presents these numbers categorised by education levels.

Table III-12 Tapanuli Utara Labour Market

Educational Level	*Workforce*	*Employed*	*Unemployed*
Never attend school	-	-	-
Didn't graduate elementary school	-	-	-
Elementary school graduate	-	-	-
Junior high school graduate	2	-	2
Senior high school graduate	164	72	92
Diploma/ Bachelor	36	12	24
Total	**202**	**84**	**118**

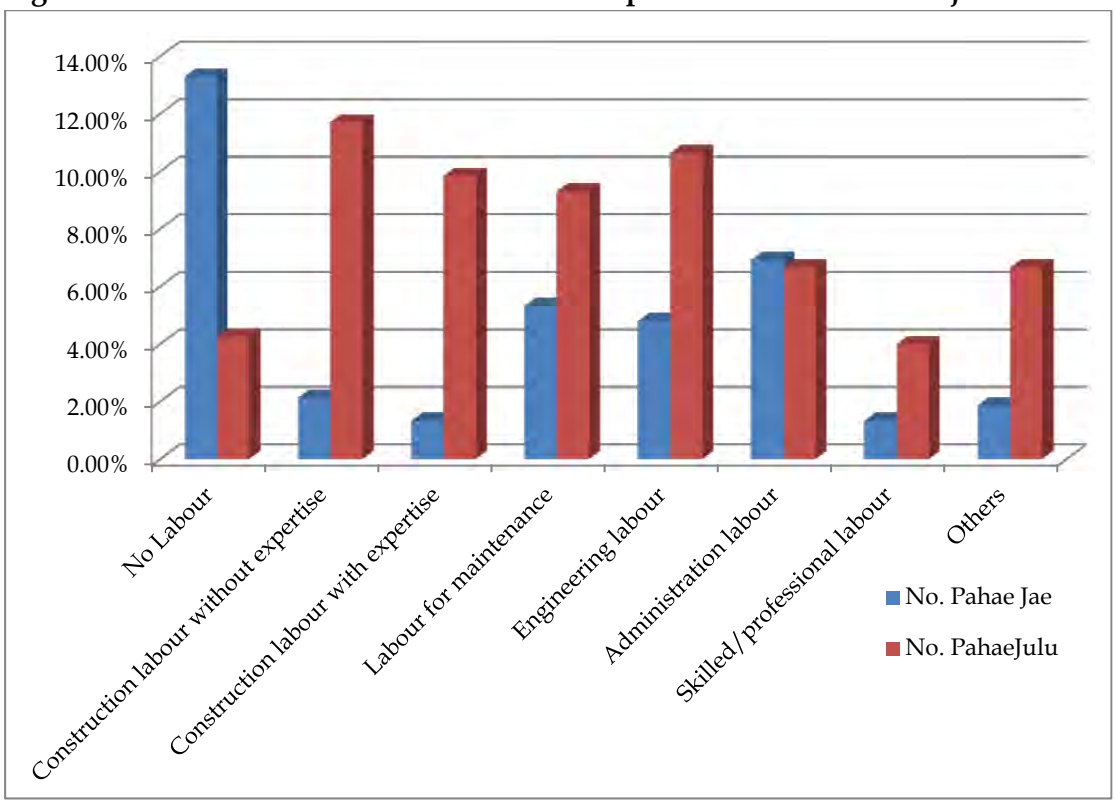
Source: Tapanuli Utara Regency in Figure, 2012

The table indicates unemployment is quite high in the region with a total of 57% of job seekers. Most are high school graduates. These numbers may not describe the entire workforce population in Tapanuli Utara, as these are only those registered with the government office.

FGDs conducted during the baseline survey identified high employment expectations within the Project affected communities. The survey also identified skills within the communities applicable to the Project including (Figure III-7 and III-8):

- Labour skills: automotive vocational school graduates, computer operator/ administration/ accounting, construction, driver and heavy equipment operator, welder, chief, tailor, security; and
- Local business skills: laundry and cleaning service, catering, canteen, car rental, equipment rental, and tailor services (Table III-13).

Figure III-7 Labour Skills of Household Respondents within the Project Area

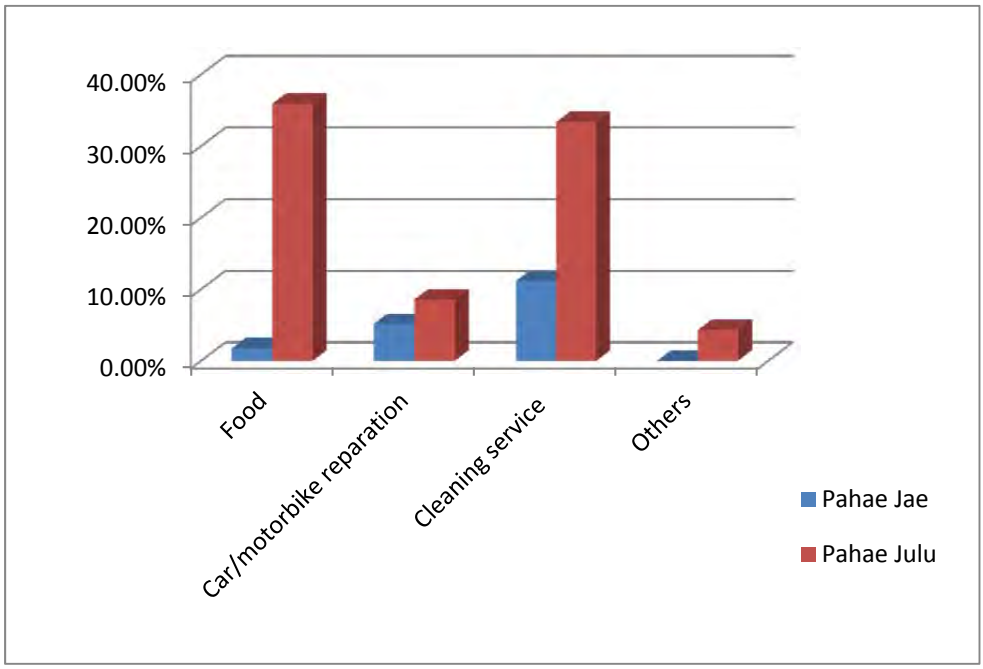


Source: Primary Data, Baseline Survey, 2013

The figure above presents the labour skills available in the respondent's household. It shows that most locals in Pahae Jae possess administration skills, while most of the communities in Pahae Julu possess building construction and automotive engineering skills. (No sub-district or regional level data was available from government sources).

The available business skills of the household's respondent are presented in the following figure. It identified food/catering and cleaning services as the commonest business skill possessed by the respondent's household.

Figure III-7 Business Skills of the Household Respondents within the Project Area



Source: Primary Data, Baseline Survey, 2013

Table III-13 Local Businesses

Village	*Restaurant*	*Kiosk/ Stall*	*Shop*
A. Pahae Jae			
Silangkitang	1	10	10
Sigurung-gurung	-	3	7
Pardomuan Nainggolan	-	5	8
Pardamean Nainggolan	-	6	12
B. Pahae Julu			
Sibaganding	-	4	-
Lumban Jaean	-	5	2
Simataniari	-	3	-
Onan Hasang	4	3	11

Source: Pahae Jae and Pahae Julu Sub-district in Figure, 2012

Although no data was available on the gender of business owners the survey team noted some small scale business in the villages (such as kiosks and stall) that were owned by females. However, in general, the larger scale of businesses such as restaurants and shops were owned by men.

3.6.3 Livelihoods and Income

In line with the regional economy, the baseline survey identified that most of the households in the Project area depend on the agricultural sector for their livelihood, followed by civil servant employees and merchants (Table III-14 and Figures III-9 and III-10).

Table III-14 Households Primary Livelihood

Village	*(%)*							
	Farmer	*Civil Servant*	*Private Staff*	*Merchant*	*Labour*	*Driver*	*Army/ Police*	*Others*
A. Pahae Jae								
Silangkitang	7.36	0.78	0.00	0.39	0.00	0.39	0.00	0.00
Sigurung-	15.12	1.94	0.00	0.00	0.00	0.39	0.00	0.39
Pardomuan Nainggolan	6.59	1.94	0.78	0.00	0.39	0.00	0.00	1.94
Pardamean Nainggolan	6.59	2.33	0.00	0.00	0.00	0.00	0.00	0.39
B. Pahae Julu								
Sibaganding	9.69	0.78	0.00	0.39	0.00	0.00	0.00	0.00
Lumban Jaean	10.85	0.39	0.39	0.00	0.00	0.00	0.39	2.33
Simataniari	17.05	0.00	0.00	0.39	0.39	0.00	0.00	0.39
Onan Hasang	6.20	1.55	0.00	0.78	0.00	0.00	0.39	0.00

Source: Primary Data, Baseline Survey, 2013

The findings from the consultations with the communities indicate that the majority of these livelihoods are dominated by men who act as the main household source of income. Female roles centre mainly on domestic/household activities such as cooking and looking after the children. However, females do participate in the household farming business; supporting their husbands in the paddy and plantation fields (Figure III-9).

Figure III-9 Farming Activities

Figure III-10 An Irrigation Channel

The social survey identified community fishing activities were undertaken in a number of areas. In Pahae Julu, especially in Sibaganding, fishing was conducted in the river in the afternoon. The fish caught in the river close to Sibaganding are generally used for household subsistence and not sold for additional income. Fishing is not commonly undertaken in Pahae Jae.

It was also observed that some communities practiced hunting activity for pleasure and household consumption. They mostly hunt pigs and birds in groups and the catch is for the group's consumption. The communities tend to hunt in their own plantation areas located close to their village. They seek permission if they plan to hunt animals outside their plantation area. This shows good community kinship which sustains the hunting tradition.

Based on the Decree of Sumatera Utara Governor No. 188.44/711/KPTS/2012, the Sumatera Utara minimum wage per month is IDR 1,375,000. This is about 60% of DKI Jakarta minimum wage which is IDR 2,216,243.68.

The BPS's (statistic centre agency) poverty line is identified from household monthly expenses per person. The assumption being, that anyone who earns less than this per month will not be able to purchase basic goods and therefore is classified as poor. In 2012 the Sumatera Utara Province poverty line was IDR 262,102. For areas categorized as city in Sumatera Utara the poverty line was IDR 286,649 and for areas categorized as villages the poverty line was IDR 238,368. BPS data identified only 10.67% of the total province population were poor (i.e. monthly expenses below IDR 262,102 per person).

Based on an average household of 4 people the monthly expenses are assumed to be 1,048,408IDR. Therefore according to the data presented in Table III-15 Onan Hasang is the only village above the province poverty line.

Table III-15 Household Average Income

Village	*Average Household Income (IDR)*	
	Daily	*Monthly*
A. Pahae Jae		
Silangkitang	12,976.8	389,304.348
Sigurung-gurung	18,974.9	569,248.188
Pardomuan Nainggolan	19,126.8	573,805.556
Pardamean Nainggolan	25,982.6	779,479.167
B. Pahae Julu		
Sibaganding	26,021.1	780,632.716
Lumban Jaean	24,558.2	736,745.495
Simataniari	18,325.8	594,773.148
Onan Hasang	44,164.8	1,324,944.197

Source: Primary Data, Baseline Survey, 2013

Table III-16 presents income data gathered for the Land Acquisition Audit. Of the 151 households surveyed 11 (4%) were considered under the poverty line in Pahae Jae and 26 (17%) in Pahae Julu. The highest percent of households surveyed under the poverty line was in Simataniari (9%). A total of 37 out of 151 households (25%) were considered under the poverty line. The table clearly shows that the majority of those surveyed live just above the poverty line (earning between 956,000IDR and 2,000,000IDR per month). These households will therefore require particular attention to ensure they are not made more vulnerable due to the loss of land or assets.

Table III-16 Household Income and Poverty Levels

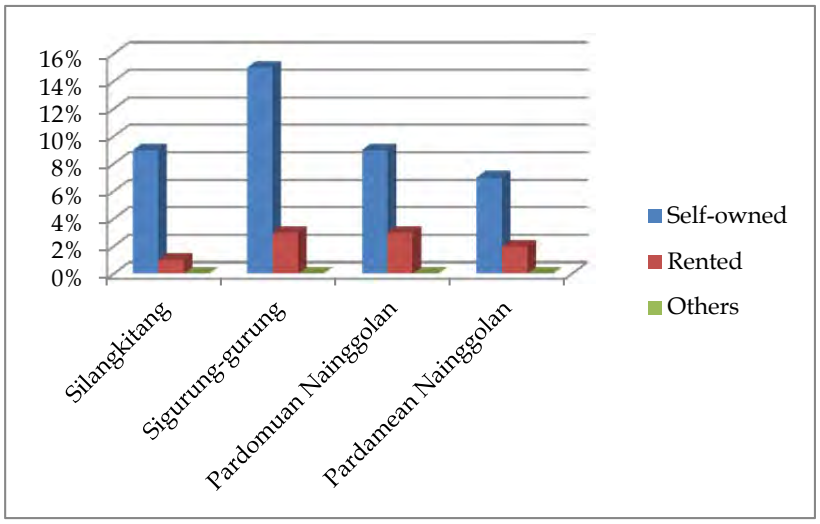
Village	*Number of Households*													
	Below Village Poverty Line (IDR 238,368 per capita)		*956,000-2,000,000*		*2,000,001-4,000,000*		*4,000,001-6,000,000*		*6,000,001-8,000,000*		*>8,000,000*		*Total*	
A. Pahae Jae	**No.**	%	**No.**	%	**No.**	%	**No.**	%	**No.**	%	**No.**	%	**No.**	%
Silangkitang	5	0.31	10	6.62	2	1.32	1	0.66	0	0	0	0	18	11.92
Sigurung-gurung	6	3.97	13	8.61	7	4.64	0	0.00	1	0.66	1	0.66	28	18.54
Subtotal	***11***	***4.30***	***23***	***15.23***	***9***	***5.96***	***1.00***	***0.66***	***1***	***0.66***	***1***	***0.66***	***46***	***30.46***
B. Pahae Julu Sub District														
Sibaganding	2	1.32	8	5.30	7	4.64	0	0	0	0	4	2.65	21	13.91
Lumban Jaean	9	5.96	9	5.96	5	3.31	3	2.0	2	1.32	1	0.66	29	19.21
Simataniari	13	8.61	14	9.27	9	5.96	3	2.0	0	0	2	1.32	41	27.15
Onan Hasang	2	1.32	3	1.99	3	1.99	2	1.3	0	0	4	2.65	14	9.27
Subtotal	***26***	***17.22***	***34***	***22.52***	***24***	***15.89***	***8***	***5.30***	***2***	***1.32***	***11***	***7.28***	***105***	***69.54***
Grand Total	**37**	**24.50**	**57**	**37.75**	**33**	**21.85**	**9**	**6.0**	**3**	**1.99**	**12**	**7.95**	**151**	**100**

3.6.4 Land Ownership

There are 2 types of land utilized to meet the community's needs: wet land and dry land. The community within the Project area uses their own term for these land areas - *turpuk*. One *turpuk* for rice paddy field is around 0.5 Ha, for rubber or cacao plantation it is around 5 Ha.

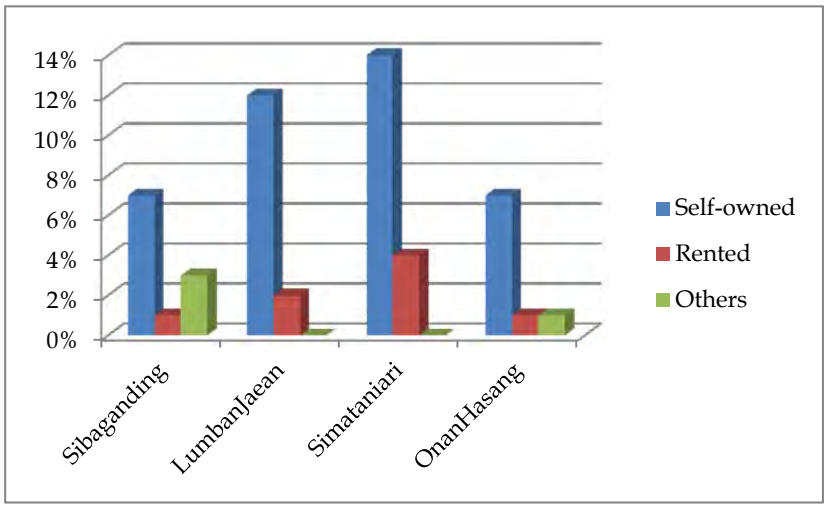
In terms of land ownership status, Batak people obtain their land through traditional inheritance from their parents (Figures III-11 and III-12). Most of the community own their land privately based on the certification of buying and selling; however there are number of household who haven't legalized their land ownership yet. For these households their ownership status is recognized from their neighbourhood or village head.

Figure III-11 Land Ownership Status in the 4 villages in Pahae Jae



Source: Primary Data, Baseline Survey, 2013

Figure III-12 Land Ownership Status in the 4 villages in Pahae Julu



Source: Primary Data, Baseline Survey, 2013

The baseline also identified that most of the households who don't have legal ownership documents are originally from the area and have traditionally occupied the land for generations, while most of the in-migrants have legal documentation for the land they own.

It was observed during the social surveys that men in the villages were the dominant land owner in the community. This is supported by data gathered for the land acquisition audit and resettlement plan for the transmission line. The reason for this is because Batak females in the villages generally do not inherit, as Batak people have a patrilineal lineage system and follow viri-local marital system where the female resides in the husband's village after marriage.

3.6.5 Housing Conditions

The baseline survey identified that most of the housing in the Project area are made of hardwood with only a few made of brick walls (Table III-17 and Figure III-13).

Table III-17 Housing Conditions

Village	*Housing Physical Type (%)*			
	Brick-wall	*Hardwood-wall*	*Soft-board-wall*	*Other*
A. Pahae Jae				
Silangkitang	0.00	2.71	0.00	6.20
Sigurung-gurung	1.55	1.55	0.00	14.73
Pardomuan Nainggolan	0.00	0.78	0.00	10.85
Pardamean Nainggolan	0.39	2.71	0.39	5.81
B. Pahae Julu				
Sibaganding	0.00	3.88	0.39	6.59
Lumban Jaean	1.55	10.85	0.00	1.94
Simataniari	0.00	13.57	0.00	4.65
Onan Hasang	2.71	0.39	0.00	5.81

Source: Primary Data, Baseline Survey, 2013

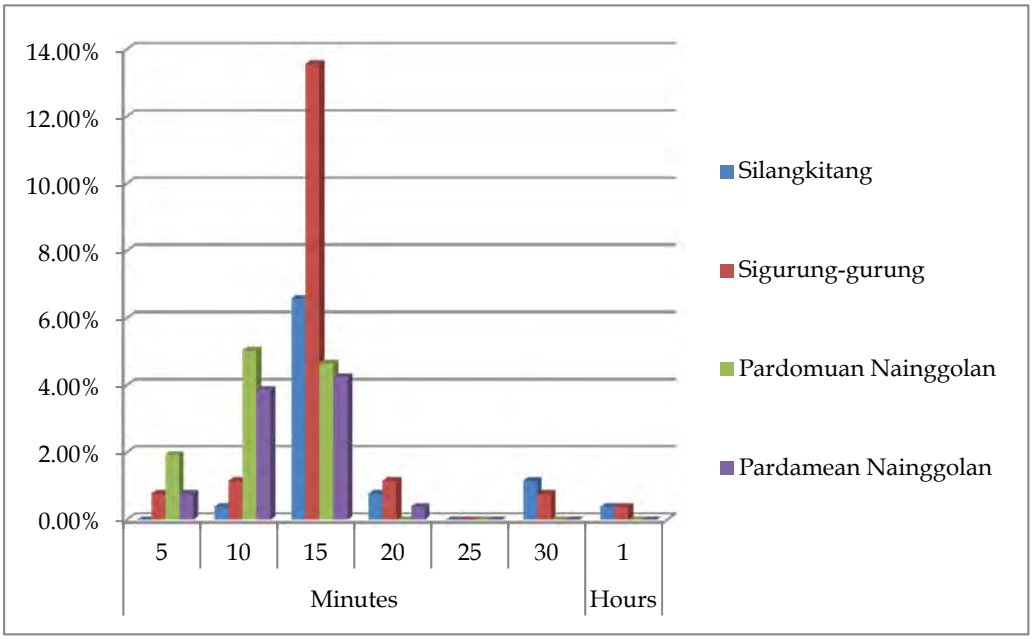
Figure III-13 Customary Community Housing

3.6.6 Economic Infrastructure

Markets are one of the main economic facilities for community trading activities in the Project area. In Pahae Jae the market is located at Pasar Sarulla and in Pahae Julu the market is in Onan Hasang (Figure III-14). The survey identified that the market is located near most of the community in Pahae Jae (about 15 minutes), but quite far from Pahae Julu (about an hour) (Figures III-15 and III-16).

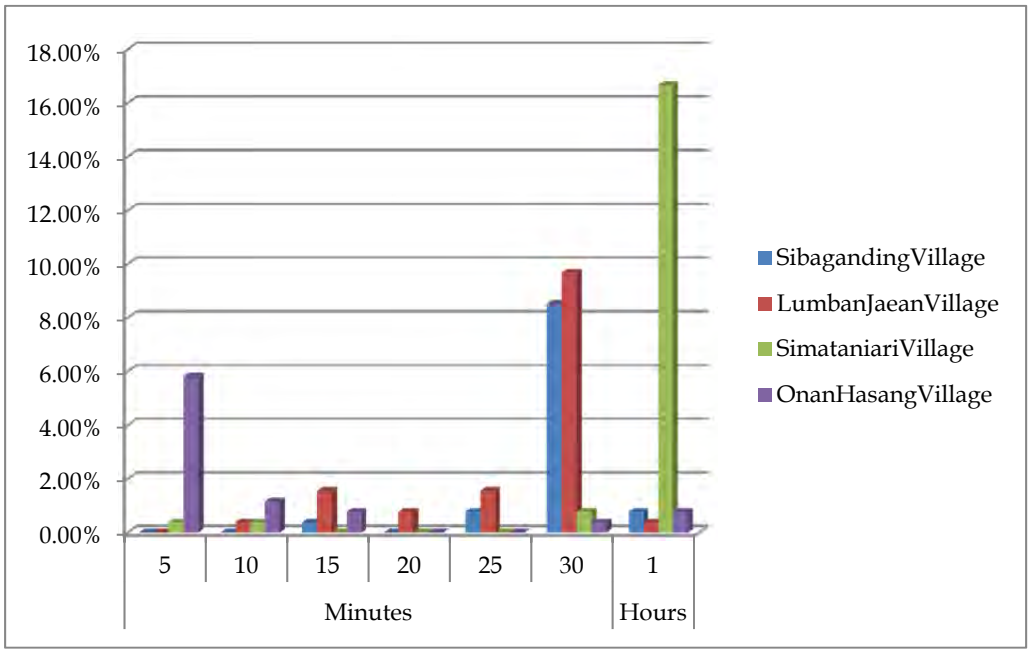
Figure III-14 The Market in Pahae Jae

Figure III-15 Distance from Market to Community Housing in the 4 villages in Pahae Jae



Source: Primary Data, Baseline Survey, 2013

Figure III-16 Distance from Market to Community Housing in the 4 villages in Pahae Julu



Source: Primary Data, Baseline Survey, 2013

Other public economic facilities include stores, shops, and cooperatives. There are 12 markets and 5.273 units of other economic facilities throughout Tapanuli Utara. Table III-18 presents the economic infrastructure in Pahae Jae and Pahae Julu.

Table III-18 Economic Infrastructure

Sub-district	*Merchant*	*Economic Infrastructure*				
		Market	*Store Group*	*Shop/ Kiosk*	*Cooperative*	*Stall and Others*
Pahae Jae	269	1	2	72	12	350
Pahae Julu	229	1	1	11	7	224

Source: Tapanuli Utara Regency in Figure, 2012

The data indicates a significant difference between the number of merchants, shops/kiosks and stalls between the two sub-districts. Furthermore in 2012 591 persons were registered as a cooperative member in Pahae Jae and 585 in Pahae Julu.

3.7 HEALTH

3.7.1 Key Health Indicators

The Tapanuli Utara Health Agency 2012 data indicated there were 5,154 births recorded in 2011. Of this total 217 births occurred in Pahae Jae and 216 births in Pahae Julu. In addition, 368 deaths were recorded in 2011; 8 were babies and children in Pahae Jae, while 9 babies and children deaths occurred in Pahae Julu.

In Tapanuli Utara the life expectancy rate for females in 2010 was higher than males. On average a female can live for 71.73 years while on average males live for 67.78 years. However, these are still below the Sumatera Utara province life expectancy rates for 2010 – 2015, i.e. an average of 72.1 years. No maternal deaths were recorded during the year.

Life expectancy rates generally indicate the success level of a region's economy and health development. A high life expectancy suggests good community health conditions, health knowledge and education levels, as well as capability to access health services and good economic conditions.

3.7.2 Disease Status

Table III-19 presents the diseases commonly found in Tapanuli Utara, as identified from the patient data of Tarutung Hospital (Tapanuli Utara Regency in Figure, 2012).

Table III-19 Illness Occurrence in Tarutung Hospital, Tapanuli Utara

Type of Illness	*Patient Numbers*
Dyspepsia/Indigestion	2,116
Chronic Obstructive Pulmonary Disease (COPD)	763
Hypertension	645
Typhoid	398
Bronchitis	385
V. Excoriate	270
V. Laceration	245
Appendicitis	225
Gastro Enteritis	189
Trauma Capitis	187
Hepatitis	165
Coronary heart	150
Other	193

Source: Tapanuli Utara Regency in Figure, 2012

The table shows dyspepsia was the most common illness in Tapanuli Utara in 2011; however at the Project area level the data sourced from the community health centre data (2011) shows that respiratory illnesses and hypertension are the more common in the Project affected communities (Table III-20).

Table III-20 Illness Occurrence in Tapanuli Utara Community Health Centre

Type of Illness	*Patient Number*
Respiratory infections and other respiratory related illnesses	35,396
Hypertension	12,170
Arthritis, rheumatic, and other muscular related illness	9,724
Dyspepsia and other gastric related illness	9,697
Diarrhoea	6,366
Injuries/ accident	3,741
Skin allergic	3,619
Dental issues	3,468

Source: Tapanuli Utara Community Health Centre, 2011

The study observed that most of the communities prefer to go to health centre which is more easily accessed rather than the hospital.

Epidemic Diseases

The Tapanuli Utara health data (2011) identified four main epidemic diseases in the area, i.e. dengue, chikungunya, diarrhoea, and rabies.

Dengue and chikungunya are both caused by a virus infection, transmitted through the mosquito. There were 133 cases of dengue recorded in Tapanuli Utara in 2010, with an incidence rate (IR) of 48 cases per 100,000 people in the population and one death. More chikungunya cases were recorded in the same year; 180 cases however there were no deaths reported.

The greatest number of cases in Tapanuli Utara in 2010 were related to diarrhoea; however within the Project area the cases were not as high as the other sub-districts.

Another epidemic diseases in Tapanuli Utara is rabies, which is caused by animal bite. Tapanuli Utara health data (2011) recorded 338 cases of rabies in the area with one death case.

Other Communicable Diseases

Other communicable diseases identified in Tapanuli Utara are as follows:

- Malaria: A number of malaria incidents were recorded in Tapanuli Utara in 2011; about 4 cases per 100 people of population; however malaria was not identified as a key community concern within the Project area.
- HIV/AIDS: The data identified an increase in the number of HIV/AIDS cases, from 4 cases in 2010 to 8 cases in 2011. Two deaths have been recorded.
- Pneumonia: There were 3 cases of pneumonia in children below 5 years in 2011, and only 1 case in 2010, decreased from the year before with 23 cases in 2009.

- Leprosy: Although a number of leprosy cases were found in Tapanuli Utara, there are less than 10 recorded cases per 100,000 people of the population.

3.7.3 Environmental Health

The environmental sanitation of a village is a good one of the indicators used to understand the quality of community health conditions. There are three aspects which are of importance when considering environmental health: availability of clean drinking water, toilet use, and household garbage disposal (Table III-21).

Table III-21 indicates that most of the households obtain clean water for drinking and cleaning from mountain springs or self-owned wells. Washing activities however are still often conducted in the river or local streams (Figure III-17).

Table III-21 Source of Clean Water

Village	*Source of Clean Water (%)*			
	Self-owned Well	*Public Well*	*Mountain Spring*	*River*
A. Pahae Jae				
Silangkitang	0.39	0.00	7.75	0.78
Sigurung-gurung	0.00	0.00	16.67	1.16
Pardomuan Nainggolan	0.00	0.39	11.24	0.00
Pardamean Nainggolan	0.39	0.78	8.14	0.00
B. Pahae Julu				
Sibaganding	6.98	0.00	3.49	0.39
Lumban Jaean	0.00	0.00	13.18	0.78
Simataniari	0.00	0.00	18.22	0.00
Onan Hasang	2.71	0.00	5.04	0.00

Source: Primary Data, Baseline Survey, 2013

Figure III-17 Washing Activities

The data collected during the surveys also identified that most households have self-owned toilets; however some are still using public toilets and the river (Table III-22).

Table III-22 Sanitation Facility for Personal Disposal

Village	*Personal Disposal Facilities (%)*			
	Self-Owned Toilet	*Public Toilet*	*River*	*Other*
A. Pahae Jae				
Silangkitang	4.65	0.00	3.88	0.39
Sigurung-gurung	5.43	2.33	10.08	0.00
Pardomuan Nainggolan	1.16	3.88	6.59	0.00
Pardamean Nainggolan	1.16	1.94	6.20	0.00
B. Pahae Julu				
Sibaganding	3.49	2.33	0.78	4.26
Lumban Jaean	1.94	11.63	0.39	0.39
Simataniari	4.26	7.75	0.39	5.81
Onan Hasang	7.36	0.00	0.78	0.78

Source: Primary Data, Baseline Survey, 2013

When disposing household garbage most of the households burn their wastes but some dispose of it in the river (Table III-23). There is no municipal waste removal service.

Table III-23 Sanitation Facility for Garbage Disposal

Village	*Garbage Disposal Facilities (%)*				
	Garbage Bin	*Burnt*	*River*	*Garden*	*Other*
A. Pahae Jae					
Silangkitang	0.78	6.98	0.00	0.78	0.39
Sigurung-gurung	0.00	13.95	2.33	1.16	0.39
Pardomuan Nainggolan	0.00	7.36	2.33	1.94	0.00
Pardamean Nainggolan	0.39	5.04	1.55	2.33	0.00
B. Pahae Julu					
Sibaganding	0.00	10.08	0.39	0.39	0.00
Lumban Jaean	0.00	11.63	2.33	0.39	0.00
Simataniari	0.39	15.89	0.00	1.55	0.39
Onan Hasang	1.55	4.26	0.39	2.33	0.39

Source: Primary Data, Baseline Survey, 2013

3.7.4 Health Awareness

The community has some knowledge about the importance of health care however Table III-24 indicates that many still practice healthy and hygienic activities such as cleaning, spraying of insect repellent and cooking water for drinking. Furthermore community consultations indicate that the communities

awareness of health issues has increased; with households preferring to respond to an illness by going to a medical personnel instead of using traditional medicine (Table III-25). The reasons for visiting medical personnel are presented in Table III-26.

Table III-24 Disease Prevention Action in the Family

No.	*Disease Prevention Method in the Family*	*Sub-district (%)*	
		Pahae Jae (%)	*Pahae Julu (%)*
1.	Cleaning the house yard	14.95	17.13
2.	Spraying mosquito/insect repellent	2.90	6.10
3.	Cooking water for drinking water	12.19	13.93
4.	Clean and healthy lifestyle (e.g. washing	13.79	11.76
5.	Periodic health examinations	0.58	6.68
Total		**44.41**	**55.59**

Source: Primary Data, Baseline Survey, 2013

Table III-25 Response to Sick Family Member

No.	*Respondent*	*Sub-district*		*Total (%)*
		Pahae Jae (%)	*Pahae Julu (%)*	
1.	Provide medicine/ traditional	0.38	4.53	4.91
2.	Bring to medical personnel	46.42	47.17	93.58
3.	Bring for treatment to traditional	0.00	1.51	1.51
Total		**46.79**	**53.21**	**100.00**

Source: Primary Data, Baseline Survey, 2013

Table III-26 Knowledge about Medical Personnel

No.	*Reason for Taking to Medical Personnel*	*Sub-district (%)*	
		Pahae Jae (%)	*Pahae Julu (%)*
1.	For a quick recovery	30.23	23.26
2.	Because the medical personnel have good medical knowledge	12.79	7.75
3.	Have more faith in medical personnel skills	2.71	9.69
4.	To be provided with medicine	0.00	1.94
5.	To obtain good treatment	0.78	0.78
6.	Health care centre (puskesmas) located near their house	0.00	3.49
7.	Inexpensive treatment at the puskesmas	0.00	4.26
8.	Awareness that health is essential	1.55	0.78
Total		**48.06**	**51.94**

Source: Primary Data, Baseline Survey, 2013

3.7.5 Health Infrastructure

There are a number of different health facilities available in Tapanuli Utara including 1 hospital, 78 public health centres, 210 clinics, 437 rural-based

integrated health services, and 54 medicine shops. Table III-27 presents the facilities available in the Project area. The table indicates there are no hospitals in the area and few public health centres (Figure III-18) to support the population size.

Table III-27 Health Facilities

Village	*Number of Health Facilities*			
	Hospital	*Public Health Centre*	*Maternity clinic*	*Rural-based integrated health service*
A. Pahae Jae				
Silangkitang	-	-	1	1
Sigurung-gurung	-	-	1	1
Pardomuan Nainggolan	-	1	1	1
Pardamean Nainggolan	-		1	1
B. Pahae Julu				
Sibaganding	-	1	1	1
Lumban Jaean	-	-	1	1
Simataniari	-	-	1	2
Onan Hasang	-	1	1	1

Source: Pahae Jae and Pahae Julu Sub-district in Figure, 2012

Figure III-18 Public Health Centre

Table III-28 shows the availability of medical personnel within the Project area. Similar to the previous table, compared to the population size, there are few medical personnel to support the population; in particular doctors and nurses.

Table III-28 Medical Personnel in the Project Area

Village	*Number of Health Personnel*			
	Doctor	*Mid-wife*	*Nurse*	*Others**
A. Pahae Jae				
Silangkitang	-	1	-	-
Sigurung-gurung	-	1	-	-
Pardomuan Nainggolan	-	1	1	-
Pardamean Nainggolan	-	1	-	-
B. Pahae Julu				
Sibaganding	-	1	-	-
Lumban Jaean	-	2	-	-
Simataniari	-	1	-	-
Onan Hasang	2	2	3	-

Source: Pahae Jae and Pahae Julu Sub-district in Figure, 2012
*: including pharmacist, nutritionist, and sanitation worker

A mid-wife is available in each village and a maternity clinic providing basic access to females in the community to maternal health. The 2012 health data had no recorded maternal deaths in the area and maternal health was not raised by the females during the FGDs as a concern or issue.

3.7.6 Education

Education levels within the Project affected communities are low with few entering higher education (Table III-29). There is only one high school in the project area in Paramean Nainggolan and only two junior high schools in Pardomuan Nainggolan, the other in Lumban Jaean. All the Project Affected communities have a primary school except for Sibaganding. However the student to teacher ratios and student to facility ratios appear satisfactory in the area (Tables III-30 to III-31).

Most of the schools in Tapanuli Utara, including in both sub-districts within the Project area, are public schools, only small numbers are private. Some of the high schools in the Tapanuli Utara are vocational schools with the following programs:

- Technology and science;
- Technology of computer and information;
- Health;
- Crafting and tourism;
- Agricultural business and technology; and
- Business and management.

Table III-29 Respondent Education Level

Education Level	*Pahae Jae*		*Pahae Julu*	
	Male	*Female*	*Male*	*Female*
Did not go to school	2	1	0	1
Did not graduate elementary school	2	1	6	2
Elementary school graduated	17	11	16	10
Junior high school graduated	33	6	46	8
High school graduated	44	5	42	4
Diploma	1	0	0	0
Bachelor	1	0	2	0
Total	**100**	**24**	**112**	**25**

Source: Primary Data, Baseline Survey, 2013

It was observed during the social surveys that education can be accessed equally by men and women without significant differentiation. However it is clear from the above table that males are more engaged in education activities in the villages than females.

Table III-30 Compulsory Education and Infrastructure

Education Level	*Subject*	*Pahae Jae*	*Pahae Julu*
Elementary School	School	14	23
	Student	1,793	2,075
	Teacher	146	201
	Student – Facility ratio*	128 : 1	90 : 1
	Student – Teacher ratio**	12 : 1	10
Junior High School	School	4	5
	Student	949	1,139
	Teacher	59	86
	Student – Facility ratio*	237 : 1	228 : 1
	Student – Teacher ratio**	16 : 1	13 : 1
Senior High School	School	3	3
	Student	1,081	629
	Teacher	49	63
	Student – Facility ratio*	360 : 1	210 : 1
	Student – Teacher ratio**	22 : 1	10 : 1

Source: Tapanuli Utara Regency in Figure, 2012,
*: Student – facility ratio is the number of students for every school,
**: Student – teacher ratio is the number of students who attend a school for every one teacher in the institution

Table III-31 Tapanuli Utara Academy and University

Education Level	*Subject*	*Tapanuli Utara*
Nurse Academy	Student	161
	Lecture	29
	Student – Lecture ratio	6 : 1
Mid-wife Academy	Student	320
	Lecture	45
	Student – Lecture ratio	7 : 1
University of Sisingamangaraja XII	Student	5,105
	Lecture	126
	Student – Lecture ratio	41 : 1
Christian Institute	Student	1,613
	Lecture	72
	Student – Lecture ratio	22 : 1

Source: Tapanuli Utara Regency in Figure, 2012

Figure III-19 School Facilities in the Project Area

3.7.7 Religion

The majority of the community across the eight Project affected villages as well as throughout the two sub-districts are Christian Protestant; with few households practising Islam or Catholism. Table III-32 presents data on the religious facilities available in the Project area and sub districts (Figure III-20).

Table III-32 Religious Public Facilities

Village	*Muslim Worship Place (Mosque/ Mushola)*	*Protestant Worship Place (Church)*	*Catholic Worship Place (Church)*
A. Pahae Jae	**8**	**23**	**1**
Silangkitang	-	1	-
Sigurung-gurung	-	-	-
Pardomuan Nainggolan	-	2	-
Pardamean Nainggolan	1	4	-
B. Pahae Julu	**6**	**52**	**1**
Sibaganding	-	-	-
Lumban Jaean	-	4	-
Simataniari	1	3	-
Onan Hasang	1	2	-

Source: Pahae Jae and Pahae Julu Sub-district in Figure, 2012

Figure III-20 Religious Facilities in the Project Area

3.7.8 Community Services and Infrastructure

3.7.8.1 Electricity

Electricity in Indonesia is largely produced by the State Electricity Company (PLN). There are 28,323 registered PLN customers throughout Tapanuli Utara; about 26,511 are household customers, 764 are business and industries, and the remaining are offices and social institutions. Among these numbers, 2,167 customers are registered in Pahae Jae, while 2,508 are registered in Pahae Julu (Table III-33).

Table III-33 PLN Customers

Village	*Household Population*	*PLN Customers*
A. Pahae Jae		
Silangkitang	182	144
Sigurung-gurung	163	156
Pardomuan Nainggolan	237	172
Pardamean Nainggolan	169	119
B. Pahae Julu		
Sibaganding	105	145
Lumban Jaean	115	99
Simataniari	111	87
Onan Hasang	129	126

Source: Pahae Jae and Pahae Julu Sub-district in Figure, 2012

The table indicates most of the households in the 8 villages within the Project area use the PLN service as a source of electricity; this was supported by primary data gathered during the social survey (Table III-34).

Table III-34 Source of Electricity

Village	*Source of Electricity (%)*			
	PLN	*Self-Owned Generator*	*Solar Panel*	*Other*
A. Pahae Jae				
Silangkitang	8.91	0.00	0.00	0.00
Sigurung-gurung	17.44	0.00	0.00	0.39
Pardomuan Nainggolan	11.24	0.00	0.00	0.39
Pardamean Nainggolan	9.30	0.00	0.00	0.00
B. Pahae Julu				
Sibaganding	10.85	0.00	0.00	0.00
Lumban Jaean	13.95	0.00	0.00	0.39
Simataniari	17.44	0.00	0.00	0.78
Onan Hasang	8.91	0.00	0.00	0.00

Source: Primary Data, Baseline Survey, 2013

3.7.8.2 Roads and Bridges

In Tapanuli Utara, from a total of 1,360.03 km regency road, 352.43 km of the road is considered in good condition, 600.68 km in moderate condition, while approximately 155.86 km is damaged and 113.04 km heavily damaged. Of the 1,351.8 m of bridges in Tapanuli Utara 1,020.6 m is identified in good condition while 147.1 m is damaged. The majority of the roads in Pahae Jae are either asphalt or gravel however in Pahae Julu the roads are mainly gravel or soil (Table III-35). However social survey observations indicated that at the village level many of the interconnecting roads were in moderate to poor conditions (Figure III-21).

Table III-35 Road Conditions

Type of Road Surface	*Length of Road (km)*	
	Pahae Jae	*Pahae Julu*
Asphalt (Good)	48	1.9
Gravel (Moderate)	13.5	12.6
Soil (Poor)	4	28.2
Hotmix (Poor)	3	-

Source: Tapanuli Utara Regency in Figure, 2012

Figure III-21 Road Facilities

3.7.8.3 Communication and Transportation

There is only one post office in Pahae Jae and one in Pahae Julu and there are two internet kiosks registered in Pahae Jae. (The four villages in Pahae Jae sub-district and Onan Hasang are more developed due to their location along the provincial road).

Motorbikes are the main form of transportation in the two sub-districts within the Project area (Table III-36). Public transportation is largely in the form of small buses (Figure III-22).

Table III-36 Means of Transportation

Sub-districts	*Number of Transportation (unit)*			
	Passenger Car	*Bus*	*Truck Wagon*	*Motorbike*
A. Pahae Jae				
Silangkitang	2	-	-	20
Sigurung-gurung	2	-	1	21
Pardomuan Nainggolan	7	2	2	34
Pardamean Nainggolan	4	-	-	20
B. Pahae Julu				
Sibaganding	3	1	-	12
Lumban Jaean	3	-	-	11
Simataniari	-	-	-	12
Onan Hasang	3	-	-	14

Source: Pahae Jae and Pahae Julu Sub-district in Figure, 2012

Figure III-22 Public Transportation

The Tapanuli Utara Regency in Figure (2012) recorded 7,316 traffic related cases filed in the district court of Tarutung. In 2011 125 traffic accidents occurred causing 33 deaths and 232 injuries. This is nearly twice the numbers of accidents recorded in 2010 when only 68 occurred.

Seven traffic accidents were recorded in Pahae Jae and eight traffic accidents in Pahae Julu (Table III-37).

Table III-37 Traffic Accidents

Sub-districts	*Accidents*	*Number of Victims*		
		Death	*Serious Injuries*	*Light Injuries*
Pahae Jae	7	3	1	5
Pahae Julu	8	2	21	7

Source: Tapanuli Utara Regency in Figure, 2012

3.7.9 Crime

Besides the traffic violations reported in the previous section a number of crimes are reported at the regency level; the majority of these are related to public disorder, gambling, violence and robbery. There are substantial numbers of prisoners recorded under crimes of murder and morality/adultery/rape in 2012 (Table III-38).

Table III-38 Number of Reported Crimes and Prisoners

Type of Crime	*Number of Reported Crime*	*Number of Prisoner*
Political	-	-
Fire/ arson	3	-
Bribery and money related	-	2
Morality, adultery, and rape	14	44
Gambling	92	9
Kidnapping	-	-
Murder	5	64
Violence	128	40
Robbery	104	17
Contempt	16	-
Fraud and smuggles	41	2
Destruction	37	1
Illegal logging	-	-
Others (including narcotics and public order)	549	33

Source: Tapanuli Utara Regency in Figure, 2012

3.7.10 Social Interactions

The social survey identified a number of community organisations in the Project affected villages. The most active being the family welfare organisation locally known as PKK; it is also known as a women's organisation.

3.7.11 Vulnerability in the Project Area

3.7.11.1 Overview

Vulnerability is underpinned by a low existing level of livelihood assets (such as health or education) or inadequate access to structures and processes to protect or improve livelihoods. It is important to identify the key vulnerable groups, in particular in the Project area, as these groups may become more vulnerable due to the Projects activities.

More vulnerable receptors will tend to lack one or more livelihoods assets that could help them to respond to, or manage change. This vulnerability can be exacerbated if those receptors have inadequate or differential access to legal, political or cultural structures and processes. This may be due to ethnicity, gender, language, religion, political views, sickness or disability or other factors.

Given the majority of the 8 villages are composed of Batak (classified by the ADB as IPs) vulnerability in this baseline is discussed in terms of village characteristics (such as access to services, income and land ownership) as opposed to ethnicity.

As discussed previously females in the Project area are largely responsible for the household and do not, in general, manage income. Females also do not tend to

participate in community or economic household decision making nor is there an adequate organisation within the community for females to be represented. Data also suggests that females are less likely to be as educated as males in the community and hence employment opportunities are also limited. Given the remote location of the project area, the poor community infrastructure and services, the limited employment opportunities and high reliance on farming, females, and in particular female headed households are considered to be more vulnerable.

Therefore this section summarises the findings of the social surveys, in particular focussing on female headed households, income levels, land ownership and access to local services and facilities. It concludes by identifying which (if any) of the Project affected villages are considered more vulnerable.

Table III-39 presents data gathered on female family heads. From the data the highest rate of female headed households is in Silangkitang (35%) and Lumban Jaean (32%).

Table III-39 Gender of Household Heads

No	*Sub-district*	*Household head (HH)*				*Total HH*
		Male		*Female*		
		N	*%*	*N*	*%*	
A. Pahae Jae						
1	Silangkitang	15	65%	8	35%	23
2	Sigurung-gurung	39	83%	8	17%	47
3	Pardomuan Nainggolan	25	83%	5	17%	30
4	Pardamean Nainggolan	21	88%	3	13%	24
B. Pahae Julu						
	Sibaganding	27	96%	1	4%	28
	Lumban Jaean	25	68%	12	32%	37
	Simataniari	39	83%	8	17%	47
	Onan Hasang	21	84%	4	16%	25

Source: Primary Data, Baseline Survey, 2013

Table III-15 in the previous sections of this Chapter presents the average household income per village. From this data one can conclude that a household with an average income below UMR is categorized as vulnerable. Based on the table the majority of Project affected villages have an income below UMR, in particular Sigurung-gurung (16.28%) and Simataniari (17.05%). Furthermore, reviewing the data presented in Table III-12 it is clear that Simataniari also has limited local business (such as restaurants, stalls or shops), along with Sibaganding, compared to the other villages in the Project area. (The more kiosks/markets, restaurants in a village indicates more wealth and thus healthy local economy).

Tables III-26 and III-29 indicate the local health and education services are very limited across the Project area. Although almost all the affected villages have basic medical personnel due to its location Simataniari, has limited access to facilities. This is because the road conditions are poor which doesn't allow for public transport; leaving the village even more disadvantaged. Road access is also poor in Lumban Jaean, Sibaganding and Sigurung-gurung.

Reviewing the vulnerability categories discussed above it can be concluded that within the Project area there are four villages in particular that can be considered more vulnerable (due to a culmination of low income, close proximity to the Project area, limited economy and poor access to facilities); these are Simataniari, Lumban Jaean and Sigurung-gurung and Sibaganding. However households in the other villages may also be vulnerable or become more vulnerable due to the Project, in particular those who may have the majority or all of their land acquired.

3.8 PERCEPTIONS TOWARDS THE PROJECT

The existence of the Project and other industry within the Project area is likely to result in high expectations within the community. However, the in-depth interview and FGDs undertaken during the social survey indicated that many of community were still unaware of the Project (Table III-40). Those that are aware of the Project have largely received the information through the local government.

Table III-40 Knowledge about the Project

Village	*Source of Information (%)*				
	Local Government	*Neighbour*	*Mass Media*	*NGO*	*Other*
A. Pahae Jae					
Silangkitang	8.53	0.00	0.00	0.00	0.39
Sigurung-gurung	14.73	1.55	0.00	0.00	1.55
Pardomuan Nainggolan	11.63	0.00	0.00	0.00	0.00
Pardamean Nainggolan	7.36	1.55	0.00	0.00	0.39
B. Pahae Julu					
Sibaganding	10.08	0.39	0.00	0.00	0.39
Lumban Jaean	13.18	0.00	0.00	0.00	1.16
Simataniari	16.67	0.39	0.00	0.00	1.16
Onan Hasang	6.97	1.16	0.78	0.00	0.00

Source: Primary Data, Baseline Survey, 2013

The FGDs identified a number of expectations and concerns amongst the community with regards to the Project. As expected these vary between and within the 8 Project affected community (Tables III-41 to III-44). Female groups prioritised local employment, training and business opportunities as well as disseminating Project information on impacts and management. The females also requested support in terms of community and skills development.

Table III-41 Expectations of Females within the Project Villages

No	*Expectation*
1	Local employment and business opportunities
2	Proper waste management to minimise environmental damages
3	The Project supports local agricultural product promotion
4	Continuous consultation and information disclosure to the community on the Project impacts and activities
5	The Project supports providing clean water and renovate irrigation channels
6	The Project supports on providing training for women skill improvement, e.g. cooking, sewing, beauty salon, etc.
7	The Project supports on improving community road facilities and their access to plantation areas

Source: Primary Data, FGD, 2013

The female villager expectations recorded are not dissimilar to those captured during the male FGDs. Most males seek Project employment and business opportunities, training, community development around infrastructure, skills and services and support preserving local customs etc.

Table III-42 Expectations of the Male Group on the Project

No	*Expectation*
1	Local employment and business opportunities
2	The Project supports on improving farmer knowledge and farming skills along with local agricultural product promotion
3	Scholarship support for outstanding students with a lack of financial resources
4	The Project support on providing clean water and renovate irrigation channel
5	The Project support on improving community road facilities and their access to plantation areas
6	Public infrastructure improvement, including religious facilities, school building, and health facilities
7	Build a vocational training centre and hospital
8	The Project supports on providing medical personnel to local health facilities
9	The Project supports on providing aid or donations to the elderly
10	Preservation of local customs and traditions

Source: Primary Data, FGD, 2013

In addition to males and female FGDs, youth FGDs were also conducted in each village; their expectations from the Project are presented in Table III-43. There is a heavy focus on employment, training and skills development within this group.

Table III-43 Expectations of the Youths from the Project

No	*Expectation*
1	Local employment and business opportunities from the Project
2	Involvement of the head of village in the Project local recruitment system
3	Specific skills training related to the Project e.g. automotive, electrical engineering etc.
4	Unskilled job opportunities should be provided to local people
5	Project contribution towards community sport activities, e.g. football, volleyball, etc.
6	Training for local employees to improve their job skills and performance

Source: Primary Data, FGD, 2013

In addition to the above Project expectations, a range of concerns were recorded during the FGDs:

- A lack of management of discharge drilling muds repeating an incident such as the one that occurred in Sidoarjo, East Java (involving PT Lapindo);
- Reduced availability of irrigation water leading to a disturbance to community agricultural activities which is the main source of income for the Project affected villages;
- Disturbance to water sources used for drinking and washing;
- Environment pollution from the Project wastes;
- Drilling activities resulting in the decreased production of incense, rubber, and petai;
- Impacts on community culture and heritage as a result of an influx of in-migrants;
- Power plant and transmission tower activities causing a reduction in plantation and farming production levels and community health impacts;
- Construction and operation impacts causing noise disturbance and air pollution;
- Project activities may exacerbate earthquakes as the area is earthquake prone;
- Land clearing activities such as tree cutting resulting in landslides;
- Natural gas leakages during drilling leading to public health impacts.

3.9 SOCIAL IMPACT ASSESSMENT METHODOLOGY

This Section addresses the evaluation of significance of potential social and community health impacts associated with the construction and operation of SOL's geothermal field and 330 MW power plant. Specific activities considered as part of this scope include the development of the Silangkitang (SIL) and Namora I Langit (NIL), construction and operation of the geothermal power plant and the transmission lines from SIL 1 to the PLN Substation and NIL 1 to the PLN substation.

The villages predicted to be affected by the development include the 4 SIL villages in the Pahae Jae Sub-district: Silangkitang, Sigurung-gurung, Pardomuan Nainggolan, and Pardamean Nainggolan; and the 4 NIL villages in the Pahae Julu Sub-district: Sibaganding, Lumban Jaean, Simataniari, and Onan Hasang.

It should be noted that clear distinctions are made in assessing worker health impacts and community health impacts. The former focusses on impacts associated with labour and working conditions, while the latter considers how the Project will impact on the health of people in the Project's Area of Influence. The aim is that, where there are no specific requirements imposed by the regulatory regime or the clients that dictate otherwise, this is the approach ERM adopts to ensure we present a consistent approach in the evaluation of social and community health impacts.

3.10 SOCIAL IMPACT ASSESSMENT DEFINITIONS

Table III-44 defines the resources/receptors considered as part of this assessment.

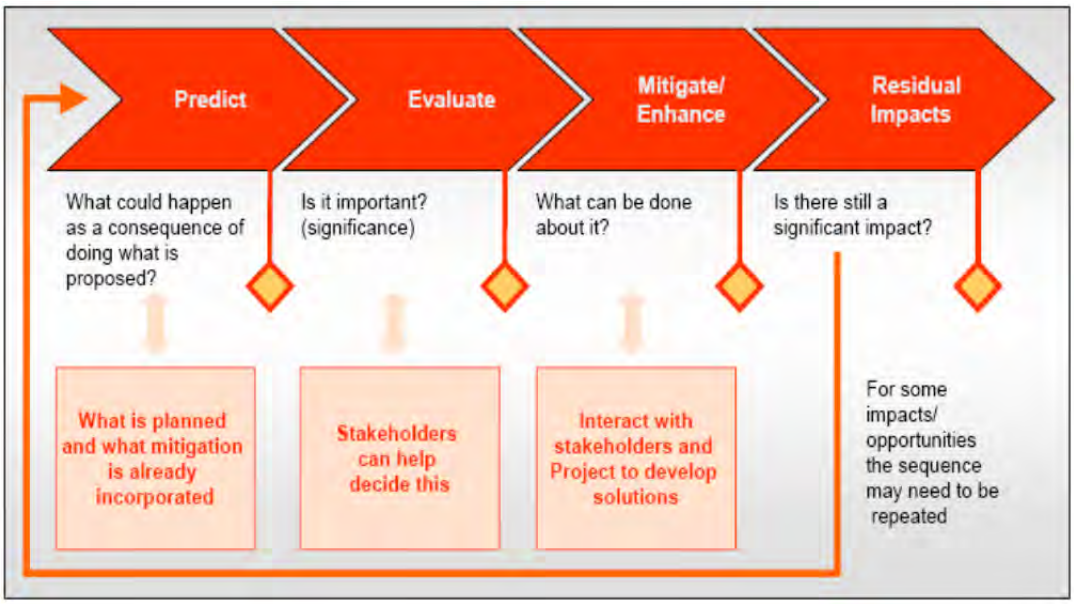
Table III-44 Social Resources/Receptors and Impacts

Resources/Receptors Impact Definitions	
Social / Socio-economic	
Population and physical displacement	Changes in population, total population, gender ratio, age distribution. Physical displacement from residence as a result of Project land take, or activities.
Social and Cultural Structure	Disruption in local authority and governance structure; change in social behaviours. Alterations to social and cultural networks; intra and inter-ethnic conflict.
Economy and Livelihood	Change in national/local economy, employment, standard of living, occupation.
Resource ownership and Use	Temporary or permanent displacement from land or water based livelihood activities; Changes in ownership of such resources.
Cultural Resources	Physical disturbance of tangible cultural resources, such as shrines, burial grounds, archaeological resources or to intangible cultural heritage (uses, practices associations).

Resources/Receptors Impact Definitions	
Education and Skills	Change in the availability or quality of education or skills provision.
Infrastructure and Public Services	Improvement or pressure on existing urban/rural infrastructure or services including: transportation; power, water, sanitation, waste handling facilities etc.
Community Health	
Mortality and Key Health Indicators	Change in the mortality profile of the community; changes in life expectancy, birth rates, death rates, maternal mortality rates etc.
Community Safety and Security	Any factor placing the community at risk of danger or harm. Includes human rights of the population.
Environmental Change	Decreased air quality (e.g. NOx, SOx, VOC, CO, PM), contamination of surface waters and potable ground water, increased vibration and noise, increased night time light beyond acceptable limits, changes to the visual environment.
Communicable and Non-Communicable Diseases	Change in incidence and /or prevalence of communicable and non-communicable diseases or disease causing factors.
Vector Borne Diseases	Changes in the incidence and or prevalence of vector borne diseases, the density of these vectors and their breeding grounds.
Nutritional status	Changes to nutritional status and food security.
Health Facilities/Recreational Facilities	Changes in availability of and access to health care and recreational facilities including green space
Lifestyle factors	Changing expectations of quality of life/behavioural changes. Drug use/abuse, prostitution, communal violence, crime, suicide and depression.

Impact identification and assessment starts with scoping and continues through the remainder of the IA Process. The principle IA steps are summarised in Figure III-24.

Figure III-24 Impact Assessment Process



The principle steps illustrated in Figure III-24 are:

- Impact prediction: to determine what could potentially happen to resources/receptors as a consequence of the Project and its associated activities.
- Impact evaluation: to evaluate the significance of the predicted impacts by considering their magnitude and likelihood of occurrence, and the sensitivity, value and/or importance of the affected resource/receptor.
- Mitigation and enhancement: to identify appropriate and justified measures to mitigate negative impacts and enhance positive impacts (see Chapter 4).
- Residual impact evaluation: to evaluate the significance of impacts assuming effective implementation of mitigation and enhancement measures (see Chapter 4).

3.10.1 Prediction of Impacts

Prediction of impacts is essentially an objective exercise to determine what is likely to happen to the environment as a consequence of the Project and its associated activities. From the potentially significant interactions identified in Scoping, the impacts to the various resources/receptors are elaborated and evaluated. The diverse range of potential impacts considered in the IA process typically results in a wide range of prediction methods being used, including quantitative, semi-quantitative and qualitative techniques.

3.10.2 Characterisation of Impacts

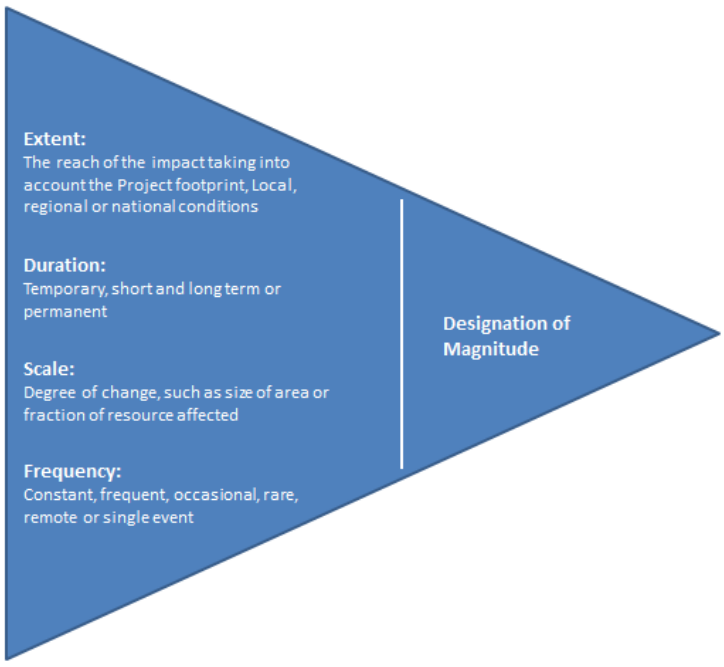
Once the prediction of impacts is complete, each impact is described in terms of its various relevant characteristics (e.g., nature and type). The magnitude of the

impact is assigned as a function of extent, scale, duration and frequency. The terminology used to describe impact characteristics is provided in Table III-45 and magnitude illustrated in Figure III-25.

Table III-45 Impact Characteristic Terminology

Characteristic	*Definition*	*Designations*
Nature	A descriptor indicating the relationship of the impact	Positive Negative
Type	A definition of whether the impact occurs as a result of the interaction between Project activities and resource/receptor e.g. air emissions affecting air quality = direct e.g. reduced air quality affecting local health conditions = indirect	Direct Indirect
Extent	The "reach" of the impact (e.g., confined to a small area around the Project Footprint, projected for several kilometres, etc.).	Local (low) Regional (medium) International (high)
Duration	The time period over which a resource / receptor is affected.	Temporary Short-term Long-term/ irreversible
Scale	The size of the impact (e.g., the size of the area damaged or impacted, the fraction of a resource that is lost or affected, etc.)	Defined from a numerical value or a qualitative description of "intensity"
Frequency	A measure of the constancy or periodicity of the impact.	Defined from a numerical value or a qualitative description.

Figure III-25 Assessing the Level of Magnitude



3.10.3 Determining Magnitude

Magnitude of social and community health impacts is understood as a reflection of the 'size' or degree of change caused by social and community health impacts. Magnitude is a function of one or more of the following characteristics:

- Extent;
- Duration;
- Scale;
- Frequency; and
- Likelihood (for unplanned events only).

Table III-46 provides the definitions for impact characteristics that culminate in a rating for magnitude.

Table III-46 Designation of Social Magnitude

Designating Magnitude	*Description*
Negligible	Change remains within the range commonly experienced within the household or community.
Small	Perceptible difference from baseline conditions. Tendency is that impact is local, rare and affects a small proportion of households and is of a short duration.
Medium	Clearly evident difference from baseline conditions. Tendency is that impact affects a substantial area or number of people and/or is of medium duration. Frequency may be occasional and impact may be regional in scale.
Large	Change dominates over baseline conditions. Affects the majority of the area or population in the Area of Influence and/or persists over many years. The impact may be experienced over a regional or national area.
Positive	In the case of positive impacts, no magnitude is assigned, unless there is ample data to support a more robust characterisation. It is usually sufficient to indicate that the Project will result in a positive impact, without characterising the exact degree of positive change likely to occur.

In the case of a positive impact, no magnitude designation is assigned. It is considered sufficient for the purpose of the IA to indicate that the Project is expected to result in a positive impact, without characterising the exact degree of positive change likely to occur.

3.10.4 Determining Vulnerability

In the social and community health context, vulnerability is the accepted term for describing the sensitivity of the receiving environment (i.e., societies, communities and households) that will experience impacts.

A vulnerable individual or group is one that could experience adverse impacts more severely than others, based on his/her vulnerable or disadvantaged status.

Vulnerability is a pre-existing status that is independent of the project under consideration.

It is important to understand the vulnerability context as it will affect the ability of social receptors to adapt to socio- economic/cultural or bio-physical changes. A higher level of vulnerability can result in increased susceptibility to negative impacts or a limited ability to take advantage of positive impacts. A project may also exacerbate existing vulnerabilities if the status of individuals and communities and their coping mechanisms are not adequately understood or considered.

Vulnerability is underpinned by a low existing level of livelihoods assets (such as health or education) or inadequate access to structures and processes to protect or improve livelihoods. In order to identify vulnerable receptors, it is necessary to identify receptors that experience these circumstances.

Table III-47 provides definitions to assist in this identification. The assessment of vulnerability may include, but may not be limited to, the following:

- Ethnic minorities, including those of a different race, religion, caste or language than the dominant population;
- Women, particularly female headed households;
- The old, infirm or disabled;
- Those with underlying chronic health conditions especially if there is stigma associated with the health condition (e.g., HIV/AIDS);
- Those with differential rights, such as those without legal rights to land;
- Those living below the poverty line / living wage;
- Those without or with limited access to access to basic services such as water, sanitation, health care and education; and
- Those living in areas with pre-existing levels of environmental contaminants.

Table III-47 Levels of Vulnerability

Ranking	*Definition*
Low	Minimal vulnerability; consequently with a high ability to adapt to changes brought by the Project and opportunities associated with it.
Medium	Some, but few areas of vulnerability; still retaining an ability to at least in part adapt to change brought by the Project and opportunities associated with it.
High	Profound or multiple levels of vulnerability that undermine the ability to adapt to changes brought by the Project and opportunities associated with it.

Additionally, for unplanned events only, magnitude incorporates a 'likelihood' factor. The likelihood of an unplanned event occurring is designated using a qualitative scale, as described in Table III-48.

Table III-48 Definitions for Likelihood Designations

Likelihood	*Definition*
Unlikely	The event is unlikely but may occur at some time during normal operating conditions.
Possible	The event is likely to occur at some time during normal operating conditions.
Likely	The event will occur during normal operating conditions (i.e., it is essentially inevitable).

3.11 EVALUATING SIGNIFICANCE FOR SOCIAL AND HEALTH IMPACTS

The significance of social and health impacts is evaluated taking into account the magnitude of the impact and the vulnerability of affected receptors. In rating significance for social and community health impacts, the matrix in Table III-49 is used to assign social and community health impact significance for both negative and positive impacts, and includes the definitions of magnitude and vulnerability designations. Whilst we do not rank the significance of positive impacts, it is important to describe how the impact may differentially benefit vulnerable groups.

Table III-49 Significance Rankings for Social and Community Health Impacts

		VULNERABILITY		
		Low : Minimal areas of vulnerabilities; consequently with a high ability to adapt to changes brought by the Project	**Medium:** Some but few areas of vulnerability; but still retaining an ability to at least in part adapt to change brought by the Project	**High:** Profound or multiple levels of vulnerability that undermine the ability to adapt to changes brought by the Project
MAGNITUDE	**Negligible:** Change remains within the range commonly experienced within the household or community.	Negligible	Negligible	Negligible
	Small: Perceptible difference from baseline conditions. Tendency is that impact is local, rare and affects a small proportion of receptors and is of a short duration.	Negligible	Minor	Moderate
	Medium: Clearly evident difference from baseline conditions. Tendency is that impact affects a substantial area or number of people and/or is of medium duration. Frequency may be occasional and impact may potentially be regional in scale.	Minor	Moderate	Major
	Large: Change dominates over baseline conditions. Affects the majority of the area or population in the area of influence and/or persists over many years. The impact may be experienced over a regional or national area.	Moderate	Major	Major

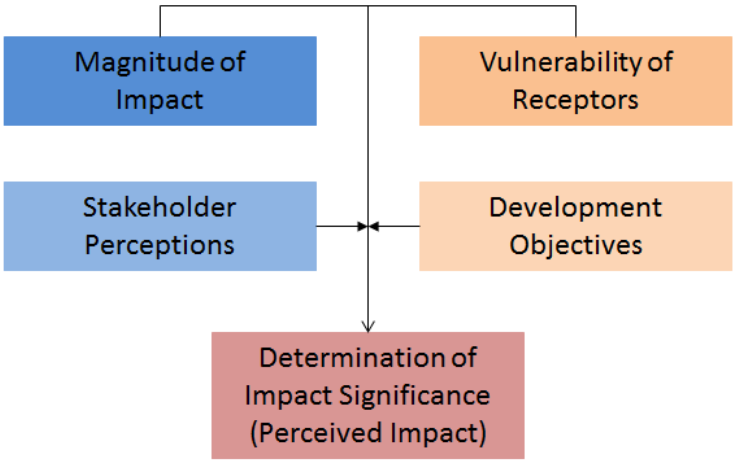
3.11.1 Integration of Stakeholder Perceptions

The professional ranking of social significance also incorporates the consideration of stakeholder perceptions. It is common that the public may have the perception that an impact is higher than will actually likely be the case. This is commonly referred to as a perceived impact. Perceived impacts are captured, but be clearly differentiated to 'actual' impacts as evaluated in the standard methodology. Section 3.17 of this report presents the key community perceptions of the Project. These have been considered as part of this IPP in order to evaluate and assess the Project's social impacts.

Whilst an impact may be considered as negligible significance based on the initial evaluation, stakeholder perceptions need to be accounted for in the management of social issues. Stakeholder views and priorities are considered in the impact assessment by increasing significance ratings, where appropriate. This first looks at the significance rating without stakeholder views/perceptions, then applying these and clearly explaining the reasoning for any elevated significance in this context.

Where perceived impacts are deemed to be more critical that has been considered in the impact assessment, they are evaluated separately. This may result in the development of different mitigation and management measures specific to addressing stakeholder perceptions than for those project activities that may require management to minimise the impact magnitude by mitigating the activity at source or effect on the social receptor. Such examples are, for example, strengthening aspects of awareness raising, Project communication and engagement, participation in Project development and participative monitoring. It should also be noted that perceived impacts are no less important than actual impacts with respect to addressing community acceptance for a Project, and that failure to adequately assess such impacts and develop supporting mitigation is just as likely to result in Project delays as in the case of actual impacts. Figure III-26 illustrates how the assessment of impacts considers magnitude and vulnerability ratings but also potentially the perceptions or sensitivities of stakeholders as well as any planning and development objectives laid out for the administrative area in which the Project is located. This brings stakeholder views on impacts explicitly into the evaluation, for example by reporting against policy or plans, or reporting the results of stakeholder engagement.

Figure III-26 Building in Perceptions, Stakeholders and Planning into Significance Ratings



3.11.2 Interpretation of Social Impact Significance

Table III-50 shows how the different designations of significance may be interpreted. These are described to reflect the Project context and setting, specifically reflected in planning and policy objectives, and stakeholder views as appropriate. It is noted that stakeholder views are not considered within these expressions of significance as stakeholder views are specific to the Project and factored into the significance evaluation after the initial rating, as described above.

Table III-50 Description of Social Impact Assessment Significance Rankings

Significance	Negative Social Impacts	Negative Health Impacts
Negligible	Inconvenience caused, but with no consequences to livelihoods, culture or quality of life.	Receptors may experience annoyance, minor irritation, or stress associated with change; minimal impact to perceived quality of life. Does not require treatment. No long-term consequences for the health of individuals and the community.
Minor	Impacts are short term and temporary and do not result in long term reductions in livelihood or quality of life.	Temporary reduction to health status of certain individuals that can be easily treated and does not result in long term consequences for community health. Impacts may lead to greater health inequalities in Project area.
Moderate	Adverse impacts that notably affect livelihood or quality of life at household and community level. Impacts can mainly be reversed but some households may suffer long-term effects.	High risk of diseases or injuries as well as exposure to Project operational risks to the local community. May result in long term but reversible community health impacts.
Major	Diverse primary and secondary impacts that will be impossible to reverse or compensate for, possibly leading to long-term impoverishment, or societal breakdown.	Loss of life, severe injuries or chronic illness requiring hospitalisation. Exposure to and incidence of diseases not commonly seen previously in the area. Likely to have long-term consequences for community health.

Note: Positive impacts are not ranked for significance

3.12 SOCIAL IMPACT ASSESSMENT RESULTS SUMMARY

Table III-51 provides a summary of the key Project activities identified as potentially resulting in significant social impacts on the 8 IP communities. It is noted that some of the affected households are not Batak however it is assumed that the assessment of impacts and proposed management measures will adequately manage the potential impacts placed on these households.

The activities have been considered by cross checking their potential interaction levels with the Project affected villages (in particular those who may be considered vulnerable due to such those residing in Simataniari, Lumban Jaean, Silangkitang and Sigurung-gurung. These villages were identified as more vulnerable due to the following:

- Number of households with an income below the national poverty line of 202,262 IDR/month or 1.25 USD/day. (On average in Silangkitang the daily income is 1.15 USD; in Sigurung-gurung it is 1.68 USD and Simataniari it is 1.62 USD);
- Percentage of land owners who had >50% of land acquired by the Project ;
- Access to community facilities and services (the villages have in general poor road access);
- Number of female headed households;

- Proximity to the NIL and SIL Project areas (these are the closed villages to the Project activities; Simataniari is 400m from NIL3, Silangkitang is 50m from SIL1 and Sigurung-gurung is 400m from NIL3).

The remaining sections of this IPP provide discussion around the magnitude, vulnerability and significant of the identified social impacts (pre mitigation).

Table III-50 Summary of Social Impact Assessment

Project Activity	*Potential impact*	*Phase*		
		PC	*C*	*O*
Land acquisition for access roads, additional well pads, power plants in NIL and SIL locations, transmission lines and laydown areas etc.	• Loss of income from loss of paddy, crops and trees (rubber, coffee and fruit etc.) • Increasing vulnerability for female headed households and elderly landowners losing >50% of land or those earning below the regional poverty line • Impact on IPs cultural beliefs and customs			
Workforce recruitment of 354 workers during well development, 1,270 for construction of the power plant and 226 during operations.	• Economic benefits to IPs and region through increased income • Increased income may lead to increased alcohol or illegal drug consumption • Unrealistic community expectations regarding employment opportunities • Influx of opportunity seekers and families of workers to the area and associated influx impacts			
Project requirement for goods and services	• Economic benefits to local businesses through provision of goods and services • Increased social unrest due non-local business participation • Unrealistic community expectations regarding procurement opportunities			
Presence of non-local workforce interacting with local communities	• Economic benefits to local businesses through provision of goods • Communicable disease transmission such as STIs and TB • Increased social unrest due to jealousy or ethnic tensions • Impact on IP cultural beliefs and customs			
Project road traffic transporting workers, equipment, goods etc. for construction of the power plants, transmission lines and well development	• Increased risk of a third party traffic incident • Increased dust and air quality emissions			
Infrastructure development including improvements the Sumatera highway, and other local	• Increased risk of a third party traffic incident • Improved access to markets and other community services			

Project Activity	*Potential impact*	*Phase*		
		PC	*C*	*O*
roads and bridges	• Enhanced road safety			
Construction activities for new production and reinjection well pads at SIL (10) and NIL (26), power plants and transmission lines	• Increased dust, noise and air emissions • Impact to IP cultural heritage • Drill cuttings and other waste and waste effluents disposed incorrectly • Soil erosion and increased surface runoff impacting communities land or residential areas • H_2S emissions leading to odour issues • Negative community perceptions around water use impacting irrigation water and groundwater quality as well mudslide, earthquake and other health and safety fears			
Operation of power plant and transmission lines	• H_2S emissions leading to odour issues • Excessive noise levels • Contamination of local water supply • Negative community perceptions around radiation from the transmission lines, earthquake/landslides risk from the power pants			

*PC=Pre-Construction, C=Construction, O=Operations

3.12.1 Impacts to IP Cultural Beliefs and Customs

3.12.1.1 Discussion of Impacts

Batak is the predominant ethnic group amongst the land owners and broader project affected villages (mainly Batak Toba). The ADB consider the Batak group as ethnic minorities/Indigenous Peoples in line with its IP policy. This is due to their close association to land and the underground (ancestral burial grounds etc.). Therefore the potential impact from the loss of land is considered given this may restrict the IPs ability to perform farming and other land related cultural customs. The Batak customs and cultural practices are based on three principles of life harmony and perfection; should a Batak Toba fulfil these principles they are considered as a role model in the community. Many of the cultural practices are associated with weddings, death rituals, and ceremonies. In addition cultural practices occasionally performed by the community are related to farming and other land related activities, i.e. *marsiadapari* and *partamiangan gabe naniula*. *Marsiadapari* is believed to encourage villagers to help each other and *Partamiangan gabe naniula* to invoke blessings for the harvest. These practices were confirmed to regularly occur within the NIL and SIL communities during the social surveys.

3.12.1.2 Impact Evaluation and Significance

The land acquisition process undertaken to date has been based on a negotiated settlement (where land owners have the right to refuse) concept where Batak speaking facilitators ensured the IPs understood the process and compensation offered.

Of the total affected landowners it was identified that 7 HHs will lose 100% of their land and 93 who will only have a small portion of land remaining that will be unviable to farm on (classified as equal to or less than 400m^2). Of these 18 are female landowners. The impact on the 100 households losing all their land and those whose land remaining is unviable is therefore significant. As the majority of the HHs will have remaining land the IPs ability to collectively continue to practice *marsiadapari* and *partamiangan gabe naniula* remains. Overall, the impact to people in the project area can be considered minor in terms of their ability to continue their traditional land-based livelihood.

No cultural heritage sites were identified in the Project area and thus no impacts are associated with a loss to access to traditional sites have been identified. Supporting this; during the extensive consultations with the Batak land owners, the issue of loss of land leading to a loss of access to cultural resources, sites or impacting their belief system/customs was not raised as a concern. Furthermore no grievances of this nature have been lodged.

It can be predicted therefore that given the Batak landowners willingly sold their land with full knowledge of the acquisition process, that no cultural sites were identified and that no complaints around this issue have been raised that the impact is minor.

Table III-51 Land Acquisition Leading to Loss of IP Customs

Impact Description	Loss of land leading to a loss in ability to practice customs						
Impact Nature		Positive				Negative	
Impact Type		Direct				Indirect	
Impact Extent		Low		Medium		High	
Impact Duration		Short term		Medium term		Long term/ irreversible	
Impact Scale		Low		Medium		High	
Frequency		Low		Moderate		High	
Magnitude		Negligible		Small		Medium	Large
Sensitivity/Vulnerability		Low		Medium		High	
Significance		Negligible		Minor		Moderate	Major

3.13 GENDER IMPACTS

3.13.1 Discussion of Impacts

As social impacts are often experienced differently between males and females this sections aims to assess if there are any Project activities that may potentially adversely impact females more than males. These impacts may include for example increased domestic violence due to economic empowerment of males (or females if employed by the Project), increased crime to migrant influx or increased disease transmission due to an increased demand for prostitution. In this gender analysis a number of criteria have been considered:

- What is the female's social and economic role in the community and will the Project impact adversely or positively this role.
- Are there barriers to female participation in the community?
- What institutional arrangements have been made for consulting with females?
- Do males and females in the communities have equal access to health and education services?
- How do females gain income and what employment opportunities do they have.
- Are there equal opportunities for females to benefit from the Project?
- What economic and social empowerment opportunities exist for females in the villages?

3.13.2 Impact Evaluation and Significance

In the majority of the 8 Project villages there is a higher ratio of females to males (except in Pardamean Nainggolan and Simataniari; and in Lumban Jaean and Silangkitang more than 30% of the households have female heads. Consultations and observations in the villages also indicate that in general females do not take a leading role in household or community decision making processes. During the community sessions few females voiced their opinions or concerns in the presence of male community members (however were vocal during the females FGDs). Furthermore when the land socialization activities were undertaken there were few female in attendance; the SSCAR findings indicating that of the affected land owners only a third were female.

The social surveys found that there were limited female based organisations in the villages that enable females to be represented at the village or district levels. Family welfare organisations do exist (composed of female representatives) however they are not very active and generally only focus on catering for ad-hoc community events.

Access to health and education appears to be equal amongst males and females (although generally quite poor across all the villages); however females are in general responsible for the household and children whilst men are responsible for the household income.

Although no statistics were available it was observed during consultations that many males drink excessive amounts of locally brewed alcohol whilst females only consumed alcohol during customary celebrations or after birth.

The Projects requirement for employment and procurement of goods and services has the potential to enhance female empowerment. Opportunities exist around cleaning, catering and administration which have been highlighted as existing skills amongst females in the villages. This will likely result in positive benefits for the households, due to increased income, enhanced nutrition levels, improved sanitation conditions and, education status; all of which have been identified as important to females during consultation sessions.

In addition the females in the villages have discussed their desire for capacity building and skills training; specifically in sewing, cooking and beauty skills. In addition to development of community infrastructure and services, which females in the villages rely heavily on. Should the Project focus part of its ISP in these areas there are likely to be positive impacts in terms of economic benefits for females in the communities.

Table III-52 Potential Gender Benefits

Impact Description	Employment and Procurement of goods and Services and implementation of ISP activities			
Impact Nature		Positive		Negative
Impact Type		Direct		Indirect

Conversely the Project also has the ability to adversely impact the females in the villages more so than males; in particular given the higher level of vulnerability. It has been observed in similar projects of this nature that increased income in communities where males consume excessive alcohol volumes resulting in squandering of household income on alcohol, increased domestic violence and crime, adultery and increased demand for prostitution. All of these activities are likely to further marginalize females who have a limited ability to earn an income to manage household affairs and provide for their family. These impacts can not only arise through increased income of locals but also through non-local workers and migrants moving to the area seeking job opportunities. Furthermore when considering female headed households, those who may lose the majority or all of their land are likely to be impacted through this loss of income and subsistence and therefore appropriate restoration measures are required.

Table III-53 Potential Gender Impacts

Impact Description	Project impacts on female vulnerability						
Impact Nature		Positive				Negative	
Impact Type		Direct				Indirect	
Impact Extent		Low		Medium		High	
Impact Duration		Short term		Medium		Long term/ irreversible	
Impact Scale		Low		Medium		High	
Frequency		Low		Moderate		High	
Magnitude		Negligible		Small		Medium	Large
Sensitivity/ Vulnerability		Low		Medium		High	
Significance		Negligible		Minor		Moderate	Major

3.14 LAND ACQUISITION

3.14.1 Discussion of Impacts

A total of 127 ha of land will be needed for the land use plan for the development at SIL and NIL. To date, SOL has acquired approximately 4.3 ha of land in SIL for Brine Injection Line and it will be used for the Well test activity. While for the remaining estimated required land is still being acquired.

The land acquisition process undertaken to date has been conducted through holding several socialization and negotiation meetings with all the land owners (the majority of whom are Batak). During these sessions the willing buyer- willing seller concept was adopted by SOL to ensure no pressure was placed on the land owners. It was identified during the land census audit that SOL had conducted the initial survey, inventory, confirmation, negotiation, payment using culturally sensitive consultation methods i. e. using the Batak language and involving Batak as facilitators. During the consultation, the Batak facilitators played an important role communicating with the Batak land owners to ensure they understood the process.

The land price offered was (IDR 65,000 per m^2) based on the sub-district office reference (IDR 50,000 per m^2) in 2010 and recent local sales (provided by the village leaders) (IDR 35,000 per m^2).The sub district reference includes plantation land and crops however the village price may vary. As there is no village or sub district market value land price, land owners sell on individual negotiations.

The Project land price was not based on productivity or type of land at the request of the land owners (land price for paddy is Rp 73,000/m^2 however this includes the rice revenue also).

If the land owners refused to sell their land to SOL, the Project sought to re-route. To date only land owners along the access roads have refused to sell therefore this solution has been possible. In general land owners refusal to sell has been because they would like SOL to acquire a larger piece of their land or due to internal family squabbles. All have been resolved to date.

Crop valuation for plants was undertaken by the Agriculture Agency and based on market prices (for seeds less than 6 months, unproductive plants and productive plants). No administration costs were deducted, and all taxes and registration fees were paid by SOL. However for landowners and users no income or livelihood restoration activities are currently in place.

Feedback from the land owners indicates SOL has conducted socialisation and negotiation according to good faith negotiations and has been fully participative. According to consultations and the grievance records to date no major disagreements have been raised by the land owners regarding SOL's land acquisition process.

As discussed in the baseline the majority of land owners are farmers reliant on their land for income through paddy rice and crops.

Given the limited economic opportunities in the area, the limited skill sets and low income earned, the loss of land and therefore income could potentially result in significant impacts to the land owners (such as nutrition impacts, adverse health etc.) if the process is not appropriately managed.

3.14.2 Impact Evaluation and Significance

This evaluation is based on the land owners who have had their land acquired and compensation received.

From the surveys undertaken it is understood that no permanent, and only one temporary structure, have been affected by the Project. No physical displacement will take place. Thus land that has been acquired is not residential or business/commercial/pasture land. It's largely utilised for household paddy rice and plantations for income purposes. Of the 151 households surveyed 7 households lost 100% of their land and 93 households were left with equal or less than 400m^2 which is considered unviable by SOL.

Thus the impact is significant (based on ADB's guidance) particularly for PAHs in Sigurung-gurung, Lumban Jaean and Simataniari that are already considered vulnerable villages. Of importance are the 18 land owners who lost all their land or were left with 400 m^2 or less of land.

No robust data was available on the change to household income or loss of income. This was largely as 175 land owners were still being compensated by

SOL at the time of the survey and therefore were still cultivating and utilising their land. However it can be assumed that given no income restoration was provided for the lost crops and no livelihood restoration program is currently in place that those who lost >10% of their land (i.e. the majority) and in particular those who are considered vulnerable (e.g. female headed households), will be significantly impacted in terms of loss of income over the short to medium term. Of those who were surveyed in SIL few indicated they would buy new land with the compensation money; most stating they would use the money for primary needs such as education, food etc.

Table III-54 Loss of Land Leading to Loss of Income

Impact Description	Loss of land leading to a loss in in income						
Impact Nature		Positive				Negative	
Impact Type		Direct				Indirect	
Impact Extent		Low		Medium		High	
Impact Duration		Short term		Medium		Long term/ irreversible	
Impact Scale		Low		Medium		High	
Frequency		Low		Moderate		High	
Magnitude		Negligible		Small		Medium	Large
Sensitivity/ Vulnerability		Low		Medium		High	
Significance		Negligible		Minor		Moderate	Major

3.15 WORKFORCE RECRUITMENT

3.15.1 Discussion of Impacts

Economic benefits to locals through increased income

The Project will generate a number of job opportunities throughout its lifecycle, as shown in the tables in Chapter 2. The Project has/will employ 354 workers for the well development, 1,270 for construction of the Power plant reducing to 226 during operations. It is assumed at this stage that the majority of the unskilled positions and some semi-skilled will be offered to interested individuals residing in the Project affected villages. The construction period for SIL will be up to 30 months and NIL 50 months; operations lasting over 30 months for SIL and over 20 months for NIL.

High community expectation for local employment

The baseline data identified more than 50% of the total 208 registered job seekers in the region are unemployed; most graduates from the high school. This number is only limited to the registered job seekers and may not define the actual job seekers number in the region. The baseline also identified 6,102 people in Pahae Jae and 3,279 people in Pahae Julu are at productive ages (15 – 64 years old) i.e. working age.

During the consultations undertaken by SOL and ERM survey work the expectation of employment (as a priority and key need) was raised on many occasions by males, females and youths in all 8 villages. This need is supported by the fact that the majority of households income in the Project area (about 90% from the total respondents) is still below the province minimum wage. This is also likely creating high community expectation for the Project local employment to improve their economic condition. Furthermore the lack of economic opportunities and remote location also hinder the ability for the villagers to gain employment outside the farming sector.

Escalated alcohol and tobacco consumption due to increased income

Increased incomes within the Project area, particularly for males, can lead to an increased alcohol, tobacco and drug consumption. The baseline study found frequent and excessive alcohol consumption commonly occurs in the 8 Project villages at present. The type of alcohol usually consumed is called *tuak*, a local traditional drink made from fermentation of coconut or palm tree. Some of the locals, particularly males, consider this consumption as part of their lifestyle; while some consider it helps them maintain their health. Furthermore consultations indicated that females also consume alcohol; in some cases after birth in a belief that if heals their wounds quickly. These habits indicate a low level of community awareness on the danger of frequent and excessive alcohol consumption.

There are a number of health risks from excessive alcohol consumption. At an individual level, it can increase the risk of accidents or endure infection and disease; at a society level, it can increase violence and crime levels. The baseline identified violence as the highest crime incident in the region; this was supported by observations made and discussion held with the community in the 8 Project affected villages.

The baseline also identified frequent tobacco consumption in the local community. Similar to alcohol increased income due to Project employment may also exacerbate community smoking habits which can lead to numerous health problems, including respiratory infection and cancers.

3.15.2 Impact Evaluation and Significance

Economic benefits to locals through increased income

Currently the agricultural sector is the main form of income for the community in the 8 villages within the Project area. However during the FGDs the PAHs discussed a number of different skills possessed by locals (including females), such as automotive skills, computer operator/ administration/ accounting, building construction, driver and heavy equipment operator, welder, chef, tailor, and security. These existing skills, the willingness to be employed by the Project, the Projects demand for semi and unskilled workers will likely create positive economic benefits to the PAHs. Employment with the Project will not only increase and sustain the households' income (either during construction or operations); enhance and build skills, support and improve the household's standard of living and economic choices. Local employment will also benefit the broader community through increased spend by the workers and their families.

In addition to local recruitment the Project will be recruiting skilled workers who will reside with one of the two camps (either at NIL or SIL) it is also likely that these employees will also contribute to the local economy.

Through the AMDAL, the Project has committed to local economic development through optimizing the use of local workers. Given the Projects commitment to local employment, its requirements for workers, the communities desire to be employed and their current low economic status and employment opportunities this impact will is rated positive.

Table III-55 Workforce Recruitment Impact to Local Economic Benefit

Impact Description	The Project will generate employment for local community members which is will create economic benefits through increased income.			
Impact Nature		Positive		Negative
Impact Type		Direct		Indirect

High community expectation for local employment

Given the existing skill sets within the community and the Projects requirements for workers some of these expectations will be met. The Project will employ a number of workers during the construction and operation phase; some of whom will be from the 8 Project villages.

However the number of realistic job positions during construction and operations for the local community versus the number of individuals seeking employment indicates expectations require management. Should they not be managed the community may become disgruntled with the Project, social jealousies of those who have been employed and who have not may develop and potential damage of relations between the Project and the communities which could lead to community protests, delays and escalating Project costs.

This likely impact may not only take place during the construction but also potentially occur during the operation stage. There will be significant decreased number of job opportunities during this stage; from 1,624 workers during the peak of construction to only 226 people. From these numbers, more than 50% are for skilled positions. In addition, at the end of construction worker contracts, due to the limited employment opportunities elsewhere, the hope is widespread that once employed by the Project the worker will be retained through the whole Project lifecycle which will be challenging due to the differing skills required (however possible if training is provided early enough).

Expectations will need to be managed with regards to these Project benefits. Therefore managing expectations upfront will be a key to mitigate impacts. The project commitments to local employment will help to ensure the opportunities and benefits where feasible; however, despite management efforts, there is potential outcome of social unrest as a result of high community expectation to the limited workforce recruitment (in particular given the high vulnerability in Sigurung-gurung, Lumban Jaean and Simataniari). For this reason, the impact is assessed as negative and major significance.

Table III-56 High Community Expectation on Local Employment Impact

Impact Description	Community have high expectations for Project local employment may – if not met this may result in community unrest							
Impact Nature		Positive				Negative		
Impact Type		Direct				Indirect		
Impact Extent		Low		Medium		High		
Impact Duration		Short term		Medium term		Long term/ irreversible		
Impact Scale		Low		Medium		High		
Frequency		Low		Moderate		High		
Magnitude		Negligible		Small		Medium		Large
Sensitivity/Vulnerability		Low		Medium		High		
Significance		Negligible		Minor		Moderate		Major

Escalated alcohol and tobacco consumption due to increased income

The Project employment opportunities which will potentially increase local community income may aggravate the alcohol and tobacco consumption habits which may risk community health as well as increase violence and crime in the society. Given the likelihood of increased income for many, the fact that excessive and frequent alcohol consumption currently occurs, along with domestic and other forms of violence in the community the resulting impact is assessed as negative and moderate significance. This is supported by the fact that the community has a poor awareness of the dangers of excessive alcohol consumption.

Table III-57 Impact of Increased Income from the Project Employment to Escalated Consumption of Alcohol and Tobacco

Impact Description	Increased incomes leading to excessive and frequent alcohol and tobacco consumption								
Impact Nature		Positive					Negative		
Impact Type		Direct					Indirect		
Impact Extent		Low		Medium			High		
Impact Duration		Short term		Medium term			Long term/ irreversible		
Impact Scale		Low		Medium			High		
Frequency		Low		Moderate			High		
Magnitude		Negligible		Small			Medium		Large
Sensitivity/Vulnerability		Low		Medium			High		
Significance		Negligible		Minor			Moderate		Major

3.16 PROJECT REQUIREMENTS FOR GOODS AND SERVICES

3.16.1 Discussion of Impacts

Economic benefits to local business through provision of goods and services

To support the Project construction and operation related activities, e.g. to support land preparation, improvement of the roads and bridges, and other construction and operation activities, a number of goods and services will be required. Hence, the Project AMDAL has committed to optimize the opportunities in provision of good and service for local businesses.

Currently agricultural sector is still the largest contributor to the Tapanuli Utara economy, as well as the main income of the community of the 8 villages within the Project area. However, it is identified that industrial sector is the second contributor to the regional income, mainly from small and medium businesses, i.e. convection and food. The baseline also identified a number of businesses owned by locals including catering, cleaning, car rental, equipment rental, and tailors. Furthermore a number of kiosks, stalls, and shops are found within the vicinity of the Project area. As such, the local businesses are likely able to gain economic benefit from the Project procurement opportunities.

In addition, there will be an increased demand for local goods and services from the Project workers and in-migrants opportunity seekers, e.g. for food, transportation, and housing. This is likely to enhance community trading activities, which may further increase economic benefits for local business and boost the local economy.

The level of opportunities however, will depend not only on the Projects demand for goods and services, but also on the initiative of the businesses and local entrepreneurs.

High community expectation for local procurement

Numerous FGDs undertaken with different groups within the community (male, female, and youth) – identified Project business opportunities as their key priority and need, along with expectation for employment.

As discussed above the local industrial sector comprises mainly small and medium industries. Although the Project activities may increase benefits for local business through the requirement for goods and services; the procurement will require certain standards and quality, in which the locals might not familiar with, e.g. labour and health and safety standards. In addition the Project may require procurement packages to be of a certain scale and size; whereas the local businesses most likely to operate on a very small scale and therefore would be unable to service a Project of this nature.

As such, the Project will have limited capability in providing significant business opportunity for locals. In addition, the demand of good and service will decrease at the end of construction. These limited Project capabilities may create social unrest as the Project can't meet the communities' high expectations.

3.16.2 Impact Evaluation and Significance

Economic benefits to local business through provision of goods and services

The Project has committed to optimizing opportunities for procuring local goods and services where possible. A number of goods and services required by the Project to support its construction and operation related activities can be fulfilled by the locals (including females). This includes catering, cleaning, and car rental. This is likely to create economic benefits to local businesses.

The resulting impact from the Project's requirement for goods and services to local economic benefits is assessed as positive – i.e. beneficial to the community.

Table III-58 Project Provision of Good and Service Impact to Local Economic Benefit

Impact Description	The Project will generate the demand for goods and services which is likely to increase business opportunities and create economic benefits for locals.			
Impact Nature		Positive		Negative
Impact Type		Direct		Indirect

High community expectation for local procurement

There is high expectation from the locals for Project business opportunities; however they are likely to have limited capability and capacity to provide the necessary goods and services for the Project due to certain standards and quality. As in the case of employment, this may create social unrest leading to project delays, reputation issues and escalating costs. Expectations will need to be managed with regards to these Project benefits. Therefore managing expectations upfront will be key in mitigating impacts. The project commitments on local content for provision of good and service will help to ensure the opportunities and benefits are feasible; however, despite management efforts, there is potential outcome of social unrest as a result of high community expectation. For this reason, the impact is assessed as negative and moderate significance.

Table I11-59 High Community Expectation on Local Business Opportunity Impact

Impact Description	Communities high expectation may result in community unrest due to certain standards and quality required						
Impact Nature		Positive				Negative	
Impact Type		Direct				Indirect	
Impact Extent		Low		Medium		High	
Impact Duration		Short term		Medium term		Long term/ irreversible	
Impact Scale		Low		Medium		High	
Frequency		Low		Moderate		High	
Magnitude		Negligible		Small		Medium	Large
Sensitivity/Vulnerability		Low		Medium		High	
Significance		Negligible		Minor		Moderate	Major

3.16.3 Influx of In-migrant Workers and Opportunity Seekers

3.16.3.1 Discussion of Impacts

As discussed previously the Project will generate job opportunities throughout its lifecycle; the highest workers numbers will occur during the peak of construction, where an estimated 1,624 people will be employed. In addition, a number of goods and services will be required to fulfil the needs of the Projects construction and operation related activities; the highest number of procurement will occur during the construction, for land preparation, improvement of roads and bridges, construction of the geothermal power plant and its associated facilities, e.g. offices and worker camps.

As has occurred on other Projects of this nature in Indonesia and elsewhere it is anticipated there will be an influx of migrants seeking direct or indirect opportunities from the Project. Typical in-migrants may include:

- Unskilled, semi-skilled or skilled workers and their families;
- Returning residents or in-migrants with existing family support networks in the area;
- Opportunistic in-migrants seeking jobs from the Project; and
- Opportunistic entrepreneurs and traders, aiming to take advantage of new business opportunities encouraged by the Project and by the increased income of the community.

The peak period of influx population of opportunity seekers in-migrating to the Project area will occur during the construction phase of the Project. These in-migrants are likely to reside either with existing family member in or near the 8 Project villages or nearest town or rent accommodation again close to the Project particularly in the villages close to Project activities, where stalls and other services to cater to the needs of the workforce are possible to be set up. In addition the possibility exists for unplanned settlements to develop in and around the Project area.

This influx due to the Project construction related activities has the potential to impact the locals. The impacts will depend on the number of people arriving, the nature of their activities, and the capacity of the local villages and government to absorb and manage the process. These are detailed in the following sections.

3.16.3.2 Impact Evaluation and Significance

Social jealousy and community security

Interactions between the local community and in-migrants are inevitable early in the Project, in particular if they are residing in or near the villages. The baseline identified community concerns with regards to in-migrants. This concern is largely due to contract workers (even unskilled for the well preparation and road repairs) coming from other areas thus taking local job opportunities.

In this case, 'local' employment is one that requires clear definition. There may be an expectation amongst local communities that this is solely from nearby villages whereas the Project may have a broader scope. This can cause unrest due to the perception that non-locals are being favoured over locals for employment and provision of goods and services.

As such, the locals would have to compete with in-migrants to secure these opportunities; potential increased income disparity between locals and non-locals is also likely due to limited local capability to fulfil the Project requirements. This condition is likely to create unrest and conflict with migrants. Furthermore conflict with in-migrants may occur in the location where the migrant worker camps and camp followers are located.

Communicable disease transmission

The baseline identified a number of existing health challenges in the community, including respiratory illnesses, a lack of sanitation and waste disposal services, and limited access to healthcare facilities and services. In addition it was observed the communities have a limited awareness, and understanding of diseases prevention.

With potentially half of the 1,624 construction workforce recruited from outside the Project areas, plus in-migration of their family members and other opportunity seekers, impacts associated with community health, particularly increased communicable disease transmission may occur. Although data at the local level on diseases such as STDs and HIV/AIDS is not readily available given the number of single non-local males moving to the local area the possibility of increase disease transmission exists. Mobile Men with Money (MMM) are recognised contributory factors for escalating the demand for prostitution, interacting sexually with local females and thus increasing the risk of STD transmissions.

Diseases such as cholera and diarrhoea may also occur should unplanned settlements develop without any sanitation, waste or water facilities.

Increased pressure to natural resources and public infrastructure

An influx of non-locals may also place additional pressured on the communities' natural resources (e.g. the rivers and forests) as well as public infrastructures (local roads, health and education facilities) which are already under resourced.

There will be increased demand for resources (e.g. food, water, electricity, wood, and other forest products) and services (e.g. education, health services and transportation), as well as increased domestic waste production (solid and liquid). These pressures will be increased due to the additional influx of migrants, particularly during peak construction. It is unlikely that any of the villages will have capacity to absorb significant numbers of migrants.

During the operational stage of the Project, although the overall in-migrant workforce will drop significantly, a large number of in-migrants, both of released workers and others seeking opportunities may remain in the area, becoming semi-permanent additions to the local social landscape. This additional population will likely continue to place extra burdens on the local government social services and may also change the social demographics of the area.

Inflation

The increased demand of good and services is likely to occur with the influx of incoming workers into the Project area. This in addition to employment and good Project wages and with the Projects demand for local resources and goods will potentially increase the prices of local goods and services, e.g. land price, house renting, food, etc. Although this will create increased income for some people; it may also create economic disadvantages for those who are unable to access the Project's benefits.

Disruption to local Batak custom

The baseline identified the Batak Toba as the predominant ethnic group within the Project area. The Batak still frequently perform cultural practices in their village and associate strongly with their ethnicity. As such concerns have been raised by community members that an influx of non-locals to the area may introduce cultural practices inconsistent with the Bataks which may result in a decline in social cohesion or disregard for Batak customs etc. Given the potential magnitude of influx impacts (which depends on the scale of influx) and the fact that significant vulnerabilities exist within the communities at present the overall impact has been ranked as negative major.

Table III-60 Influx Migration Impacts

Impact Description	Influx impacts related to. social jealousy, increased communicable diseases, increased pressure to natural resources and public infrastructure, inflation, and disruption to local cultural heritage							
Impact Nature		Positive				Negative		
Impact Type		Direct				Indirect		
Impact Extent		Low		Medium		High		
Impact Duration		Short term		Medium term		Long term/ irreversible		
Impact Scale		Low		Medium		High		
Frequency		Low		Moderate		High		
Magnitude		Negligible		Small		Medium		Large
Sensitivity/ Vulnerability		Low		Medium		High		
Significance		Negligible		Minor		Moderate		Major

3.16.4 Project Traffic

3.16.4.1 Discussion of Impacts

Increased traffic will occur due to Project activities in pre, construction and operations such as transportation of goods, equipment, materials and workers to in between NIL and SIL and also to and from the Project area.

Construction equipment typically used in the roads and well pad construction and those for geothermal well drilling will include:

- Earth-moving equipment such as dozers, loaders, dump trucks, excavators;
- Drilling equipment and its associated facilities such as cementing units, diesel generators, pumps;
- Mechanical construction equipment such as cranes, welding machines, cutting torches, etc.

Whenever possible, materials will be supplied locally; if not, the materials will be supplied from the nearest area. Materials will be transported inland by trucks using the route Medan–Tarutung – Sarulla towards storage facility around project location in SIL and NIL. Specialty materials such as casing and wellhead valves for the well drilling are expected to be imported.

The Projects traffic levels are considered to be high, particularly during eth construction phase where local roads will be utilised. The Projects use of these roads can lead to a number of adverse impacts such as the increased potential

for an accident with another roads user or pedestrian, dust, air emissions and noise, deterioration of local roads and bridges and increased congestion causing roadblocks.

3.16.4.2 Impact Evaluation and Significance

In 2011 seven traffic accidents were recorded in Pahae Jae and eight traffic accidents in Pahae Julu.

Road conditions are poor in many villages and road safety awareness is limited. During the surveys numerous communities discussed their concerns around the production of excessive dust due to the Project traffic. This impact was reported to be occurring at that time in Silangkitang due to SOL's contractor trucks transport soil.

As the main roads to SIL and NIL are provincial and village roads, the Project is sharing them with other road users as well as passing by many roadside communities. This increase in the vehicle numbers (especially heavy goods) will be evident in the villages of Silangkitang, Pardamean Nainggolang, Pardomuan Nainggolang, Sigurung-gurung, Onan Hasang and Janji Natogu. The road is very windy and in poor condition in some areas hence the increased possibility of increasing the number of accidents exists. Roads in the SIL area are generally asphalted however those in and around NIL are soil/gravel. Therefore the potential for an incident is higher in this area (i.e. around Lumbang Garaga, Sibaganding, Lumban Jaean, and Simataniari).

Given the likely periods of congestion a decrease in access to services may occur in some villages- this may lead to limited access (although temporary) to markets, health centres, and government centres etc. Given the traffic flow in SIL is denser this is likely to occur more in the villages around this area.

Furthermore the narrow roads with residential houses along them are most likely to be impacted by increasing dust, noise and air emissions from the assessing trucks. As respiratory infections are the key health condition in the area this is a high concern amongst the community. Given these factors the impact is rated negative and major.

Table III-61 Traffic Impacts

Impact Description	Project activities may increase the risk of an accident, disturb traffic in village roads and Sumatera trans roads, the dust caused by vehicle traffic will disturb community are living around the road.							
Impact Nature		Positive				Negative		
Impact Type		Direct				Indirect		
Impact Extent		Low		Medium		High		
Impact Duration		Short term		Medium term		Long term/ irreversible		
Impact Scale		Low		Medium		High		
Frequency		Low		Moderate		High		
Magnitude		Negligible		Small		Medium		Large
Sensitivity/Vulnerability		Low		Medium		High		
Significance		Negligible		Minor		Moderate		Major

3.16.5 Infrastructure Development

3.16.5.1 Discussion of Impacts

The Project will not only use road infrastructure in Pahae Jae and Pahae Julu Sub-district but it plans to use Trans Sumatera Province roads also. Therefore it has committed to build/renovate any public infrastructure that may be impacted by the Projects demands. This is because heavy plant equipment will be transported through the port of Belawan, near Medan along the Trans-Sumatra highway from Belawan to the Project site.

Based on the preliminary road survey undertaken by the contractor, certain improvements of bridges along the Trans Sumatra Highways will be needed (but no replacements). Most of the improvements will involve reinforcement of bridges, widening of roads along tight curves, and temporary removal of certain low lying overhead structures (i.e. ad posters).

Existing roads at the Project site that were previously built to access the existing well pads will mainly be utilized by the Project. Refurbishment, expansion and extension of these existing roads combined with constructing new ones will be undertaken.

The existing steel truss bridge in NIL (Hamilton Bridge) will also undergo a rehabilitation to enable heavy transport loads to travel on it. A detailed design for this reinforcement procedure has already been conducted. These roads and bridges will be built as part of the permanent structures usable through the period of project operation.

3.16.5.2 *Impact Evaluation and Significance*

Construction Impacts of Improvements

Similar to the assessment of traffic impacts, the impacts associated with the improvement of roads and bridges will result in a number of adverse, although temporary, impacts such as increased noise and dust activities, congestion and the increased potential for accidents (construction or traffic). Given the small scale of the improvements, the ability to reroute to use another road etc. and the short time from in which these activities will be conducted the adverse impact is considered negative and minor.

Table III-62 Construction Impacts due to Infrastructure Upgrades

Impact Description	Upgrade activities resulting in increased risk of accidents/increase dust etc.							
Impact Nature		Positive				Negative		
Impact Type		Direct				Indirect		
Impact Extent		Low		Medium		High		
Impact Duration		Short term		Medium term		Long term/ irreversible		
Impact Scale		Low		Medium		High		
Frequency		Low		Moderate		High		
Magnitude		Negligible		Small		Medium		Large
Sensitivity/ Vulnerability		Low		Medium		High		
Significance		Negligible		Minor		Moderate		Major

3.16.5.3 *Benefits of Infrastructure Upgrades*

SOL had committed to improvements of local roads and bridges to ensure they withstand the demands of its heavy goods vehicles during construction and operation. These improvements which include road widening and bridge improvements will also benefit the communities who will also be able to utilise this infrastructure once the upgrades are complete. This will improve their access to other villages, facilities and services which inevitable will result in improved economic outcomes for the communities. Given the poor conditions of some of the current roads and the fact the community has requested that the Project support them in upgrading their bridges and roads this impact has been rated positive.

Table III-63 Operation Impacts due to Infrastructure Upgrades

Impact Description	Repair/maintenance of roads and bridges as a result of the project activities will have a positive impact for community.			
Impact Nature		Positive		Negative
Impact Type		Direct		Indirect

3.16.6 Construction Activities

3.16.6.1 Discussion of Impacts

Environmental Related Impacts

There are a number of construction impacts that are classified as environmental but have an indirect consequence n the local Project communities: These include:

- Dust and air emissions as a result of the construction activities at SIL and NIL and therefore the potential public health impacts on the local communities;
- Noise impacts from the construction activities leading to community irritation especially from those residing close to the project activities;
- Increased vector breeding grounds as a result of digging trenches where rainwater can be left stagnant and create additional breeding grounds for mosquitoes which in turn could result in an increased risk of malaria or dengue fever;
- Project Water Use (from the river and ground water) and waste management practices resulting in concerns about the communities access to water being reduced or polluted impacting their ability to irrigate their lands and access potable water; and
- Construction activities (centred on community health and safety issues) resulting in increased environmental vulnerabilities such as an earthquake or land slide.

3.16.6.2 Impact Evaluation and Significance

Dust and air emissions

Dust emissions have been raised by the communities as a concern and given the proximity of some of the villages to the Project construction sites some exposure is likely to occur. In addition as respiratory issues are the key health challenge in area this impact is rated negative and moderate, this rating also reflects the fact that the impact is temporary and based on specific construction activities. The rating is also informed by the fact that access to specialist healthcare for respiratory illnesses is likely to be challenging for the villages.

Table III-64 Community Health Impacts due to Dust and Air Emissions

Impact Description	Respiratory issues as a result of increased dust and air emissions								
Impact Nature		Positive					Negative		
Impact Type		Direct					Indirect		
Impact Extent		Low		Medium			High		
Impact Duration		Short term		Medium term			Long term/ irreversible		
Impact Scale		Low		Medium			High		
Frequency		Low		Moderate			High		
Magnitude		Negligible		Small			Medium		Large
Sensitivity/ Vulnerability		Low		Medium			High		
Significance		Negligible		Minor			Moderate		Major

Noise

Construction noise levels are compliant at the majority of noise receptors, but exceed the Project criteria at a limited number of noise receptors during certain high noise level generating activities. These exceedances warrant noise control mitigation and management measures to be considered and ERM has provided a set of project specific recommendations. Detailed noise modelling has been conducted for the Project and is provided in Volume II: Environmental and Social Impact Assessment (ESIA) Addendum; Annex G.

There are no further recommendations for noise control mitigation, management measures or monitoring options to those presented in this report (specific to construction), or those already incorporated into the project design.

Table III-65 Community Health Impacts due to Noise

Impact Description	Impacts from noise due to steam blowing									
Impact Nature		Positive					Negative			
Impact Type		Direct					Indirect			
Impact Extent		Low		Medium			High			
Impact Duration		Short term		Medium term			Long term/ irreversible			
Impact Scale		Low		Medium			High			
Frequency		Low		Moderate			High			
Magnitude		Negligible		Small			Medium		Large	
Sensitivity/ Vulnerability		Low		Medium			High			
Significance		Negligible		Minor			Moderate		Major	

Increased Vector Breeding Grounds

The community reported only a few cases of chikungunya, malaria and dengue fever in 2011; with dengue being more common. However these illnesses were not raised as a concern amongst the community during consultations. Nonetheless given their proximity to the project construction areas, the fact that activities will be occurring in the rainy season that may result in an increased amount of stagnant water this impact has been rated negative and minor. This is also supported by the fact that there is limited awareness of malaria and dengue fever prevention in the area and that access to healthcare services is poor.

Table III-66 Community Health Impacts due to Increased Vector Breeding Grounds

Impact Description	Increased prevalence of mosquito borne diseases									
Impact Nature		Positive					Negative			
Impact Type		Direct					Indirect			
Impact Extent		Low		Medium			High			
Impact Duration		Short term		Medium term			Long term/ irreversible			
Impact Scale		Low		Medium			High			
Frequency		Low		Moderate			High			
Magnitude		Negligible		Small			Medium		Large	
Sensitivity/ Vulnerability		Low		Medium			High			
Significance		Negligible		Minor			Moderate		Major	

Project Water Use and Discharges

The Project has produced a water use study which is described in detail in Volume II: Environmental and Social Impact Assessment (ESIA) Addendum; Section 3.6. The Project's usage of water will be highest during drilling activities (sourced from the Batang Toru River) in the NIL area. Drinking water provided to the Project workforce will be in the form of purified bottled water sourced through local vendors.

The duration of water use will be approximately 30 months at the SIL area and 47 months in NIL area. Water for the workforce camp site will be sourced from water wells that will be drilled within the site area. Water for construction and hydro-testing will be sourced from these Project water wells and the Batang Toru River, almost 100%of the water will be from the Batang Toru River.

SOL and its EPC Contractor will ensure that the disposal of used water is in line with Indonesian government regulations and international lender standards to avoid any adverse impacts to the environment or local communities surrounding the Project area.

The Government of North Sumatera supports the availability of clean water for all communities in a sustainable manner. This is mandated via the Regional Government regulation No. 6 Year 2002 regarding Tax for Collection and Utilization of Surface Water and Groundwater. In this regulation, the Government restricts the use of groundwater; obligating industry that utilises ground water to construct infiltration wells. SOL is committed to comply with this regulation.

The river is utilised daily by the local communities who reside alongside it for activities such as drinking, bathing, washing, irrigation and other farming activities. It is also used for catching freshwater fish.

The communities use spring water as the main source of community life for bathing, washing and cooking. In addition to household usage the majority use spring water for farming purposes where spring water is considered indispensable for rice paddy cultivating. The spring water is piped or hosed from the wells to the rice-paddy fields.

SOL will not use spring water, which is the main community source of freshwater (Pahae Jae: 43 households and Pahae Julu: 20 households). The community has no current water access or availability issues (even in the dry season). The Project's drinking water requirements will be purified bottled water sourced through a local vendor. Water for the workforce camp site will be sourced from water wells and the highest water demand, which occurs during drilling, will be drawn from the Batang Toru River.

It is acknowledged that the community have concerns over Project water demands despite the use of groundwater being less common. Six households In Pahae Jae and nine households in Pahae Julu rely on this source. As discussed, community wells range from 4-6 m depth. The estimated depths of the Project's planned groundwater wells are in the range of 50 to 100 m which targets the groundwater supply far below the community wells. SOL conducted pumping tests and tested yields are very low and not predicted to affect community wells >100m from the site. As discussed above, SOL has conducted initial modelling to understand better potential abstraction impacts on the communities' water wells.

An impact on irrigation water was raised numerous times in consultations with land owners and has been identified as a key community concern. Although the Project is unlikely to impact water availability, given the community concern regarding water pollution, the heavy reliance the community has on surface water for daily life and agriculture and that fact it is unclear how the Project will dispose of its waste water this impact is rated negative and moderate.

SOL will engage with the community around this issue and ensure all appropriate measures are implemented to safeguard the communities' use of local water resources.

SOL is committed to further monitoring on river water and groundwater extraction, particularly during peak demand to illustrate that the supply is not affected. Part C of this ESIA (the social impact assessment) will consider the potential social impacts of these activities in more detail.

Table III-67 Impacts on Community Water Resources

Impact Description	Impacts on water sources used for daily life an farming						
Impact Nature		Positive				Negative	
Impact Type		Direct				Indirect	
Impact Extent		Low		Medium		High	
Impact Duration		Short term		Medium term		Long term/ irreversible	
Impact Scale		Low		Medium		High	
Frequency		Low		Moderate		High	
Magnitude		Negligible		Small		Medium	Large
Sensitivity/ Vulnerability		Low		Medium		High	
Significance		Negligible		Minor		Moderate	Major

Community Health and Safety Fears

During the consultation sessions the communities raised concerns around the potential for an increase in landslides due to deforestation etc. and earthquakes given the areas vulnerability to elements such as this. In addition there may be potential impacts as a result of community members entering project construction areas and being involved in an accident.

A Seismic Hazard Desk Study undertaken for SOL (Volume II: Environmental and Social Impact Assessment (ESIA) Addendum; Annex B) indicated that in the last ten years there has been an average of about 45 events between magnitude 4-6 and approximately very few events greater than 6 to 8 in the last ten years in the vicinity of the site area. The biggest event is a 6.8 event magnitude with its epicentre located at 200km SW from the proposed plant. After analysis the study concludes the project will have can proceed as currently designed provided additional fault trenching activities are carried out before detailed design phase and facilities in the vicinity of the rupture zone are designed to accommodate the possible predicted movement.

However given the communities level of concern around this issue, the fact that incidents have occurred historically that have been associated with the Project, the impact is rated negative and moderate. This is also informed by the fact that there is a risk of an onsite accident involving a community member (or child) given the close proximity of the activities to the villages.

Table III-68 Impacts on Community Health and Safety

Impact Description	Community Health and Safety Concerns								
Impact Nature		Positive					Negative		
Impact Type		Direct					Indirect		
Impact Extent		Low		Medium			High		
Impact Duration		Short term		Medium term			Long term/ irreversible		
Impact Scale		Low		Medium			High		
Frequency		Low		Moderate			High		
Magnitude		Negligible		Small			Medium		Large
Sensitivity/ Vulnerability		Low		Medium			High		
Significance		Negligible		Minor			Moderate		Major

3.16.7 Operation of Power Plant and Transmission Lines

3.16.7.1 Discussion of Impacts

Increased H_2S produced from the geothermal project which may result in an increased unpleasant odour in and around the site vicinity.

As discussed previously the communities have raised multiple concerns around the potential for an increase in landslides and earthquakes as well as health and safety concerns surrounding well blow outs or toxic gas leaks. In addition to this they raised the potential health impact as a result of the transmission lines (radiation).

3.16.7.2 Impact Evaluation and Significance

Increased Hydrogen Sulphide (H_2S)

The Indonesian standard for H_2S is an odour standard of 0.02 ppm (approximately 30 µgram/m3) specified in Minister of Environment Decree No. 50 of 1996 (Kep-50/MENLH/11/1996). This is more stringent than the WHO guideline, which is 150 µgram/m3 (approximately 0.1ppm) time weighted average over 24 hours. The WHO guideline is a health impact threshold and is based on the avoidance of eye irritation. H_2S dispersion

modelling was undertaken to understand the potential impact as a result of the Project (Volume II: Environmental and Social Impact Assessment (ESIA) Addendum; Section 3.7). A review of the affected people was also updated. Based on the surveys made, there was no increase in the number of households around the immediate vicinity of the Power Plant, especially at NIL site receptor point 238 where the highest concentration of H_2S emission is projected to occur. Based on the modelling result, the maximum annual average emission is predicted at 0.014ppm.

In respect to the 24hr average, the model shows 129 occasions when the 0.02ppm limit is exceeded. Compared to the total receptor-days of 160,965 (441 receptor points read each daily for 365 days), this occurs 0.080142% in a year. The majority of these are not located in residential areas.

Even considering the highest concentration, the predicated highest concentration will be below the WHO guidelines of 150 mugram/m^3 in all instances for all receptor points. Under this condition there is no predicted health hazard from the H_2S emission on ambient air from the project operation.

In respect to the odour limit set by Indonesian standard of 0.02ppm, in view of the non-continuous and very few days per year occasions that the odour limit is exceeded, the impact is considered to be minor.

Table III-69 Community Health Impacts due to H_2S Emissions

Impact Description	Odour resulting from H2S emissions upsetting community members									
Impact Nature		Positive					Negative			
Impact Type		Direct					Indirect			
Impact Extent		Low		Medium			High			
Impact Duration		Short term		Medium term			Long term/ irreversible			
Impact Scale		Low		Medium			High			
Frequency		Low		Moderate			High			
Magnitude		Negligible		Small			Medium		Large	
Sensitivity/ Vulnerability		Low		Medium			High			
Significance		Negligible		Minor			Moderate		Major	

Community Health and Safety Fears

Considering the previous studies undertaking in these areas; along with the limited evidence on transmission lines causing community health concerns this impact is rated negative and minor. However it is recommended that SOL ensure the communities are fully informed as to the results of these studies to alleviate their concerns.

Table III-70 Impacts on Community Health and Safety

Impact Description	Community Health and Safety Concerns							
Impact Nature		Positive				Negative		
Impact Type		Direct				Indirect		
Impact Extent		Low		Medium		High		
Impact Duration		Short term		Medium term		Long term/ irreversible		
Impact Scale		Low		Medium		High		
Frequency		Low		Moderate		High		
Magnitude		Negligible		Small		Medium		Large
Sensitivity/ Vulnerability		Low		Medium		High		
Significance		Negligible		Minor		Moderate		Major

3.17 COMMUNITY NEEDS

Consultations (FGDs and interviews) were undertaken in the field to better understand the community's needs. This will enable SOL to better plans its integrated Social Program to best meet the needs of the communities in a sustainable. The needs were captured and categorised by short, medium and long term community development programs (Table III-71). As expected they focus on community development issues such as:

- Training to improve livelihood skills such as agricultural practices and provision of equipment to improve production;
- Training, education and skills development to support the Project;
- Business development support;
- Project support to improve local infrastructure and services; and
- Support to construct new education, training and health community facilities in the villages.

Table III-71 Community Development Needs

Short Term (1 year) Program	
1	Agricultural products promotion
2	Specific skills training related to the Project e.g. automotive, electrical engineering etc.
3	Capital support for local business development
4	Providing crop seeds to improve agricultural production
5	Improving community business skills
Mid-Term (2-5 years) Program	
1	Improving community road access to plantation areas
2	Capital support for business development
3	Skills training to encourage local business development, e.g. automotive, food processing, sewing, and beauty salon
4	Scholarship support for outstanding students with a lack of financial resources
5	Improving community clean water supply and sanitation conditions
6	Improving irrigation facilities
7	Public infrastructure improvement, including religious facilities, school building, and health facilities
8	Support community education improvements through providing personnel (teachers), particularly for English and computer skills
9	The Project support on providing medical personnel to local health facilities
Long Term (>5 years) Program	
1	Improving community road access to plantation areas
2	Improving community clean water supply and sanitation conditions
3	Support the development of schools for children with special needs
4	Support the development of vocational training centre
5	Support the development of health facilities

Source: Primary Data, FGD, 2013

Specific expectations from females in the communities were identified during the FGDs; the key expectations are summarised below:

- Proper waste management to minimise environmental damages;
- The Project to support local agricultural product promotion;
- Continuous consultation and information disclosure to the community on the Projects impact and activities;
- The Project to support provision of clean water and renovate irrigation channels;
- The Project to support on providing training for women's skills improvement, e.g. cooking, sewing, beauty salon, etc.; and
- The Project to support on improving community road facilities and their access to plantation areas.

Further discussion on community development needs is presented in Chapter 4. This Chapter discusses SOL's community development programs and the communities' expectations on priority areas.

4 INTEGRATED SOCIAL PROGRAM

This Chapter discusses SOL's Integrated Social Program (ISP) which consists of social management plans that SOL intends to implement to manage the identified adverse impacts and positive benefits of its activities during construction and operation. These are also discussed in detail in Volume II: ESIA Addendum. These plans have been developed for implementation by the construction EPC and SOL. The aim of these measures is to avoid adverse impact on IPs (and other community members) where possible. Where this is not possible, the plans set out actions for the EPC and SOL to minimise, mitigate and compensate for unavoidable negative impacts on the IPs.

The ISP also contains activities SOL will implement associated with community development. During the IP consultations undertaken for this IPP community expectations and needs were identified. The ISP aims to provide a strategy to meet the communities priority needs in a tiered approach (short, medium and long term), whilst building IP capacity, resources and facilities.

4.1 SOCIAL MITIGATION MEASURES

The SIA identified a number of potentially significant IP impacts that may occur (directly or indirectly) as a result of Project activities during pre-construction, construction and operations. In order to manage these impacts appropriately suitable mitigation measures will be implemented (Table IV-1). In additional to the below activities SOL will conduct on-going consultation, inclusive of gender and other vulnerable groups to ensure Project information is being shared and that concerns/expectations are being addressed. Furthermore SOL's grievance mechanism also provides an additional avenue for the community to voice their concerns or complaints (Chapter 6).

Table IV-1 Proposed Social Mitigation Measures

Impact/Benefits	*Management Plan*	*Objective/Content*
Loss of land leading to impacts to IPs cultural beliefs	1. Resettlement Plan for the T/L 2. ISP Batak/IP program	1. The plan will aim to minimise loss of private land and identify important cultural heritage sites 2. The ISP will include a program on Batak cultural preservation
Impacts on gender including increased crime, disease transmission, loss of income, increased farming burden	1. Recruitment and Employment Plan 2. Workforce code of conduct 3. Workforce awareness training 4.. Zero tolerance policy 5. ISP gender program 6. Workforce health management	1. The plan will aim to maximise local participation in the Project and be inclusive of gender and provide training and skills development where necessary to equip locals to participate in the Project. In addition the plan will safeguard workers' rights. 2. The code of conduct will ensure workers behaviour are managed suitably to minimise upset in the community through anti-social behaviours 3. Workers will be provided awareness training on a number of issues including culture/customs, gender and health/disease transmission. 4. SOL will adopt a zero tolerance policy towards unacceptable workforce behaviour towards females or any community member 5. The ISP program will focus on female economic and social empowerment training and capacity such as skills development, scholarships for, maternal health support and household decision making. 6. SOL and its contractors will undertake health screening and regular health checks of workers. Provision of onsite health services will also be available.
Loss of land leading to loss of income	1. Resettlement Plan for the T/L 2. ISP for landowners	1. The plan will aim to minimise loss of private land and identify vulnerable groups who may lose all or the majority of their land 2. The ISP will include a program focussed on restoring the income and livelihoods of those landowners significantly impacted by the Project.

Impact/Benefits	*Management Plan*	*Objective/Content*
	3. Recruitment and Employment Plan 3. Local Content Plan	Where necessary support will be offered to source and negotiate for new replacement land. 3. The plan will prioritise land owners for employment on the Project 4. The plan will identify Project needs, community business capabilities and prioritise local businesses where possible. Capacity building will also be provided to equip local businesses with the appropriate skills to the Project.
Economic benefits of Project employment and procurement requirements	1.Recruitment and Employment Plan (see Annex D) 2. Local Content Plan	1..The plan will prioritise land owners for employment on the Project 2. The plan will identify Project needs, community business capabilities and prioritise local businesses where possible. Capacity building will also be provided to equip local businesses with the appropriate skills to the Project.
Management of community expectations regarding employment, procurement and ISP implementation	1. Stakeholder Consultation Plan 2. Recruitment and Employment Plan 3. Local Content Plan 4. ISP programs	1. The Projects stakeholder consultation activities will provide communities with Project information on employment, positions an, skills sets. It will also disseminate information on the ISP activities. 2.The plan will clearly set out employment opportunities and skills required 3. The plan will identify clearly Project needs and requirements for adherence to Project standards 4.The ISP programs will be developed in consultation with the local community leaders to ensure priority community needs are met that are realistic for the Project to deliver
Project employment/increased income	1. Workforce code of conduct	1.The code of conduct will ensure workers behaviour are managed

Impact/Benefits	*Management Plan*	*Objective/Content*
results in anti-social behaviour	2. Workforce awareness training 3.. Zero tolerance policy 4. ISP gender program 5. Workforce health management	suitably to minimise upset in the community through anti-social behaviours 2. Workers will be provided awareness training on a number of issues including income/finance management, culture/customs, gender and health. 4. SOL will adopt a zero tolerance policy towards unacceptable workforce behaviour towards females or any community member 5. The ISP program will focus on income management, business development with the aim of encourage wise investment decisions.
Migrant influx results in security/crime issues, disease transmission, increased pressure on existing facilities and natural resources, increased cost of living and disturbance to IP customs and beliefs	1. Recruitment and Employment Plan 2. Workforce code of conduct 3. Workforce awareness training 4.. Zero tolerance policy 5. ISP community infrastructure program 6. Workforce health management 7. Stakeholder Consultation Plan	1. The plan will aim to maximise local participation in the Project and recruitment will involve consultation with local government to gain their assistance in disseminating accurate employment opportunities data to the broader regency with the aim of discouraging in migration from those not employed by the Project. The plan will also include a demobilisation stage in preparation for the end of the construction period. 2. The code of conduct will ensure workers behaviour are managed suitably to minimise upset in the community through anti-social behaviours 3. Workers will be provided awareness training on a number of issues including culture/customs, gender and health/disease transmission. 4. SOL will adopt a zero tolerance policy towards unacceptable workforce behaviour towards females or any community member 5. The ISP program will focus on economic and social development of the

Impact/Benefits	*Management Plan*	*Objective/Content*
		local area 6. SOL and its contractors will undertake health screening and regular health checks of workers. Provision of onsite health services will also be available. 7. The Projects stakeholder consultation activities will include discussions with local government and community service providers on potential influx issues and management measures.
Project traffic leads to increased risk in accidents, congestion and disruptions and deterioration of roads	1. Traffic Management Plan 2. Infrastructure Improvement Plan	1.. The plan will define access routes, driver safety awareness, install temporary road signage, conduct traffic awareness sessions in the community as well as amongst the workforce 2. Improvements to community infrastructure (i.e. roads and bridges) will assist in maintain the road conditions utilised by Project traffic
Increased dust and air emissions	1. Ambient Air And Noise Management Plan	1. The plan aims to reduce Project impacts on ambient air quality e.g. by locating dust emitting activities away from communities, using dust suppression techniques, avoid dusty activities during windy periods etc. The plans also aims to optimise best methods of technology to reduce greenhouse gases
Increased noise levels	1. Ambient Air And Noise Management Plan	1. The plan aims to reduce Project impacts on noise by locating excessive noise sources away from communities as far as possible and utilising noise suppressors as well as scheduling traffic movements.
Pollution of ground or surface water	1. Water Management Plan 2. Brine Management Plan 3. Effluent Disposal Management Plan 4. Erosion Management Plan 5. Spoils And Drill Cuttings	1. The plan monitors surface and ground water quality 2. The plan implements measures to stop contamination if identified and provide alternate water source. The plan aims to minimise and control brine discharges during well production tests or in case of re-injection failure during operation. 3. The plan aims to minimise and control effluent discharges.

Impact/Benefits	*Management Plan*	*Objective/Content*
	Disposal Management Plan 6. Solid and Hazardous Waste Management Plan 7. Spill Response Plan 8. Land Contamination Management Plan 9.Grievance Mechanism	4. The plan sets out the implement measures to reduce erosion and enhance rehabilitation. 5. The plan describes appropriate storage, handling, testing, transport and reuse of drilling mud or cuttings onsite or disposal. 6. The plan identifies measures for minimisation of waste and appropriate storage, handling, and transport disposal of waste and use of chemicals on site. 7. The plan identifies responsibilities and equipment required to deal with a spill. 8. The plan describes the implementation of processes to prevent soil contamination and remediate previously contaminated land disturbed by Project activities. 9. Community member s will be able to utilise the grievance mechanism to communicate concerns regarding ground or surface water pollution
Increased vector breeding grounds during construction	1. Construction Management Plan	1. The plan will aim to cover all open trenches /stagnant water pools caused by the Project. Community health.
Community health and safety concerns due to Project activities such as increased seismic activity, landslides, construction site accidents,	1. Occupational Health and Safety Plan 2. Emergency Response Plan 3. Stakeholder Consultation Plan	1. Provide a safe working environment through implementation of procedures to address: • Violation & Infringement • Appreciation Award • Working within Company Premises • Employee Requirements • Emergency Preparedness & Evacuation • Roles Played by Everybody • Safety Induction • Smoking and Alcohol and/or Controlled Drugs • Safety Signs • Environmental Control

Impact/Benefits	*Management Plan*	*Objective/Content*
		• Permit-to-Work • Worksite Visit • House keeping In addition, SOL will develop Standard Operating Procedure (SOP) which is a routine step-by-step task instruction or a sequence of task to operate and maintain the equipment & facility. 2. Ensure processes are in place to effectively manage the response to emergency events and minimise risk to the workforce and environment. Emergency response may include oil spill response plan, H^2S release monitoring and response plan, drills and fire and community Emergency response plan. 3. The Stakeholder Consultation Plan will address community concerns around health and safety; where necessary sharing Project baseline studies e.g. n seismicity. Consultation will also include safety briefings to the community around not entering Project construction sites and Project traffic awareness (in particular for children)
Increased H2S emissions	1. H_2S Monitoring Plan 2. Grievance Mechanism	1. The plan describes the programme for monitoring H2S in ambient air and collection of data on health effects. 2. Community member s will be able to utilise the grievance mechanism to communicate concerns re excessive H2S emissions

4.2 *IMPLEMENTATION OF COMMUNITY DEVELOPMENT PROGRAMS*

SOL is planning to undertake a number of community development programs in the Project affected communities. These will be tailored to the communities needs and prioritised in short, mid and long term time implementation periods. The programs will apply an adaptive management approach where detailed activities and beneficiaries will be reviewed over time and adjusted to community needs in the future and during implementation.

The target communities will be as follows:

- 4 in SIL: Pardomuan Nainggolan, Pardamean Nainggolan, Silangkitang, Sigurung-gurung; and
- 5 in NIL: Simataniari, Sibaganding, Lumban Jaean, Onan Hasang, Janji Natogu.

In addition it is recommended that other villages potentially impacted by the road connecting the NIL and SIL areas and those in close proximity to the transmission line corridor are also included in any ISP activities implemented (i.e. Janji Natogu, Lumban Garaga and Hutabarat).

Within these villages the prioritisation will be as follows:

- Land owners without remaining land (total loss of asset/land);
- Land owners with remaining land; and
- Non-land owners.

In addition SOL will prioritise other vulnerable groups such as any female headed households, those residing below the poverty line, the elderly etc.

Although not a legal requirement SOL recognises the benefits of implementing sustainable community development programs, in particular to; support and develop the communities in which it operates, build SOL's relationship with its key local stakeholders and contribute towards gaining its social licence to operate.

SOL aims to undertake these community development programs, where possible, in partnership with other key stakeholders such as the local community, government, education and health services and NGOs.

SOL's community development programs, although not developed in detail as of yet, will be focused on the following areas:

- education;
- health;

- infrastructure;
- agricultural and livelihood restoration;
- culture; and
- employment.

The details of SOL's ISP commitments, along with the communities' community development expectations are presented in Table IV-2.

4.3 EDUCATION

The majority of the population in Pahae Jae and Pahae Julu are educated up to a junior high school level and almost all Project affected villages have a primary school however facilities above this level are limited. Although the students' desire and interest for learning is quite high the distance between some households and the education facility is far. Access is also difficult due to the local of public transportation services and poor road conditions.

In light of the above education difficulties in the project affected are SOL aims to work with the local government and education facilities to improve the services and facilities. Based on primary data gathered the community have indicated SOL to focus on the following education areas:

Mid-term (3-5 years)

- Renovating school facilities in the Project affected area;
- Provision of scholarships for high performing students, females and poor people; and
- Provision of English lessons and computers to teachers.

Long term program (>5 years)

- Construct new build school buildings including special schools for children with disabilities, and vocational training centres.
- Provision of scholarships to high-performing students

4.4 AGRICULTURE AND LIVELIHOOD RESTORATION

As discussed previously the majority of population in the Project are rely on farming as their main form of income. The key crops grown include paddy rice and plantation crops such as frankincense and cocoa. The community have expressed concerns about the Project impacting their farmland and crops either through the land acquisition process, water source pollution and effluent discharge impacts etc. SOL has committed to focus on the following livelihood areas:

- Local business opportunities
  - To monitor local communities' participation in the economic development of the Project area
  - To monitor local communities' participation level in Project activities
- Support initiatives for improving farming and agriculture cultivation techniques
  - To monitor the understanding of significant factors affecting agriculture production
  - To monitor production levels of significance to the local community
- Gather data on community income, to evaluate household income levels in the Project area

Based on primary data gathered during the FGDs in 2013 the community provided the following suggestions for livelihood programs:

Short term program (2 years)

- Agriculture promotion programs
- Special skills training
- Capital aid (microcredit) for business development
- Aid for the purchasing of seeds
- Capacity building the communities' business development understanding, entrepreneurship skills and financial literacy.

Mid-term (3-5 years)

- Renovating road access from the villages to farming and community plantation areas
- Support business capital
- Provide special training to the community in areas such as automotives, electrics, food processing, sewing, beauty salon etc.
- Support the renovation of irrigation facilities.

Long term program (>5 years)

- Renovating road access from the villages to farming and community plantation areas

4.5 HEALTH

Pahae Jae's community health centre is located at Silangkitang and Pahae Julu in Onang Hasang. The facilities in the Project area have limited capacity,

equipment, medicine and personnel. However to reach the regency hospital some villagers must travel up to 2 hours.

Recognising these health challenges SOL has committed to supporting the local health facilities. Based on primary data gathered during the FGDs in 2013 the community provided the following suggestions for health programs:

Mid-term (3-5 years)

- Renovating the local health facilities to meet the needs of the community
- Improve clean water supply for household and sanitation conditions
- Facilitate access to specialist doctors.

Long term program (>5 years)

- To improve clean water supply for household and sanitation conditions
- To build health facilities such as a hospital and more community health centres.

4.6 INFRASTRUCTURE

SOL plans to invest in a number of community infrastructure activities, including improvement of water sanitation system, access road to villages and community plantation area and improvement of irrigation system.

These activities reflect the requests and expectations recorded in the community consultations undertaken as part of this ISP. Community infrastructure will be a long term program (>5 years).

4.7 CULTURE

Given the Batak clan (considered as IPs by the ADB) have a strong presence in the Project affected areas customs and cultural practices are regularly performed and there are strong belief systems within the communities. The community have expressed concerns in relation to the Project activities diminishing the practising of these customs therefore SOL has committed to undertake activities with the community to help preserve these customs.

4.8 EMPLOYMENT

Provide job opportunities to ensure that the optimum number of local workers is hired by SOL and its contractors.

- Employment targets for women during the construction stage will not involve hiring women to perform heavy construction work (e.g. carrying heavy materials, etc.) as this is not a kind of job that women in the North

Tapanuli Regency will usually aspire to do. Moreover, the division of labour in the family would also assign household chores as well as most of the rice cultivation and gardening activities almost exclusively to women.

- In meeting the employment targets for Indigenous Peoples, SOL will actively target the more educated or skilled people, including young people (men and women), originally from Pahae Jae/Pahae Julu/North Tapanuli Regency who are now living outside the area (in Medan, Pekanbaru, Jambi, Jakarta, Batam, Kalimantan etc.) to do the semi-skilled work during construction and operations. Almost every household in Pahae Jae/Pahae Julu as well as North Tapanuli Regency has a member who is currently studying or working outside their native village. Encouraging people to come back to the area by offering them a job in their home area is a positive development which can bring families closer together and strengthen social ties in the community.

Table IV-2 outlines SOL's tentative ISP program detailing duration and target beneficiaries.

Table IV-2 Tentative Outline of Community Development Focussed ISP Activities

No	*Planned Activities*	*Target Beneficiaries*	*Duration*	*Resources*	*Partner*
1	**Education (IDR 150,000,000 / annum)**				
	Scholarship (including specific target on girls)	Land owners, affected communities	Construction & Operation Stage (Long-term, > 5 years)	SOL	Education Office, Local schools
	Educational assistance (ex: books, uniforms etc.)	Land owners	Pre-construction stage	SOL	Local schools
	Improvement of school facilities	Affected Communities	Operation stage (Long-term, > 5 years)	SOL	Education office, Local schools, local communities groups
2	**Agriculture and livelihood restoration (IDR 200,000,000 / annum)**				
	Training on agricultural matters (ex: Productivity of land, Agricultural business development etc.)	Land owners, affected communities and wider regency	Construction & Operation Stage (Long-term, > 5 years)	SOL	Agricultural Office, Agricultural Consultant, NGOs focusing on Agriculture/Farmers
	Provision of Crop seeds	Affected communities	Construction & Operation Stage (mid-term, 3 to 5 years)	SOL	Agricultural Office
	Entrepreneurship skills and financial literacy Training	Priority for Significantly Affected and vulnerable Landowners	Pre-Construction & Construction Stage (short-term, first 2 years)	SOL	Consultant , Related CSOs/NGOs, Village Development Board (BPD), Head of Villages, PKK (Family Welfare program)

No	Planned Activities	Target Beneficiaries	Duration	Resources	Partner
	Capital aid (microcredit) for business development	Priority for Significantly Affected and vulnerable Landowners	Pre-Construction & Construction Stage (short-term, first 2 years)	SOL	Consultant , Related CSOs/NGOs, Village Development Board (BPD), Head of Villages, PKK (Family Welfare program)
	Training for women (sewing, food processing, beauty/salon	Land owners, affected communities	Construction & Operation Stage (Long-term, > 5 years)	SOL & Contractors	Consultant , Related CSOs/NGOs, Village Development Board (BPD), Head of Villages, PKK (Family Welfare program)
	Training for men (automotive, electrical engineering, construction related matters etc.)	Land owners, affected communities	Pre-construction , Construction & Operation Stage (Long-term, > 5 years)	SOL & Contractors	Consultant , Related CSOs/NGOs, Village Development Board (BPD), Head of Villages
3	**Health (IDR 150,000,000 / annum)**				
	Health Awareness Program (ex: Health talk, seminar, training etc.) on issues related with PHBS (*Pola Bersih Hidup Sehat* or Clean and Healthy life style), maternal health or any health issues in the communities' context	Affected communities	Pre-Construction, Construction & Operation Stage (Long-term, > 5 years)	SOL & Contractors	Health Consultant, Village Development Board (BPD), Head of Villages, Puskesmas/ Posyandu, Health Office, PKK (Family Welfare program)
	Free Medical Consultation (per six months)	Affected Communities	Pre-Construction, Construction & Operation Stage (Long-term, > 5 years)	SOL	Health Consultant, Village Development Board (BPD), Head of Villages, Puskesmas/ Posyandu, Health Office, PKK (Family Welfare program)

No	Planned Activities	Target Beneficiaries	Duration	Resources	Partner
	Providing Healthy food in Posyandu (*Balita & Lansia*)	Affected Communities	Pre-Construction, Construction & Operation Stage (Long-term, > 5 years)	SOL	Village Development Board (BPD), Head of Villages, Puskesmas/ Posyandu, PKK (Family Welfare program)
4	**Infrastructure (IDR 200,000,000 / annum)**				
	Improvement of water sanitation system	Affected Communities	Construction & Operation Stage (Long-term, > 5 years)	SOL & Contractors	Sub district Office, Village Office, related CSOs/NGOs, Civil Work Office, local communities groups
	Improvement access road to villages and community plantation area	Affected Communities	Construction & Operation Stage (Long-term, > 5 years)	SOL & Contractors	Sub district Office, Village Office, Civil Work Office, local communities groups
	Improvement of Irrigation system	Affected Communities, wider regency	Construction & Operation Stage (mid-term, 3- 5 years)	SOL & Contractors	Sub district Office, Village Office, related CSOs/NGOs, Civil Work Office, local communities groups
5	**Cultural (IDR 100,000,000 / annum)**				
	Sponsorship for Cultural festive	Affected Communities, wider regency	Pre-Construction, Construction & Operation Stage (Long-term, > 5 years)	SOL	Adat (custom/community) leaders, Village Development Board
	Support the maintenance of local values/customs	Affected Communities, wider regency	Construction & Operation Stage (Long-term, > 5 years)	SOL	Adat (custom/community) leaders, Village Development Board
	Capacity building for clan/*marga* leaders, ex: leadership training, conflict resolution, activities mentoring etc.	Affected Communities	Construction & Operation Stage(Long-term, > 5 years)	SOL	Related CSOs/NGOs, Adat (custom/community) leaders, Village Development Board

No	Planned Activities	Target Beneficiaries	Duration	Resources	Partner
6	**Employment**				
	Recruitment of unskilled workers*	IP comprise of at least 30% unskilled workers from the affected area (Pahae Jae and Pahae Julu) and the North Tapanuli Regency during construction stage between 2013-2017. Women comprise at least 30% of unskilled labor for services provided during construction between 2013-2017	Construction Phase	SOL, Contractor and subcontractor	Related CSOs/NGOs, Adat (custom/community) leaders, Village Development Board
	Vocational Training of local community	Priority training of working age member of significantly affected land owners family	Pre-Construction, Construction and Operations Phases	SOL	Related CSOs/NGOs, Adat (custom/community) leaders, Village Development Board
	Recruitment of semi-skilled workers	Women comprise at least 20% of only the technical/laboratory and administrative positions during operations by 2020[ii] Indigenous Peoples comprise 20% of the semi-skilled labor from the affected area (Pahae Jae & Pahae Julu) and the North Tapanuli Regency during operations by 2020	Operations	SOL	Related CSOs/NGOs, Adat (custom/community) leaders, Village Development Board

* Preferential employment for those qualified and of working age members from significantly affected land owners family

4.9 NEXT STEPS

The community development programs to be implemented by SOL are still in the planning phase. Prior to implementation SOL plans to undertake the following:

1. Update and complete land owners data to ensure those significantly impacted are prioritised (potentially developing a livelihood restoration program is deemed necessary);

2. Discussions with SOL external relation officers (IS, MS, AS) to understand additional needs from the villages in SIL & NIL;

3. Assign roles and responsibilities within SOL in terms of managing and monitoring the Projects social management measures and programs; and

4. Communicate and coordinate with contractors (HDEC/PT PP) on the ISP program and budget.

5. Continue to consult and collaborate with affected communities, local government agencies and interested NGOs throughout the Project lifecycle on issues such as the design and implementation of the ISP.

6. During Pre-Construction and Construction Phase, SOL will prepare (on an annual basis) its planned activities and budget for the next calendar year. This will be submitted to Lenders for review at least 30 days before the end of the current calendar year.

5 INFORMATION DISCLOSURE, CONSULTATION AND PARTICIPATION

5.1 OVERVIEW

This sub-section will focus on the Information Disclosure, Consultation and Participation activities conducted by SOL. These are requirements set out in the Asian Development Bank's (ADB) Safeguard Policy Statement (SPS) 2009 and in the International Finance Corporation's (IFC) Performance Standards (PS) 2012. This Chapter specifically discusses Information Disclosure, Consultation and Participation requirements, activities undertaken with the identified Project communities, government agencies and representative groups (e.g. farming) and planned future activities.

5.2 INTERNATIONAL CONSULTATION REQUIREMENTS

5.2.1 *Asian Development Bank (ADB)*[7]

The ADB's SPS and Public Communications Policy emphasise the importance of consultation and public participation in development projects, particularly with those people who are likely to experience social impacts as a result. The consultation and public participation process must be substantive and meaningful. It should be performed at the initial phase of the project, through open and transparent procedures and without coercion. The ADB also emphasise the importance of involving stakeholders in the decision-making stages of the project. Stages may include the design, impact assessment, mitigation planning, and implementation phases.

Details of consultation and disclosure requirements under the SPS safeguard requirements are as to:

- Carry out meaningful consultation with affected people and facilitate their informed participation;
- Ensure women's participation in consultation;
- Involve stakeholders, including affected people and concerned Non-governmental organizations (NGOs), early in the project preparation process and ensure that their views and concerns are made known to and understood by decision makers and taken into account; and
- Continue consultations with stakeholders throughout project implementation as necessary to address issues related to the environmental assessment.

[7] http://www.adb.org/documents/safeguard-policy-statement

Consultation and participation activities under this IPP must adhere to the SPS SR 3 on Indigenous Peoples which states that in order to carry out meaningful consultation with affected Indigenous Peoples, the borrower/client must establish a context-specific strategy for inclusive and participatory consultation, including approaches of identifying appropriate Indigenous Peoples representatives, and consultation methods appropriate to the social and cultural values of the affected Indigenous Peoples communities. The borrower/client will pay special attention to the concerns of indigenous women and youth. When the borrower/client and the affected Indigenous Peoples have serious differences and disagreements in relation to the project, its components, or the IPP, the borrower/ client will undertake good faith negotiations to resolve such differences and disagreements.

ADB requires borrower/clients to submit to ADB the following documents to disclose on ADB's website: (i) a draft IPP, including the social impact assessment, endorsed by the borrower/client, before appraisal; (ii) the final IPP upon completion; (iii) a new or updated IPP and a corrective action plan prepared during implementation, if any; and (iv) the monitoring reports.

The borrower/client will provide relevant information, including information from the above documents in a timely manner, in an accessible place and in a form and language(s) understandable to the affected Indigenous Peoples and other stakeholders. If the Indigenous Peoples are illiterate, other appropriate communication methods will be used.

5.2.2 International Finance Corporation (IFC)[8]

5.2.2.1 IFC Performance Standard (PS)

The IFC has adopted policy requirements and guidelines (IFC PS) relevant to public consultation and disclosure to ensure projects are implemented in an environmentally and socially responsible manner.

The IFC's Policy on Social and Environmental Sustainability highlights the need for community engagement and broad community support. Specifically, it states that the *IFC is committed to working with the private sector to put into practice processes of community engagement that ensure the free, prior, and informed consultation of the affected communities* … leading to broad community support for the project within the affected communities… The IFC's definition of broad community support is a collection of expressions by the affected communities, through individuals or their recognized representatives, in support of the project.

The IFC PSs on Social and Environmental Sustainability define clients' roles and responsibilities for project management—including requirements for

8 http://www.ifc.org/wps/wcm/connect/Topics_Ext_Content/IFC_External_Corporate_Site/IFC+Sustainability/Sustainability+Framework/Sustainability+Framework+-+2012/Performance+Standards+and+Guidance+Notes+2012/

information disclosure. Six of the eight PSs contain specific requirements for public consultation and disclosure. However, only following 5 PS is relevant to this Project.

PS 1 establishes the importance of effective community engagement through disclosure of project-related information and consultation with local communities on matters that directly affect them. Community engagement is defined as *an on-going process involving the client's disclosure of information, free of external manipulation, interference, or coercion, and intimidation, and conducted on the basis of timely, relevant, understandable and accessible information*.

PS 2 requires consultation in cases of large-scale retrenchment. In such cases, the client must ensure consultation with employees, their representative organisations and the government (where appropriate) in a manner that is absent of discrimination.

PS 5 requires consultation on matters associated with land acquisition and involuntary resettlement and evidence of informed participation with the affected persons and communities in the decision-making processes. It stipulates that consultation *will continue during the implementation, monitoring, and evaluation of compensation payment and resettlement*.

In **PS 6** the need for community consultation is understood as integral to defining an appropriate system of independent certification for the sustainable management of natural living resources.

Under **Performance Standard 7**, when a project initiative affects Indigenous Peoples (IPs), the client must work to establish an on-going relationship with the IPs. Projects with adverse impacts require a process of Free, Prior, and Informed Consent (FPIC) with affected IPs to facilitate their informed participation and consent on matters that affect them directly. The engagement process must be culturally appropriate and commensurate with the risks and potential impacts to the IPs. To ensure these aims are met, the IFC mandates the following steps:

- Involve IP representative bodies (e.g. councils of elders or village councils, etc.) as well as members of the affected IP communities;
- Be inclusive of both women and men and of various age groups in a culturally appropriate manner;
- Provide sufficient time for IP collective decision-making processes;
- Facilitate the IPs views, concerns, and proposals in the language of their choice, without external manipulation, interference, or coercion, and without intimidation; and
- Ensure that the grievance mechanism is culturally appropriate and accessible.

The IFC also requires clients to identify opportunities for culturally appropriate development benefits that are commensurate with the degree of project impacts. The aim of which is to improve the standard of living and livelihoods of IPs in a manner that fosters the long-term sustainability of the natural resources upon which indigenous communities rely.

5.2.2.2 Policy on Disclosure of Information

The 2012 IFC *Policy on Disclosure of Information* outlines the scope of materials that the IFC makes publically available—either on a routine basis or upon request.

In accordance with the prescripts of IFC's PSs, the disclosure policy requires that IFC clients self-disclose information to project-affected parties about all types of adverse environmental and social impacts that could potentially result from the project, as well as the client's plan to mitigate or eliminate these impacts.

5.3 NATIONAL CONSULTATION REQUIREMENTS

SOL is committed to enforce all applicable laws and regulations of the Indonesian Government. The below summarises the relevant articles and paragraphs in the laws and regulations in relation to public consultation and disclosure that SOL will comply with:

- Act No. 32 Year 2009 regarding Environmental Protection and Management.
- Outlines requirements for public involvement and information disclosure during the AMDAL process.
- Outlines the importance of social and environmental resources and values and delegates responsibility to project proponents to protect and preserve these values.
- Requires project proponents to conduct stakeholder engagement during project scoping.
- Requires project proponents to obtain community input into the project risk assessment process and definition of the project social zone of impact.
- Minister of Environment Regulation No. 17 Year 2012 regarding Guidelines for Community Involvement in the Process of Environmental Impact Assessment and Environmental Permits.
- Outlines requirements for community involvement and information disclosure during the AMDAL process and Environmental Permits.

- Requires all development projects to involve the community - providing information in a transparent and accountable manner, equality among parties, resolving problems fairly and wisely, coordinating and communicating across all parties.

5.4 CULTURALLY SENSITIVE CONSULTATION AND PARTICIPATION ACTIVITIES

5.4.1 Identification of Stakeholders

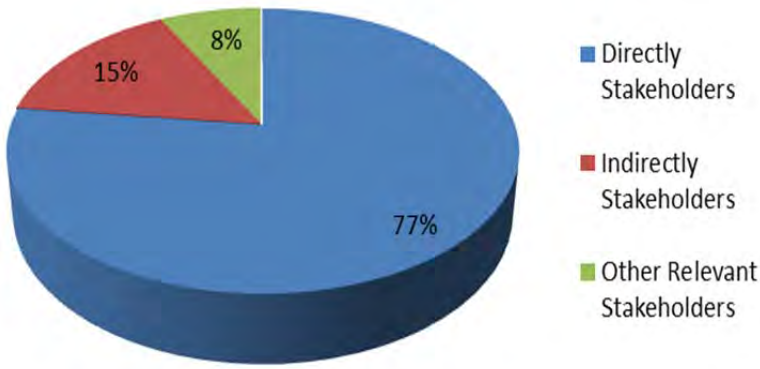
Stakeholders are defined *as people or entities that are affected or may have an interest in the Project*. SOL's key stakeholders were identified through a stakeholder analysis process at the beginning of the Project. During this process stakeholders were categorised by identity, roles and interest in and influence on the Project. The key stakeholders were categorized into three groups (Figure V-1):

1) Directly Impacted Stakeholders: People or entities that are directly affected by the Project and/or have been identified as most vulnerable to changes due to Project. They require engaging when identifying impacts, stakeholder's significance and during mitigation and management measure discussions. Direct stakeholders include land owners, village heads, community and religious leaders and the sub-district head as well as villagers in project affected communities.
2) Indirectly Impacted Stakeholders: People or entities that are could be indirectly affected by the Project. Indirect stakeholders include NGOs, Civil Society Organisations (CSOs).
3) Other Relevant Stakeholders: People or entities who are interested in the Project.

Tables V-1 and V-2 present the concerns, issues and perceptions of the communities in the Pahae Jae and Pahae Julu Sub Districts.

Annex A presents the identified Project stakeholders (in Pahae Jae and Pahae Julu sub-districts, North Tapanuli regency and North Sumatera province) and their categorisation findings.

Figure V-1 Project Stakeholders by Category



Source: ERM and SOL Primary Data, 2013

Table V-1 Key Concerns, Issues and Perceptions of the Communities in the Pahae Jae Sub District

Community	*Key concerns, issues and perceptions*
Pardamaean Nainggolan	**Environment**
	▪ Environmental damage concerns due to land clearing
	▪ Anxious of a well blow-out, such as in the case of LAPINDO in the East Java Province (this was due to a well failure during drilling)
	Employment and Business Opportunities
	▪ Prioritise job opportunities for local people
	ISP Program
	▪ Improve the bridge in the sub-village (*dusun*)
	▪ Provide support for church and school equipment
	▪ Increase the social welfare of the community
	▪ Improve the public health services
	▪ Provide scholarships for local students
	▪ Raise awareness of environment and community safety
	▪ Build junior and senior high school buildings
	▪ Build a hospital
	Information, Disclosure and Grievance Mechanism
	▪ Inform the community clearly on relocation and compensation process
Pardomuan Nainggolan	**Environment**
	▪ Concerns regarding a reduction of irrigation water
	▪ Anxious of a well blow-out, such as in the case of LAPINDO in the East Java Province (this was due to a well failure during drilling)
	▪ The project may result in pollution that could impact crop plantations
	▪ As the project is located in an earthquake prone area there are concerns this may impact project activities
	▪ The project may impact the quality of drinking water
	▪ The project may cause a landslide
	Health
	▪ Concerns regarding the production and disposal of project wastes
	Employment and Business Opportunities
	▪ Prioritize Project employment for local people e.g. construction labourers, catering, security and administration
	▪ The recruitment process should be open and transparent involving the village head (not via email or SOL's website).
	▪ Provide opportunities for local people to set up businesses to support the project e.g. an auto workshop, laundry and cleaning service
	ISP Program
	▪ Provide donations to disaster victims
	▪ Provide Christmas gifts for community
	▪ Improve the local road access
	▪ Establish a health program for local elderly people
	▪ Provide English and Mathematic courses for local students

Community	*Key concerns, issues and perceptions*
	▪ Provide aid/donations for all local people
	▪ Provide scholarships for high performing students and those from poor families
	Information, Disclosure and Grievance Mechanism
	Inform the community about SOL's grievance mechanism - how it works and who they contact to make a complaint etc.
Silangkitang	**Environment**
	▪ Concerns about impacts to their plantations and crops
	▪ The waste water from the project may contaminate the hot spring water
	▪ Anxious of a well blow-out, such as in the case of LAPINDO in the East Java Province (this was due to a well failure during drilling)
	▪ As the project is located in an earthquake prone area there are concerns this may impact project activities
	▪ The project may impact the quality of drinking water and amount of irrigation water available
	▪ Agricultural activities will be reduced due to the land acquisition process
	▪ Potentially the project may increase air pollution, noise and waste water resulting in negative environmental impacts
	Health
	▪ The project may result in community health impacts e.g. due to a high level radiation from the transmission lines
	Employment and Business Opportunities
	▪ Provide opportunities for local people to set up businesses to supply to the Project such as transportation, laundry and cleaning services
	▪ Employ local labourer during the construction phase
	▪ Recruitment process should be open and transparent; it should be informed to village head, not via email or website.
	ISP Program
	▪ Develop a water pipeline from the spring to community houses
	▪ Provide scholarships for high performing students and those from poor families
	▪ Improve the school building
	▪ Improve the church building and also provide support for church activities and equipment
	Information, Disclosure and Grievance Mechanism
	Inform the community of the grievance mechanism including who is responsible with in SOL
Sigurung-gurung	**Environment**
	▪ The project may increase water, air and noise pollution
	▪ Project activities may impact the communities clean water source
	▪ A toxic gas blow out caused by the project may harm the community
	▪ The project may impact plants in the forest
	Health
	▪ The transmission tower should be built away from residential areas to minimise community health impacts

Community	*Key concerns, issues and perceptions*
	Employment and Business Opportunities
	▪ Train and capacity build the local workforce
	▪ Prioritize local job opportunities
	▪ Provide opportunities for local people to set up businesses that service the project such as provision of agricultural crops (vegetables, rice paddy, fruit, etc.) to SOL, transportation, laundry and cleaning services
	ISP Program
	▪ Increase the quality of life and social welfare of the local communities
	▪ Implement a community development plan
	▪ Provide school equipment for students in the villages surrounding project
	▪ Provide scholarships for students between elementary and senior high school level
	▪ Provide electricity to Sugurung-gurung free of charge
	▪ Improve the dam used to irrigate the local rice paddy fields
	Information, Disclosure and Grievance Mechanism
	▪ Inform the community clearly regarding relocation due to project
	▪ Inform the community transparently regarding negative project impacts

Table V-2 Key Concerns, Issues and Perceptions of the Communities in the Pahae Julu Sub District

Community	*Key concerns, issues and perceptions*
Lumban Jaean	**Environment**
	▪ The project could harm plants such as *Petai* (*Parkia Speciosa*), cocoa and rubber resulting in crop failures
	▪ The project could impact water availability for rice paddy fields
	▪ Anxious of a well blow-out, such as in the case of LAPINDO in the East Java Province (this was due to a well failure during drilling)
	▪ Project activities may trigger landslides which could impact the community's rice paddy fields and plantations
	▪ SOL's activities may decrease the quality of clean water
	▪ The project may result in an increase in air pollution, noise and traffic accidents
	Social Culture
	▪ In migration as a result of the project could impact the Batak's tradition and culture
	Health
	▪ The project may increase diseases within the local population and crops due to its activities
	▪ The transmission tower could result in health impacts within the community
	Employment and Business Opportunities
	▪ New jobs for local people will be created
	▪ Employment of local youth will be a priority
	▪ Business opportunities within the local villages will increase
	ISP Program
	▪ Establish a conservation program
	▪ Provide vocational training for the community on IT, automotives, cooking, etc.
	▪ Improve the community infrastructure and health facilities
	▪ Provide school supplies for students
	▪ Provide church supplies, such as tables and chairs
	Information, Disclosure and Grievance Mechanism
	▪ Conduct socialization activities regarding project impacts as the community have not received enough information about project
	▪ Inform the community about SOL's grievance mechanism and ensure complaints are dealt with in a timely manner
	▪ Inform the community about the projects use of local roads verses the construction of new access roads
Onan Hasang	**Environment**
	▪ Anxious of a well blow-out, such as in the case of LAPINDO in the East Java Province (this was due to a well failure during drilling)
	▪ The project may harm plants such as P*etai* (*Parkia Speciosa*), cocoa and rubber resulting in crop failure
	▪ Potential environmental damage due to SOL's activities
	Health
	▪ The transmission tower should be built far from residential areas
	▪ SOL's activities have the potential to cause health issues in the community

Community	*Key concerns, issues and perceptions*
	Employment and Business Opportunities
	▪ Increase business opportunities in the village e.g. in transportation, workshops, canteen/restaurants, laundry and materials supplier
	▪ Prioritize the employment of local people in catering, housekeeping and administration
	ISP Program
	▪ Provide school equipment for students
	▪ Provide agricultural support such as provision of fertilizer and rice paddy seeds
	▪ Build new access roads to the rice paddy fields
	▪ Provide scholarships for high performing students
	▪ Provide access to medical facilities such as a clinic or hospital and allow community to have access to project doctors and paramedic staff during an emergency
	▪ Provide sporting facilities for local youth
	Information, Disclosure and Grievance Mechanism
	▪ Inform the community transparently and clearly about the project's negative impacts
	▪ Conduct socialization activities regarding project impacts
Sibaganding	**Environment**
	▪ Anxious of a well blow-out, such as in the case of LAPINDO in the East Java Province (this was due to a well failure during drilling)
	▪ The project may reduce the quality of the mountain spring water which is used as a clean water resource
	▪ The project may increase air pollution and dust from project vehicles
	▪ Potentially the project may increase traffic accidents
	▪ Potentially it will reduce soil fertility due to project activities
	▪ Potentially it will cause water pollution
	Social Culture
	▪ Anxious of social inequalities due to in migration and also the impact this may have on the Batak's tradition and culture
	Employment and Business Opportunities
	▪ Prioritize employment for skilled and educated local people
	▪ Provide opportunities for local people to set up business activities such as opening a convenience store to sell goods to the workers
	ISP Program
	▪ Increase the social welfare of the community
	▪ Provide the school equipment for students
	▪ Provide scholarships for high performing students and those from poor families
	▪ Provide support to the local agricultural sector (e.g. provision of fertilizer and rice paddy seeds)
	▪ Provide vocational training for local youth according to project needs e.g. English language, electronics, automotive training.
	▪ Provide sporting facilities for local youth
	Information, Disclosure and Grievance Mechanism
	▪ Inform the community regarding the projects negative impacts before activities commence

Community	*Key concerns, issues and perceptions*
	▪ Change the company name from Sarulla Operation Limited to Pahae Operation Limited (POL)
Simataniari	**Environment**
	▪ The project may cause landslides that may impact the community's rice paddy fields and plantations
	▪ Anxious of a well blow-out, such as in the case of LAPINDO in the East Java Province (this was due to a well failure during drilling)
	▪ As the project is located in an earthquake prone area project activities may be impacted
	Health
	▪ The transmission tower should be built far away from residential area
	Employment and Business Opportunities
	▪ Provide opportunities for local people to set up business activities such as opening a convenience store to sell goods to the workers
	▪ Provide employment opportunities for local people in catering, housekeeping, manual labour and drivers
	▪ Prioritize employment for local people depending on their skills
	ISP Program
	▪ Provide school equipment villages
	▪ Improve road access in the village
	▪ Build the junior and senior high school
	▪ Provide scholarships for high performing students and those from poor families
	▪ Improve health facilities in the villages
	▪ Provide church supplies such as tables and chairs
	▪ Improve the village government office
	▪ Provide sporting facilities for local youth
	Information, Disclosure and Grievance Mechanism:
	▪ Inform the community regarding the projects negative impacts and details of the relocation process
	▪ Inform the community how the project will manage its negative impacts and provide compensation

5.4.2 Consultation

This section provides an overview of the Information Disclosure, Consultation and Participation process that has been implemented to date by SOL. This includes:

- Information education consultation (IEC) materials;
- Dissemination protocols;
- Consultation activities from 2008 until 2012;
- Consultation conducted to date in 2013; and
- Planned future consultation including disclosure of the ESIA.

5.4.2.1 IEC Materials

ADB's SPS states that consultation and participation are central to the achievement of the safeguard policy objectives. It explicitly requires the borrower/client to carry out meaningful consultation with affected persons and communities within the vicinity of the project location. Thus, in order to achieve this objective, SOL is required to ensure that all information related to the Project is well informed and communicated to the communities, groups, or peoples affected by the Project.

This also implies that information disclosure is not merely a one off process but that it is conducted continuously throughout the Project cycle allowing for an effective flow of information. One of the most important aspects of information disclosure is the preparation and establishment of IEC materials.

SOL has prepared numerous forms of IEC materials including brochures/leaflets, Project location maps, pictures/photos and video presentations etc. Preparation of such materials considers:

- Culturally appropriate and effective: The materials are presented in a language that is understood by the local communities; the IEC materials consider all local customs and values. Even though the Indonesian language is widely spoken and understood by the local communities, the Batak (the majority ethnic group in the project location) speak the Batak language therefore Batak is used when producing IEC materials for this group.
- Clear and understood by the communities: SOL recognises the importance of providing concise and clear information in the IEC materials. Materials are presented in a structured format and are as informative as possible but not in an exhaustive way.
- Accessible: The Project needs to ensure that all affected people have access to the information concerning the Project and its impacts.

- Therefore SOL's IEC materials are made accessible to all affected communities as well as other related stakeholders.

Information and issues covered in the IEC materials range from Project information (project footprints, village settlements, etc.), the Environmental Impact Assessment (EIA) related information, job vacancies, grievance forms, etc. SOL understands the importance of sharing Project information with its local communities. This is demonstrated through the provision of the EIA executive summary document in the seven affected villages, namely:

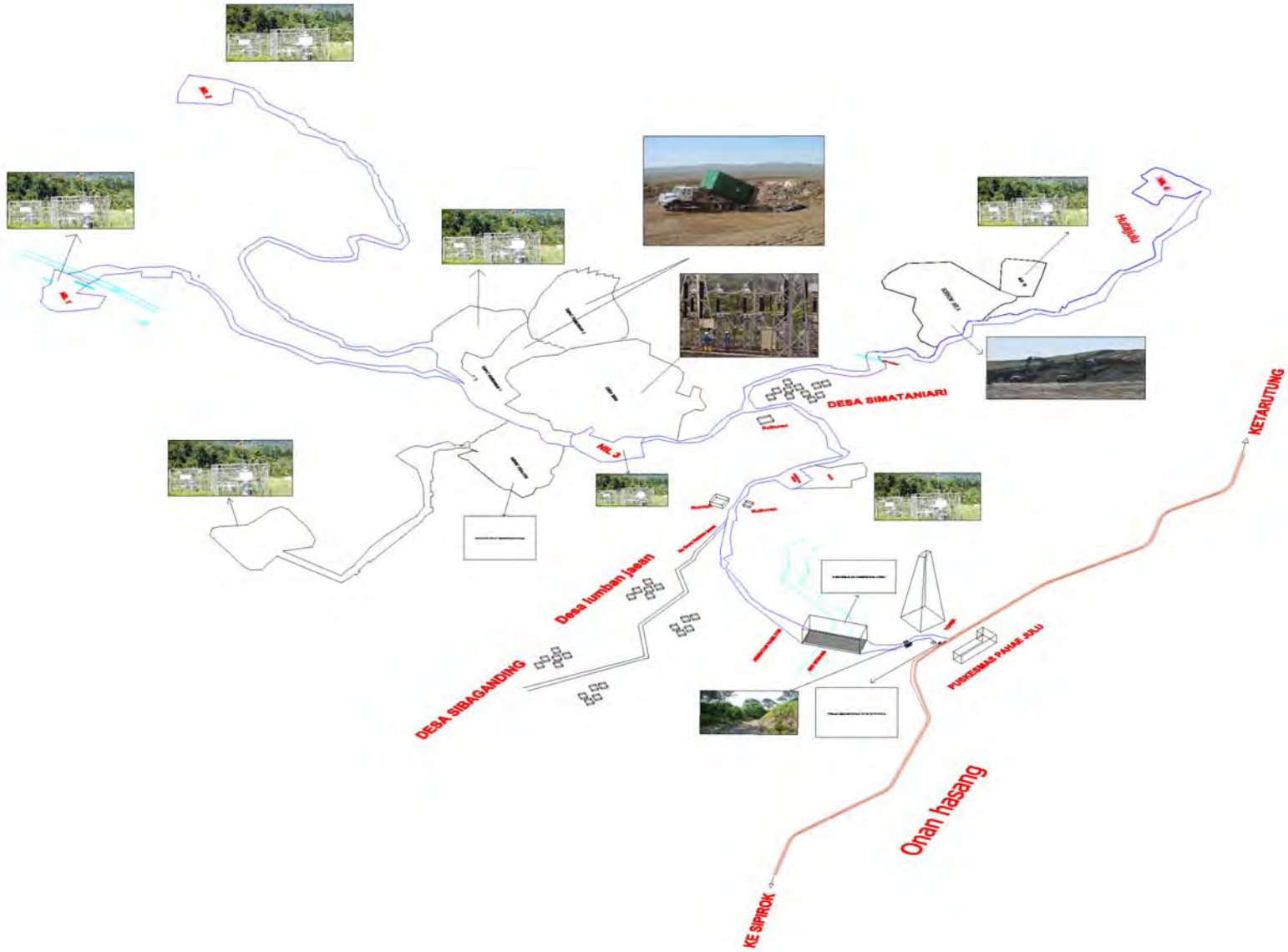
SIL Area:	NIL Area:
1. Silangkitang	1. Simataniari
2. Sigurung-gurung	2. Lumban Jaean
3. Pardamean Nainggolan	3. Sibaganding
	4. Onan Hasang

The documents have been made available in each village administration office. The complete EIA (ANDAL, RKL/RPL) documents are available in the sub-district offices in Pahae Jae (Silangkitang Area) and Pahae Julu (Namora I Langit Area).

Aside from the provision of the EIA summary to the local communities, other forms of materials are being developed by SOL including pictures/maps of the Project footprint (Figure V-2). This provides an overview of all Project facilities and their location. These materials will be finalised prior to undertaking further public consultation in the villages.

Figure V-2 Example of Project Map Being Prepared For Project Disclosure and Silangkitang (SIL) Area

a) NIL Location



b) SIL Location

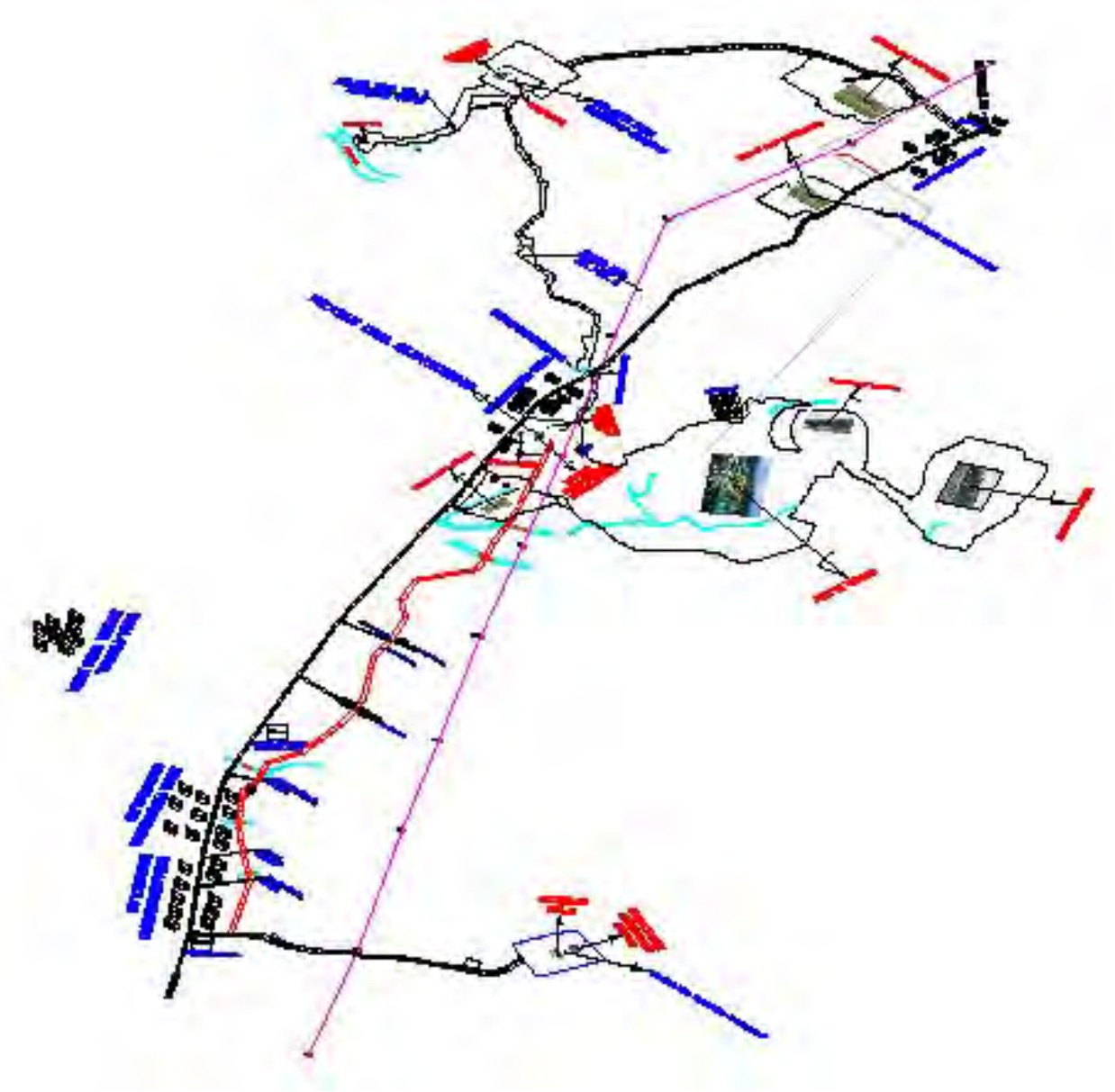


Figure V-3 provides a further example of a typical Project brochure that SOL will share with the communities.

Figure V-3 How geothermal works as sustainable source of Energy and typical situation of a geothermal power plant built and operated by Ormat

SOL also plans to develop materials that will be presented and explained to the local communities/affected communities during consultation activities which will be conducted in the latter part of 2013. The materials will consist of the following information:

- Introduction of the Project proponent/management;
- Explanation on the Project and its related activities;
- Location of Project facilities and boundaries and facilities closest to local communities;
- Potential impacts from the Project (positive and negative) and how they will be managed;
- Important environmental components to be understood; and
- SOL's grievance mechanism.

As the consultation process is not a one-off activity the IEC materials will be developed throughout the Project lifecycle as one of the tools for information disclosure to the local communities.

5.4.2.2 Distribution of IEC materials

In order to ensure that IEC materials are accessible to the general public, especially the affected people, SOL will establish locations where disclosure and the distribution of materials will take place.

5.4.2.2.1 Village Level

At the village level, distribution of IEC materials will be shared via the:

- Head of village and local communities leaders/informal leaders;
- Village board information;
- Village administration staff; and
- Representatives from community group.

5.4.2.2.2 Sub District Level

At the Sub district level materials will be distributed through the:

- Sub district administration staff; and
- Information board.

5.4.2.2.3 Project Office Level

At the Project level, the IEC materials will be communicated and presented by SOL's Project field team and management. This task will be managed by SOL's Project external relations officer, Mr Industan Sitompul and his team. The team will be divided into two coverage areas, one for the SIL area and the other for the NIL area.

5.4.2.3 Information Dissemination Protocols

This section explains the information dissemination protocols which SOL has and will continue to apply for the Project. The purpose of these protocols is to ensure that all related stakeholders participate in and are well informed of Project meetings or activities conducted in their area.

Considering the national, ADB and IFC information dissemination requirements and local customs in the Sarulla area, SOL will undertake information dissemination in the following forms:

5.4.2.3.1 Direct Communication

5.4.2.3.1.1 Verbal

Verbal communication, to disseminate information to local communities in the Project area, is accepted locally as most villagers communicate in this manner.

5.4.2.3.1.2 Written/invitation or notification letter

This is conducted by sending/distributing notification/invitation letters to the individuals/villagers.

5.4.2.3.2 Indirect Communication

This would be undertaken in the form of a notification through the village information board, brochures, and also newspapers or electronic media, such as radio and television.

5.4.2.3.3 Protocol and Implementation

The guidelines on public consultation, as stipulated by the Government of Indonesia in Minister of Environmental Number 17 year 2012, do not explain in detail the protocols for information dissemination. However the Project will use the regulation as a reference in the implementation, and it will also refer to local culture and practices so information can be well disclosed to the local communities and the public. Therefore, the following protocols will to be carried out by SOL for disseminating information:

5.4.2.3.3.1 Initial Communication with the Heads of the Sub Districts and Villages

Prior to conducting any meetings or activities, the SOL field team/external relations will first coordinate and communicate the planned activity with the heads of the sub districts and villages. In these initial discussions the schedule will also be agreed to ensure the timing is suitable and does not conflict with other key community activities or events. In addition the location of the venue will be agreed. Where possible meetings will take place in the evening to allow the community to carry out their farming activities as normal.

5.4.2.3.3.2 Invitation – written and verbal

After the schedule is agreed with the head of the villages or sub-districts SOL will then prepare a formal invitation letter to be sent to all intended persons/individuals or groups. This invitation will then be distributed to all the intended individuals via the head of each village by SOL's external relation officers.

In addition to the written invitation, as the external relation officers are locally recruited, they will also disseminate information on planned meetings and discussions verbally.

SOL's intent is to ensure that communication on proposed consultation events is undertaken as early as possible to the villagers/participants. This should be at least one week before any activity takes place.

5.4.2.3.3.3 Follow up on invitations

The SOL field team (i.e. the external relation officers) will then follow up with the head of each village to confirm attendees. If the intended person is unable to attend SOL will encourage them to nominate a representative to attend in their place. (This also occurred during the land acquisition socialisation/negotiation process in instances where land owners reside outside of the Project area).

5.4.2.3.4 Execution of activities

5.4.2.3.4.1 Agenda of Meetings/Activities

In general the agenda for the above stakeholder meetings follows the below:

- Prayer;
- Welcome speech by SOL and other attendees;
- Explanation and presentation on current Project activities by SOL. This will also include a two way discussion on the identified potential impacts and risks, and the proposed measures and actions to mitigate the impacts;
- Open discussion in a Question and Answer format;

- Documentation including minutes, attendee list and photos; and
- Closing prayer.

When the majority of villagers are Christian the meeting will be opened and closed with a prayer, performed by the community leader or S*intua* (church minister).

5.4.2.3.4.2 Language

Local communities in the Pahae Jae and Pahae Julu sub districts are predominantly Batak and use both Indonesian and Batak in their daily communication. They understand Indonesian very well and use it in their daily conversation. However, older people in the communities prefer to use Batak. Thus meetings and activities conducted to date by SOL have been in both languages to accommodate all generations. During informal meetings Batak is and will continue to be used to build a closer relationship with the local communities.

For certain activities, such as land surveying and staking, the process will be slightly different as the meetings will involve less people:

- Coordination with the village head to explain the activity and identify the affected land owners;
- Contact the intended person/land owner directly (accompanied by the village head) to set up the meeting;
- Meet with the land owner (or small group of land owners) to explain land surveying activities; and
- Based on whether consent is obtained from the land owner and village head the survey is conducted.

This protocol will continue to be used when disseminating information to the local communities; adjustments will be made in accordance with the local communities' needs.

5.4.2.4 SOL Consultations up to 2012

This section presents an overview of public consultation activities undertaken by SOL between 2008 and 2012.

5.4.2.4.1 Consultation Activities

The Project commenced consultation activities in 2008 with stakeholders including local government and related agencies, affected communities/groups, local NGOs and other related stakeholders. The objectives of these activities were to:

- Commence the consultation process early in the Project planning phase with affected communities and other related stakeholders;
- Disclose information on Project related information; and
- Establish a relationship with local communities, understand their concerns and discuss how the Project could address the issues raised.

Consultation activities were conducted, where possible, in a venue closest to the local communities. However, in some villages, where no sufficient venues were available, it was agreed with the village heads to hold the meetings in a church or school classroom located close to the village (due to their larger capacity). Some meetings were also held at SOL's Project office meeting hall in Silangkitang. In instances where this occurred SOL provided transportation for the community.

Meeting participants consisted of both men and women who were given equal opportunities to voice their concerns and expectations during the question and answer sessions. A summary of consultation activities conducted between 2008 and 2012 is described in Table V-3.

Table V-3 Public Consultations Activities Undertaken Between 2008 and 2012

Activities	*Date*	*Stakeholders/ attendees*	*Description*
Project socialization at Silangkitang	5th February 2008	Head of villages, Representatives of local communities, Representatives of Local Government	Explanation on Project plan and activities
Public consultation in relation to AMDAL preparation	28th March 2008	Local communities from seven affected villages, Head of Villages, Communities' leaders, Youth groups, Church leaders from both Pahae Jae & Pahae Julu, North Tapanuli Local Government	Information disclosure and discussion on project plan and activities, discussion on communities' concerns and inputs
Project socialization with government institutions in Tarutung	6th May 2008	Bupati of North Tapanuli, Head of Local Government Offices/ agencies, Head of Sub District of Pahae Julu and Pahae Jae	Information disclosure on project plan and activities
Project socialization regarding land acquisition process for re-injection route	6th June 2008	Local communities, Head of villages, Head of Sub District	Explanation and discussion on land acquisition process and plan for re-injection line route
Socialization/ Seminar of Sarulla project to local NGOs groups, local	25th June 2008	Church Associations and NGOs -JPIC HKBP, JPIC UEM,KSPPM, NINDJA JAPAN, Local Government	The impact of PLTP Sarulla towards community life and the

Activities	*Date*	*Stakeholders/ attendees*	*Description*
communities and local Governments representatives		Agencies (BAPPEDA, North Tapanuli Bupati Office), representative of local communities, Head of Villages	environment
Socialization of well work over activity in Silangkitang	15th July 2008	Local communities, head of villages, Head of Sub Districts, Representative of Local Government	Information disclosure on well work over plan and activity
Well work over ceremony in Silangkitang	15th Aug 2008	Local Government of North Tapanuli, local communities, Head of Villages, Communities' elders, Head of Sub districts	Ceremony event prior to commencing the well work over activity
Dialogue forum with local communities and local NGO – IMARUPA & IARRP	11th Jan 2011	member of local House of Representatives of North Tapanuli, IMARUPA NGO, IARRP NGO, Head of Villages, Local communities' representatives	Discussions related to concerns on environmental impacts and the project's community development program
Discussion/Meeting with local communities, representatives of North Tapanuli Local Government and IMARUPA/ IARRP	24th March 2011	Head of villages, village elders, Chairman of IMARUPA NGO and staff, Chairman of IARRP NGO and staff, Representative of Local Government, Head of Sub districts, representatives of local communities	Discussion on the project's ISP and stakeholders (local communities, SOL, Local NGOs (IMARUPA & IARRP), local government) commitment to support the implementation of the project
Project and AMDAL socialization/explanation (in 13 villages) of Pahae Jae and Pahae Julu	23th March 2011, 15 – 18th April 2011	Head of villages, villagers and community leaders	Explanation on geothermal project, environmental impact and project's AMDAL document, communities concerns
Socialization on land acquisition to brine Injection line land owners	25th Nov 2009	Land owners, Head of Villages, Head of Sub district, BPN (Land Agency Office), Agricultural Office	Explanation and discussion on project's land acquisition plan/activities for brine injection line route
1st negotiation meeting for Brine Injection line – land owners	9th Dec 2010	Land owners, Head of Villages, Head of Sub district	Meeting/negotiation on land price
2nd negotiation meeting for Brine Injection line – land owners	19th Jan 2011	Land owners, Head of Villages, Head of Sub district	Same as above

Activities	*Date*	*Stakeholders/ attendees*	*Description*
3rd negotiation meeting for Brine Injection line – land owners	24th March 2011	Land owners, Head of Villages, Head of Sub district	Meeting/negotiation on final agreement on land price

5.4.2.4.2 Communities' concerns and SOL's responses

In general, the stakeholders consulted, especially local communities, expressed their support towards the Project during the above meetings; welcoming the Project in their area. However, various concerns/issues were raised throughout the 2008 to 2012 consultation period (Table V-4).

Table V-4 Summary of Key Concerns and Issues (2008 -2012)

Key concerns and issues	*SOL's responses*
Environment:	
- Effects of the hot steam/vapour on the plantation - What if there is a leak in the gas pipe? - Concerns on mud flooding as in Lapindo case - Water, air and noise pollution	- The project is using new technology so that the hot steam will not cause any harm to the plantation surrounding the project area. - The project has assessed and has taken counter measures for any related risks including pipe leaking and also mud flooding. This has been considered as part of the project design. Should such a case happen the project will take full responsibility.
- Further explanation on impacts of the transmission line (SUTET)	- The project is not going to build SUTET (275- 500 kV) but a SUTT 150 kV line which is different –the project will have another meeting to discuss the transmission line issue.
- Project should be transparent on the impacts and further explanation on positive and negative impacts are required	- The project will conduct further socializations to local communities to address all the questions and concerns and having this meeting is part of communities' involvement in the preparation and discussion of AMDAL.
- Involvement of local communities on AMDAL document preparation and discussion - There should be a clear agreement and meeting on environmental managements	- The project will comply with the applicable regulations in Indonesia when conducting its activities.
Employment and business opportunities:	
- Prioritize the local man power and local resources such as local contractors, businesses and services	- The project will absorb local man power in accordance with their skills and capacity and based on project's need. The project will also work with local contractors and businesses.
- Training for local man power, to ensure the community are work	- The project noted this and plans to conduct training for local manpower - this still needs to be further assessed

Key concerns and issues	*SOL's responses*
ready and skilled appropriately as most of the local people are farmers - Do not treat local people differently, all people must be given same opportunities - Request the project to conduct survey on available local man power data so that it could be used for recruitment process - To establish a simpler tender process for small scale contracts so that local contractors could participate	and discussed. - The project noted the inputs and will discuss these further with the management. - Mechanism for recruitment and the tender process will be communicated and coordinated with local communities through Head of Villages. - Mechanism for recruitment and the tender process will be communicated and coordinated with local communities through Head of Villages.
ISP program:	
- The project should allocate budget for a ISP - Commitments for a ISP must be made in a written statement/agreement	- The project fully understands and acknowledges its responsibilities to conduct ISP activities and this issue will be followed up and discussed with the project management team.
Land Acquisition process:	
- Land owners should be informed of their rights and land acquisition should be done based on agreement and consent from the land owners' themselves - Negotiation should be undertaken on a group basis not individually and should be free from intimidation or force. - Land owners who release their land should be prioritized for Project employment opportunities	- The project noted all these concerns and inputs; the land acquisition process will be conducted accordingly with no intimidation or force and it will comply with the applicable regulations in Indonesia.

The following section provides a series of photos taken during the consultation activities (Figures V-4 to V-7).

Figure V-4 Public consultation with local communities in Sibaganding, Simataniari & Lumban Jaean village

Figure V-5 Public consultation with local communities in Sitolu Ompu and Siopat Bahal

Figure V-6 Public Consultation with Local Communities in Sigurung-gurung Village

Figure V-7 Public consultation with local communities in Silangkitang village

5.4.2.5 SOL Consultations in 2013

During 2013 the Project has conducted two phases of consultation activities in the eight impacted villages as discussed below.

5.4.2.5.1 Socialization on the Land Acquisition Process (April and May 2013)

Socialisation was undertaken on the acquisition of land required for some project facilities; this included confirmation of the land boundary survey and calculation on the number of plantations (conducted by SOL's field team). The meetings were held with land owners from the SIL area (Silangkitang and Sigurung-gurung village) and NIL area (Sibaganding, Simataniari, Onan Hasang, Lumban Jaean village). The aim of these meetings was to gain land owner consent and agreement before negotiations take place.

5.4.2.5.1.1 Consultation Process

The meeting schedules were first coordinated with the village heads with invitations distributed a week before the meeting. Where land owners were unable to attend, representatives were nominated, with SOL then undertaking a verification process to ensure these nominated persons had the appropriate documentation.

Participants were generally limited to related land owners and their family members and land owner representatives (confirmed by the village head). During these meetings SOL explained the purpose of the meeting and the stages of land acquisition to be undertaken before payment takes place. SOL also stated that attendance did not mean that the land owner would have to sell their land, that the final decision was the land owners' decision and that no coercion or force would be placed on the land owners to make a decision. Figures V-8 and V-9 show some of the socialisation consultation meetings that took place during this period.

Figure V-8 Socialization on Land Acquisition to Land Owners in Silangkitang Area

Figure V-9 Socialization on Land Acquisition to Land Owners in NIL Area

The meetings were conducted in Indonesian and Batak by SOL's External Relations team. Following the Project presentation a question and answer session was initiated with the land owners where comments and queries were raised. Some of which SOL responded to immediately others required follow up. The question and answer session was then followed by the signing of the situation map and plantation inventory by each land owner or their

representative. Land owners comments and queries along with SOL's responses during these sessions are summarized in Table V-5. Furthermore, Figures V-10 and V-11 show some of the land acquisition meetings that took place.

Table V-5 Summary of Comments and Queries from Land Owners during Land Acquisition Socialization

Land Owners/ Village	*Comments/Queries*	*SOL's Responses*
Janton Simatupang / Simataniari	- EIA (AMDAL) needs to be explained to villagers in Simataniari.	- Socialization on AMDAL document had been conducted in 2011. The project is fully committed to disseminate the AMDAL document throughout the project area.
	- During UNOCAL era, some community members claim activities caused damages to their water line. They are requesting SOL fix it.	- SOL noted this issue and will further investigate the location because this is from UNOCAL era. Best solution will be sought by SOL's team.
Volwin Sitompul(Sibaganding Village)	When the project operates, will the water from Aek Acimun river keeps running to Sibaganding village?	Yes, water will still run from Aek Acimun to Sibaganding village.
Novada Sitompul (Sibaganding Village), Rudi (Simataniari Village)	- The local recruitment process should involve candidates from Sibaganding and Simataniari village. The process should be fair and positions should not only be temporary but permanent.	- The project will recruit local man power based on their skills and information from the Jakarta office, within the near future; the project will have socialization on recruitment of workers in the Sarulla area.
	- Results of the plantation inventory, calculations and the situation map should be shared with the village after the price is agreed and payments made.	- SOL noted this and it will be shared after the price is agreed and payments are made to all land owners.

Land Owners/ Village	*Comments/Queries*	*SOL's Responses*
Dimpos Tambunan (Sibaganding Village)	- Access road to the village needs to be improved - Waterline to the rice field needs to be improved - Local people to be recruited in accordance with their skill	- SOL noted this and will further study the condition of the access road and the waterline. The presence of the project in this area will not cause any harms to the local communities.
Basirun Sinaga	- Propose that his land located on the right side is not to be wholly acquired by the project	- This request had been addressed and responded as per Mr Basirun's request as this was discussed during the land survey and measurement
Doharman Sitompul	- A situation map for each land to be acquired to be prepared - Invitation for land negotiation to be prepared at least a week before the event so that owners residing outside of Sarulla area may have time to prepare and attend the meeting. - AMDAL document should be available at the village	- SOL has prepared and made situation maps for all land to be acquired - SOL noted this and all activities will be informed well in advance and ensure that land owners residing outside of Sarulla attend the negotiation. - It will be shared with the Head of Village and available at the village office
Rajin Sihombing	- What if the land doesn't belong to me?	- As long as there is power of attorney letter from the land owner, then it will not be an issue.
Sadahari Hutabarat	- Represents Mr Hattus Sihombing asked SOL to also acquire the remaining land that he has including one grave area	- SOL could not acquire the grave area but will check the location for the remaining land.
Tunggul Sihombing, Samarida Sianturi, Parinton Sihombing	- Requested SOL to acquire their remaining land	- SOL will first check and study the location of the remaining land
Herto Sihombing	- After signing the situation map and plantation inventory today, do we lose our right on the land?	- No, because no payment is made and after the signing of situation map and plantation inventory, land owners still have full rights to their land.

Figure V-10 One Land Owner Signing of the Situation Map and Plantation Inventory

Figure V-11 Landowner Requesting SOL to Purchase her Remaining Land

5.4.2.5.2 Pre-Construction Socialization on the Land Acquisition Process (August 2013)

Between 27th and 31st August 2013 socialization activities were undertaken by SOL in the 8 Project affected villages. The primary aim of which was to disclose the Project activities and discuss the potential impacts and mitigation measures; along with discussing community concerns, the grievance mechanism and settlement process. The detailed minutes and attendances lists are presented in Annex B.

Each 2 hour session took place in the village, attended by the village heads community representatives, SOL's external relations team and an ERM representative. Minutes and attendance lists were recorded for all sessions which followed the same format:

- Opening prayer by local minister;
- Welcoming speech by the village head;
- Presentation and explanation of the Project; this included showing a geothermal video presentation, presenting a brief history of the Project, introducing SOL as the project proponent and discussing the Project activities and impacts;
- Question and Answer session;
- Closing; a moderator explained that any additional questions, inputs or concerns should be conveyed to SOL (verbal or written) via the SOL external relations officer or through the Head of Village; and
- Closing prayer.

Table V-6 summarises the key issues raised per village during the August consultations along with SOL's response. The key questions and concerns raised focused on topics such as:

- Compensation payment timing;
- Project impacts such as noise, H_2S, traffic and dust, water source impacts, soil and erosion impacts; and
- Project Benefits such as employment, training and ISP programs.

5.4.3 Consultation and Participation Activities during the Construction and Operation Phase

Aside from the consultation and participation activities that have been conducted to date, SOL will continue to conduct public consultation and disclosure activities in various forms. This is not only to comply with ADB, IFC or other international finance standards, but also to establish good communication and relationships with all SOL's stakeholders - especially the affected communities and the communities living in the vicinity of the Project

area as well as with NGOs and local government agencies who may be potential ISP implementation partners. Throughout the Project, regular meetings and co-ordination with various stakeholders will be planned and scheduled. This will include disclosure of the ESIA, ESMP and ISP. Key known activities for planned future consultation and participation are summarized in Table I-7.

5.4.3.1.1 NGO Consultations (September 2013)

An NGO and CSO information sharing session was held in Jakarta in September 2013. NGO/CSO attendees included AKSI (for Gender, Social and Ecological Justice, WALHI (Selaku pengkampanye tambang dan energi), IESR (Institute for Essential Services Reform) and WWF (World Wildlife Fund). SOL, ADB, ERM and ENVIRON were also in attendance.

Questions posed to SOL centred on the following issues which SOL responded to:

- SOL's consultation and disclosure process;
- SOL's grievance mechanism;
- Project funding;
- The AMDAL and ESIA content and disclosure;
- Legacy health and safety issues related to the Project;
- Consultation regarding potential environmental issues;
- Electricity tariffs and provision of electricity by the Project to the local communities;
- Project description details; and
- Sensitive environmental receptors.

The detailed minutes and attendances lists are presented in Annex C.

SOL will continue to consult and collaborate with interested NGOs throughout the Project lifecycle.

Table V-6 Summary of Pre construction Consultations conducted in August 2013

No	*Theme*	*Questions/Comments/Suggestion*	*SOL's responses*
Silangkitang			
1	Project Proponent	• What is SOL?	• SOL (Sarulla Operations Limited) is a consortium consists of four companies: PT Medco Power Indonesia, Kyushu, Ormat, and Itochu. SOL is the proponent of Sarulla Project which is having a contract (JOC) with PT PGE as the concession owner and Energy Contract Sale (ESC) with PLN.
2	Noise Impacts	• How SOL will manage the negative impact of "Noise"?	• Noise will be monitored and minimized as much as possible by using a "silencer". Standard Operating Procedure for operation is established to address the issue of noise. This issue is also addressed in the Environmental management Plan (RPL/RKL) document.
3	H2S Impacts	• Is H2S would be produced by the project? • Communities' must be protected from its impacts • How H2S will be managed during flow test and how long flow test will be conducted?	• In any geothermal location, H2S exists even without the presence of a geothermal power plant because it's part of the nature. And during project operation, H2S odour might occur but based on the study made by the Project, it will not more than 0.02 ppm (regulatory standard for H2S odour). • To avoid and minimize any impacts to the communities and project's workers, H2S will be monitored and controlled and it is part of the environmental Management plan (RKL/RPL) • Test would be conducted for about 2 months. Injection test (SIL 1 & SIL 2) would not cause any noise or H2S because it is only for water injection. Production test for two wells will take about one and a half months.
4	Project Benefits	• This project will bring more positive impacts to the local communities and will help to develop the economy of the villages surrounding project area. • I myself had worked in some geothermal field survey previously and I know that geothermal is very useful for producing power and it is environmental friendly so we have to support this project for the benefit of our area and our people.	• Noted by SOL
5	Project Traffic Impacts	• Any projects will have negative impacts, but it should be minimized and managed. • One of the impacts that were recently experienced by Silangkitang area is SOL's contractor trucks that transport the soil through the road and the soils was falling from the truck and made a lot of dust. This has been reported to SOL. This should not be happened again and SOL must really monitor the work of its contractors.	• SOL noted this and expressed its apology for this occurrence. • SOL will follow up this issue and communicate with related contractors and ensure that all standard operation procedures as well as HSE guidelines are fully adhered to by all contractors.
6	Dust Impacts	• To add on dust issue, I have talked to the related contractor (Multifab) and also to SOL, but this was happened again. And I am disappointed because of this and really urge SOL to take action even if the contractor is local or non-local. So, since this is still the first case, SOL has to learn from this and not to let the same thing happen and make local communities disappointed.	• SOL will take action and will follow up this issue and communicate with related contractors and ensure that all standard operation procedures as well as HSE guidelines are fully adhered to by all contractors.
7	Management of Worker Behaviour	• The communities will regard all contractors' behaviour and actions as SOL's thus SOL should also be responsible for any impacts or results from contractors (local or non-local) works.	• SOL noted and it is SOL's obligation to implement the environmental management plan in the project as in accordance with AMDAL document.

No	Theme	Questions/Comments/Suggestion	SOL's responses
Sigurung-gurung			
1	Employment and Training	• Request SOL to provide training for local communities to develop their skill so that they can work in the project. • To prioritize the local labours (from Pahae/ Pangaloan area) to work in the project in accordance with their skill and capacity. • Good intention from SOL to maximize local resources will be implemented in the future; however I want to ask why previous recruitment for current SOL's employees in Sarulla was especially the drafter's assistants. • Maximize local resources according to their skills and tell the truth to local communities. • Request SOL to control the salary/ wage system /standard of its contractors • Expect that our children not only working as daily labour or contract but must be permanent, we do not expect that our children to be a director but in accordance with their skill and background. We have sold our land and our wish that our children may work in this company.	• SOL is committed to prioritize local resources including labours in accordance with their skill and capacity. • For training, it will be part of SOL's ISP. Currently, SOL is in the process of recruiting and short listing the children from local communities which is part of SOL's commitment for maximizing local labours. • Previous recruitment was in a very urgent situation and we had tried to look for local people but we did not find candidates with the required skills. • SOL noted and will maximize local resources in accordance with the need of the project in each phase. • It is a very important valuable input for us and we will communicate this to our contractors • SOL noted this.
2	Community Development	• Since the project is developed in our area, we expect that we can have free electricity • Please explain what is CSR • Commitment on ISP should be written so that it's not only in words	• SOL doesn't have the authority to answer this because the contract scheme. • CSR is Corporate Social Responsibility; as stipulated in the regulation, all companies operate in an area or location is obliged to develop an ISP program. SOL in this case is also obliged to develop its ISP and it is being planned and prepared. The programs will be based on the needs of local communities and SOL will establish another coordination meeting with each village to discuss about ISP activities and its implementation. • SOL actually already had signed MoU on ISP to local communities in March 2011.Some ISP activities has been conducted in the form of donation and assistances to local communities, however this is a short term program and long term ISP program is still being planned and developed.
3	Socialisation	• Request that socialization like this must be done jointly for both Sigurung-gurung and Silangkitang, do not conduct separately because culturally	• SOL's intention to conduct separate meeting is to ensure that interaction between the SOL and villages will be more effective because combine two villages in a meeting will involve a large number of people and discussion might not be as effective as a discussion with a smaller number of people. However, SOL noted this and will combine the two villages for future's meetings with local communities.
4	Project Impacts	• Please explain more on some of the negative impacts	• All negative impact will be managed and minimize as stated in the environmental management plan such as: • 1.Land acquisition – socialization and negotiation • Mobilisation of equipment- material – controls all the vehicles and establishes a SOP. • 3. Drilling – water resource will be from Batang Toru but it will be a small scale. • Landslides from some clearing – establish an adequate drainage system and terrace land scheme. • Potential leaking in pipe – check and certification system for all the pipes before used in the project. • H2S – Monitoring and control H2S. Without the project, H2S actually already exists in the area, however, it might escalate therefore, SOL will monitor and control it when the project runs. • 7. To minimize and manage the potential risks, SOL has established SOP/HSE guidelines.

No	Theme	Questions/Comments/Suggestion	SOL's responses
Pardomuan Nainggolan			
1	Relocation	• When project operates, how about the settlements surrounding the project?	• Settlement surrounding the project location will not be moved.
2	Impacts on water resources	• Will there be any impacts on irrigation/water resource when the project operates?	• Water intake for this project will not have any impacts on the surface water because drilling will be very deep (3000 -4000 meters).
3	Local Employment	• Prioritize the local labours and recruitment from each village must be equal. • Is the salary received by SOL's employee in dollar or Rupiah? • What kind of the education background/skill that will be required to work in SOL? • Please use/utilize our local labours in the project. • Why there hasn't been any recruitment from our village • Please provide training for us so that we can work in the project.	• We commit to prioritize the local labours and currently, local recruitment has been conducted and is being processed for some positions. • SOL's employees salary is in Rupiah • Basically SOL receives various educational backgrounds but in particular for operation stage, technical background will be required more. • We are committed for maximizing local resources • Currently we are in the recruitment process and we know that some of the candidates are from this village and some other villages as well. • It will be part of our ISP in the long term.
4	Environmental Impacts	• Will there be any case such as Lapindo/mud disaster?	• Sarulla project is geothermal while Lapindo is gas project, basically it's different thus lapindo case will not happen in geothermal project.
5	Community Development Support	• Can SOL provide assistance for our children's education especially for the ones that have achievement? • Benefits for local communities especially our village. • If this project already operates in the future, what will be the benefits and its contribution to the local communities?	• It is part of SOL's commitment for ISP and its planning and implementation is being planned and discussed. We will discuss further with local communities because the program must be based on the needs from the local communities. • It is part of ISP which is being planned and prepared for short, medium and long term program. • The project will deliver benefits such as the use of local resources or commodities for project's activities. • The contribution will be in the form of ISP activities in each village in accordance with the needs of each village.
6	Relocation	• When project operates, how about the settlements surrounding the project?	• Settlement surrounding the project location will not be moved.
7	Impacts on water resources	• Will there be any impacts on irrigation/water resource when the project operates?	• Water intake for this project will not have any impacts on the surface water because drilling will be very deep (3000 -4000 meters).
8	Local Employment	• Prioritize the local labours and recruitment from each village must be equal. • Is the salary received by SOL's employee in dollar or Rupiah? • What kind of the education background/skill that will be required to work in SOL? • Please use/utilize our local labours in the project. • Why there hasn't been any recruitment from our village • Please provide training for us so that we can work in the project.	• We commit to prioritize the local labours and currently, local recruitment has been conducted and is being processed for some positions. • SOL's employees salary is in Rupiah • Basically SOL receives various educational backgrounds but in particular for operation stage, technical background will be required more. • We are committed for maximizing local resources • Currently we are in the recruitment process and we know that some of the candidates are from this village and some other villages as well. • It will be part of our ISP program in the long term.
9	Environmental Impacts	• Will there be any case such as Lapindo/mud disaster?	• Sarulla project is geothermal while Lapindo is gas project, basically it's different thus lapindo case will not happen in geothermal project.
10	Community Development Support	• Can SOL provide assistance for our children's education especially for the ones that have achievement? • Benefits for local communities especially our village. • If this project already operates in the future, what will be the benefits and its contribution to the local communities?	• It is part of SOL's commitment for ISP program and its planning and implementation is being planned and discussed. We will discuss further with local communities because the program must be based on the needs from the local communities. • It is part of ISP program which is being planned and prepared for short, medium and long term program. • The project will deliver benefits such as the use of local resources or commodities for project's activities. • The contribution will be in the form of ISP programs in each village in accordance with the needs of each village.

No	Theme	Questions/Comments/Suggestion	SOL's responses
Pardamean Nainggolan			
1	Employment and Training	• I am one of the land owners in this village and I need a job and also for my friends here. • How does SOL announce the recruitment/employment opportunities? • Permanent status for local employees • Different salary standard by the contractors • Labour recruitment is really competitive; therefore training for local labours is required. As stated in the MoU with local communities, SOL will provide training for the local communities.	• Land owners will be prioritized and labours for the project will be maximized from the surrounding villages as well in accordance with the project needs in each stage. • Currently, the need for labours/workers is still quite small. Notification on any vacancies will be conveyed to through the Head of Village. • SOL noted this. This is will be in accordance with project's needs in each phase. • SOL will communicate and coordinate with the contractors including local contractors • Well noted and it is part of SOL's commitment and will be part of ISP program which is still being planned and arranged. The process will be in phases and currently we're still at the very early stage of the project, thus it will be developed gradually.
2	Community Development	• If the project runs, please consider the development for local communities. Maximized the local resources including agricultural commodities that could be utilized for SOL's employees/staff & activities. • Development for our village. Please assist our area in its development such as education, agricultural	• The company noted this well and it will be part of our ISP planning & program • Well noted and part of our commitment for ISP program.
3	Environmental Impacts	• Will the Lapindo case happen in this project? • How the company will manage H2S? • Is there any impact on soil? • SOL must be careful during drilling activities for the new drills, provide any required safety equipment to local communities such as masks etc.	• Lapindo case will not be likely to occur in this project because this is a geothermal project while Lapindo is geo gas project, therefore it is quite different. • SOL will control and manage H2S level through a third party named Verdaco, and H2S level will be minimized to not more than 0,02 ppm (regulatory standard on odour). • Geothermal operation and activities do not have impacts on soil fertility and just as seen in the video a number of geothermal fields in Indonesia are side by side /located within an agricultural area.
4	Health and Safety	• Will there be any problems such as explosion in this area after the project operates?	• Explosion referred here is the rapture disc that is supposed to explode and might
Simataniari			
1	Project Waste Management	• Where will SOL dispose the drilling waste?	• As seen in the video presentation, the drilling waste refers to water and it will be re-injected to the earth, thus it will not pollute its surrounding environment.
2	Impacts on water resources	• I myself support the presence of this project but this project must not disturb the irrigation system. Local communities expect that whatever happened during UNOCAL period will not re-occurred now with SOL. Please do not disturb our irrigation system. Consider and check the project location in Hutajulu which was opened during UNOCAL time because it closes the irrigation system. Issue about leaking during UNOCAL period and it should not be re-occurred in this project.	• The project will not disturb the irrigation system. After this meeting, SOL team will check directly to the field.
3	Community Development	• When the project operates, there should be contribution for the development of our village	• This will be part of ISP program
4	Land Acquisition	• How about land status after the 30 years of contract?	• After the contract ends, all lands will be handed over to PGE since they were purchased on PGE's name. Thus land ownership will be on PGE.
5	Project Access Roads	• All acquired lands for access road must be constructed well so that it can be used by local communities as well to go to the plantation/ rice field areas.	• Noted

No	Theme	Questions/Comments/Suggestion	SOL's responses
6	Employment	• SOL and its contractors (PT PP) to prioritize the local resources and labours such as CV. Simataniari and CV. Sibaganding. Prioritization of local labours. • Minimum wage for local labours must be clear and transparent. SOL should recruit one external relation staff from our village. Prioritization of local resources because we also have some people with skills such as operators in our village. • Contractors (PT PP) must be as transparent as possible. Contractors (PT PP) should pay the local contractors in a timely manner	• Prioritization of local resources is already realized in Pahae Jae sub district but still quite limited because activities are still very few. There will be more activities in the coming future and we are committed to prioritize the local resources. Well noted and its realization is currently on-going by the first recruitment process for some positions and candidates are from the Pahae Julu and Pahae Jae sub district. • SOL already has external relation staff and for Simataniari, Lumban Jaean, and Sibaganding village will be cover by Mr. Marlan. Besides Pak Marlan, local communities could also convey any concerns, inputs and questions trough Head of Village. Well noted and will be coordinated with contractors.
7	Impacts to Agricultural Land	• Project activities must protect the rice field and plantation area and should not disturb the agricultural activities in our village.	• Well noted and it is part of our risk management plan. However, local communities should not be hesitant to report and communicate any issues on this subject to SOL through Head of Village and our External Relation Staff.
8	Compensation	• When will be the payment for our land conducted? Because land owners in Simataniari and Sibaganding village are already waiting to be paid.	• Thank you for land owners' patience and payment date will be informed formally to all land owners through letters one week in advance.
Onan Hasang & Janji Natogu village			
1	Plantation Impacts	• What is the impact of project activities	• All projects will have both negative and positive impacts and these are identified and addressed in the RKL/RPL document. And negative will be minimized and reduced in the RKL-RPL. Direct on plantation only limited to the cutting of trees/plantations for all acquired, and impact on the close surrounding will be some cutting waste (leaves, woods).
2	Community Health Impacts	• What is the impact of project activities on children (under 12 years old) health? • Is geothermal project will also produce H2S as we have in our village?	• In general impacts will apply to anybody disregarding the age; some of the impacts such as Noise (short term) and will be socialized. But all these impacts will be controlled and monitored. • H2S is normal and exists in any geothermal fields but the odour level will be monitored and controlled.
3	Project Proponent	• Who will be responsible for the project?	• SOL is the responsible organization for project activities. SOL has three external relation staff (Pak Industan, Pak Marlan and Pak Alden) and communities are welcomed to communicate to our external relation staff on any issues related with the project.
4	Employment	• Local labours from Pahae area must be prioritized because we have unemployed young people in our area. • Please keep us informed of any recruitment process for the project to avoid any social jealousy.	• Noted and it is part of SOL's commitment to local communities, prioritization of local resources will be in accordance with project needs and phase. There will be recruitment process and will be informed to local communities. • Well noted and it will be informed openly and currently we disclose it through the Head of Village.
5	Community Development	• Before its COD in 2017, SOL should already implement ISP activities in this area. • Free education for our children up to college level.-Expect that this project will develop the area and help to build the character of the young people in this area.	• We are currently developing ISP program and activity is still limited to donations to some village activities. For future ISP programs, SOL will conduct discussions at the village level and with related stakeholders. • Education will be part of our ISP program and the plan is being developed.

No	Theme	Questions/Comments/Suggestion	SOL's responses
Sibaganding & Lumban Jaean			
1	Environmental Impacts	• Who will be responsible for any negative environmental impacts from this project? • Many of (*Petai*) trees died and its production is very low currently because of the project activities. • How SOL will manage the earthquake risk? • Will there be any impacts on our water? • The communities should support this project and company should not damage the environment and implement the AMDAL. SOL's responsibility on any environmental hazards/sanctions must be written & regulated. Who is going to be trusted about AMDAL? Whether our people/children that lives outside of our village who inform us about AMDAL a few weeks ago or SOL as the project proponent?	• SOL is responsible organization • Geothermal operation does not have any impacts on plantation and we haven't started the operation yet. This still needs to be further investigated. • As we all know, even before this project exists, this area is already regarded as earthquake area; it's part of the nature in this area. Therefore, one of our efforts is to construct the facilities which will anticipate any earthquake risks. • There will be no impacts on the surface water because the project will drill very deep (3000 – 4000 M). • AMDAL is a required document by the regulation which is carefully prepared by experts and already approved by the government therefore local communities should trust that this document addressed the communities' concerns. Local communities should learn and find the correct information from the right sources and understand the issue very well. Do not easily provoke by any irresponsible individuals who do not understand about AMDAL or project related issues. SOL is the one that will be responsible for any environmental impact as stated in the AMDAL.
2	Community Development	• Since electricity is produced from our area, communities should have free access to electricity. • SOL to build a Hospital, Church and Schools	• SOL doesn't have the authority to answer and decide this because SOL is only producing the electricity while distribution itself is PT PLN responsibility. • This is part of our ISP program and it will be adjusted with the needs of each village.
3	Employment	• Local labours must be prioritized in accordance with their skill and expertise. • Training/Courses for local young people so that they can be employed by the project.	• SOL is committed for this and has been implemented in some of the recent activities. • Well noted and will be part of our ISP program.
4	Compensation	• When will be the payment date for our land?	• Payment for land is still being arranged and fixed by SOL. The land owners will be officially and individually notified through a letter from SOL.
5	Socialisation	• To make the local communities understand more about geothermal, SOL should arrange and send representatives from each village in Pahae Julu & Pahae Jae to see a geothermal operation field in other areas so that we are more convinced and clear about a geothermal project	

Table V-7 Key Activities for Planned Future Consultation and Participation

Phase	*Issues to be discussed*	*Planned schedule*	*Responsibility*
Construction	Disclosure of recruitment and opportunities for local man power/contractors	2 Months before activity commences	SOL's EPC contractor/ sub-contractor
	Disclosure of project ISP program planning and implementation	First when construction starts and continually thereafter based on agreement with the related affected communities	SOL
	Disclosure of ESMP monitoring report through Head of Village and local communities focal points	Every six months	SOL
Operation	Socialization to all related stakeholders on the commencement of the project operation	1 month before commissioning	SOL
	Disclosure of ESMP monitoring reports	Every six months	SOL
	Discussion with affected local communities on any issues/concerns during project operation	Once in three months	SOL
Decommissioning	Public announcement on decommissioning of the plant & facilities, potential impacts and how they will be managed	2 months before decommissioning	SOL
	Consultation and socialization to the affected communities, local workers/employees and all employees affected	2 months before decommissioning	SOL

6 GRIEVANCE REDRESS MECHANISM

6.1 OVERVIEW

This Chapter focusses on the Project Level Grievance Mechanism as required by the ADB's SPS 2009 and IFC PSs. Establishing and implementing a Grievance Mechanism is an important requirement in meeting both lenders requirements as well as ensuring that affected community grievances are managed in a fair and timely manner.

6.2 INTERNATIONAL REQUIREMENTS

6.2.1 *Asian Development Bank (ADB)*[9]

The ADB's Safeguard Policy Statement (2009) emphasises requirements for establishing a grievance mechanism that receives and facilitates the resolution of affected people's concerns, complaints, and grievances about a Project's environmental and social performance. The grievance mechanism should be scaled to Project risks and adverse impacts, address affected people's concerns and complaints promptly. It should also ensure the process is understandable and transparent, gender responsive, culturally appropriate and readily accessible to all segments of affected people. It should also not impede access to judicial or administrative remedies. The grievance mechanism should be delivered to the affected people in appropriate manner.

6.2.2 *International Finance Corporation (IFC)*[10]

The IFC views a grievance mechanism as one of the pillars of the stakeholder/community engagement process for all projects. A grievance mechanism should inform and complement, but not replace other forms of stakeholder engagement. Companies across multiple sectors and through all stages of a project's development can benefit from understanding community concerns and complaints and addressing them.

The IFC's Performance Standards (PS) require the need for community engagement. They state that the IFC *is committed to working with the private sector to put into practice processes of community engagement that ensure the free, prior, and informed consultation of the affected communities*.

To summarise these requirements briefly:

A grievance mechanism is an important part of the IFC's approach to community engagement by a project under the PSs. The IFC's PSs require a project to establish a grievance mechanism to receive and facilitate resolution of the affected communities' concerns and complaints about its environmental

[9] http://www.adb.org/documents/safeguard-policy-statement

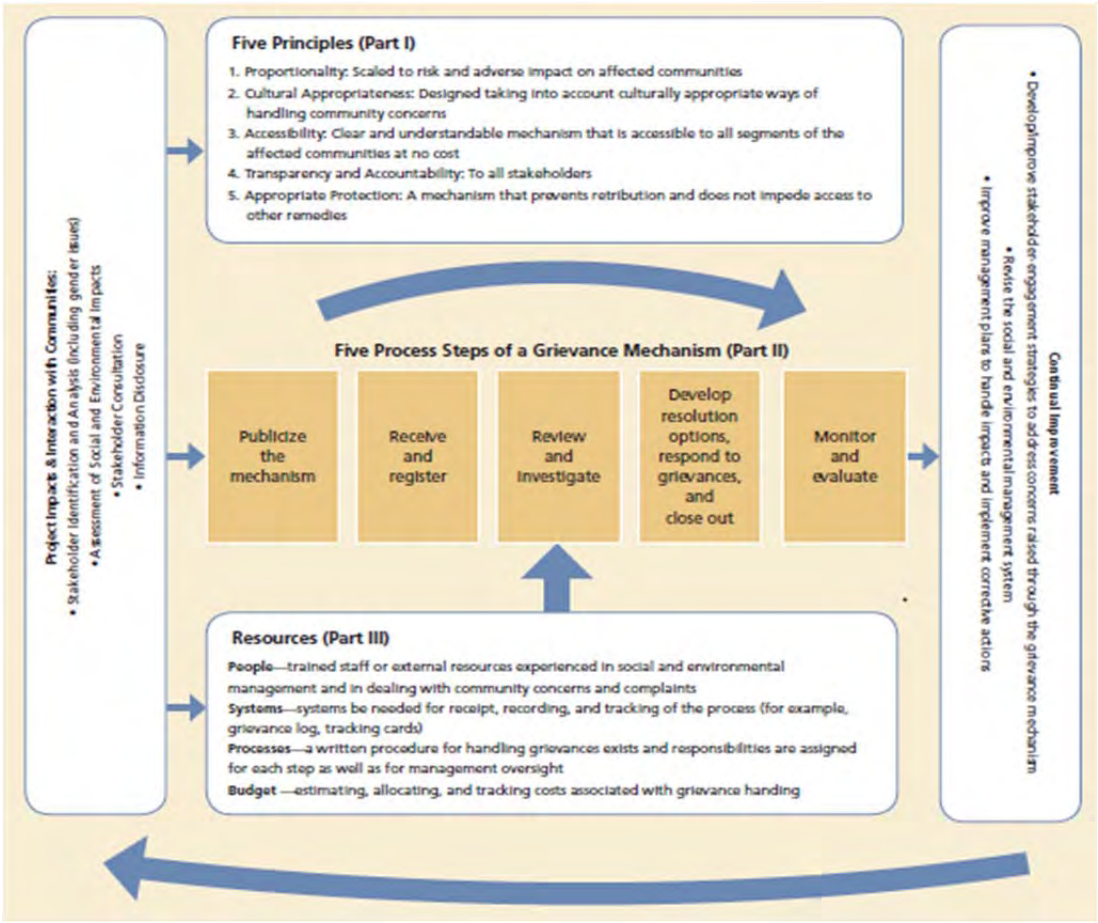
[10] http://www.ifc.org/wps/wcm/connect/Topics_Ext_Content/IFC_External_Corporate_Site/IFC+Sustainability/Sustainability+Framework/Sustainability+Framework+-+2012/Performance+Standards+and+Guidance+Notes+2012/

and social performance. The grievance mechanism should be scaled to risks and adverse impacts of the project, address concerns promptly, use an understandable and transparent process that is culturally appropriate and readily accessible to all segments of the affected communities, and do so at no cost to the community and without retribution. The mechanism should not impede access to judicial and administrative remedies. The client will inform the affected communities about the mechanism early in the course of its community engagement process. (**Performance Standard 1 Paragraph 35)**.

A grievance mechanism should be able to deal with most community issues that are covered by the PSs. Grievance mechanism requirements, in relation to affected communities, are explicitly stated with regard to security personnel (**Performance Standard 4, Paragraph 12**) and Land Acquisition (**Performance Standard 5, Paragraph 11**).

The basic design elements of a grievance mechanism based on the IFC are illustrated in Figure VI-1.

Figure VI-1 Basic Design Elements of a Project Level Grievance Mechanism



Source: IFC Good Practice Note (#7) – Addressing Grievances from Project-Affected Communities, 2009

To ensure that the grievance mechanism is accepted by affected communities, the Project should follow the five principles recommended in Part I of the IFC's

Good Practice Note. The steps that have been described in Part II of the Good Practice Note define the generic process that a Project can adapt to their specific situation. The factual process behind the steps should show the assessment results of the project's scale and impacts, and appoint appropriate resources for implementation. Appropriate allocation of resources will ensure that a management system for handling each step of the grievance procedure exists and has clearly defined objectives, assigned responsibilities, timelines, budget, senior management oversight, and regular reporting.

6.3 SOL'S GRIEVANCE MECHANISM

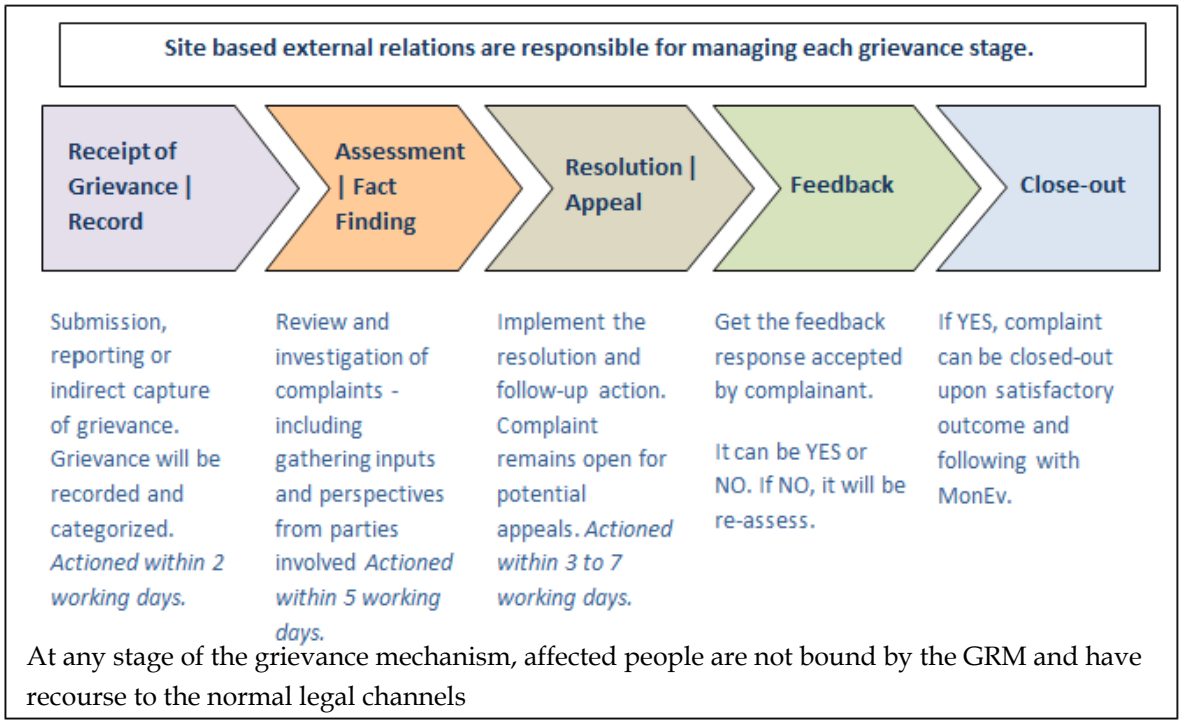
6.3.1 Overview

Although the Project seeks to minimise potential negative impacts arising from the project activities and to operate responsibly, it is inevitable that queries and grievances will arise throughout the construction and operation phases. Therefore SOL's grievance mechanism has been designed as a locally based, Project specific design that assesses and resolves community complaints and concerns related to all Project activities. The Project grievance mechanism offers a package of widely understood and effective processes to address affected communities' concerns and complaints. To date community grievances received by the Project have been verbal, without any recorded documentation therefore further work is required to develop and implement the grievance mechanism in accordance with ADB and IFC requirements (i.e. via written documentation). Details of the current grievance mechanism are provided in the following sections of this Chapter.

6.3.2 Grievance Tracking and Redress Mechanism

The Project Grievance Tracking and Redress Mechanism (GRTM) that is triggered the instance a community complaint is received is illustrated in Figure VI-2. This is a five step process based on international lender guidance.

Figure VI-2 Summary Overview of the Project Grievance Tracking and Redress Mechanism



In general, grievances are communicated by the community to SOL through two primary channels:

- Oral communications such as to community representatives in each sub-district. These representatives appointed by SOL are Bapak Alden Sitompul (a religious leader in Sigurung-gurung village) and Bapak Marlan (the village head in Lumban Jaean); and
- Written communications to SOL's External Relations Department; this includes grievances registered with the village head (*Kepala Desa*) and/or at village community centres.

6.3.3 Receipt of Grievances

The initial procedure for grievance redress involves a entering the grievance information into the GTRM database—a grievance log and tracking system that will equip SOL management to identify, understand and address vulnerabilities in Project implementation. The GTRM database will be utilised to: a) register, track and recall information about specific grievances and b) categorise reports of grievances by type and frequency.

The original grievance form is kept in the village head office or by the community representative.

A generic report of the grievance is generated from the initial GTRM database that is entered by the External Relations Department in coordination with an

appointed manager. This report includes all details known at the time the grievance is registered, and indicates what, if any, information is needed before a full account of the grievance can be logged. This initial report also serves to provide context and guidance for the fact-finding investigation. Timelines for fact-finding and implementation of possible actions will be established as appropriate for the type and severity of the grievance. The time period to receive a grievance is within 2 working days.

6.3.4 Assessment and Fact-Finding Investigation of Grievance Redress

The External Relations Department reviews and undertakes a fact-finding investigation of each grievance received by SOL. These investigations shall seek to establish a clear picture of the circumstances surrounding a particular grievance. Investigations shall verify the information contained in the initial grievance report specifically:

- Identity of the complainant and nature of the complaint;
- Identify the status of the complaint, including if it has been resolved by any immediate remedial actions, if the aggrieved expects that any particular actions need to be implemented, if no action toward resolution is known or expected, etc.; and
- Review supporting evidence for any disputed claims.

For grievances that involve a large number of people or entire villages, community meetings will be held with both open sessions for people to air their complaints and facilitated sessions to help collaboratively identify potential redress actions. Fact-finding investigations undertaken by SOL will rely on consultation that is free of discrimination and coercion.

The review and fact-finding investigation may result in the grievance being resolved; or follow-up actions being required with further coordination within SOL. Following this the External Relations Department can decide who is responsible for responding to the grievance and overseeing redress. The time period to assess the grievance is within 5 working days.

6.3.5 Resolution and Appeal on Grievance Redress

Resolution will be undertaken with the hope that agreement on a grievance resolution is achieved at the Project level (i.e. preventing complainants from proceeding to higher levels, such as government authorities). In some cases, redress actions may necessitate coordination with the local authorities. Resolution processes and approaches will rely, whenever possible, on local approaches to conflict resolution. Local authorities and/or respected leaders will be consulted for their insights and advice on the grievance and its proper resolution.

Resolution involves decision-making about grievance redress actions. Through co-ordination with other SOL departments, the External Relations Department

is able to handle the communities' grievances and decide on how SOL will respond to the grievance with suitable resolution and a follow-up action plan. SOL will respond in the following ways:

- Written. Upon reaching agreement with the aggrieved, all such understandings shall be put in writing and a statement signed by both SOL and the complainant will be distributed to all sides involved in the grievance.
- Verbal. Meeting with complaints or dialogue/open meeting with groups – External Relations will ensure the effective and timely communication of grievance notifications, fact-finding inquiries, and will facilitate forums for remediation and restitution decisions.

If a complainant is not satisfied with the implementation outcomes of an agreed-upon grievance resolution measure, he/she may appeal the outcome. Written appeals may be registered with SOL's External Relations Department directly, or complainants may express their desire for an appeal to their Kepala Desa, community representative, or village community relations. When an appeal is registered, SOL will investigate the cause of dissatisfaction associated with the implemented resolution measure and identify follow-up actions that are agreeable to the aggrieved party. No grievance shall be considered closed if an appeal process is pending or active. If however SOL has acted in good faith to resolve a grievance, and the aggrieved party refuses to acknowledge satisfactory resolution after three separate appeal and resolution processes, SOL reserves the authority to list the grievance as intractable and can terminate the appeals process. This time period to respond is between within three and seven working days.

6.3.6 Feedback of Grievance

Once a grievance has been resolved, the complainant shall be invited to give feedback about the resolution process. They may be asked to indicate their level of satisfaction with the mitigation measures once such measures have been implemented. In all cases, the aggrieved must be aware of the outcome of his/her complaint. If the complainant is anonymous, information on resolution of the complaint shall be posted on the relevant village bulletin boards.

Following the resolution decision, the GTRM database shall be updated to reflect the status, on-going redress measures and the perception of the aggrieved in regard to these measures.

6.3.7 Close-out

Close-out reports are generated upon completion of the grievance resolution process. Reviewing the information logged in the GTRM database, External Relations—working with the SOL field team and other managers engaged in the grievance resolution process—generate a summary write-up of the resolution process. Close-out reports should:

- Contain details of the duration of time it took for each step of the grievance resolution process;
- List resolution measures agreed-upon and describe the implementation process;
- Provide an evaluation of the resolution process by External Relations;
- Provide feedback from the aggrieved on the resolution process;
- If appeals were registered, indicate the cause for dissatisfaction with the implementation of the initial resolution measures and explain what was done differently during the appeals resolution process; and
- Reflect on lessons learned.

6.3.8 Resources and Responsibilities

The External Relation Department are responsible for managing grievances - the key individual within the department is Bapak Hindustan Sitompul who is responsible for each step of SOL's Grievance Mechanism. Should the grievance be escalated beyond site decision makers SOL's senior management will take responsibility for closing out the grievance.

6.3.9 Grievance Mechanism Disclosure

SOL has prepared a simple grievance mechanism and provided contact details and information material to the affected communities. The details of the mechanism were disclosed to the local communities during the land acquisition socialization activities between April 30 and May 7 2013.

Future disclosure of the grievance mechanism will be integral to effective public consultation and strategic engagement. This will include disclosing to the following stakeholders:

- Local Community Centres;
- Village Heads Offices;
- Municipal and Central Government Offices;
- Local Universities or Academic Research Centres; and
- Offices of Local NGOs and Community-Based Organisations.

6.3.10 Worker Grievance Mechanism

The procedure for workers to lodge a grievance is elaborated in SOL's regulation (Chapter XI, article 41). The procedures of complaints settlement involves a number of levels as follows:

1. **Level One:** The Employee may submit his/her complaint verbally or in writing to the Employee's Direct Supervisor in relation to SOL. During this stage, all issues are expected to be settled. To ensure, email correspondence is also regarded as a tool for this purpose in writing and this applies to the followings

   The Direct Supervisor must give response to the employee's complaint in writing within a period of 3 (three) working days as of the receipt of written complaint by the Direct Supervisor.

2. **Level Two:** If any settlement cannot be reached between the Employee and the Employee's Direct Supervisor, the Employee shall within 4 (four) working days as of receipt of response from the Direct Supervisor forward his/her complaint in writing to the Supervisor of the Employee's Direct Supervisor, with copies delivered to the HR Department and the Employee's Direct Supervisor.

   The Direct Supervisor of the Employee's Direct Supervisor through consultation with the HR Department must give a written response to the Employee's complaint within 4 (four) working days as of the receipt of written response by the Supervisor of the Employee's Direct Supervisor.

3. **Level Three**
   If any settlement cannot be reached between the Employee and the Supervisor of the Employee's Direct Supervisor, the Employee shall within 4 (four) working days as of receipt of response from the Supervisor of the Employee's Direct Supervisor submit his/her complaint in writing to the highest Supervisor of the organization to which the relevant Employee belongs, with copies delivered to the Supervisor of the Employee's Direct Supervisor and the HR Department or any appointed personnel.

   The highest Supervisor of the organization to which the relevant Employee belongs with the assistance of the HR Department must give written response to the relevant Employee within 4 (four) working days as of the receipt of the complaint, which will be deemed to be an amicable settlement for the relevant Employee from the Company.

7 MONITORING, REPORTING AND EVALUATION

7.1 OVERVIEW

SOL seeks to implement sustainable strategies to meet its environmental and social objectives. An adaptive management will be adopted to ensure that SOL is prepared for the unexpected and has an integrated system in place which can adjust and learn from various environmental, economic political and social factors and direct its social interventions towards sustainable outcomes.

Sustainable community development requires recognition of the several factors such as socio-cultural mechanisms which contribute to a community value system, environmental factors which are critical to communities relying on the use of natural resources such as land for their livelihood and sustenance and changing economic environment brought about by population growth and corresponding shrinking resources. By applying an adaptive management approach to implementing IPP programs geared towards sustainable community development the resulting systems can develop built-in sustainable practice.

This section outlines the processes of monitoring and performance management associated with the IPP (and ISP and ESMP). These processes are required to:

- Verify and document that management and mitigation measures identified in the ESMP have been implemented;
- Validate predictions made in the IPP (SIA) and assess the actual impacts of the Project on the Project affected villages;
- Document and evaluate the effectiveness of management, mitigation and beneficial measures in the IPP and ESMP;
- Adjust various IPP programs and interventions to meet needs of affected communities; and
- Demonstrate compliance with applicable legal, national and international lenders and other requirements.

7.2 INTERNAL MONITORING

Internal monitoring will be undertaken by SOL's external relations team who will report to ADB and other lenders on a regular basis. This reporting will cover the progress of implementation of various social programs against the schedules and milestones set, identify potential difficulties and corrective measures taken, and present the results of its own monitoring against the requirements of various Lenders. SOL will monitor its own progress in implementing the activities for affected communities against an agreed schedule and the changes in household income from affected land uses, as well as from livelihood restoration and development activities. A set of indicative

key performance indicators is provided in Table VII-1 and Table VII-2. These indicators are neither final nor exhaustive and will be revised as required. SOL will prepare a mid-term report on ISP implementation after commercial operations date (COD). SOL will agree with Lenders on a proper form and substance of various monitoring reports to be submitted periodically.

7.3 EXTERNAL MONITORING

External experts (either a consultancy firm or a NGO) comprised of well qualified experts in involuntary resettlement and indigenous peoples monitoring will be contracted with the objective to ensure compliance with the social obligations set out in this IPP. The external experts will receive the SOL progress reports, visit the site on a semi-annual basis and prepare semi-annual external monitoring reports during the construction and operation phase of the project until such time that the objectives of the IPP (and RP11) has been met.

The external experts will also carry out a socio-economic survey every two years from the date of loan signing and undertake a survey and field investigations to prepare a post-evaluation report following receipt of the mid-term report. The mid-term report will be the basis for updating the ISP for implementation during the operations phase. Two years after COD, a post-evaluation report will be prepared. A detailed terms of reference for external monitoring will be agreed with Lenders for the construction and operations phases of the Project. Lenders will be involved in the selection of external monitor.

Semi-annual external monitoring reports will be made available for public disclosure, either on the project's website, or that of the ADB and other lenders website. Other reports for public disclosure include the updated safeguards documents.

7.4 CONTRACTOR COMPLIANCE

As part of SOL's policy, monitoring and evaluation shall be in compliance with applicable and relevant Indonesian Labour standard as well as International Core Labour standards.

Contractors shall refer to SOL's environmental impact assessment report ("AMDAL") and lenders' safeguard and social documents. The contractors should follow identical standards for work as well as labour and working conditions compliant with national laws and ILO core labour standards in their own facilities.

Monitoring of contractors' performance will be done based on the following

[11] For remaining land yet to be acquired. The external expert will act as the independent third party to document the land acquisition, negotiation and settlement processes as described in the Resettlement Plan.

KPIs as set out in Table V11-1.

Table VII-1 Project KPIs related to the IPP

Performance Objective	*Key Performance Indicator (KPI)*
Disbursement of compensation payments	• Compensation payments disbursed according to number and category of losses set out in the entitlement matrix (women, men, and vulnerable groups) • Identification of the displaced persons losing land temporarily, e.g. soil disposal, borrow pits, contractors' camps (women, men, and vulnerable groups)
Restoration of Livelihoods	• No. of affected persons with replacement agriculture land (women, men, and vulnerable groups) • Quantity of land owned/contracted by affected persons (women, men and vulnerable groups) • No. of households with agricultural equipment (women, men) • No. of households with large/medium/small livestock (women, men) • Number of agricultural plot with access to irrigation(women, men, and vulnerable groups) • No. of affected persons under the rehabilitation programs (women, men, and vulnerable groups) • No. of affected persons who received vocational training (women, men, and vulnerable groups) • Types of training and number of participants in each (women, men) • No. and % of affected persons covered under livelihood programs (women, men, and vulnerable groups) • No. of affected persons who have restored their income and livelihood patterns (women, men, and vulnerable groups) • Extent of participation in vocational training programs (women, men) • Degree of satisfaction with livelihood programs (women, men) • % of successful enterprises breaking even (women, men, vulnerable groups) • % of affected persons who improved their income (women, men, and vulnerable groups) • % of displaced persons who improved their standard of living (women, men, and vulnerable groups)
Employment	• Preferential employment for working age member of significantly affected land owners family • Recruitment of 30% unskilled workers (women and/or Batak people) during construction stage and 20% semi-skilled workers from the affected area (Pahae Jae & Pahae Julu) and North Tapanuli Regency (NTR) • Priority training of working age member of significantly affected land owners family • Recruitment of semi-skilled workers. Preferential employment for working age member of significantly affected land owners family • 20% skilled workers (e.g. technical/laboratory and administrative/clerical positions) are women and/or Batak people from the project area and NTR
Meaningful consultations	• How many affected persons know their entitlements? • Number of general meetings (for both men and women) • Percentage of women out of total participants • Number of meetings exclusively with women • Level of participation in meetings of women, men, and vulnerable groups (specify if high, medium, low)
Grievance redressal for project-related complaints	• Have any displaced persons used the grievance redress procedure? What were the outcomes? (women, men) • Have grievances been resolved? (women, men) • What are the subjects of the grievances? (women, men)

Performance Objective	*Key Performance Indicator (KPI)*
Institutional Arrangements	• Have all land acquisition and resettlement staff been appointed and mobilized on schedule for the field and office work? (women, men) • Have capacity building and training activities been completed on schedule? (women, men)
Benefit monitoring	• Changes in patterns of occupation, production, and resource use compared to pre-project situation (women, men) • Changes in income and expenditure patterns compared to pre project situation (women, men) • Changes in cost of living compared to pre-project situation (women, men) • Have displaced persons' incomes kept pace with these changes? (women, men)

Table VII-2 Project KPIs related to the ESMP

Performance Objective	*KPI*
Ensure the compliance on labour standard	• Contractor contract review • Contractor records on workers diversity: number of workers by job responsibility (management, skilled labour, unskilled labour),age, gender and ethnicity, locality • Training records (records to show sex-disaggregated data) • Maintenance of complaints log • Percentage of staff trained according to the training plan. (records to show sex-disaggregated data) • Percentage of staff performing work for which they are not trained or verified as competent. (records to show sex-disaggregated data) • Percentage of staff trained according to the training plan. • Percentage of staff performing work for which they are not trained or verified as competent. • Zero incidence of forced labour and child labour on site • Sex-disaggregated data on SOL and Contractors records of salaries and benefits provided to staff/workers
Maintain the project overall goal of zero social impact.	• Number social incidents reported • Number of community complaints reported. • Maintenance of complaints log.
Maintain compliance with workplace inspection, observation and audit schedules.	• Prepare a labour In-migration Management Plan to cover the following issues: • avoid or minimize transmission of communicable diseases associated; • protocols for migrant workers interaction with local communities; • camp habitation management; and • Pre-employment medical exams or health screening. • Percentage of daily inspections completed. • Percentage of audits completed. • Maintenance of complaints log.

8 *INSTITUTIONAL ARRANGEMENTS*

This section describes the institutional arrangements, responsibilities and mechanisms for conducting measures set out in this IPP. The current SOL organisational chart is presented in Figure VIII-1.

The IPP sets up the organisational framework for who will responsible for the roles for ISP activities (see Figure VIII-2 Organizational Framework). This illustrates how SOL plan to coordinate with the relevant stakeholders associated with SOL's ISP activities. Currently SOL is in the process of planning and therefore the details of the implementation are still being worked through. Subsequent to this planning phase SOL will update this IPP with a more detailed overview of the ISP implementation including institutional arrangements, budgeting and monitoring and evaluation.

Figure VIII-1 SOL's Organisational Structure

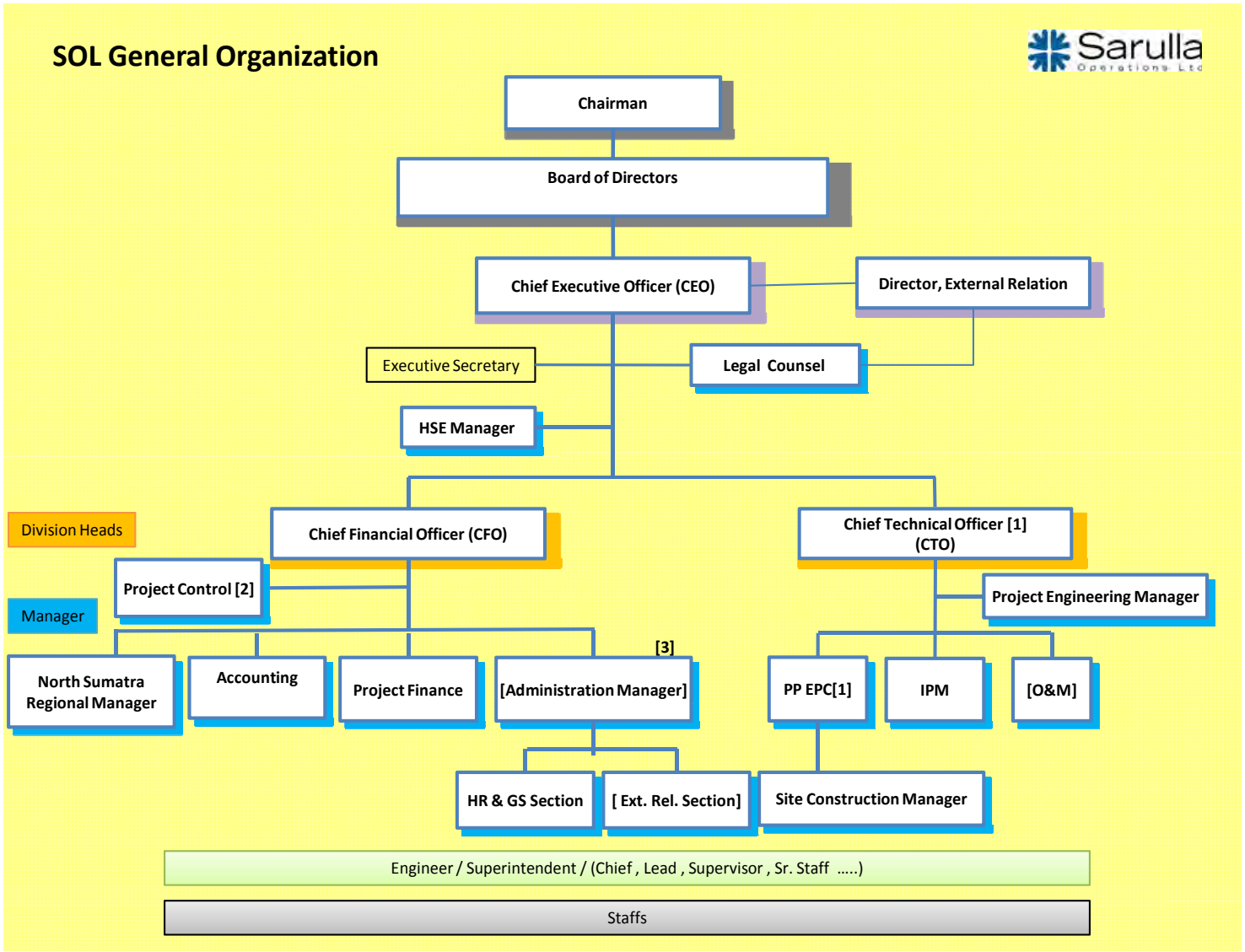
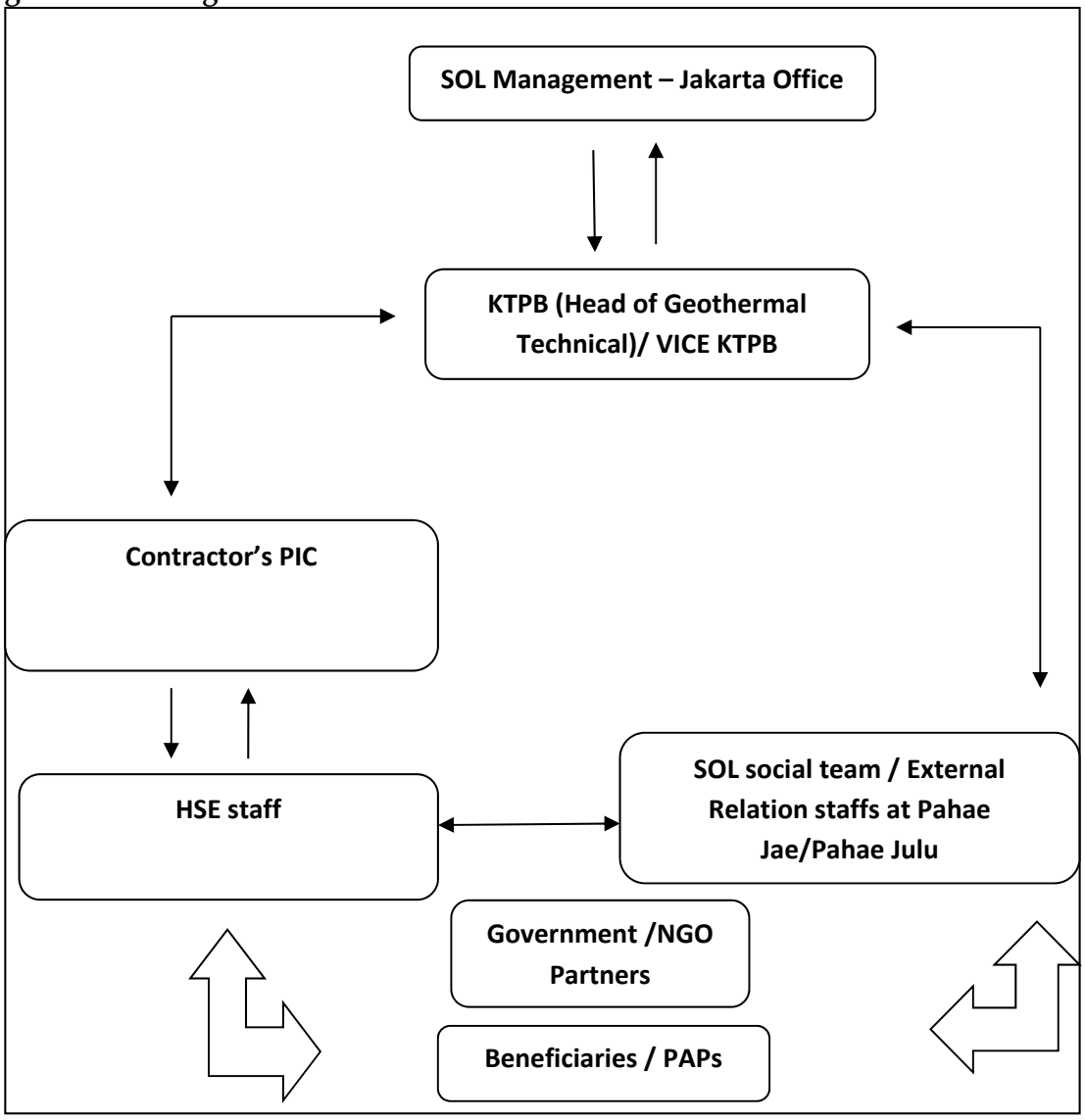


Figure VIII-2 Organizational Framework for ISP



As employment is a big expectation from the community, the roles and responsibilities of the SOL human resources department (HRD), EPC HRD and the SOL legal department will be further specified. Contractor's contracts will also reflect employment targets to support SOL in meeting its commitments.

8.1 TRAINING REQUIREMENTS

8.1.1 Overview

This section provides a summary of training, awareness and competency requirements associated with the ESMP and ISP.

SOL shall ensure that all personnel responsible for the implementation of the ESMP and ISP are competent on the basis of education, training and experience. All personnel shall be provided with environmental and social training appropriate to their scope of activity and level of responsibility.

Environmental and social training activity shall be appropriately documented through the development and implementation of a Workforce Environmental Training Programme including:

- Definitions of role specific training requirements;
- A training needs assessment; and
- Records of training undertaken including detailing the attendees, content, trainer and dates of the induction/training.

Contractor's environmental and social management documentation shall describe the training and awareness requirements necessary for its effective conduct of their activities within the requirements of the ESMP and ISP. Contractor's training, awareness and competency program, including delivery and verification thereof, is subject to SOL's review and approval.

8.1.1.1 Competency Levels

An initial evaluation of environmental training and awareness needs associated with the ESMP and ISP shall be undertaken by SOL. The outcomes of the needs assessment will be used to develop and maintain the Workforce Environmental Training Programme detailing the training needs for each position based on job description and level of environmental and social responsibility and involvement.

The Workforce Environmental Training Programme shall include several levels of competency and training, including:

- **Induction and General Awareness** - for visitors and personnel who do not have direct roles and responsibilities within the ESMP and ISP. The training will provide a summary of the key environmental and social aspects of the Project, and an overview of the control/mitigation measures in place for the Project.
- **Management Training** – for management (Site Supervisors and higher), covering the key aspects of the ESMP and ISP and providing an overview of each specific sub plan document within it.

- **Job Specific Training** – job specific training and awareness for all personnel who have direct roles and responsibilities within the ESMP and ISP or whose specific work activities may have an environmental or social impact. The training will provide a detailed review of the components of the ESMP and ISP specific to that employee, including a detailed description of employee duties.

8.1.2 Training Programmes and Delivery

Training Programmes to be delivered are outlined in Table VIII-1.

Table VIII-1 Environmental and Social Training programmes

Training	*Content*	*Personnel*	*Frequency*
Induction and General Awareness			
Project Induction	Overview of the Project and general in induction and conduct.	All Project personnel	Once (with a refresher course taken every 12 months)
ESMP and ISP Induction	Overview of the general commitments of the ESMP and ISP	All Project personnel	Once (with a refresher course taken every 12 months)
Site Induction	Detailed site-specific training to understand the Project expectations, requirements, and commitments at that site.	All Site Personnel	Once (with refreshers as needed)
Management Training			
Environmental and Social Management Strategy training	Project environmental and social vision overview	Management/Supervision	Once (with refreshers as needed)
Environmental and Social Management Team Communication	To ensure that the Environmental Management Team as a whole is effective and aware of Project-wide lessons and issues, all site-based environmental personnel will meet at least weekly.	Environmental and Social Management Team	Weekly/Monthly
Job Specific Training			
Pre-start Toolbox Meetings	Pre-start Toolbox Meetings will be undertaken to ensure Project personnel understand their required commitment and responsibilities with regards to a particular task.	All site personnel involved in the specific task.	Once prior to the commencement of each new task.

Training	*Content*	*Personnel*	*Frequency*
Environmental and Social Issues Training	Issue specific environmental and social training to focus on: • the framework of the relevant Plan; • mitigation measures required to be implemented including responsibilities; • objectives and performance goals; • monitoring and reporting requirements; • grievance mechanism (Field Issues Register); and • Incident investigation and response.	Environmental and Social Manager, Site Supervisor, Environment Officer, Community Affairs Officer and any specialists or personnel identified as responsible for specific tasks.	Training to be provided prior to start-up of identified tasks and updated if tools or procedures change. Refresher frequency as required based on environmental risks associated with the task.
Daily Toolbox Talks	Daily Toolbox Talks will be undertaken to ensure Project personnel understand their day to day responsibilities, as well as to assess site conditions and identify any changes which may result in new or previously unidentified hazards and require implementation of different management procedures.	All Site Personnel	Daily
Project Environmental Alerts	Where required, Project Environmental Alerts will be prepared to convey approved important information to the Construction Team. This information may be triggered by a recent incident, infringement notice, change in acceptable work practices, good practices etc. Project Environmental Alerts will be approved for issue by the Environmental and Social Manger and presented by the relevant Environment Officer at Daily Toolbox Talks.	All Site Personnel	As required

9 *BUDGET AND FINANCING*

Detailed budget estimates for the ISP will be prepared by SOL. The budget will include detailed costs of ISP activities, administrative costs including staff training monitoring costs. SOL will ensure timely fund's disbursement for ISP implementation and will prepare all the necessary plans. The assistance cost will be allocated and disbursed prior to financial close. Table IX-1 provides a template for ISP budget and cost estimates.

Table IX-1 ISP Budget and Financing

No	*Planned Activities*	*Estimated Cost (IDR) Duration*	*Resources*	*Partner*
ISP Implementation				
1	**Education**			
	Scholarship (including specific target on girls)	100,000,000 / annum	SOL	Education Agency, Schools
	Educational assistances (ex: books, uniforms etc.)	50,000,000/annum	SOL	Schools
	Improvement of school facilities	50,000,000/annum	SOL	Education Agency, Schools, Local Communities groups
2	**Agriculture & Livelihood restoration**			
	Training on agricultural matters (ex: Productivity of land, Agricultural business development etc.)	50,000,000/ annum	SOL	Education Agency, Agricultural Consultant, NGOs focusing on Agriculture/Farmers
	Provision of Crop seeds	50,000,000/annum	SOL	Agricultural Agency
	Training for women (sewing, food processing, beauty/salon	50,000,000/annum	SOL & Contractors	Consultant , Related CSOs/NGOs, Village Development Board (BPD), Head of Villages, PKK (Family Welfare program)
	Training for men (automotive, electrical engineering, construction related matters etc.)	50,000,000/ annum	SOL & Contractors	Consultant , Related CSOs/NGOs, Village Development Board (BPD), Head of Villages
3	**Health**			
	Health Awareness Program (ex: Health talk, seminar, training etc.) on issues related with PHBS (*Pola Bersih Hidup Sehat* or Clean and Healthy life style), maternal health or any health issues in the communities' context	50,000,000/annum	SOL & Contractors	Health Consultant, Village Development Board (BPD), Head of Villages, Puskesmas/ Posyandu, Health Office, PKK (Family Welfare program)
	Free Medical Consultation (per six months)	30,000,000/annum	SOL	Health Consultant, Village Development Board (BPD), Head of Villages, Puskesmas/ Posyandu, Health Office, PKK (Family Welfare program)

No	*Planned Activities*	*Estimated Cost (IDR) Duration*	*Resources*	*Partner*
	Providing Healthy food in Posyandu (*Balita & Lansia*)	20,000,000/annum	SOL	Village Development Board (BPD), Head of Villages, Puskesmas/ Posyandu, PKK (Family Welfare program)
4	**Infrastructure**			
	Improvement of water sanitation system	70,000,000/annum	SOL & Contractors	Sub district Office, Village Office, related CSOs/NGOs, Civil Work Office, local communities groups
	Improvement access road to villages and community plantation area	100,000,000/annum	SOL & Contractors	Sub district Office, Village Office, Civil Work Office, Local Communities Groups
	Improvement of Irrigation system	100,000,000/annum	SOL & Contractors	Sub district Office, Village Office, related CSOs/NGOs, Civil Work Office, local communities groups
5	**Cultural**			
	Sponsorship for Cultural festive	20,000,000/annum	SOL	Adat (custom/community) leaders, Village Development Board
	Support local values/customs	30,000,000/annum	SOL	Adat (custom/community) leaders, Village Development Board
	Capacity building for clan/*marga* leaders, ex: leadership training, conflict resolution, activities mentoring etc.	20,000,000/annum	SOL	Related CSOs/NGOs, Adat (custom/community) leaders, Village Development Board
6	Cost related to facilitating the recruitment and mobilization of workers	To be confirmed	SOL	EPC, Related CSOs/NGOs, Adat (custom/community) leaders, Village Development Board
ISP Implementation Support				
	TENTATIVE TOTAL	650,000,000/annum	SOL	
	Management, Administration and Staff Training	450,000,000 /annum	SOL	
	Internal Monitoring & Evaluation	30,000,000 /annum	SOL	
	Independent Monitoring & Evaluation Consultancy (incl. verification, meetings, coordination & travel)	100,000,000 /annum	SOL	
	Reporting and Disclosure	20,000,000/annum	SOL	
	Consultation materials	20,000,000 /annum	SOL	
	Management of Grievance Mechanism	30,000,000 /annum	SOL	

No	*Planned Activities*	*Estimated Cost (IDR) Duration*	*Resources*	*Partner*
	Contingency (15% of total)		SOL	
	Tentative ISP Implementation GRAND TOTAL*	***Grand Total*** **450,000,000 /annum** 1,100,000,000/annum		

Note: Cost estimates are anticipated to change over the course of the project implementation and to vary from preliminary estimates.

*The Grand Total excludes the cost of for facilitating the recruitment and mobilization of local workers. This will be added later.

10 CONCLUSION

This Indigenous Peoples Plan (IPP) has been prepared as per ADB's Safeguard Requirement 3, for the development of the geothermal field and power plant combined capacity of 330 MW in Sarulla, in Pahae Jae and Pahae Julu Districts, North Tapanuli Regency, North Sumatera Province (the Project).

This IPP presents information on the social baseline for the potentially impacted IP communities, the identified significant impacts as well as SOL's social management measures and ISP.

The conclusions of this IPP are as follows:

- A number of significant social impacts have been identified particularly around gender impacts, loss of income due to the land acquisition process, meeting community expectations, increased anti-social behaviour, in-migrant influx, increased Project traffic, water pollution due to Project activities and community health and safety concerns.
- The majority of identified social impacts will be mitigated to acceptable levels on the adoption of the ESMP measures which include on-going stakeholder consultation and implementation of a grievance mechanism.
- Furthermore, SOL has committed to implementing a number of community development activities under its ISP which will target the affected landowners and broader impacted communities. ISP focus areas include education, health, infrastructure, agricultural and livelihood restoration and culture.
- SOL will continue to undertake consultation with the Project's key stakeholders during pre-construction, construction and operations to ensure all are updated on the Projects activities, impacts and opportunities, mitigation measures and participate in the developing of ISP activities

This IPP will be updated prior to implementation to adapt to the needs of Indigenous Peoples Communities in the Project Area. The updated IPP will further clarify the specific programs and activities, responsibilities and resource requirements. However, the standards set up under this IPP will not be downgraded after updating.

Annex A

Identification of Project Stakeholders

Table AI Directly Impacted Stakeholders in Pahae Jae Sub District

No	*Name of Stakeholders*	*Profile*	*Role*	*Interest*	*Influence*
1	Project Affected Communities	Silangkitang (SIL) Area: Villagers and Land Owners located in Silangkitang, Sigurung-gurung, Pardomuan and Pardamaean Nainggolan Village	▪ Communities/Villagers	Local communities/villagers are interested in the direct and indirect impacts of the project on their village and communities. In particular on the environment and agricultural activities. In addition to this, prioritization of local resources (employees, local businesses, and local contractors) to be maximized and utilized in the project is also a main interest of the local communities in these villages.	The perception towards project will be significant in terms of how 'socially' successful the project will be.
2	Saul Sitompul	Head of Sigurung-gurung Village	▪ A good leader ▪ Able to communicate with community	He wants to minimize the potential negative impacts of sol activities.	He can mobilise and influence the community due to his position as village head.
3	Alden Sitompul	Religious Leader in Sigurung-gurung Village	▪ A chairman foundation ▪ To engage community in traditional activities ▪ To setup the church's organization structure	He wants to be employed by job in SOL.	He can resolve problems within the community due to his status.
4	Mauliate Sitompul	Community Leader in Sigurung-gurung Village	▪ Active in community organizations ▪ To participate in capacity building of youth	He wants to secure an opportunity as a local supplier to the project.	He can resolve problems within the community due to his status.
5	Anggiat Parapat	Religious Leader in Sigurung-gurung Village	▪ Active in serving in the church activity ▪ To serve the community in terms of spirituality	He expects that local youth can be employed by SOL according to their ability.	He can manage the community conditions safely and peacefully.
6	Kasian Sitompul	Community Leader in Sugurung-gurung Village	▪ To guide and manage the community ▪ Former Village Head	He expects that his son can be employed by SOL	He can communicate with the community.

No	Name of Stakeholders	Profile	Role	Interest	Influence
7	Sihol Sitompul	Community Leader in Sigurung-gurung Village	▪ Responsible for maintaining tradition in the community	He expects that his son can be employed by SOL	He can resolve problems within the community due to his status.
8	Ruhut Panjaitan	Community Leader in Sigurung-gurung Village	▪ Responsible for maintaining tradition in the community	He expects that his son can be employed by SOL	He can resolve problems within the community due to his status.
9	Robert Sitompul	Village Head of Pardamaean Nainggolan Village	▪ To lead the community ▪ To serve the community	He expects that SOL will build a positive relationship with the community	He can resolve problems within the community due to his status and can communicate positive messages about the project.
10	Oberlin Simatupang	Community Leader in Pardamaean Nainggolan Village	▪ To serve the community in terms of tradition ▪ To guide the youth	He expects that his son can be employed by SOL	He can resolve problems within the community due to his status and can communicate positive messages about the project.
11	Pandapotan Simatupang	Community Leader in Pardamaean Nainggolan Village	▪ To serve the community in terms of tradition ▪ To guide the youth	He expects that his son can be employed by SOL	He can resolve problems within the community due to his status and can communicate positive messages about the project.
12	Sahat Simamora	Community Leader in Pardamaean Nainggolan Village	▪ To serve the community in terms of cultural events ▪ Member of Village Representative Board (BPD)	He wants SOL to develop the village and act as a bridge between the community and government	He can resolve problems within the community due to his status and can communicate positive messages about the project.
13	Huttal Simatupang	Community Leader in Pardamaean Nainggolan Village	▪ Former head of village	He expects that his son can be employed by SOL	He can resolve problems within the community due to his status and can communicate positive messages about the project.
14	Pangihutan Simatupang	Religious Leader in Pardamaean Nainggolan Village	▪ Priest in the church ▪ To serve the community in terms of spirituality	He expects that his son can be employed by SOL	He can resolve problems within the community due to his status and can communicate positive messages about the project.
15	Arselius Silaban	Religious Leader in Pardamaean Nainggolan Village	▪ Priest in the church ▪ To serve the community in terms of spirituality	He expects that his son can be employed by SOL	He is able to act as a bridge between the church and government

No	Name of Stakeholders	Profile	Role	Interest	Influence
16	Parlaungan Nainggolan	Head of Pardomuan Nainggolan Village	▪ To serve the community in term of cultural event ▪ To protect the community	He expects that SOL will build a positive relationship with the community	He can resolve problems within the community due to his status and can communicate positive messages about the project.
17	Jackie Nainggolan	Former Village Head	▪ To serve the community in term of agricultural aspect ▪ To protect the community	He expects that his son can be employed by SOL	He can resolve problems within the community due to his status and can communicate positive messages about the project.
18	Luhut Aritonang	Community Leader in Pardomuan Nainggolan Village	▪ To serve the community in term of cultural event ▪ To protect the community	He expects that his son can be employed by SOL	He can resolve problems within the community due to his status and can communicate positive messages about the project.
19	Parhehe Tampubolon	Community Leader in Pardomuan Nainggolan Village	▪ To serve the community in term of cultural event	He expects that his son can be employed by SOL	He is able to strengthen the community relationship with SOL
20	Surung Nainggolan	Community Leader in Pardomuan Nainggolan Village	▪ To serve the community in term of cultural event	He expects that his son can be employed by SOL	He can resolve problems within the community due to his status and can communicate well with the community.
21	Poltak Nainggolan	Community Leader in Pardomuan Nainggolan Village	▪ To serve the community in term of cultural event	He expects that his son can be employed by SOL	He is able to strengthen the community relationship with SOL
22	Lamhot Gultom	Youth Leader in Pardomuan Nainggolan Village	▪ Leader of Youth Organization	He expects that his son can be employed by SOL	He can promote the youth in terms of sport activities
23	Radot Sihombing	Head of Village of Silangkitang	▪ To lead the community ▪ To protect the community ▪ To serve the community	He expects that SOL will build a positive relationship with the community	He can resolve problems within the community due to his status and can communicate well with the community.
24	Dahlan Sihombing	Community Leader in Silangkitang Village	▪ To serve the community in term of cultural event	He expects that his son can be employed by SOL	He can resolve problems within the community due to his status and can communicate well with the community.
25	Herto Sihombing	Community Leader in	▪ To serve the community	He expects that his son can be	He can resolve problems within

No	Name of Stakeholders	Profile	Role	Interest	Influence
		Silangkitang Village	in term of cultural event	employed by SOL	the community due to his status and can communicate well with the community.
26	Parinton Sihombing	Community Leader in Silangkitang Village	▪ To serve the community in term of cultural event	He expects that his son can be employed by SOL	He can resolve problems within the community due to his status and can communicate well with the community.
27	Anggiat Sihombing	Community Leader in Silangkitang Village	▪ To serve the community in term of cultural event	He expects that his son can be employed by SOL	He can resolve problems within the community due to his status and can communicate well with the community.
28	Sabar Simorangkir	Community Leader in Silangkitang Village	▪ To serve the community in term of cultural event	He expects that his son can be employed by SOL	He can resolve problems within the community due to his status and can communicate well with the community.
29	Sadihari Hutabarat	Religious Leader in Silangkitang Village	▪ To serve the community in term of cultural event	He expects that his son can be employed by SOL	He can resolve problems within the community due to his status and can communicate well with the community.
30	Rudi Sitorus	Head of Pahae Jae Sub District	▪ To lead community in Pahae Julu Sub District	Interested in the positive and negative impacts of the project in the surrounding villages and ensuring that the project is communicating and coordinating all project activities and information	He is able to provide positive advice and give direction to community.

Table A2 Directly Impacted Stakeholders in Pahae Julu Sub District

No	*Name of Stakeholders*	*Profile*	*Role*	*Interest*	*Influence*
1	Project Affected Communities	Namora I Langit (NIL) Area: Villagers and Land Owners located in Sibaganding, Simataniari, Lumban Jaean and Onan Hasang Village	Communities/Villagers	Local communities/villagers are interested in the direct and indirect impacts of the project on their village and communities especially on the environment and agricultural activities. In addition to this, prioritization of local resources (employees, local businesses, and local contractors) to be maximized and utilized in the project is also a main interest of the local communities in these villages.	The perception towards project will be significant in terms of how 'socially' successful the project will be.
2	Novada sitompul	Head of Sibaganding Village	To lead the community To serve the community	Land acquisition issue	He can support resolving community issues and assist in communication with the community
3	Maruba Hutabarat	Religious Leader in Sibaganding Village	Priest in church to serve community To lead religious organization		He is able to provide positive advice and give direction to the community
4	Tiopan Sitompul	Community Leader in Sibaganding Village	To maintain and implement cultural and traditional activities in the community		He is able to provide solutions in terms of the communities' traditional and cultural events.
5	Banjir Pasaribu	Community Leader in Sibaganding Village	To maintain and implement culture and traditions in the community		He is able to provide solutions in terms of the communities' traditional and cultural events.
6	Richard Sitompul	Secretary of the Sibaganding Village	To perform administrative tasks in Village Head Office	Land acquisition issue	He is able to provide help SOL's socialization process and can communicate well with community
7	Marlan Sitompul	Head of Lumban Jaean Village	To act as a bridge between the community and	Land acquisition issue	He is able to provide positive advice and give direction to the

No	Name of Stakeholders	Profile	Role	Interest	Influence
		Public relation of PT SOL	company To give information to the community		community
8	Marsua Sihombing	Community Leader in Lumban Jaean Village	To perform community traditional events		He is able to provide positive advice and give direction to the community
9	Makjan Nababan	Religious Leader in Lumban Jaean Village	Priest in church to serve community To lead religious organization	Employment Opportunities	He is able to provide positive advice and give direction to the community
10	August Sitompul	Chairman BPD (Village Representative Board) in Lumban Jaean Village Community Leader Village	To assist and support Village Head in terms of solving problem within the community To develop village planning	Land acquisition issue	He is able to give positive advice and direction to community in terms of developing regulation
11	Rasional Sitompul	Youth Leader in Lumban Jaean Village	To unite the young people	Employment opportunities for young people	He is able to gather aspirations and ideas from and influence young people
12	Rudih Sitompul	Head of Simataniari Village	To lead community	Land acquisition and employment opportunities	He is able to support solution to community and as a mediator in the process of land acquisition
13	Lamhot	Clan Leader in Simataniari Village	To lead culture and traditions in the community	Preservation of Batak Tradition	He is able to give advice in terms of traditional events
14	Baginda Sitompul	Clan Leader in Simataniari Village	To lead culture and traditions in the community	Preservation of Batak Tradition	He is able to give advice in terms of traditional events
15	Reinhard Pasaribu	Head of Onan Hasang Village	To perform duties as a village head To lead community	Employment opportunities	He is able to provide positive advise and give direction to the community
16	Beni Pasaribu	Community Leader in Onan Hasang Village	To maintain and implement culture and traditions in the community	Employment opportunities	He is able to provide positive advise and direction to the community
17	Welki Silaban	Youth leaders in Onan Hasang Village	To perform duties as a youth leader in community	Employment opportunities	He is able to gather aspiration and ideas from and influence

No	Name of Stakeholders	Profile	Role	Interest	Influence
			As a source information		young people
18	Berman Panggabean	Youth Leader in Onan Hasang Village	To perform duties as a youth leader in community As a source information	Employment opportunities	He is able to provide help SOL's socialization process and communicate well with the community
19	M. Siregar	Clan Leaders in Onan Hasang Village	To implement the event's tradition in the community To lead a dominant clan in the community	-	He is able to provide positive advise and direction to the community
20	Rianto Lumban Tobing	Head of Pahae Julu Sub District	To lead community in Pahae Julu Sub District	Interested in positive and negative impacts of the project in the surrounding villages and ensuring that the project is communicating and coordinating all activities and information	He is able to provide positive advise and give direction to the community

Table A3 Indirectly Impacted Stakeholders in North Tapanuli Regency and North Sumatera Province

No	*Name of Stakeholders*	*Role*	*Interest*
1	North Tapanuli Regency (Profile: To lead the North Tapanuli)	Optimization of the project's benefits for the local communities especially in Pahae Jae and Pahae Julu sub districts and to ensure that the project adheres to all local regulations.	Permitting and coordination matters are also points of interests as well as the local communities' involvement and engagement in the project.
2	Mining and Energy Agency at Regency Level	Interested in project coordination and the monitoring process on issues related with project implementation stages.	Permitting related issues, and also the maximisation of local contractors/manpower.
3	Environmental Agency at Regency Level	Interested in project coordination and the monitoring process on issues related with project implementation stages	Permitting related issues, and also the maximisation of local contractors/manpower.
4	Public Works Agency at Regency Level	Interested in construction/civil works related activities	Permitting prior to activities onsite.
5	Forestry Agency at Regency Level	Interested in the use of some forest area by the project.	They provide recommendations to the Ministry of Forestry to support the forest leasehold permit process applied by the project. They will monitor all issues related with forest area use by the project.
6	Agricultural Agency at Regency Level	To understand impacts that may affect agricultural activities in Sarulla area.	To ensure negative impacts on the agricultural activities are well managed by the project.
7	National Land Agency at Regency Level	To ensure the land acquisition process is in accordance with the applied regulation.	To approve the location permit as issued by North Tapanuli Government Office.
8	Mining and Energy Agency at Provincial Level	Interested in local contractor engagement.	To provide licenses/registration of contractors involved in project activities, environmental impacts and project schedule implementation.
9	Environmental Agency at Provincial Level	Interested in the implementation of AMDAL monitoring and supervising RKL/RPL six monthly reporting. Environmental and social impacts of the project to the surrounding communities are the two major interests.	Permitting related issues.
10	North Sumatera Province	Interested in the project benefits for North Sumatera region and how the project will mitigate any potential issues with local communities.	Permitting related issues.

Table A4 Other Relevant Stakeholders (Including NGOs and CSOs)

No	*Name of Stakeholders*	*Interest*	*Influence*
1	IMARUPA	Interested in maximising local resources/contractors in the project activities and ensuring that the project implement all agreed points in the Memorandum of Understanding signed by the project and representatives of local communities. Environmental impacts and mitigation measures by the project.	They can control and mobilise the community
2	PLPI (Persatuan Luat Pahae Indonesia)	Interested in environmental impacts to Sarulla areas and AMDAL socialization, maximizing local resources/contractors in project activities, fair and transparent land acquisition process and corporate social responsibility programs implementation.	They can control and mobilise the community
3	Joint Farmers' Group (Gapoktan)	Interested in project activities and project impacts on agricultural activities especially water resources and irrigation system.	They can control and mobilise the community
4	Families Empowerment and Welfare (PKK) – Women Organizations	Interested in the employment opportunities for women in the project development. To ensure that women's needs and issues are properly addressed and become part of project community development programs.	
5	Youth Organization (Karang Taruna)	Interested in employment opportunities for young people and also training/skill development programs.	They can control and mobilise the youth

Annex B

2013 Community Socialisation Meeting Minutes

MINUTES OF MEETING

Topic	:	**"Discussion/Sharing on Sarulla Project activities"** **Silangkitang village, Pahae Jae Sub District**		
Attendees	:	▪ Silangkitang local communities (attendance list attached)	Date :	Aug 27, 2013
		▪ Head of Pahae Jae Sub District		
		▪ Head of Silangkitang Village	Time :	2.30 -4 pm
		▪ SOL's team		
		▪ ERM (Adis R D)	Venue :	SD Inpres Silangkitang
			Prepared by:	Melva Samosir & Diana

Agenda:

1. Opening: Prayer by Mr. Alden Sitompul
2. Welcoming speech by Mr.Industan (SOL External Relation Officer)

   Mr. Industan explained that the objective of this meeting is to discuss about Sarulla Project related activities to the communities in Silangkitang. Everybody present in this meeting is given the opportunity to express their concern and questions related with the project freely, and furthermore, should the communities still have any concerns or queries after this meeting, it could be conveyed to SOL external relation officers or through Head of Village. He expressed his expectation that this meeting would be of benefit to the local communities.
3. Presentation & explanation on the project by Pak Petrus Gunawan
   - Geothermal video presentation
   - Brief history of Sarulla Geothermal Project
   - Introduction on SOL as the project proponent
   - Project activities and its impacts
4. Discussion – Q & A

No	Name	Questions/Comments/Suggestion	SOL's responses
1	Pak Sitompul	What is SOL?	SOL (Sarulla Operations Limited) is a consortium consists of four companies: PT Medco Power Indonesia, Kyushu, Ormat, and Itochu. SOL is the proponent of Sarulla Project which is having a contract (JOC) with PT PGE as the concession owner and Energy Contract Sale (ESC) with PLN.
2	Pak Lamhot Sitompul	How SOL will manage the negative impact of "Noise"?	Noise will be monitored and minimized as much as possible by using a "silencer". Standard Operating Procedure for operation is established to address the issue of noise. This issue is also addressed in the Environmental management Plan (RPL/RKL) document.
3	Pak Sinaga	- Is H2S would be produced by the project? - Communities' must be protected from its impacts	-In any geothermal location, H2S exists even without the presence of a geothermal power plant because it's part of the nature. And during project operation, H2S odor might occur but based on the study made by the project, it will not more than 0,02 ppm

			(regulatory standard for H2S odor). - To avoid and minimize any impacts to the communities and project's workers, H2S will be monitored and controlled and it is part of the environmental Management plan (RKL/RPL)
4	Pak Parinton Sihombing	- This project will bring more positive impacts to the local communities and will help to develop the economy of the villages surrounding project area. - I myself had worked in some geothermal field survey previously and I know that geothermal is very useful for producing power and it is environmental friendly so we have to support this project for the benefit of our area and our people.	Noted by SOL
5	Village Secretary	- Any projects will have negative impacts, but it should be minimized and managed. - One of the impacts that were recently experienced by Silangkitang area is SOL's contractor trucks that transport the soil through the road and the soils was falling from the truck and made a lot of dust. This has been reported to SOL. This should not be happened again and SOL must really monitor the work of its contractors.	- SOL noted this and expressed its apology for this occurrence. - SOL will follow up this issue and communicate with related contractors and ensure that all standard operation procedures as well as HSE guidelines are fully adhered to by all contractors.
6	Head of Village (Radot Sihombing)	- To add on dust issue, I have talked to the related contractor (Multifab) and also to SOL, but this was happened again. And I am disappointed because of this and really urge SOL to take action even if the contractor is local or non local. So, since this is still the first case, SOL has to learn from this and not to let the same thing happen and make local communities disappointed. - The communities will regard all contractors' behavior and actions as SOL's thus SOL should also be responsible for any impacts or results from contractors (local or non local) works. - SOL should commit to implement all management plan stated in the AMDAL document.	- SOL will take action and will follow up this issue and communicate with related contractors and ensure that all standard operation procedures as well as HSE guidelines are fully adhered to by all contractors. - SOL noted and it is SOL's obligation to implement the environmental management plan in the project as in accordance with AMDAL document.
7	Pak Pane	- What is the objective of this meeting? -What is the status of AMDAL and who approves the AMDAL?	-Discussion & sharing on Sarulla Geothermal Project Activities. - AMDAL is approved by Governor of North Sumatera on August 2009
8	Pak Radot Sihombing	How H2S will be managed during flow test and how long flow test will be conducted?	-Test would be conducted for about 2 months. Injection test (SIL 1 & SIL 2) would not cause any noise or H2S because it is only for water injection. - Production test for two wells will take about one and a half months.

5. Closing

Moderator: Explaining that any questions, inputs or concerns may be conveyed to SOL (verbal or written) to SOL external relation Officer or through the Head of Village.

Prayer

Attendance List:

DAFTAR HADIR
DALAM RANGKA SHARING MENGENAI
KEGIATAN PROYEK PEMBANGKIT LISTRIK PANAS BUMI

HARI / TANGGAL : SELASA, 27 AGUSTUS 2013

NO	NAMA	ALAMAT	TANDA TANGAN
1.	RIJON - NABABAN	Silangkitang dolok	
2.	Daniel Tua a Sihombing	Silangkitang dolok	
3.	LAMHOT SITOMPUL	SILANGKITANG. DOLOK	
4	TONGAM SIBARANI	SILANGKITANG DOLOK	
5	Bangun sitompul	silangkitang Dolok	
6	TAMBUN SIBARANI	Silangkitang dolok	
7	RINMON HT Gaol	Silangkitang Pinggir	
8	JAWARTO . HT. BARAT	SILANGKITANG	
9	PARSAORAN. SITOMPUL	SILANGKITANG	
10	Hosing Sihombing	Silang Kitang	
11	BANGUN HUTABARAT	11	
12	RAMOT SIHOMBING	SILANGKITANG	
13	Bistok SIHOMBING	HT Dangir	
14	HENDRY. SIHOMBING	HT Sampil-Pil	
15	TOTO ISWANTO NABABAN	HT SOSOR	
16	NAHSER . SIBARANI	SILANGKITANG	
17	JOHNY SIHOMBING	HUTA DANGIR	
18	HENRI SIHOMBING	Pondok hanoin Bina	
19	LAMBAS Sihombing	Silangkitang	
20	Muliater Silaban	Silangkitang	
21	Mauli ate. Sibarani	Silangkitang	
22	Ruhut Sibarani	Sil. Dolok	
23	KRISPON SINAGA	Gubang / Silangkitang	
24	Dungo Huta barat	Silang kitang	
25	RADOT SIHOMBING	SILANGKITANG	

DAFTAR HADIR
DALAM RANGKA SHARING MENGENAI
KEGIATAN PROYEK PEMBANGKIT LISTRIK PANAS BUMI

HARI / TANGGAL : SELASA, 27 AGUSTUS 2013

NO	NAMA	ALAMAT	TANDA TANGAN
26	THOMA S.	SILANGKITANG	
27	Mangaraja Situmpul	Silangkitang	
28	Iwanto Sihombing	Silangkitang	
29	Joplin Sihombing	Silangkitang	
30.	DONNER Sihombing	Silangkitang	
31	Petrus Gunawan		
32	Industan Situmpul		
33	Alden Situmpul		
34	Melva		
35	Adis		
36	Frangki Tarihoran		
37	Artur A.S.		
38	Dave		
39	Marudut		
40	Adi		
41	Diana		

MINUTES OF MEETING

Topic	:	**"Discussion/Sharing on Sarulla Project activities"** **Sigurung-gurung village, Pahae Jae Sub District**		
Attendees	:	▪ Sigurung-gurung local communities (attendance list is attached	Date :	Aug 28, 2013
		▪ Head of Pahae Jae Sub District		
		▪ Head of Sigurung-gurung Village	Time :	14.48 -4 pm
		▪ SOL's team		
		▪ ERM (Adis R D)	Venue :	GPKB Pangaloan
			Prepared by:	Melva Samosir & Diana

Agenda:

1. Opening: Prayer by the Church Pastor.
2. Welcoming speech by :

   -Head of Village (Mr. Saul Sihombing)

   Today's meeting is to have a discussion and sharing about Sarulla project and everybody may express his/her questions, inputs, concerns openly in this meeting.

   -Head of Sub District (Mr. Elyanto)

   Local communities of Pahae Jae sub district has committed to support the project even since UNOCAL and as government, our role is also to support this project.
3. Presentation & explanation on the project by Pak Petrus Gunawan
   - Geothermal video presentation
   - Brief history of Sarulla Geothermal Project
   - Introduction on SOL as the project proponent
   - Project activities and its impacts
4. Discussion – Q & A

No	Name	Questions/Comments/Suggestion	SOL's responses
1	Luhut Sitompul	1. Request SOL to provide training for local communities to develop their skill so that they can work in the project. 2. To prioritize the local labors (from Pahae/ Pangaloan area) to work in the project in accordance with their skill and capacity. 3. Since the project is developed in our area, we expect that we can have free electricity	1. SOL is committed to prioritize local resources including labors in accordance with their skill and capacity. 2. For training, it will be part of SOL CSR long term program. Currently, SOL is in the process of recruiting and short listing the children from local communities which is part of SOL's commitment for maximizing local labors. 3. SOL doesn't have the authority to answer this because the contract scheme.
2	Martin Sitompul	-Good intention from SOL to maximize local resources will be implemented in the future; however I want to ask why previous recruitment for current SOL's employees in Sarulla was especially the drafter's assistants.	-Previous recruitment was in a very urgent situation and we had tried to look for local people but we did not find candidates with the required skills.
3	Bilser Sitompul	1. Request that socialization like this must be done jointly for both Sigurung-gurung and	1. SOL's intention to conduct separate meeting is to ensure that interaction

		Silangkitang, do not conduct separately because culturally 2. Please explain what is CSR and AMDAL 3. Maximize local resources according to their skills and tell the truth to local communities.	between the SOL and villages will be more effective because combine two villages in a meeting will involve a large number of people and discussion might not be as effective as a discussion with a smaller number of people. However, SOL noted this and will combine the two villages for future's meetings with local communities. 2. CSR is Corporate Social Responsibility; as stipulated in the regulation, all companies operate in an area or location is obliged to develop a CSR program. SOL in this case is also obliged to develop CSR program and it is being planned and prepared. The programs will be based on the needs of local communities and SOL will establish another coordination meeting with each village to discuss about CSR programs and its implementation. 3. AMDAL is environmental analysis required by the Government before a project operates in an area. Based on latest regulation (PP No. 27 year 2012) on Environmental permit, AMDAL is an inseparable document to Environmental permit. SOL's AMDAL was approved by in August 2009. 4. SOL noted and will maximize local resources in accordance with the need of the project in each phase.
4	Srimunarti	Please explain more on some of the negative impacts	All negative impact will be managed and minimize as stated in the environmental management plan such as: 1.Land acquisition – socialization and negotiation 2. Mobilization of equipments- material – controls all the vehicles and establishes a SOP. 3.Drilling – water resource will be from Batang Toru but it will be a small scale. 4. Land slides from some clearing – establish an adequate drainage system and terrace land scheme. 5. Potential leaking in pipe – check and certification system for all the pipes before used in the project. 6. H2S – Monitoring and control H2S. Without the project, H2S actually already exists in the area, however, it might escalates therefore, SOL will monitor and control it when the project runs. 7. To minimize and manage the potential risks, SOL has established SOP/HSE guidelines.

5	Luhut Sitompul	Commitment on CSR should be written so that it's not only in words	SOL actually already had signed MoU on CSR to local communities in March 2011. Some CSR activities has been conducted in the form of donation and assistances to local communities, however this is a short term program and long term CSR program is still being planned and developed
6	Martin Sitompul	Request SOL to control the salary/ wage system /standard of its contractors so that local communities' welfare are	It is a very important valuable input for us and we will communicate this to our contractors
7	Sitompul	- Grateful for the presence of SOL to bring the change in this area. - Expect that our children not only working as daily labor or contract but must be permanent, we do not expect that our children to be a director but in accordance with their skill and background. We have sold our land and our wish that our children may work in this company.	SOL noted this.

5. Closing & prayer

Attendance List:

DAFTAR HADIR
DALAM RANGKA SHARING MENGENAI PROYEK PEMBANGKIT LISTRIK PANAS BUMI DI PAHAE

HARI / TANGGAL : RABU, 28 AGUSTUS 2013

NO	NAMA	ALAMAT	TANDA TANGAN
1	Ronny	Bnnjarpea	
2	HERIANTO	HT BOLGASAN	
3	Syamsuddin Pulungan	Sigurung2	
4	Rinaldi Sitompul	Si gurung2 Bagasan	
5	St. B. TAMBUNAN	S. gurung2 Ht. Bagot	
6	S. Gultom	— 11 —	
7	Bilser Sitompul	Huta Paian	
8	NELSON SITOMPUL	BANJARPEA	
9	St. Rajin Sihombing	Bnnjarpea	
10	Rihut Sitompul	Huta Bnnjarpea	
11	Jesaja Sitompul	Huta Bagasan	
12	Saroha Sitompul	Huta Bagasan	
13	Supratman Sitompul	Bnnjarpea	
14	Parlin Rampat	Bnnjarpea	
15	Pangolai S.	Banjarpea	
16	Rihut Panggabean	Sigurung Ht Bagasan	
17	Julus Sitompul	Banjarpea	
18	DENNI TAMBUNAN	SIGURUNG2 HT. BAGOT	
19	Togar Sitompul	Sigurung2 Ht Bagot	
20	Tumaga H. Tigaluy	Sigurung2 HT Bagot	
21	B. Tambunan	Sigurung	
22	Julus D. Simanjuntak	Sibaca-baca	
23	Junus parapat	sigurung-gurung	
24	TONNY SIHOMBING	Banjar-PEA.	
25	HOTBER Panjaitan	Banjar PEA	

DAFTAR HADIR
DALAM RANGKA SHARING MENGENAI PROYEK PEMBANGKIT LISTRIK PANAS BUMI DI PAHAE

HARI / TANGGAL : RABU, 28 AGUSTUS 2013

NO	NAMA	ALAMAT	TANDA TANGAN
26	Bambang Sitompul	Banjar pea	[signature]
27	Arian Sitompul	Banjarpea	[signature]
28	Luhut Sitompul	Banjarpea	[signature]
29	Oberlin Rumapea	Ht Bagot	[signature]
30	Hara Sitompul	Sig² Ht Bagasan	[signature]
31	Jonson Sitompul	Sig² Ht Bagot	[signature]
32	Maknari Simanungkalit	Banjarpea	[signature]
33	Binsar Sitompul	Banjar Pea	[signature]
34	Hulman Siadari	Banjar pea	[signature]
35	Herman Parapat	Banjarpea	[signature]
36	Jomer Sitompul	〃	[signature]
37	Richard Parapat	〃	[signature]
38	Ranap Panggabean	Ht. Bagasan	[signature]
39	Timbour Panjaitan	Banjarpea	[signature]
40	Rajuman Parapat	Banjar Pea	[signature]
41	Ribat Sitompul	Ht Bagasan	[signature]
42	Yesayas Sitompul	Ht Bagasan	[signature]
43	Saroha Sitompul	Ht Bagasan	[signature]
44	St. Rajin Sihombing	Banjarpea	[signature]
45	Nelson Sitompul	Banjarpea	[signature]
46	Sabar 〃	Si-Gurung²	[signature]
47	J. Sitompul	Sigurung²	[signature]
48	Ruslisibarani	B. Pea	[signature]
49	mutiara panjaitan	B. Pea	[signature]
50	Remi Atambunan	B Pea	[signature]

DAFTAR HADIR
DALAM RANGKA SHARING MENGENAI PROYEK PEMBANGKIT LISTRIK PANAS BUMI DI PAHAE

HARI / TANGGAL : RABU, 28 AGUSTUS 2013

NO	NAMA	ALAMAT	TANDA TANGAN
51	Tiamsa Sitompul	Banjarpea	
52	Lerin Siregar	Banjarpea	
53	Sri Munarti	Sigiring 2	
54	Marlian Panjaitan	Sigiring 2	
55	Romita sitompul	Sigiring 2	
56	LESTERIP PARDOS	SEKDES Sigiring2	
57	Petrus Gunawan		
58	Industan Sitompul		
59	Mawa		
60	Elyanto Sitompul		
61	Kades ~~Silanglit~~ Sigiring		
62	Alden Sitompul		
63	Arthur A.S		
64	Jefri Hainggolan		
65	Adi Sihaloho.		
66			
67			
68			
69			
70			

MINUTES OF MEETING

Topic	:	**"Discussion/Sharing on Sarulla Project activities" Pardamean Nainggolan village, Pahae Jae Sub District**		
Attendees	:	▪ Pardamean Nainggolan local communities (attendance list attached)	Date :	Aug 29, 2013
		▪ Head of Pahae Jae Sub District		
		▪ Head of Pardamean Nainggolan Village	Time :	3.00 -5 pm
		▪ SOL's team		
		▪ ERM (Adis R D)	Venue :	HKBP Pangaloan
			Prepared by:	Melva Samosir & Diana Tampubolon

Agenda:

1. Opening: Prayer by local Communities' representative
2. Welcoming speech by
   - Head of Village (Mr. Robert Sitompul)

   This is a good opportunity for local communities to express any concerns, inputs and suggestions to SOL.
   - Head of Sub District (Elyanto Sitompul)

   It is important for local communities to pay full attention to the presentation and discussion today and we expect that local communities may provide positive inputs to SOL so that this project may run smoothly.
3. Presentation & explanation on the project by Pak Petrus Gunawan
   - Geothermal video presentation
   - Brief history of Sarulla Geothermal Project
   - Introduction on SOL as the project proponent
   - Project activities and its impacts
4. Discussion – Q & A

No	Name	Questions/Comments/Suggestion	SOL's responses
1	Robert Pakpahan	I am one of the land owners in this village and I need a job and also for my friends here.	Land owners will be prioritized and labors for the project will be maximized from the surrounding villages as well in accordance with the project needs in each stage.
2	Hendri Gultom	1. Is Lapindo case will happen in this project? 2. How the company will manage H2S? 3. How does SOL announce the recruitment/employment opportunities?	1. Lapindo case will not be likely to occur in this project because this is a geothermal project while Lapindo is geo gas project, therefore it is quite different. 2. SOL will control and manage H2S level through a third party named Verdaco, and H2S level will be minimized to not more than 0,02 ppm (regulatory standard on odor). 3. Currently, the need for labors/workers is still quite small. Notification on any vacancies will be conveyed to through the Head of Village.
3	James Simorangkir	If the project runs, please consider the development for local communities.	The company noted this well and it will be part of our CSR planning & program

4	Merialam Nainggolan	1. Is there any impact on soil? 2. Permanent status for local employees 3. Will there be any problems such as explosion in this area after the project operates?	1. Geothermal operation and activities do not have impacts on soil fertility and just as seen in the video a number of geothermal fields in Indonesia are side by side /located within an agricultural area. 2. SOL noted this. This is will be in accordance with project's needs in each phase. 3. - Any project will have impacts to the surroundings and we will manage these impacts. Geothermal power plants could not operate if its surroundings are not preserved well. -Explosion referred here is the rapture disc that is supposed to explode and might
5	Pangeran Pakpahan	Different salary standard by the contractors	SOL will communicate and coordinate with the contractors including local contractors
6	Marolop Hutapea	Labor recruitment is really competitive; therefore training for local labors is required. As stated in the MoU with local communities, SOL will provide training for the local communities.	Well noted and it is part of SOL's commitment and will be part of CSR program which is still being planned and arranged. The process will be in phases and currently we're still at the very early stage of the project, thus it will be developed gradually.
7	Hinsa Pakpahan	- SOL must consider the safety issues on H2S very well. - Maximized the local resources including agricultural commodities that could be utilized for SOL's employees/staff & activities. - Development for our village.	Well noted and part of our commitment for CSR program.
8	Muntal Simatupang	- SOL must be careful during drilling activities for the new drills, provide any required safety equipments to local communities such as masks etc. - Maximize the local resources and recruit the local labors in accordance with their skills. - In the future, please manage all impacts from the project. - Please assist our area in its development such as education, agricultural	Well noted and it will be part of the SOL's commitment in project implementation.

5. Closing
   This is not the only meeting that will be conducted by SOL with local communities; there will be other discussions/meetings throughout project cycle with local communities.

   Prayer

Attendance list:

DAFTAR HADIR
DALAM RANGKA SHARING MENGENAI PROYEK PEMBANGKIT LISTRIK PANAS BUMI DI PAHAE
DESA PARDAMEAN NAINGGOLAN

HARI / TANGGAL : KAMIS, 29 AGUSTUS 2013

NO	NAMA	ALAMAT	TANDA TANGAN
1	HINSA PAKPAHAN	DESA PARDAMEAN	
2	Marsampat. Simatupang	DESA pardamean	
3	Bunglia P. Simatupang	Desa. Pardamean	
4	Sunyodi Simatupang	Desa pardamean	
5	Mart. Gultom	Desa pardamean	
6	Laurensius Simanjuntak	Ds. Uluara	
7	JAMES. SIMARANGKIR	PAKPAHAN	
8	Punguan. simatupang	Huma. Burle.	
9	Junior panggabean	Desa. pardamean	
10	HENDRI GULTOM	PARDAMEAN.	
11	Robert Pakpahan	Pardameon	
12	MOSBEN PAK PAHAN	Desa. Pardamean	
13	Marolop Hutapea	—11—	
14	SUARDI D. HARIANJA	—11—	
15	Agustina Gultom	—11—	
16	Tiopan Simorangkir	—11—	
17	Saul simatupang	—11—	
18	LEHON Simatupang	—11—	
19	Maringan pakpahan	—11—	
20	Meridam nainggolan	—11—	
21	Poerama Simatupang	—11—	
22	Parlaungan Sinaga	Ranto Panjang	
23	Omapeng Sitanggang	Ranto panjang	
24	RAKUT PAK PAHAN	—11—	
25	Gr. Alselsius silaban.	Godang	

DAFTAR HADIR
DALAM RANGKA SHARING MENGENAI PROYEK PEMBANGKIT LISTRIK PANAS BUMI DI PAHAE
DESA PARDAMEAN NAINGGOLAN

HARI / TANGGAL : KAMIS, 29 AGUSTUS 2013

NO	NAMA	ALAMAT	TANDA TANGAN
26	Pardamean Panggabean	Desa Pardamean	
27	Robert Sitompul	Desa pardamean	
28	Petros Gunawan	SOL	
29	Melva Samosir	SOL	
30	samsudin	SOL	
31	Artur AS	SOL	
32	Industan Sitompul	SOL	
33	Alden Sitompul	SOL	
34	Hendrik Siahaan	SOL	
35	Marudut siahaan	SOL	
36	Adi Siahaan	SOL	
37	Adis	SOL	
38	Diana	SOL	

MINUTES OF MEETING

Topic	:	**"Discussion/Sharing on Sarulla Project activities"** **Pardomuan Nainggolan village, Pahae Jae Sub District**		
Attendees	:	▪ Pardomuan Nainggolan local communities (attendance list attached)	Date :	Aug 30, 2013
		▪ Head of Pahae Jae Sub District		
		▪ Head of Pardomuan Nainggolan Village	Time :	2.37- 5 pm
		▪ SOL's team		
		▪ ERM (Adis R D)	Venue :	SD Inpres Pardomuan Nainggolan
			Prepared by:	Melva Samosir & Diana

Agenda:

1. Opening: Prayer by St. Sitompul
2. Welcoming speech by Head of Pardomuan Nainggolan Village
3. Presentation & explanation on the project by Pak Petrus Gunawan
   - Geothermal video presentation
   - Brief history of Sarulla Geothermal Project
   - Introduction on SOL as the project proponent
   - Project activities and its impacts
4. Discussion – Q & A

No	Name	Questions/Comments/Suggestion	SOL's responses
1	Marida nainggolan	- When project operates, how about the settlements surrounding the project? - Will there be any case such as Lapindo/mud disaster?	-Settlement surrounding the project location will not be moved. -Sarulla project is geothermal while Lapindo is gas project, basically it's different thus lapindo case will not happen in geothermal project.
2	Liani sianturi	Will there be any impacts on irrigation/water resource when the project operates?	Water intake for this project will not have any impacts on the surface water because drilling will be very deep (3000 -4000 meters).
3	Head of Pardomuan Nainggolan village	-Benefits for local communities especially our village. - Prioritize the local labors and recruitment from each village must be equal.	- It is part of CSR program which is being planned and prepared for short, medium and long term program. -We commit to prioritize the local labors and currently, local recruitment has been conducted and is being processed for some positions.
4	Dompak Sitompul	-As a company, is SOL a temporary or a permanent entity? Our children need to know so that we can understand the nature of their employment with SOL. - Is the salary received by SOL's employee in dollar or Rupiah?	-SOL (consortium) as the developer of this project has 30 years contract. -SOL's employees salary is in Rupiah
5	Tegas nainggolan	What kind of the education background/skill that will be required to work in SOL?	Basically SOL receives various educational background but in particular for operation stage, technical background will be required more.
6	Marida Nainggolan	Can SOL provide assistance for our children's education especially for the ones that have achievement?	It is part of SOL's commitment for CSR program and its planning and implementation is being planned and

			discussed. We will discuss further with local communities because the program must be based on the needs from the local communities.
7	James Tampubolan	-Please use/utilize our local labors in the project. -Why there hasn't been any recruitment from our village -Please provide training for us so that we can work in the project.	-We are committed for maximizing local resources - Currently we are in the recruitment process and we know that some of the candidates are from this village and some other villages as well. - It will be part of our CSR program in the long term.
8	Prider Sitompul	If this project already operates in the future, what will be the benefits and its contribution to the local communities?	- The project will deliver benefits such as the use of local resources or commodities for project's activities. - The contribution will be in the form of CSR programs in each village in accordance with the needs of each village.

5. Closing
   Moderator: Explaining that any questions, inputs or concerns may be conveyed to SOL (verbal or written) to SOL external relation Officer or through the Head of Village.

   Prayer

Attendance List:

DAFTAR HADIR
DALAM RANGKA SHARING MENGENAI PROYEK PEMBANGKIT LISTRIK PANAS BUMI DI PAHAE
DESA PARDOMUAN NAINGGOLAN

HARI / TANGGAL : JUMAT , 30 AGUSTUS 2013

NO	NAMA	ALAMAT/ JABATAN	TANDA TANGAN
1	Pangihutan Nainggolan	Pakkat	
2	Muktar Nainggolan	Ht. Buketul	
3	DACKAM SIHAGA	O. JORO	
4	BISTOK SIMATUPANG	O JORO.	
5	JAMES Tampubolon	Pakkat (BPD)	
6	ELIMAR Tambunan	Pakkat	
7	TEGAS Nainggolan	pakkat	
8.	FRINSEN SIHOL	Liang Singa	
9.	DONAL. NAINGGOLAN	O. JORO	
10	LUNGGU SIMATUPANG	O JORO	
11	Dompak Hanjal	Liang. Singa	
12	Armonton Samosir	JLU; Liang Singa	
13	ANWAR HI BARAT	O. JORO	
14	JARENTA. SIHOMBING	O. JORO	
15	MASTER Silaenbing	O. JORO	
16	Tiamor Nababan	O JORO	
17	Yusminar pasaribu	O. Joro	
18	Merantika Sitompul	O. joro	
19	Nurhayati Gultom	O. Joro	
20	ROMANNA SAMOSIR	O. Joro	
21	BENARDO Nainggolan	O Joro	
22	Suha nainggolan	O. Joro.	
23	Emmi Silitonga	Liang Singa	
24	'Keletus. Daeli		
25	MARIDA NAINGGOLAN	ONAN JORO	

DAFTAR HADIR
DALAM RANGKA SHARING MENGENAI PROYEK PEMBANGKIT LISTRIK PANAS BUMI DI PAHAE
DESA PARDOMUAN NAINGGOLAN

HARI / TANGGAL : JUMAT , 30 AGUSTUS 2013

NO	NAMA	ALAMAT/ JABATAN	TANDA TANGAN
36	PARLAUNGAN NAINGGOLAN	ONAN JORO / KADES	
37	ANDI MARKI NAINGGOLAN	Desa pardomuan	
38	Bungu Sitompul		
39	Jannes Nainggolan	Liang Sinaga	
40	HOTMAN NAINGGOLAN	SEKRETARIS BPD	
41	ARIFIN Silitonga	Bonar dolok	
42	Perianus Nainggolan	Huta Buntul	
43	Radiasi Togi	Desa pardomuan	
44	Petrus Gunawan	SOL	
45	Industan Sitompul	SOL	
46	Arthur AS.	SOL	
47	Melva	SOL	
48	Adis	SOL	
49	Diana	SOL	
50	Alden Sitompul	SOL	
51	Marudut Sinaga	SOL	
52	Adi Siahaan	SOL	
53	Syamsuddin	SOL	
54	Hendrik Siahaan.	SOL	

MINUTES OF MEETING

Topic	:	**"Discussion/Sharing on Sarulla Project activities"** **Simataniari village, Pahae Julu Sub District**		
Attendees	:	▪ Simataniari local communities (attendance list attached)	Date :	Aug 30, 2013
		▪ Representative from Pahae Julu Sub District Office		
		▪ Head of Simataniari Village	Time :	09.20 – 11 am
		▪ SOL's team		
		▪ ERM (Adis R D)	Venue :	HKBP Simataniari
			Prepared by:	Melva Samosir & Diana

Agenda:

1. Opening: Prayer by one of Church Ministers
2. Welcoming speech by:
   - Head of Simataniari Village
   - Representative of Pahae Julu Sub District: To avoid conducting any meetings on Fridays in the future Because there is market day on Friday and people might not come.
   -Representative of local elders: SOL should be transparent to local communities
3. Presentation & explanation on the project by Pak Petrus Gunawan
   - Geothermal video presentation
   - Brief history of Sarulla Geothermal Project
   - Introduction on SOL as the project proponent
   - Project activities and its impacts
4. Discussion – Q & A

No	Name	Questions/Comments/Suggestion	SOL's responses
1	Dimpos Tambunan	Where will SOL dispose the drilling waste?	As seen in the video presentation, the drilling waste refers to water and it will be re-injected to the earth, thus it will not pollute its surrounding environment.
2	Parluhutan Sitompul	-I myself support the presence of this project but this project must not disturb the irrigation system. -Prioritize local communities/resources - When the project operates, there should be contribution for the development of our village	- The project will not disturb the irrigation system. - Well noted. -This will be part of CSR program
3	Pawel Sitompul	- Local communities expect that whatever happened during UNOCAL period will not re-occurred now with SOL. - Please do not disturb our irrigation system. - Consider and check the project location in Hutajulu which was opened during UNOCAL time because it closes the irrigation system.	- Well noted by SOL - After this meeting, SOL team will check directly to the field.
4	Pendeta Saut Sitompul	How about land status after the 30 years of contract?	After the contract ends, all lands will be handed over to PGE since they were purchased on PGE's name. Thus land ownership will be on PGE.
5	Janton simatupang	- All acquired lands for access road must be constructed well so that it can be used by local	-Well noted

		communities as well to go to the plantation/ rice field areas. - SOL and its contractors (PT PP) to prioritize the local resources and labors such as CV. Simataniari and CV. Sibaganding	-Prioritization of local resources is already realized in Pahae Jae sub district but still quite limited because activities are still very few. There will be more activities in the coming future and we are committed to prioritize the local resources.
6	Sutan Sitompul	- Project activities must protect the rice field and plantation area and should not disturb the agricultural activities in our village.	Well noted and it is part of our risk management plan. However, local communities should not be hesitant to report and communicate any issues on this subject to SOL through Head of Village and our External Relation Staff.
7	Jonson Sitompul	-Prioritization of local labors -When will be the payment for our land conducted? Because land owners in Simataniari and Sibaganding village are already waiting to be paid.	-Well noted and its realization is currently ongoing by the first recruitment process for some positions and candidates are from the Pahae Julu and Pahae Jae sub district. -Thank you for land owners' patience and payment date will be informed formally to all land owners through letters one week in advance.
8	Doharman Sitompul	-Need location map for UNOCAL acquired land and -SOL must inform and notify any local communities whose lands are close to the project location prior to starting any activities to anticipate any impacts.	Well noted and will be followed up.
9	Jannus	-Issue about leaking during UNOCAL period and it should not be re-occurred in this project. -Safety issue must be considered. -Existing irrigation system to be protected -Minimum wage for local labors must be clear and transparent. -SOL should recruit one external relation staff from our village	- Well noted and followed by SOL. -SOL already has external relation staff and for Simataniari, Lumban Jaean, and Sibaganding village will be cover by Mr. Marlan. Besides Pak Marlan, local communities could also convey any concerns, inputs and questions trough Head of Village.
9	Rudi (Head of Village)	-Prioritization of local resources because we also have some people with skills such as operators in our village. -Contractors (PT PP) must be as transparent as possible. -Contractors (PT PP) should pay the local contractors in a timely manner	-Well noted and will be coordinated with contractors.

5. Closing
Moderator: Explaining that any questions, inputs or concerns may be conveyed to SOL (verbal or written) to SOL external relation Officer or through the Head of Village.

Prayer

Attendance List:

DAFTAR HADIR
DALAM RANGKA SHARING MENGENAI PROYEK PEMBANGKIT LISTRIK PANAS BUMI DI PAHAE
DESA SIMATANIARI

HARI / TANGGAL : JUMAT , 30 AGUSTUS 2013

NO	NAMA	ALAMAT	TANDA TANGAN
1.	DIMPOS TAMBUNAN	SIMATANIARI	
2	Saely Sitompul	Jakarta	
3	MARHOTTAS	Sitompul	
4	Tumbur Pakpahan	Simataniari	
5	SUTAN. Sitompul	—"—	
6	Rodiman Simatupang	Simataniari	
7	Marlin Sitompul	—"—	
8	Elman Simatupang	—"—	
9	Binsar an Step2	—"—	
10	Nalobder Sitompul	—"—	
11	FERNANDO SITOMPUL	SIMATANIARI	
12	Langkat Sitompul	—"—	
13	Ramses Sitompul	—"—	
14	Romeka Sitompul	—"—	
15	Aman. Sitompul	—"—	
16	DAVID SITOMPUL	—"—	
17	Heilman Sitompul	—"—	
18	Basjon Sitompul	—"—	
19	MARULAK Sitompul	—"—	
20	Rinaldo. Simatupang	—"—	
21	Dohar man sitompul	—"—	
22	SAHALA Sitompul	—"—	
23	Sumantoro Sinaga	—"—	
24	DULtrupen Sitompul	—"—	
25	SIMON. Sitompul	—"—	

DAFTAR HADIR
DALAM RANGKA SHARING MENGENAI PROYEK PEMBANGKIT LISTRIK PANAS BUMI DI PAHAE
DESA SIMATANIARI

HARI / TANGGAL : JUMAT , 30 AGUSTUS 2013

NO	NAMA	ALAMAT	TANDA TANGAN
	H. Sitompul	— // —	
	J. Sitompul	Simataniari	
	EHISON SIMAMORA	— // —	
	Ny Sitompul /br simatupang	Simataniari	
	M. simanjuntak	Simataniari	
	SAROHA Hasu Hotbang	— // —	
	Herbin Sinaga	— // —	
	Basirun Sinaga	Simataniari	
	Fala Siliteruga	Simataniari	
	P. Sitompul.	— // —	
	PAWER Sitompul	HUTAJULU	
	HASIHOLAN SIMATUPANG	SIMATANIARI	
	Sanion Simatupang	Simataniari	
	Ruchi H Sitompul	Simataniari	
	INDUSTAN Sitompul	SOL	
	HOTMA NAEK SITOMPUL SIP	SEKCAM PAHAE JULU/JORANG HUSAING	
	Charles Panggabean	Palembang	
	H. SITOMPUL	PALEMBANG	
	SIMSON SITOMPUL	SIMATANIARI	
	Parlinggoman Stompul	Simataniari	
	IWAN SITOMPUL	SIMATANIARI	

MINUTES OF MEETING

Topic	:	**"Discussion/Sharing on Sarulla Project activities"** **Onan Hasang & Janji Natogu village, Pahae Julu Sub District**		
Attendees	:	▪ Onan Hasang & Janji Natogu local communities (attendance list attached)	Date :	Aug 31, 2013
		▪ Representative from Pahae Julu Sub District Office		
		▪ Head of Onan Hasang & Janji Natogu Village	Time :	09.20 – 11 am
		▪ SOL's team		
		▪ ERM (Adis R D)	Venue :	HKI Onan Hasang
			Prepared by:	Melva Samosir & Diana

Agenda:

1. Opening: Prayer by one of Church Ministers
2. Welcoming speech by:
   - Head of Janji Natogu Village

   Our village will be part of the access road to the project thus we also have the rights to convey any inputs, concerns or questions to SOL.

   - Representative from Head of Sub District Office
3. Presentation & explanation on the project by Pak Petrus Gunawan
   - Geothermal video presentation
   - Brief history of Sarulla Geothermal Project
   - Introduction on SOL as the project proponent
   - Project activities and its impacts
4. Discussion – Q & A

No	Name	Questions/Comments/Suggestion	SOL's responses
1	Pantas siregar	-I understand that SOL already conducted some of similar meeting like this previously. -What is the impact of project activities on: a. Plantation b. children (under 12 years old) health -Who will be responsible for the project?	- All projects will have both negative and positive impacts and these are indentified and addressed in the RKL/RPL document. And negative will be minimized and reduced in the RKL-RPL. a. Direct on plantation only limited to the cutting of trees/plantations for all acquired, and impact on the close surrounding will be some cutting waste (leaves, woods). b. In general impacts will apply to anybody disregarding the age; some of the impacts such as Noise (short term) and will be socialized. But all these impacts will be controlled and monitored. -SOL is the responsible organization for project activities. SOL has three external relation staff (Pak Industan, Pak Marlan and Pak Alden) and communities are welcomed to communicate to our external relation staff on any issues related with the project.

2	T. Br Simatupang	Local labors from Pahae area must be prioritized because we have unemployed young people in our area.	Noted and it is part of SOL's commitment to local communities, prioritization of local resources will be in accordance with project needs and phase. There will be recruitment process and will be informed to local communities.
3	Pastor - HKI Onan Hasang	-Please do not conduct any activities on Sundays to respect the Christians in the area. -Before its COD in 2017, SOL should already implement CSR activities in this area. -Appreciation on SOL's presence in this area where it will open a lot of opportunities for local communities and I encourage all local communities in this village to work harder because this project will require a lot of supplies that could be supplied locally. - Is geothermal project will also produce H2S as we have in our village?	-SOL actually is off on Sundays but in some phase, some activities might be continued on Sundays such as drilling. -We are currently developing CSR program and activity is still limited to donations to some village activities. For future CSR programs, SOL will conduct discussions at the village level and with related stakeholders. -H2S is normal and exists in any geothermal fields but the odor level will be monitored and controlled.
4	Palinter Simanjuntak	-Free education for our children up to college level. -Please keep us informed of any recruitment process for the project to avoid any social jealousy. -Expect that this project will develop the area and help to build the character of the young people in this area.	-Education will be part of our CSR program and the plan is being developed. -Well noted and it will be informed openly and currently we disclose it through the Head of Village

5. Closing
Moderator: Explaining that any questions, inputs or concerns may be conveyed to SOL (verbal or written) to SOL external relation Officer or through the Head of Village.

Prayer

Attendance List:

DAFTAR HADIR
DALAM RANGKA SHARING MENGENAI PROYEK PEMBANGKIT LISTRIK PANAS BUMI DI PAHAE
DESA ONAN HASANG/ JANJI NATOGU

HARI / TANGGAL : SABTU , 31 AGUSTUS 2013

NO	NAMA	ALAMAT/ JABATAN	TANDA TANGAN
1	Waldemar Sitompul	Kades	
2	Parliman Hutabarat	Janji Natogu	
3	Jonner Sormin	Janji Natogu	
4	Golnauli Siregar	Janji Natogu	
5.	Judan Siagian	Janji Natogu	
6	Tiber Simanjuntak	— 11 . —	
7	Parasian.	— 11 —	
8	H Siregar.	— 11 —	
9.	S. Dongoran	— 11 —	
10	R. Sitompul	— 11 —	
11	M Sormin	— 11 —	
12	M. SIREGAR	— 11 —	
13	B Togiaa	— 11	
14	M. Siregar	— 11 —	
15	P. SIREGAR	— 11 —	
16	W. SIREGAR	— 11 —	
17	JAMESTON SIREGAR	— 11 —	
18	A. Siregar	— 11 —	
19	R. Siregar	— 11 —	
20	M Siregar	— 11	
21	AMSIA SIREGAR	— 11 —	
22	S. SIREGAR	— 11 —	
23.	Barnas Sihombing	— 11 —	
24.	Lintong Manalu	— 11 —	
	M. MUNTHE	— 11 — (—	

DAFTAR HADIR
DALAM RANGKA SHARING MENGENAI PROYEK PEMBANGKIT LISTRIK PANAS BUMI DI PAHAE
DESA ONAN HASANG/ JANJI NATOGU

HARI / TANGGAL : SABTU , 31 AGUSTUS 2013

NO	NAMA	ALAMAT/ JABATAN	TANDA TANGAN
26	Fernando. sitompul	Janji natogu	[signature]
27	ALEX . Tampubolon	Janji Raja	[signature]
28	AMRI . TAMBUNAN	JANJI NATOGU	[signature]
29	CHARLES SIREGAR	Janji natogu	[signature]
30	Gok M. Situmorang	Janji natogu	[signature]
31	Bistok Saharan	Janjinatogu	[signature]
32	Jonris pasaribu.	Janjinatogu.	[signature]
33	Pak sarnama tambunan	Janjinatogu	[signature]
34	EBEN EZER	JANJINATOGU	[signature]
35	Hendra . Siregar	Kelurahan	[signature]
36	B. Simamora	kelurahan	[signature]
37	Desman Siregar	Kelurahan	[signature]
38	SAFRUDIN ZEBUA	JANJI NATOGU	[signature]
39	gayus TAMBUNAN.	Janji RAJA + Kel	[signature]
40	LEONARDO	KELURAHAN	[signature]
41	PIRDAWES SIREGAR	KELURAHAN	[signature]
42	MARALI. P. PASARIBU.	KELURAHAN	[signature]
43	PARLINDUNGAN SIREGAR	Kelurahan	[signature]
44	TAHAN SITOMPUL	KELurahan	[signature]
45	Miduk Sinaga	kelurahan	[signature]
46	JALDI SIREGAR	Janjinatogu	[signature]
47	BENHART SINAGA	JANJI NATOGU	[signature]
48	Rusdi Panggabean	Janji natogu	[signature]
49	Lampi ta[illegible]	janjinatogu	[signature]
50	HAPPY brtobing	Janjinatogu	[signature]

DAFTAR HADIR
DALAM RANGKA SHARING MENGENAI PROYEK PEMBANGKIT LISTRIK PANAS BUMI DI PAHAE
DESA ONAN HASANG/ JANJI NATOGU

HARI / TANGGAL : SABTU , 31 AGUSTUS 2013

NO	NAMA	ALAMAT/ JABATAN	TANDA TANGAN
1	P. br. Tompul	janji natogu (Petani	
2	R. br Sormin	-"-	
3	D. br. Sinaga.	- " -	
4	L. br Purba.	- " -	
5	M. br Lubis	- " -	
6	ROWON DONGORAN	ONAN HASANG/PETANI	
7	Marhan Siregar	janji natogu	
8	Birnong Munte.	janji natogu	
9	R. Silompul	janji NATOGU	
10	Dap 07 Asi Sinaga	Janji natogu	
11.	Pdt. HENRI SIHOTANG.	Janji Natogu / Pandeb	
12	PJ. Manurung	Kel. O. Hasang	
13.	Pantas Siregar.	Kel. Onhasang / LPM	
14	Gunlon Hutasuhut	Petani	
15	Rumaslan br. Siampan	Onan Hasang / Petani	
16	R: br. Pakpahan	Janji Natogu / Petani	
17	ROSINTA SIHOMBING	JANJI NATOGU	
18	ROS MERI ATI br LH-	O. HASANG.	
19	RAIMA HULU	JANJI NATOGU	
20	MINDANG SIREGAR	O. HASANG.	
21	AHMAD. H. SORMIN	JANJI NATOGU	
22	ELDI Panggabean	Onan Hasang / petani	
23	NETTY PANGGABEAN	JANJI NATOGU	
24	R. Siregar	janji natogu	
25	E. pasaribu	janji natogu	

DAFTAR HADIR
DALAM RANGKA SHARING MENGENAI PROYEK PEMBANGKIT LISTRIK PANAS BUMI DI PAHAE
DESA ONAN HASANG/ JANJI NATOGU

HARI / TANGGAL : SABTU , 31 AGUSTUS 2013

NO	NAMA	ALAMAT/ JABATAN	TANDA TANGAN
26	M. Siregar	Janji natogu	
27	A. Siregar	Janji natogu.	
28	R. Br. Sormin	Janji Natogu	
29	St. R Sormin	" "	
30	M. MUNTH	— " — "	
31.	D. TOBING	Onanhasang	
32	F. SITOMPUL	O. HASANG	
33	AGUS. SILABAN	O. HASANG	
34	A. GULTOM	— " —	
35	A. SINAGA	— " —	
36	NIKSON P. 1000	— " —	
37	RUDI. SIREGAR	— " —	
38	MENDE. SIREGAR	— " —	
39	HOLMES. TOMPUL	— " —	
40	H. SIMATUPANG	— " —	
41	P. SITOMPUL	— " —	
42	B. TAMPUBOLON	— " —	
43	I. MANALU	— " —	
44	BOBBI. SITOMPUL	— " JANJI NATOGU	
45	J. Manik	ONAN HASANG	
46	PJ-/PK JUJUR P 1000	ONAN HSANG	
47	Jusmar Siregar	STAF Kantor Camat	
48	M. Sitompul	onan Hasang	
49.	RICO. SIREGAR	JANJINATOGU	
50.	PRINSEN PASARIBU	ONANHASANG.	

DAFTAR HADIR
DALAM RANGKA SHARING MENGENAI PROYEK PEMBANGKIT LISTRIK PANAS BUMI DI PAHAE
DESA ONAN HASANG/ JANJI NATOGU

HARI / TANGGAL : SABTU , 31 AGUSTUS 2013

NO	NAMA	ALAMAT/ JABATAN	TANDA TANGAN
1	ALEX PAKPAHAN	Janji natogu	
2	Lambok Simamora	Janji natogu	
3	Kombar Sregar	— 11 —	
4	Cina . Sicanturi	— 11 —	
5	Rosmina . Siregar	— 11 —	
6	B. H. Barat	— 11 —	
7	O. NOVA. MUKAR	— 11 —	
8	T. Dongoran	— 11 — Masyarakat	
9	O. Tuti	— 11 — Warinja	
10	op Evrahim Siregar	onanhasang	
11	NURHAYATI. SIREGAR	JANJI NATOGU	
12	L. BR. REGAR	— 11 —	
13	T. SIAGIAN	ONAN - HASANG	
14	D. Hutapea	Onan hasang	
15	S. Pasaribu	onan hasang	
16	D. Simatupang		
17	Th. Siregar	Onan Hasang Tokoh masyarakat	
18	ZULKIPLI SIHITE	JANJI NATOGU	
19	Martua Sabaribo	Onan hasang	
20	Berman Pangaribuan	onanhasang/ sekitarah	
21	Lamria Silalahi	Onanhasang keluraha	
22	Dumma Sitompung	onan hasang/ petani	
23	ANITA Hasianjta	onan hasang/ petani	
24	JANNUS SIREGAR	JANJI NATOGU	
25	A. Sitompul	— 11 —	

MINUTES OF MEETING

Topic	:	**"Discussion/Sharing on Sarulla Project activities" Sibaganding & Lumban Jaean village, Pahae Julu Sub District**		
Attendees	:	▪ Sibaganding & Lumban Jaean local communities (attendance list attached)	Date :	Aug 31, 2013
		▪ Head of Sibaganding & Lumban Jaean Village	Time :	15.50 – 17.30
		▪ SOL's team		
		▪ ERM (Adis R D)		
			Venue :	SD Negeri Lumban Jaean
			Prepared by:	Melva Samosir & Diana

Agenda:

1. Opening: Prayer by one of Church Ministers
2. Welcoming speech by:
   - Head of Sibaganding & Lumban Jaean Village
3. Presentation & explanation on the project by Pak Petrus Gunawan
   - Geothermal video presentation
   - Brief history of Sarulla Geothermal Project
   - Introduction on SOL as the project proponent
   - Project activities and its impacts
4. Discussion – Q & A

No	Name	Questions/Comments/Suggestion	SOL's responses
1	Sitompul	Who will be responsible for any negative environmental impacts from this project?	SOL is responsible organization
2	Saut sitompul	-Many of (*Petai*) trees died and its production is very low currently because of the project activities. -Since electricity is produced from our area, communities should have free access to electricity.	-Geothermal operation does not have any impacts on plantation and we haven't started the operation yet. This still needs to be further investigated. -SOL doesn't have the authority to answer and decide this because SOL is only producing the electricity while distribution itself is PT PLN responsibility.
3	Budiman sitompul	How about the old well that will not be used by SOL?	The old and unused well will be closed out properly and safely. We have checked the old well and pressure is very low.
4	Bonardo Stompul	-SOL to build: a. Hospital b. Church c. Schools -How SOL will manage the earthquake risk?	-This is part of our CSR program and it will be adjusted with the needs of each village. -As we all know, even before this project exists, this area is already regarded as earthquake area and it s part of the nature in this area.Therefore, one of our efforts is to construct the facilities which will anticipate any earthquake risks.

5	OP. Sari Panjaitan	Will there be any impacts on our water?	There will be no impacts on the surface water because the project will drill very deep (3000 – 4000 M).
6	Dimpu Sitompul	-The communities should support this project and company should not damage the environment and implement the AMDAL. -Local labors must be prioritized in accordance with their skill and expertise.	-Well Noted -SOL is committed for this and has been implemented in some of the recent activities.
7	Marsuha Sitompul	-Our concerns should be addressed in the AMDAL so that we can feel secured. -As far as I know, *Petai* trees as commented by Sitompul are not from the projects because this problem (plantation disease) already exist even long before SOL start its activities in this area. Some insects attacked the trees and ate up the whole plantation, thus we need to find solution on this. -When will be the payment date for our land?	- Well noted -Payment for land is still being arranged and fixed by SOL. The land owners will be officially and individually notified through a letter from SOL.
8	Gomos Sitompul	-SOLs' responsibility on any environmental hazards/sanctions must be written & regulated. -Prioritize local labors -How about access road that passes through the graveyard? SOL is not going to buy it or not?	
9	Sitompul	-There must be a sharing of profits with surrounding villages. -Impacts on the environment must be explained and addressed in the AMDAL -To make the local communities understand more about geothermal, SOL should arrange and send representatives from each village in Pahae Julu & Pahae Jae to see a geothermal operation field in other areas so that we are more convinced and clear about a geothermal project	
10	Pastor	-Training/Courses for local young people so that they can employed in the project	- Well noted and will be part of our CSR program.
11	Situmeang	- Who is going to be trusted about AMDAL? Whether our people/children that lives outside of our village who inform us about AMDAL a few weeks ago or SOL as the project proponent?	-AMDAL is a required document by the regulation which is carefully prepared by experts and already approved by the government therefore local communities should trust that this document addressed the communities' concerns. Local communities should learn and find the correct information from the right sources and understand the issue very well. Do not easily provoked by any irresponsible individuals who do not understand about AMDAL or project related issues. -SOL is the one that will be responsible for any environmental impact as stated in the AMDAL.

5. Closing
   Moderator: Explaining that any questions, inputs or concerns may be conveyed to SOL (verbal or written) to SOL external relation Officer or through the Head of Village.

Prayer

Attendance List:

DAFTAR HADIR
DALAM RANGKA SHARING MENGENAI PROYEK PEMBANGKIT LISTRIK PANAS BUMI DI PAHAE
DESA SIBAGANDING/LUMBAN JAEAN

HARI / TANGGAL : SABTU , 31 AGUSTUS 2013

NO	NAMA	ALAMAT/ JABATAN	TANDA TANGAN
1	op. Jupri Hutabarat	Lumban jaean	
2	op. Sendi Simalupang	Lumban Jaean	
3	Rosmin Gultom	Lumban Jaean	
4	op. Demi Simarangkir	Lumban Jaean	
5	op. Daniel Simarangkir	Lumban Jaean	
6	op. Agnes. sihombing	Lumban. jaean	
7	op nisi lidia st	Lumban jaean	
8	OP. perdi sipangg	Lumban jaean	
9	op OCY	Lumban jaean	
10	OP. Sehyes	Lumban jaean	
11	op. Rika	Lumban jaean	
12	OP. Repri	Lumban jaean	
13	JAE JOA. PASARIBU.	SIBAGANDING	
14	RANTOLBNTOBING	SIBAGANDING	
15.	MARDIPPU. Lbn Tobing	SIBAGANDING.	
16	MAJU. SIKOMBUL.	Lumban jaean.	
17.	MUNTER. Sikombul	sibagganding.	
18.	LTOBING	Lumban	
19.	J Sitompul	Lumban	
20	Rasional Sitompul	Lumban jaean	
21	SAHALA. SITOMPUL	L. BULU	
22	HARDINUS. HT. BARAT	SIBAGANDING	
23	DIANUS. SITOMPUL	L. JAEAN	
24	Belman Sormin	Sibagandang	
25	Bangun Panjaitan	Sibagandang	

DAFTAR HADIR
DALAM RANGKA SHARING MENGENAI PROYEK PEMBANGKIT LISTRIK PANAS BUMI DI PAHAE
DESA SIBAGANDING/LUMBAN JAEAN

HARI / TANGGAL : SABTU , 31 AGUSTUS 2013

NO	NAMA	ALAMAT/ JABATAN	TANDA TANGAN
29	TOMU	Sitomor	
30	HIMLER P.	Sibaganding Mayor	
31	Dimhot purba	wakil ketua. BPD	
32	Bernando Sitompul	Lbn. Jaean	
33	Viktoria Sitompul	Lbn Jaean	
34	B Sitompul	Lumbanjaean	
35	Herry Sitompul	Lumbanjaean	
36	[illegible]	Lbn Jaean	
37	U. Sitompul	Lbn Jaean	
38	Jon edward. sitompul	Kbm. Jaean. sekdes.	
39	ALBERT. Simatupang	Sibagandang	
40	Petrus Gunawan	SOL	
41	Melva	SOL	
42	Arthur AS	SOL	
43	Marlan Sitompul	SOL	
44	Alden Sitompul	SOL	
45	Marudut Sinaga	SOL	
46	Adi Siahaan	SOL	
47	Adis	ERM	
48	Frangki	SOL	
49	Syam Suddin	SRB	
50	Diana Tampubolon.		
51			
52			
53			

Some photos documentation:

Annex C

2013 NGO Question and Answer Meeting Minutes

MINUTES OF MEETING

Topic :	**Information sharing on Sarulla Geothermal Project with NGOs/CSOs**		
Attendees :	▪ Shinohara	Date :	Sept 23, 2013
	▪ Fazil E. Alfitri	Time :	2 – 5 pm
	▪ Ibnu Nurzaman (MPI), Hendy N (MPI)	Venue :	Atanaya 2 meeting room, Atlet Century Park Hotel
	▪ Petrus Gunawan		
	▪ Sakaue Jumpei		
	▪ ADB team (Jackie, Lazeena, Cahyadi, Noraya)	Prepared by:	Herna Elysabet
	▪ SOL field team (Industan, Barus, Alden)		
	▪ SOL Jakarta team (Dian, Elis, Ria, Melva)		
	▪ ERM (Mery),ENVIRON (Dian)		
	▪ NGOs/CSOs (attendance list attached)		

1. Agenda

- Meeting was opened by Mr. Shinohara as SOL CEO and also Mr. Fazil E. Alfitri as SOL Director
- Video presentation on geothermal potential and operation in Indonesia
- Presentation on Sarulla Geothermal project activities
- Discussion (Q & A)

2. Discussion (Questions & Answers)

Name	Pertanyaan	Jawaban
1. Ibu Orchida **AKSI (for Gender, Social and Ecological Justice, Indonesia)**	Apakah nature dari keterundangan kami di pertemuan ini, apakah kami diundang untuk konsultasi publik atau sekedar information sharing? *What is the nature of this meeting, are we invited for public consultation or just to an information sharing?*	Pertemuan ini merupakan bagian dari informasi sharing proyek Sarulla di tingkat nasional dan pertemuan ini bukan merupakan konsultasi publik karena proyek sudah mulai berjalan (tahap awal). *This meeting is part of the information sharing Sarulla Project at national level and this meeting is not a public consultation as the project has already commenced (early stage)*
	Apakah sistem/kegiatan yang sama juga diaplikasikan kepada masyarakat setempat?	Sosialisasi termasuk information sharing juga sudah dilakukan kepada masyarakat /desa yang terkena proyek

		secara langsung sejak tahun 2008 sampai sekarang. *Socializations including similar information sharing session as today have also been done to the community / villagers directly by the project since 2008 until now.*
2. Bpk. Rio Ismail **AKSI (for Gender, Social and Ecological Justice, Indonesia)**	Dari mana dana proyek ini berasal? *What are the funding sources of this projec?*	Dana yang dibutuhkan sekitar USD 1,5 milyar. 23% akan didanai oleh pemegang saham dan mayoritas didanai oleh beberapa bank International dan bank komersil. Yang hingga saat in masih dalam tahap status negosiasi. *Funds needed are around USD 1.5 billion. 20 - 30% will be funded by shareholders and majority funded by International banks and commercial banks. The status is currently still under negotiation.* Ibu noraya dari ADB menambahkan bahwa memang ada wacana untuk memakai CTF fund. Tapi ratio nya harus 1:4. Ibu Noraya juga menambahkan bahwa setelah AMDAL disetujui oleh Pemerintah di tahun 2009, ADB telah menguplod di website ADB selama 120 hari. Siapapun boleh meng-akses /member masukan mengenai AMDAL tersebut. *Ibu Noraya from ADB added that there is a discussion to use CTF fund. But the ratio should be 1:4. Ibu Noraya also added that after EIA was approved by the Government in 2009, ADB has uploaded the EIA on ADB website for 120 days. Individuals are allowed to access / provide any comments/input regarding the EIA.*
	Saya pernah dengar dari beberapa rekan yang melakukan advokasi kasus ini di Sumatra Utara, bahwa terdapat beberapa	Proses pengajuan keluhan dan isu dalam pelaksanaan proyek ini disampaikan melalui pihak Eksternal

	masalah dengan masyarakat. Kami ingin ingin tahu bagaimana penyelesaiannya. Dan apakah yang berlangsung dimasyarakat merupakan public consultation atau sekedar pemberian informasi biasa.	relation kami dan sampai saat ini , SOL belum pernah memiliki masalah dengan masyarakat. Beberapa masalah yang dilaporkan oleh masyrakat secara langsung kepada kami adalah kekhawatiran mengenai masalah irigasi dan tanaman pete yang terganggu. Untuk masalah irigasi, tim lapangan kami sudah memeriksa langsung ke lokasi bersama dengan penduduk. Sementara untuk masalah tanaman pete, kami masih harus melakukan studi lebih lanjut.
	We have heard from some colleagues that advocates this case in North Sumatra, that there are some issues with local communities. We would like to know how the project handles these issues. Does the project really conduct public consultation or just a general information disclosure?	Grievance mechanism process in this project is applied through our external relation and up to now, we haven't had any issues with local communities. Some of the issues reported to us directly by local communities are the concerns on irrigation issue and impact on Pete plantation. On irrigation issue, our field team has checked to the location directly with the local communities. While for Pete plantation, we will need to study further. Kegiatan konsultasi publik sudah dilakukan sejak awal proyek mulai berjalan termasuk pada awal penyusunan AMDAL pada tahun 2008 dan dilanjutkan dengan berbagai bentuk pertemuan/diskusi dengan masyrakat mengenai kegiatan proyek. Mengenai AMDAL sendiri, kami telah memberikan sosialisasi ke 13 desa Kami sudah memberikan executive summary AMDAL di 8 desa yang terkena dampak proyek secara langsung sementara document AMDAL beserta RKL-RPL ada di Kecamatan Pahae Julu dan Pahae Jae. AMDAL merupakan design point SOL untuk dalam membangun fasilitas ini. Tanpa adanya compliance dengan AMDAL, kami tidak dapat melaksanakan proyek Sarulla. Ini

		merupakan Project clean energy dan bukan bertujuan untuk menghancurkan environment. *Public consultation has been conducted since the early stage of the project including during the preparation of AMDAL /EIA in 2008 and continued with various forms of meetings/discussions with local communities on project activities.* *Regarding the EIA, we have been providing socialization to 13 villages. We have also provided executive summary of EIA for the 8 villages which directly affected by the project, while for the EIA document including RKL-RPL can be accessed in the sub-district Pahae Julu and Pahae Jae.* *The EIA analysis is the design point for SOL in developing the geothermal facilities. Without compliance with the AMDAL, we cannot implement Sarulla project. This is a clean energy project and not intended to destroy the environment.*
	Seharusnya sharing ini dapat disampaikan lebih lengkap. Mungkin bisa dibagikan summary AMDAL nya. Namun proses ini tidak didukung dengan dokumen yang memadai. *This sharing should be presented with more complete information. EIA summary should be shared. However, the process is not supported by adequate documentation.*	Kedepannya kami akan buat summary untuk dishare kepada NGO/CSO sebagaimana diminta, untuk pemberian masukan mengenai sosialisasi dampak dan serta upaya pengelolaan dampak-dampak lingkungan. *In the future, we will prepare a summary to be shared to the NGO / CSO as requested, for the provision of feedbacks on the impact socialization and its environmental impact management.*
	Kami menilai informasi seperti dokumen tertulis kurang lengkap. Menurut kami ada banyak prasyarat2 ADB yang tidak dipenuhi.	Di dalam undangan kami sudah menyampaikan brief profile mengenai proyek ini. Jika ternyata informasi tersebut masih kurang, kami mempunyai matriks dan akan kami share jika diperlukan. Sedangkan untuk

		AMDAL sendiri, kami sudah sosialisasikan di desa-desa yang terkena dampak secara langsung.. Dikarenakan dokumen yang sangat tebal, executive summary tersebut tersedia dan dapat diakses di Kepala Desa dan Kecamatan. *We have conveyed brief profile about this project in the invitation. If it turns out the information is not enough, we have a matrix and will share it if required. As for the EIA itself, we have conducted socialization in villages which directly affected by the project. The executive summary is available and can be accessed at the Village Head and complete AMDAL document could be accessed in the Sub District Office.* *Noted*
	We see that written information is not sufficient. And we are afraid that many preconditions from ADB are not fulfilled Kami akan mengirim surat mengenai permintaan untuk dikirimkan dokumen AMDAL. *We will send a letter regarding EIA documents request.*	
3. Bpk. Pius Ginting **WALHI (Selaku pengkampanye tambang dan energi)**	Untuk mekanisme komplain, akan ada petugas dan peran kepala desa. Namun berdasarkan apa yang kami lihat selama ini, level kepala desa/tokoh masyarakat bisa didekati oleh perusahaan, sehingga berjarak dengan warga. Hal ini akan menghambat penyampaian komplain warga. Sebagai saran, agar semua masyarakat dapat menyampaikan komplain langsung kepada perusahaan, tidak hanya dibatasi melalui kepala desa. *Regarding complaint mechanism, there will be role of external relation officers and village head. However based on what we have seen so far, the level of the village*	Kami memberikan akses yang seluas-luasnya kepada masyarakat untuk mengajukan segala bentuk keluhan kepada SOL. SOL sangat terbuka untuk semua masyarakat dapat menyampaikan keluhan/komplain kepada kami. Bahkan pada pertemuan-pertemuan yang telah dilaksanakan sebelumnya, kami tetap menjelaskan kepada masyarakat bahwa mereka bisa datang kepada Eksternal Relation, melalui Kepala Desa atau datang langsung (secara individu) kepada SOL. Hal ini akan lebih disosialisikan kepada masyakarat. *SOL opens the widest possible access to the community to submit any complaints. And SOL is very open to all community who wants to submit*

	head / community leaders can be approached by the company, so there will be a gap with the community. This would delay the delivery of the complaint\/grievance. As a suggestion, the community should be able to submit complaints directly to the company, not only limited to the village head.	*complaints to the company directly to the External Relations, the Village Head or come directly (individually) to SOL office at the site.* *This will be more socialized to the community.* *Even at the meetings that have been held previously, we keep explaining to the local communities that they can come to the External Relations, through the village head or come directly (individually) to SOL office at the site.*
	Berdasarkan informasi yang kami dapat dari jaringan di lapangan, pada tahun 2006 pernah terjadi ledakan fasilitas geothermal ini disana, dan disebutkan bahwa warga di daerah Sibaganding mengeluhkan produksi pertanian yang menurun. Berarti ada dampak yang dirasakan oleh warga, dalam menghadapinya apakah yang SOL lakukan seperti mengadakan survey untuk mengetahui seberapa banyak yang mendukung dan yang tidak mendukung proyek ini.	Bukan di tahun 2006, tetapi tahun 1996 (pada masa Unocal), terjadi ledakan, namun tidak membahayakan.. Pada saat itu, UNOCAL telah pendekatan sosial dengan mengundang masyarakat untuk menjelaskan issue tersebut. Mengenai masyarakat yang pro dan kontra, masyarakat sekitar tidak ada yang kontra. Namun terkadang informasi yg diberikan beberapa pihak dengan tanpa mengkonfirmasikan /menanyakan terlebih dulu kepada narasumbernya (Pihak SOL), sehingga tidak bisa dipertanggungjawabkan. SOL sudah melakukan survey sosial ekonomi pada bulan juni –Juli 2013 luntuk mengetahui persepsi masyrakat mengenai proyek ini. Dari hasil survey tersebut diketahui bahwa warga di didua kecamatan ini pada dasarnya mendukung proyek ini. Hasilnya akan kami jelaskan pada slides di presentasi ini. Mengenai penurunan produksi (pertanian) sejak tahun 1996, hal ini belum bisa dipastikan / diketahui. Karena pengoperasian bahkan belum dimulai. Tidak ada hubungan antara produksi pertanian dengan proyek ini.

		Tetapi hal ini masih perlu dikaji lebih jauh.
	According to information that we received from our networks in the field, in 2006 there was an explosion and also a report stated that people in Sibaganding complained about the declining of their agricultural production. How did SOL handle this issue, has there been any study conducted or any survey to find out how many individuals supports and how many who do not support the project	*It's not in 2006, but In 1996 (during UNOCAL time) it is true that there was an explosion, but not a dangerous explosion. UNOCAL, at that time, had held a social approach by inviting the community to explain the issue* *So far the community is very supportive. Because sometimes the information given by several parties is without confirming / asking to SOL, so it cannot be justified.* *SOL has conducted socio-economic survey in June-July 2013 to find out the communities' perception about the project. From the result, it is found that basically, the communities support the project. The result would be explained in the slides of this presentation.* *Regarding the decline in agricultural production since 1996, it is still unclear. Because the operation has not even started. There is no relation between agricultural productions with this project. But it still needs further research/ study.*
	Selain itu bagaimana agar dampak negative di dalam AMDAL disosialisasikan ke masyarakat?	Dampak –dampak didalam AMDAL kami, baik negative maupun positif sudah kami sosialisasikan dan jelaskan kepada masyarakat di 13 desa seperti kami jelaskan diatas. Komunikasi mengenai dampak-dampak ini tidak hanya akan dilakukan sekali saja saja, tetapi hal ini akan menjadi proses yang berkelanjutan semasa pelaksanaan proyek. Impacts explained in the AMDAL either negative or positive has been socialized and explained to communities in 13 villages as has been explained above.

		Communication with local communities on this will not only a single shot communication but will be continued throughout project cycle. Dengan disetujuinya AMDALpastinya kita punya mekanisme untuk menangani dampak-dampak yang muncul. Hal ini tentunya menjadi perhatian SOL, karena kami tidak mau masyarakat terganggu dan merasa tidak aman Terkait isu penurunan hasil tanaman yang kami pernah dengar adalah tanaman pete, yang disampaikan pada saat diskusi dengan masyarakat. Namun ketika diselidiki, masalah ini sudha ada sejak tahun 1990-an dan bahkan pihak pertanian disana tidak aware dengan masalah ini. Dari informasi yang kami dapat dari masyarakat ketika diskusi berlangsung, hal tersebut disebabkan karena masalah hama. Kami akan gali lebih dalam untuk masalah ini dan kami berkomitmen akan mengatasi dan coba meminimize sebanyak mungkin dampak yang muncul dari operasi kami ini.
	Moreover, how the negative impact from this project as mentioned in the EIA can be socialized to the community?	*With the approval of the EIA, we certainly have a mechanism to deal with any impacts from this project. This is certainly SOL's concern, because we do not want to make local communities feel uncomfortable and unsafe.* *Issues related to impacts on plantation production that we've ever heard in one of our socialization meeting with local communities, is the impacts on "Pete" tree. As we understand during the discussion, this problem has been existed since 1990-s and the local agricultural Office even doesn't aware of this problem. One of the local*

		communities said that it's actually because of a disease (plant) caused by pests We will study this issue further and we are committed to handle and try to minimize any impacts from our project operation as much as possible.
4. Ibu Imelda **IESR**	Berapa harga jual listrik ke PLN? *What is the tariff of electricity for this project?*	Tarif listrik Rp 6.79 sen / kwh, tariff untuk kontrak selama 30 tahun. *The tariff of electricity for this project is levelized Rp 6,79 cent / kwh, tariff for 30 years period of contract.*
	Bagaimana Sarulla memastikan bahwa masyarakat di lokasi proyek dan sekitarnya mendapatkan keuntungan dalam hal akses kepada listrik. Bagaimana SOL memastikan bahwa masyarakat yang ada di lokasi proyek ini memilikiakses untuk listrik? *How SOL can guarantee that this project will supply the electricity to the nearest/surrounding areas?*	Berdasarkan pengalaman kami, setiap kali pengembang di suatu lokasi, biasanya PLN langsung mengembangkan distribusinya ke daerah sekitar terlebih dahulu. Pengembang bertugas mengenerate power, membuat listrik untuk PLN, kemudian PLN yang menyalurkannya kepada masyarakat. Bagaimana menyalurkannya, itu merupakan strategi PLN sendiri. Bukan kapabilitas pengembang untuk memastikan. *Based on our experience, whenever the developer in a site, usually PLN directly develop their distribution to the surrounding areas first. SOL is responsible to generate power, provide electricity to PLN, then PLN distribute to the community. How and to whom PLN want to distribute the electricity is the strategy of PLN itself.*
	Berapa lama proses keluhan yang disampaikan masyarakat di proses oleh perusahaan	Tergantung kepada seberapa besar masalahnya. Sebagai contoh, jika masalah yang ditanyakan seputar masalah teknis seperti mengenai saluran air yang terganggu, tentunya kami membutuhkan waktu hingga sampai pada solusi masalah. Pada beberapa kasus, bahkan kami langsung memberikan respon on the spot. Pada salah satu acara sosialisasi yang kami

		laksanakan, kami pernah mendapatkan keluhan dari salah satu penduduk desa. Dan setelah sosialisasi selesai, kami melakukan pengecekan dengan teman-teman dilapangan masyarakat yang terganggu pada saat itu juga. Tapi untuk prosesnya tentunya membutuhkan waktu, tergantung kepada keluhan itu sendiri. Biasanya dalam waktu 1 minggu langsung kita proses. *Depends on how big the problem is. For example, if the complaints are related with technical issues such as the drainage nuisance, we will need time until we finally get the solutions. In some cases, we even provide responses directly on the spot. In one of our socialization meeting, we had a grievance from one of the villagers. And after socialization finished, our field team directly checked with the the person that filed his grievance at that time. In general, grievance will take about one week to be processed.*
	How long is the process since complaints received from the community?	
5. Ibu Indra Sari (Ai) **WWF**	Berapa besar luasan WKP yg diberikan oleh pemerintah. Apakah jalur pipa, jalan, infrastruktur, dll sudah termasuk kedalam 130.000 ha? *How large is the mining concession area given by the government. Is the pipelines, roads, infrastructure, etc. are included into the 130,000 ha?*	Total 2 areal: 98000 ha (NIL, SIL, Donotasik, Sibualbuali) *The total area is 98,000 ha (NIL, SIL, Donotasik, Sibualbuali)*
	Apakah lokasi ini bersentuhan dengan kawasan konservasi, wilayah taman nasional, atau cagar alam?	Sebahagian lokasi, yaitu NIL, berada dikawasan hutan dengan status kawasan yang terdiri atas hutan produksi dan produksi produksi yang dapat dikonversi. Sekitar 25 ha masuk ke dalam hutan produksi. Dan tidak termasuk kedalam kawasan cagar alam yang dilindungi.

	Is the project also located in the conservation area, national park areas, or nature reserves?	*Some parts of project location are located in the forest (production forest and convertible production forest). About 25 ha is part of the production forest.* *No facilities located either in the protected forest or nature reserve.*
	Berapa besar kemungkinan penurunan steam supply proyek ini? *What is the depletion percentage/rate from steam supply of this geothermal project?*	Steam itu sistemnya close tube, keluar dari tanah dalam 3 fase, gas, air dan steam yang kemudian dipisahkan untuk menjadi power, dari proses kondensasi tersebut diinject kembali ke ke dalam bumi. Seolah steamnya keluar, namun prosesnya tidak seperti itu. SOL akan compliance dengan standar environment yang ada. *The stem system is closed tube, will be out from ground in three phases, gas, water and steam which is then separated and processed to become power, from the condensation process it will be injected back into the earth. The steam seems to come out, but the process is not like that. SOL will comply with the environment standards.*
	Sehubungan dengan kebutuhan lahan tambahan, dalam beberapa kasus, jika dalam suatu periode sumur yang lama tidak dapat memenuhi 330 MW, apakah akan dibuka sumur baru? *In connection with the requirement of additional land, in some cases, if within a period of time the well cannot meet the 330 MW, will SOL construct new wells?*	Pada prinsipnya geothermal energy, tidak akan ada habisnya, selama ada gerakan magma dibawah dan kita menjaga rain forest yang ada disekitar kita, ada injeksi kembali kedalam bumi pada titik-titik tertentu, sehrusnya bisa menjaga kesinambungan dari sumur reservoir itu sendiri. Selain 30 tahun, aka nada tambahan 19 sumur yang akan dibor dari tapak sumur yang sama (make-up wells). *In principle, geothermal are renewable energy, as long as there is magma movement under the ground and we maintain the rain forest surround us, the brine is re-injected into the earth at certain points, we could keep the continuity of the well reservoir itself. In addition to 30 years old, there will be*

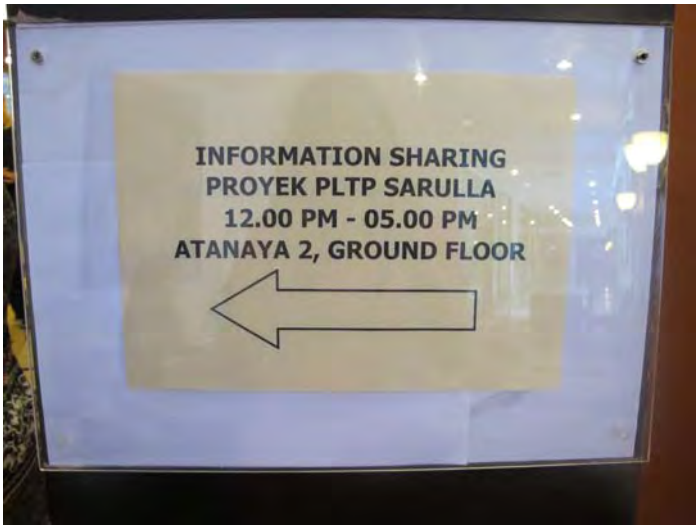
		additional 19 wells to be drilled from the same well site. (Make-up wells).
	Masukan: Banyak LSM yang tidak hadir, ada berita yg diinformasikan kepada LSM ini, sehingga mereka bisa memberikan beberapa masukan ataupun komen tertulis dari masing-masing institusi. *Input:* *Since there are many NGO's that are not present, and SOL should inform to the NGO, so that they can give some inputs or comments in writing from each institution.*	SOL siap menerima segala bentuk masukan, untuk keterbukaan informasi. *SOL is ready to accept any kind of inputs for the information transparency.*

MINUTES OF MEETING	Sarulla Operations Ltd

LAMPIRAN

1. Dokumentasi

MINUTES OF MEETING	Sarulla Operations Ltd



Annex D

SOL's Recruitment Plan

LOCAL RECRUITMENT & ACCOMMODATION PLAN

SOL's recruitment plan will be designed to promote the opportunity of giving the local people the chance to participate in project related activities that would boost the prosperity, pride and result in a sense of project ownership among local people. The local people being referred to are those families who are currently living in and surrounding the Project area. These shall also include their relatives and close family members who may be residing outside the Project area. The Project areas being referred to are those within the Pahae Jae sub-district (covering 4 villages of Silangkitang, Sigurung Gurung, Pardomuan Nainggolan and Pardamean Nainggolan) and the Pahae Julu sub-district (covering the 5 villages of Sibaganding, Lumbanjaean, Simataniari, Onanhasang and Janjina Togu).

The recruitment process shall be made as open and as fair as possible to eliminate the feeling of jealousy of the local people to non-local people. This can be accomplished by giving the priority to the local people mentioned above. Further prioritization shall be given to those that relinquished their lands for the project, particularly to the ones that have no remaining land to work on.

As part of the recruitment plan, SOL shall prepare community social responsibility (CSR) programs. The objective is intended to give training / education to local people which currently do not have sufficient qualifications needed to meet the Company's medium and long term project and operations requirements.

To ensure that the plan is properly implemented and achieve its objective, SOL shall adopt the following management steps:

1. Planning

During this stage, SOL, shall prepare the proper planning which shall at least cover the followings:

- Number of personnel required over the course of the project,
- the positions, roles and/or functions in the organization,

- the technical and non-technical requirements,
- the period when such positions are needed,
- recruitment process and schedule for each process,
- contractual status and working schedule for the ones who are accepted.

In a similar manner, SOL's Contractors shall be required to also prepare their plans.

2. Implementation

After the plans are prepared, reviewed and agreed among the SOL and its Contractors, they will be socialized/communicated to the local people, which is usually represented by Regency Officials, Head of Sub-Districts, head of Villages, Prominent Leaders and local NGO's. There shall be minutes of socialization/communication to be distributed internally and externally. Should there be crucial comments/ inputs/ suggestions by the local people during this session, the plan shall be accordingly revised to include practical and implementable suggestions.

Upon finalization of the plan, it is now ready to be implemented.

It is mandatory that SOL officially announce the following recruitment plan in the public areas, such as Regency Office, Sub-Districts offices, Head of Villages Offices and other public areas which at least cover the following information:

- positions, roles and/or functions in the organization required,
- the technical and non-technical qualification requirements,
- the dead line of application submittals,
- how to send the application, either by email or by sending hard copy,
- Recruitment Flow Chart showing also the estimated timing for each process.

3. Monitoring & Corrective Actions

Considering the criticality of the project and the paramount importance of having qualified workers on a timely basis, SOL will conduct regular reviews of the Plan and

the effectives of the implementation. Any problems or deviations from the agreed plan encountered during the meeting shall be discussed and resolved.

4. Guiding principles in hiring the local people

SOL and its Contractors will endeavor to explain to the local people that while the priorities are the local people, it is still necessary for the local people to recognize the selection shall be based on the appropriate qualifications matching the jobs being offered. These principles are:

- Land owners relinquishing their land are of the highest priority
- Distribution of opportunities over the concerned villages shall be observed
- Equal opportunities to men and women
- No use of child labor