

Environmental and Social Impact Assessment Report

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Prepared by ESC for the Asian Development Bank

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Riau 275 MW Gas Combined Cycle Power Plant IPP - ESIA

Medco Ratch Power Riau

ESIA Volume 3: Social Impact Assessment

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Glossary

Term	Definition
Area of Influence	The project area of influence is defined through consideration of the project footprint including all ancillary project components and also considering project impacts on various environmental and social components. A number of project areas of influence may result but it is best to amalgamate them into an overall project area of influence. In addition to the area of geographical or spatial influence, temporal influence should also be determined. A geographical information system is a useful tool for this purpose.
Cut-off Date	Date of completion of the census and assets inventory of persons affected by the project. Persons occupying the project area after the cut-off date are not eligible for compensation and/or resettlement assistance. Similarly, fixed assets (such as built structures, crops, fruit trees, and woodlots) established after the date of completion of the assets inventory, or an alternative mutually agreed on date, will not be compensated.
Economic Resettlement	Loss of income streams or means of livelihood, resulting from land acquisition or obstructed access to resources (land, water, or forest) resulting from the construction or operation of a project or its associated facilities.
Environmental and Social Impact Assessment	Identifies and assesses risks and the impacts associated with the project and provides a series of mitigation measures that when implemented will ensure the project complies with the standards and guidelines it has been evaluated against.
Environmental and Social Management Plan	Summarises the mitigation and monitoring measures identified through the ESIA process and sets out the responsibilities for their implementation.
Environmental and Social Management System	Identifies and assesses risks and the impacts associated with the project and provides a series of mitigation measures that when implemented will ensure the project complies with the standards and guidelines it has been evaluated against.
Involuntary Resettlement	Resettlement is involuntary when it occurs without the informed consent of the displaced persons or if they give their consent without having the power to refuse resettlement.
Indigenous People	Social groups with identities that are distinct from mainstream groups in national societies, are often among the most marginalised and vulnerable segments of the population. In many cases, their economic, social, and legal status limits their capacity to defend their rights to, and interests in, lands and natural and cultural resources, and may restrict their ability to participate in and benefit from development.
Land Acquisition	Land acquisition includes both outright purchases of property and acquisition of access rights, such as easements or rights of way.
Legal and regulatory framework	The national legal and institutional framework applicable to the project should be defined. This should also include any additional lender requirements and any international agreements or conventions that may also apply.
Livelihood	Refers to the full range of means that individuals, families, and communities utilize to make a living, such as wage-based income, agriculture, fishing, foraging, other natural resource based livelihoods, petty trade, and bartering.
Livelihood Restoration Plan	The document in which a project sponsor or other responsible entity specifies the procedures that it will follow and the actions that it will take to mitigate adverse effects, compensate losses, and provide development benefits to persons and communities affected by an investment project. The Livelihood Restoration Plan relates specifically to cases where Project Affected Persons (PAPs) are economically displaced.
Physical Displacement	Loss of shelter and assets resulting from the compulsory acquisition of land associated with a project that requires the affected person(s) to move to another location.

Term	Definition
Project Affected Persons	Any person who, as a result of the implementation of a project, loses the right to own, use, or otherwise benefit from a built structure, land (residential, agricultural, or pasture), annual or perennial crops and trees, or any other fixed or moveable asset, either in full or in part, permanently or temporarily.
Resettlement Action Plan	The document in which a project sponsor or other responsible entity specifies the procedures that it will follow and the actions that it will take to mitigate adverse effects, compensate losses, and provide development benefits to persons and communities affected by an investment project. The Resettlement Action Plan relates specifically to cases where Project Affected Persons are physically displaced.
Vulnerable Groups	People who by virtue of gender, ethnicity, age, physical or mental disability, economic disadvantage, or social status may be more adversely affected by resettlement than others and who may be limited in their ability to claim or take advantage of resettlement assistance and related development benefits.

List of Abbreviations

Acronym	Meaning
ADB	Asian Development Bank
AMDAL	Analisis Mengenai Dampak Lingkungan
AoL	Area of Influence
CCPP	Combined Cycle Power Plant
CFPP	Coal Fired Power Plant
CSR	Corporate Social Responsibility
EHS	Environmental, Health and Safety
EIA	Environmental Impact Assessment
EPC	Engineering Procurement Construction
EPFI	Equator Principle Financial Institutions
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
ESMS	Environmental and Social Management System
FPIC	Free, Prior, and Informed Consent
GDI	Gender Development Index
GRDP	Gross Regional Domestic Product
HDI	Human Development Index
IFC	Institutional Finance Committee
LRP	Livelihood Restoration Plan
MRPR	Medco Ratch Power Riau
NBC	Nusa Buana Cipta
NGO	Non-Governmental Organisation
NTS	Non-Technical Summary
PAP	Project Affected Persons
PCR	Physical cultural resources
PLN	PT Perusahaan Listrik Negara (Persero)
RAP	Resettlement Action Plan
SEP	Stakeholder Engagement Plan
SIA	Social Impact Assessment
SPP	Sarana Pembangunan Pekanbaru

1. Introduction

1.1 Overview

The ESIA Volume 3: Social Impact Assessment (SIA) assesses how people and communities may be affected as a result of the Project in terms of the way they live, work and interact. The broad objectives of this SIA are to ensure that potential socio-economic and community impacts have been identified, assessed, mitigated and managed in a constructive manner. Social, economic and biophysical impacts of the Project are interrelated and this interrelationship is considered in the SIA. The human environment will be impacted by environmental impacts such as noise, dust, waste and traffic. These impacts are identified and taken into account in this SIA, but are addressed in detail in the ESIA Volume 2: Environmental Impact Assessment and other Technical Reports located in ESIA Volume 5: Technical Appendices.

Social and community impacts that have been assessed in this Volume and identified as potentially significant beneficial and negative include: employment, community health and safety and livelihood restoration. Environmental impacts from construction activities could also have community impacts, however, to avoid double counting of impacts these have been addressed within Volume 2 and are not covered in this SIA.

1.2 Structure of Volume 3

This ESIA Volume 3: SIA is structured in the following way:

- Section 2 – Legal and Regulatory Framework
- Section 3 – Impact Assessment Methodology
- Section 4 – Social and Economic Baseline
- Section 5 – Stakeholder Engagement
- Section 6 – Social Impact Assessment
- Section 7 – Cultural Heritage
- Section 8 – Mitigation, Monitoring, Enhancement Measures and Residual Impacts
- Section 9 – References

2. Legal and Regulatory Framework

2.1 Introduction

The purpose of this section is to set out the requirements that specifically apply to SIA for the Project. It is important that the Project meets local and internationally accepted environmental and social safeguard standards to ensure that community benefits are maximised and that potential adverse environmental and social impacts are minimised. Relevant national and international requirements are summarised in the following sections. These regulations and requirements are applicable to the plant site, gas pipeline, water and wastewater pipelines, access road, and transmission line.

2.2 Indonesian Requirements

The following Indonesian regulations will act as a guideline for this SIA include:

Land Tenure and Customary People / Masyarakat Adat

- Constitutional Court Decision (MK) No.35 of 2012, effective May 16, 2013 State recognition of indigenous communities and their forests.
- Some recent legislation recognises some rights of peoples referred to as *masyarakat adat*, including Act No. 5/1960 on Basic Agrarian Regulation, Act No. 39/1999 on Human Rights and Indonesia's Legislative MPR Decree No X/2001 on Agrarian Reform. Act No. 27/2007 on Management of Coastal and Small Islands and Act No. 32/2010 on Environment, uses the term *masyarakat adat*.

Land Acquisition

- National Land Head Agency Regulation No. 5 of 2012 and No. 06 of 2015 regarding Technical Guidelines for Land Procurement; and
- Gol Regulation PP No. 24 of 2010; No. 61 of 2012; and No. 105 of 2015 regarding Utilization of Forest Area.

Right to Provide Right and Accurate Information

- Environmental Management Act of 1997.

Cultural Heritage

- Presidential Decree PP No. 1 of 1987 Convention concerning the Protection of the World Cultural and Natural Heritage.

2.3 International Requirements

2.3.1 Asian Development Bank

The Asian Development Bank (ADB) is committed to ensuring the social sustainability of the projects it supports and this is outlined in the following:

- ADB Safeguard Policy Statement (ADB, 2009);
- Social Protection Strategy (2001); and
- ADB's Gender and Development Policy (2003).

Involuntary Resettlement and Indigenous Peoples Safeguards which are detailed in the ADB Safeguard Policy Statement (2009) are summarised further below.

Involuntary Resettlement Safeguards

The objectives of the Involuntary Resettlement Safeguards are to avoid involuntary resettlement wherever possible; to minimise involuntary resettlement by exploring project and design alternatives; to enhance, or at least restore, the livelihoods of all displaced persons in real terms relative to pre-project levels; and to improve the standards of living of the displaced poor and other vulnerable groups. The Involuntary Resettlement Safeguards cover physical displacement and economic displacement and are triggered as a result of involuntary acquisition of land, or involuntary restrictions on land use or on access to legally designated parks and protected areas. It covers them whether such losses and involuntary restrictions are full or partial, permanent or temporary. The Involuntary Resettlement Safeguards includes 12 Policy Principles which are outlined in Volume 1 – Introduction.

The ADB Involuntary Resettlement Safeguards – A Planning and Implementation Good Practice Sourcebook Draft Working Document (ADB, 2012) outlines technical guidance and good practice recommendations in implementing the Safeguard Policy Statement with respect to involuntary resettlement. The source book uses ADB's own experience in effective planning and implementation of involuntary resettlement programmes and international good practices adopted by multilateral development banks.

Indigenous Peoples Safeguards

The objectives of the Indigenous Peoples Safeguards are to design and implement projects in a way that fosters full respect for Indigenous Peoples' identity, dignity, human rights, livelihood systems, and cultural uniqueness as defined by the Indigenous Peoples themselves so that they (i) receive culturally appropriate social and economic benefits, (ii) do not suffer adverse impacts as a result of projects, and (iii) can participate actively in projects that affect them.

The Indigenous Peoples Safeguards are triggered if a project directly or indirectly affects the dignity, human rights, livelihood systems, or culture of Indigenous Peoples or affects the territories or natural or cultural resources that Indigenous Peoples own, use, occupy, or claim as an ancestral domain or asset. The term Indigenous Peoples is used in a generic sense to refer to a distinct, vulnerable, social and cultural group possessing a range of characteristics in varying degrees, including:

- 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 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.

In considering these characteristics, national legislation, customary law, and any International conventions to which the country is a part will be taken into account. A group that has lost collective attachment to geographically distinct habitats or ancestral territories in the project area because of forced severance remains eligible for coverage under this policy. The Indigenous Peoples Safeguards includes nine Policy Principles which are outlined in Volume 1 – Introduction.

The ADB Indigenous Peoples Safeguards – A Planning and Implementation Good Practice Sourcebook Draft Working Document (ADB, 2013) outlines technical guidance and good practice recommendations in implementing the Safeguard Policy Statement with respect to indigenous peoples. The source book uses ADB's own experience in effective planning and implementing indigenous peoples safeguards and international good practices adopted by multilateral development banks.

2.3.2 IFC Performance Standards

IFC's Performance Standards on Environmental and Social Sustainability (IFC, 2012), define the client's roles and responsibilities for managing their projects. They are also relevant to other institutions applying the Equator Principles when making project financing decisions. Table 2.1 outlines the IFC Performance Standards that have been considered in relation to this SIA.

Table 2.1 : IFC Performance Standards and Objectives (IFC, 2012)

Performance Standard	Objectives
1 Assessment and Management of Environmental and Social Risks and Impacts	<ul style="list-style-type: none"> To identify and evaluate environmental and social risks and impacts of the project. To adopt a mitigation hierarchy to anticipate and avoid, or where avoidance is not possible, minimise, and where residual impacts remain, compensate/ offset for risks and impacts to workers, Affected Communities, and the environment. To promote improved environmental and social performance of clients through the effective use of management systems. To ensure that grievances from Affected Communities and external communications from other stakeholders are responded to and managed appropriately. To promote and provide means for adequate engagement with Affected Communities throughout the project cycle on issues that could potentially affect them and to ensure that relevant environmental and social information is disclosed and disseminated.
2 Labour and Working Conditions	<ul style="list-style-type: none"> To promote the fair treatment, non-discrimination, and equal opportunity of workers. To establish, maintain, and improve the worker-management relationship. To promote compliance with national employment and labour laws. To protect workers, including vulnerable categories of workers such as children, migrant workers, workers engaged by third parties, and workers in the client's supply chain. To promote safe and healthy working conditions, and the health of workers. To avoid the use of forced labour.
3 Resource Efficiency and Pollution Abatement	<ul style="list-style-type: none"> To avoid or minimise adverse impacts on human health and the environment by avoiding or minimising pollution from project activities. To promote more sustainable use of resources, including energy and water. To reduce project-related GHG emissions.
4 Community Health, Safety and Security	<ul style="list-style-type: none"> To anticipate and avoid adverse impacts on the health and safety of the Affected Community during the project life from both routine and non-routine circumstances. To ensure that the safeguarding of personnel and property is carried out in accordance with relevant human rights principles and in a manner that avoids or minimises risks to the Affected Communities.
5 Land Acquisition and Involuntary Resettlement	<ul style="list-style-type: none"> To avoid, and when avoidance is not possible, minimise displacement by exploring alternative project designs. To avoid forced eviction. To anticipate and avoid, or where avoidance is not possible, minimize adverse social and economic impacts from land acquisition or restrictions on land use by (i) providing compensation for loss of assets at replacement cost and (ii) ensuring that resettlement activities are implemented with appropriate disclosure of information, consultation, and the informed participation of those affected. To improve, or restore, the livelihoods and standards of living of displaced persons. To improve living conditions among physically displaced persons through the provision of adequate housing with security of tenure at resettlement sites.

Performance Standard	Objectives
6 Biodiversity Conservation and Sustainable Management of Living Natural Resources	<ul style="list-style-type: none"> To protect and conserve biodiversity. To maintain the benefits from ecosystem services. To promote the sustainable management of living natural resources through the adoption of practices that integrates conservation needs and development priorities.
7 Indigenous Peoples	<ul style="list-style-type: none"> To ensure that the development process fosters full respect for the human rights, dignity, aspirations, culture, and natural resource-based livelihoods of Indigenous Peoples. To anticipate and avoid adverse impacts of projects on communities of Indigenous Peoples, or when avoidance is not possible, to minimize and/or compensate for such impacts. To promote sustainable development benefits and opportunities for Indigenous Peoples in a culturally appropriate manner. To establish and maintain an ongoing relationship based on Informed Consultation and Participation (ICP) with the Indigenous Peoples affected by a project throughout the project's life-cycle. To ensure the Free, Prior, and Informed Consent (FPIC) of the Affected Communities of Indigenous Peoples when the circumstances described in this Performance Standard are present. To respect and preserve the culture, knowledge, and practices of Indigenous Peoples.
8 Cultural Heritage	<ul style="list-style-type: none"> To protect cultural heritage from the adverse impacts of project activities and support its preservation. To promote the equitable sharing of benefits from the use of cultural heritage.

Other international policies used to guide this SIA include:

- World Bank Environmental, Health and Safety (EHS) General and Industry Specific Guidelines;
- ILO Convention 169 of 1989 on the Indigenous and Tribal People's Convention;
- United Nations Declaration on Indigenous Peoples;
- Convention on Biological Diversity (CB; articles 8-j, 10-c, 17.2, 18.4 are important to indigenous people);
- The Ramsar Convention on Wetlands policies on indigenous people;
- The United National Framework Convention on Climate Change as it relates to indigenous people;
- Declaration on the Rights of Indigenous Peoples, IWGIA;
- The UN Global Compact;
- The International Labour Organization's Declaration on Fundamental Principles and Rights at Work; and
- The Rio Declaration on Environment and Development.

Determination of triggering Performance Standards is discussed in the following sections:

- Performance Standard 5: Section 6.2
- Performance Standard 7: Section 4.10
- Performance Standard 8: Section 7

3. Impact Assessment Methodology

3.1 Introduction

The objective of the SIA is to determine the potential impacts of the Project on social and economic factors that influence the socio-economic well-being of the communities where the Project is proposed. To measure the influence of the Project on these factors, a socio-economic baseline is undertaken to establish existing characteristics of the community. This is followed by a discussion of the potential positive and negative impacts that could result from implementation of the Project including proposed measures to mitigate any potential negative impacts. The SIA has been completed in accordance with both national and international requirements.

3.2 Baseline Conditions

Baseline data collection refers to the collection of background data in support of the social assessment. Ideally baseline data is collected prior to development of a project, but often this is not possible. Data collection can also occur throughout the life of a project as part of ongoing monitoring of environmental and social conditions.

Baseline information used for this ESIA has utilised primary data collected through on-site surveys by Jacobs environmental and social sub-consultant Nusa Buana Cipta (NBC) between June 2017 to September 2017 (dry season and focusing on power plant) and January to February 2018 (wet season and focusing on gas pipeline and temporary jetty). Where applicable secondary data sources collected from desk-based studies and literature reviews have also been used and are referenced within the report.

3.3 Impact Identification

The impact assessment predicts and assesses the Project's likely positive and negative impacts, in quantitative terms to the extent possible. For each of the socioeconomic aspects of the project, the assessment identifies impacts and reports the likely significant impacts. An ESIA will always contain a degree of subjectivity, as it is based on the value judgment of various specialists and ESIA practitioners. The evaluation of significance is thus contingent upon values, professional judgement, and dependent upon the environmental context. Ultimately, impact significance involves a process of determining the acceptability of a predicted impact.

In broad terms, impact significance can be characterised as the product of the degree of change predicted (the magnitude of impact) and the value of the receptor/resource that is subjected to that change (sensitivity of receptor). For each impact the likely magnitude of the impact and the sensitivity of the receptor are defined. Generic criteria for the definition of magnitude and sensitivity are summarised below.

3.3.1 Direct vs Indirect Impacts

A direct impact, or first order impact, is any change to the environment, whether adverse or beneficial, wholly or partially, resulting directly from a social or environmental aspect. An indirect impact may affect an environmental, social or economic component through a second order impact resulting from a direct impact.

3.3.2 Magnitude Criteria

The assessment of impact magnitude is undertaken by categorising identified impacts of the Project as beneficial or adverse. Then impacts are categorised as 'major', 'moderate', 'minor' or 'negligible' based on consideration of parameters such as:

- Duration of the impact – ranging from 'well into operation' to 'temporary with no detectable impact'.

- Spatial extent of the impact – for instance, within the site boundary, within district, regionally, nationally, and internationally.
- Reversibility – ranging from ‘permanent thus requiring significant intervention to return to baseline’ to ‘no change’.
- Likelihood – ranging from ‘occurring regularly under typical conditions’ to ‘unlikely to occur’.
- Compliance with legal standards and established professional criteria – ranging from ‘substantially exceeds national standards or international guidance’ to ‘meets the standards’ (i.e. impacts are not predicted to exceed the relevant standards) presents generic criteria for determining impact magnitude (for adverse impacts). Each detailed assessment will define impact magnitude in relation to its environmental or social aspect.
- Any other impact characteristics of relevance.

Table 3.1 below presents generic criteria for determining impact magnitude (for adverse impacts). Each detailed assessment will define impact magnitude in relation to its environmental or social aspect.

Table 3.1 : Magnitude criteria

Magnitude (beneficial or adverse)	Definition (considers likelihood, duration, number of people affected, spatial extent and local benefit sharing)
Major	A highly likely impact that would have implications beyond the Project's life affecting the wellbeing of many people across a broad cross-section of the population and affecting various elements of the local communities', or workers', resilience.
Moderate	A likely impact that continues over a number of years throughout the Project's life and affects the wellbeing of specific groups of people and affecting specific elements of the local communities', or workers', resilience.
Minor	A potential impact that occurs periodically or over the short term throughout the life of the Project affecting the wellbeing of a small number of people and with little effect on the local communities', or workers', resilience.
Negligible	A potential impact that is very short lived so that the socio-economic baseline remains largely consistent and there is no detectable effect on the wellbeing of people or the local communities' or workers', resilience.

3.3.3 Sensitivity Criteria

The significance of an impact has been determined by the interaction between its magnitude, and the sensitivity of receptors affected. Professional judgement has been used by appropriately qualified social scientists when assigning significance. The use of these two concepts for this assessment is outlined below.

The sensitivity of receptors has been estimated through consideration of their socio-economic vulnerability, measured by their capacity to cope with social impacts that affect their access to or control over additional or alternative social resources of a similar nature, ultimately affecting their wellbeing. Sensitive or vulnerable receptors are generally considered to have less means to absorb adverse changes, or to replicate beneficial changes to their resource base than non-sensitive or non-vulnerable receptors.

When considering sensitivity, the type of resources in question varies between receptors. For example, a community's vulnerability has generally been measured in terms of its resilience to loss of community facilities, whereas an individual's vulnerability has generally been considered in relation to their resilience to deprivation and loss of livelihood assets or opportunities (such as jobs, productive land or natural resources). Impacts that increase impoverishment risks contribute to vulnerability. Impoverishment risks include landlessness,

joblessness, homelessness, marginalisation, increased morbidity and mortality, food insecurity, loss of access to common property resources and social disarticulation. Table 3.2 below presents the guideline criteria that have been used to categorise the sensitivity of receptors.

Table 3.2 : Sensitivity criteria

Category	Description
High	An already vulnerable social receptor with very little capacity and means to absorb proposed changes or with very little access to alternative similar sites or services.
Medium	An already vulnerable social receptor with limited capacity and means to absorb proposed changes or with little access to alternative similar sites or services.
Low	A non-vulnerable social receptor with some capacity and means to absorb proposed changes and with some access to alternative similar sites or services.
Negligible	A non-vulnerable social receptor with plentiful capacity and means to absorb proposed changes and with good access to alternative similar sites or services.

3.3.4 Impact Evaluation

The determination of impact significance involves making a judgment about the importance of project impacts. This is typically done at two levels:

- The significance of project impacts factoring in mitigation inherently within the design of the project; and
- The significance of project impacts following the implementation of additional mitigation measures, referred to as residual impact.

Likely impacts are evaluated taking into account the interaction between the magnitude and sensitivity criteria as presented in the impact evaluation matrix in the table below.

Table 3.3 : Impact Evaluation Scale

		Magnitude			
		Major	Moderate	Minor	Negligible
Sensitivity	High	Major	Major	Moderate	Negligible
	Medium	Major	Moderate	Minor	Negligible
	Low	Moderate	Minor	Negligible	Negligible
	Negligible	Minor	Negligible	Negligible	Negligible

3.4 Mitigation

Mitigation measures are actions taken to avoid or minimise negative environmental or social impacts. The mitigation hierarchy should be followed: prevent or avoid, minimise, restore or remedy, offset, compensate. Mitigation measures should be clearly identified and linked to environmental and social management plans.

For the purpose of the impact assessment, mitigation measures embedded within design are not considered to be mitigation. For clarity, this is considered to be part of the project and not mitigation and impact assessment, and significance is identified with and without mitigation measures.

3.5 Monitoring

Monitoring is not linked to the impact evaluation but is an important component of the ESIA and allows for evaluation of the effectiveness of mitigation measures. Monitoring and follow-up actions should be completed to:

- Continue the collection of data throughout construction, operation and later decommissioning;
- Evaluate the success of mitigation measures, or compliance with project standards or requirements;
- Assess whether there are impacts occurring that were not previously predicted; and
- In some cases, it may be appropriate to involve local communities in monitoring efforts through participatory monitoring. In all cases, the collection of monitoring data and the dissemination of monitoring results should be transparent and made available to interested project stakeholders.

3.6 Residual Impacts

The impacts which cannot be addressed with additional mitigation measures are described as residual impacts, which will have to be considered on balance in the delivery of the project. The Impact Evaluation Scale shown in Table 3.3 (above) is used to assess the scale of residual impacts. Particularly consideration is given to whether the residual impacts are of magnitude and sensitivity that can be accommodated in the final project delivery.

3.7 Cumulative Impacts

The assessment of cumulative impacts will consider the combination of multiple impacts that may result when:

- The Project is considered alongside the existing facilities;
- The Project is alongside other existing or proposed projects in the same geographic area or similar development timetable; and
- Impacts identified in different environmental and social aspects of the ESIA combine to affect a specific receptor.

The assessment of cumulative impacts will identify where particular resources or receptors would experience significant adverse or beneficial impacts as a result of a combination of projects (inter-project cumulative impacts). In order to determine the full combined impact of the development, potential impacts during construction and operational phases have been assessed where relevant.

4. Social and Economic Baseline

4.1 Introduction

Social, economic and cultural baseline conditions for the power plant site and gas pipeline route are based on primary and secondary data gathered in 2017 and 2018.

2017 data: Primary data was initially gathered in June 2017 to September 2017 through a social survey undertaken by NBC in three administrative areas around the power plant site (*kelurahan*)¹, Bencah Lesung, Tuah Negeri and Industri Tenayan which are part of the City of Pekanbaru.

2018 data sources: Between January to February 2018 NBC gathered further primary data from five villages along the gas pipeline route. The five villages included: Kuala Gasib, Meredan, Pinang Sebatang, Tualang Timur all located within the Siak Regency and Melebung which is part of Pekanbaru City.

Secondary data was collected from the Pekanbaru City and Siak Regency statistics offices using 2016 and 2017 figures. Health data was collected from the health centres (*puskesmas*) and health sector publication data. Educational data was collected from the local Education Office and schools.

Data collection: Primary data was gathered in the form of interviews which aimed to collect socio-economic data from the impacted villagers. Further data was gathered from health-centres and education services. There were 30 respondents interviewed for each village and therefore over the nine villages making up the social survey for the Project, a total of 270 respondents (55% male and 45% female) were interviewed.

The survey addressed the respondents' occupation, physical assets, education, income, access to financial resources, and access to public services such as water-electricity and sanitation facilities as well as ethnicity. The respondents were selected using a purposive sampling method to get a cross section of representative groups from society. The selection process included identification of thirty respondents in each Administrative Area, representing distinctive groups in society including village representatives, community leaders, (a mixture of in-depth interviews with traditional or elderly leaders), village individuals, female and male, vulnerable groups and also the communities in the middle of palm oil plantations. In-situ interviews conducted on-site, were also held with people from different livelihoods such as farmers, brick stone makers, traders' as well as local business people. Effort was made to consult with the landless, unemployed, as well as institutional representatives such as local government officers.

Limitations of survey data: It should be noted that at the time of baseline surveys being conducted the preferred route was the 'alternative gas pipeline route' shown in Figure 4.1 below. Following completion of baseline surveys a section of the gas pipeline route has changed, now referred to as the 'preferred gas pipeline route'. The social survey undertaken incorporates villages within the 10 km section of pipeline that has changed and therefore the survey data collected is considered representative of the preferred gas pipeline route.

Findings: A summary of the findings of the social surveys are incorporated into this SIA.

In August and September 2018 further information was collected to support an Indigenous People Assessment and is summarised in this SIA. Information was collected by undertaking the following:

- Secondary data including ethnographic monographs, academic papers on indigeneity in Indonesia, history of Adat and indigenous people in Indonesia;

¹ In Indonesia, a subdistrict (*kecamatan*) is a subdivision of districts (*kabupaten*) and cities (*kota*). A sub-district is itself divided into administrative villages (*kelurahan*). An administrative village (*kelurahan, desa*) is the lowest level of government administration in Indonesia. It could be a village or a *kelurahan*. A village is headed by a village chief (*kepala desa*), who is elected by popular vote. A *kelurahan* is headed by a *lurah*, a civil servant appointed by local government (city or district). For the purposes of this report, an administrative area refers to a *kelurahan*.

- household surveys across all villages within Aol;
- Key informant interviews, namely with Village Leaders / Village Elders living in the Project Aol;
- Village interviews;
- Institutional meeting with Aliansi Masyarakat Adat Nusantara (AMAN) Indigenous Peoples Alliance of the Archipelago;
- Institutional meeting with Lembaga Adat Melayu (LAM) Malay Customary Institute for Riau Province and Pekanbaru City;
- Institutional meeting with local and regional councils (Pekanbaru Municipality and Riau Province);
- Key informant meetings with Sakai and Limo Batin ethnic groups; and
- Communications with international and national sociologist and anthropologists.

One further village Tebing Tinggi Okura (referred to hereafter as Okura Village) located on the opposite side of the Siak River to the temporary jetty location was not included as part of the social survey conducted by NBC. However, in September 2018 a survey was conducted on the fisher folk that utilise the Siak River and therefore have potential for interaction between the Okura Villagers and the temporary jetty and water intake / discharge location. A summary of the findings of this survey is detailed in the SIA with the full report included in ESIA Volume 5 – Technical Appendices – Appendix S.




In August 2018 a census survey was undertaken to identify any persons who may be affected by the project. The findings of the census survey are summarised in the SIA with the results discussed further in Section 6 below and in the Livelihood Restoration Plan (LRP). Table 4.1 provides a summary of how many respondents affected are land users, house users and business users and those not affected.



Table 4 1 : Summary of Affected and Non-Affected Land Users and Building Users by the Project within each Village

Village	Number of Land Users	Number of Building Users	Number of Land and House Users	Affected TBC*	Number Not Affected
Industri Tenayan		2			
Kuala Gasib	22				
Maredan		8	2	2	7
Melebung	4	1	1		3
Pinang Sebatang	7	13	4		16
Tuah Negeri	5				3
Tualang Timur	5	21	5	3	23
No Response**		2			
Total	43	47	12	5	47

Table 4.2 below provides a summary of all consultation activities undertaken on the Project to date. The number of people consulted. Appendix T, ESIA Volume 5: Technical Appendices contains attendance lists and minutes of the meetings and consultations undertaken.

Table 4.2 : Summary of Consultation Undertaken

Consultation Event	Date	Summary	Photographs
Public meeting of AMDAL	11 Oct 2016	<p>140 participants in Kelurahan BencahLesung. Covered villages Industri Tenayan, Melebung and Tuah Negeri.</p> <p>Key points:</p> <ul style="list-style-type: none"> • Signage for pipeline route for safety • Job opportunities for by male and female – local people are preferred as long as suitable for the job. • CSR programme will be in line with what the Villages require 	
MRPR and Lenders	12 Dec 2017 – 15 Dec.2017	<p>220, held at PT MRPR PLTGU Project Location. Participants received information about construction activities. Some key points were:</p> <ul style="list-style-type: none"> • Land tenure analysis required • Assessment of economic displacement of water intake location • Livelihood restoration plan required • Assessment of damage and deprivation impacts required 	
ESIA Disclosure	Sept 2018	<p>228 participants in total for both meetings in Industri Tenayan and Tualand Timur Villages.</p> <p>Key points from the disclosure include:</p> <ul style="list-style-type: none"> • Woman will be prioritised if similar level to men. CSR programme will involve woman • Only 10% of construction staff will be employed for operation • MRPR emphasizes no upfront payment is required for workers' recruitment – recruitment will be through Head of Industri Tenayan or Head of Tenayan Raya Sub-district • Communities want to be involved in the project not bystanders 	
IP Assessment	2017-2018	<p>In addition to the baseline survey the following surveys were undertaken for the Indigenous People Assessment:</p> <ul style="list-style-type: none"> • Household Surveys • Village Leaders/Elders • AMAN (MAP) • AMAN (Jakarta) • AMAN (RIAU) • LAM • Penkanbaru Municipality • Riau Province Social Department • Independent Academics 	

		The information collected has identified that only Criteria 1 of the IFC PS 7 has been triggered.	
LRP Census Survey	August 2018	Census survey for the Livelihood Restoration Plan identified 154 potentially affected persons located along the gas pipeline. Survey collected general census data along with respondents income, income means, whether they were vulnerable, what was being affected by the Project	
Okura Village fisherfolk FGD	September 2018	Focus Group Discussion was undertaken with 14 households in Okura Village. Information was collected regarding the level of use of the Siak River for fishing, and if the Project would be an impact on their livelihood. The Fisherfolk were interested in getting jobs on the Project	
Baseline survey	July 2018	90 Power Plant (30/ village)	
	Dec 2017	150 pipeline (30/ village) This looked at social economics of the villages and the cultural heritage in the area – main finding was that employment opportunities was important to be considered taking forward. Power plant didn't contain any cultural heritage sites, some sacred sites were identified 2/3 km away from the gas pipeline. Ethnicity of local people	
LRP Disclosure	3-4 Nov 2018	Meetings held in Melebung, Pinang Sebatang, Tualang Timur, Kuala Gasib and Meredan. The construction of the pipeline and where it would be located in respect to PAPs residence or commercial unit was discussed and the impact on the businesses. All meetings involved the comment of employment and Tualang Timur was concerned about pipeline leaks and explosions. MRPR explained that explosion risk was low. The total construction time of the pipeline was also related to the communities.	
On-going consultations by MRPR CLO	2017 - current	MRPR have held meetings for Governments regarding land permits, NGOs and Community leads, the general public in the villages around the construction activities. Providing information to prospective contractors and PLN in Pekanbaru.	

4.2 General Setting

Pekanbaru is the capital of Riau Province, which is an oil and gas resource-rich region of Sumatra. In the past Riau also had many natural forest resources. However, this has in the main been replaced with production forests comprising oil palm and rubber.

The power plant and transmission line is located in Industri Tenayan administrative area which is part of Tenayan Raya Sub-District of Pekanbaru. The power plant is located approximately:

- 10 km due east of the City of Pekanbaru in central Sumatra, Indonesia;
- 3 km south of the Siak River; and

- 2 km south of PT Perusahaan Listrik Negara (Persero) (PLN) existing 2 x 110 MW Tenayan Coal Fired Power Station (CFPP).

The power plant and switchyard will be accommodated inside approximately 9.1 ha of land. The power plant site is bounded by the palm oil plantations to the west, south and east and Road 45 to the north. The Project plans to construct a 750 m long 150 kV transmission line to tie into the Tenayan – Pasir Putih 150 kV existing transmission line. The other administrative areas close to the site location are Bencah Lesung and Tuah Negeri. These three are all part of the 11 administrative areas in Tenayan Raya Sub-District which were established in January 2017. Statistical data for each of the administrative areas was not available during the social survey.

The temporary jetty site is situated next to land owned by PLTU Tenayan a state – owned company, which has established the 2 x 110 MW CFPP on 40 ha of land (hereon referred to as Tenayan CFPP). This facility was built in 2013 in the Industri Tenayan administrative area (*kelurahan*) and has been in operation since January 2017. The gas pipeline route for the Project is situated in Koto Gasib, Tualang, Tenayan Raya subdistricts/kecamatan of Siak Regency and Pekanbaru City. According to Government of Pekanbaru City, the land proposed to site the temporary jetty, is currently owned by the Government of Pekanbaru City

Within the Tuah Negeri administrative area are the Pekanbaru government offices. The Industri Tenayan *kelurahan* is a centre for industry within Pekanbaru.

The distance from the proposed power plant site to the nearest settlement of Bencah Lesung residential settlement is approximately 3 km and the distance to the Tuah Negeri settlement is about 5 km. The distance from Pekanbaru to Tenayan Raya district is about 14-15 km and there is a direct road connection available from the site to Pekanbaru. Even though Tuah Negeri and Bencah Lesung administrative areas are part of Pekanbaru City, they resemble discrete villages as opposed to being part of an urban area.

4.3 Project Area of Influence

The project area of influence (Aol) includes all communities potentially affected by the Project as well as the region surrounding the project where social interaction will take place and where local communities are likely to be impacted by the Project, either indirectly or directly.

The Project Aol is situated across two Districts, Pekanbaru City and Siak Regency and nine villages. A breakdown of the Project components and the District, Sub-District and Village administrative boundaries that they are situated within are outlined in Table 4.3 below. It should be noted that although the Project is situated physically within seven village administrative boundaries it passes close to Bencah Lesung and Okura Village and therefore fall within the Project Aol. The Aol was determined by using a 500 m to 1 km buffer around project features. This size of buffer was to capture any sensitive features that the Project may impact.

The location of the water intake and temporary jetty has been identified in the KIT area.

Table 4.3 : Project Aol and District, Sub-District and Village Administrative Boundaries

Project Component	Pekanbaru City					Siak Regency			
	Tenayan Raya Sub-District				Rumbai Pesisir Sub-District	Tualang Sub-District			Koto Gasib Sub-District
	Industri Tenayan	Bencah Lesung	Tuah Negeri	Melebung	Okura	Tualang Timur	Maredan	Pinang Sebatang	Kuala Gasub
Power Plant	X								
Transmission Line	X								
Water Intake and Discharge Pipelines	X								
Temporary Jetty	X								
Gas Pipeline	X		X	X		X	X	X	X

Figure 4.1 provides an overview of the Project, Figure 4.2 outlines the villages which the SIA will refer to, as well as showing the locations of schools and mosques, and Figure 4.3 provides the Project Aol.

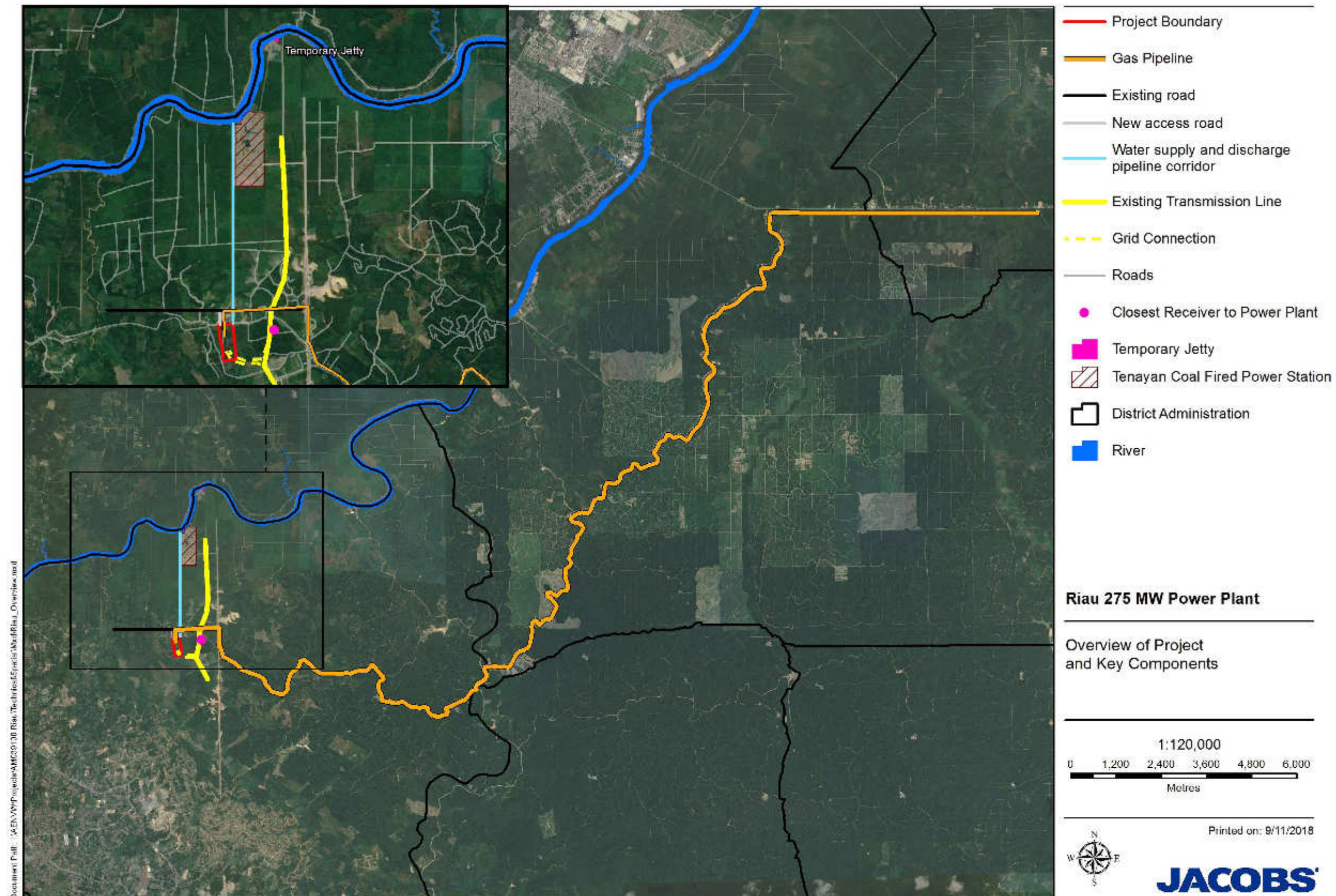


Figure 4.1 : Overview of Project and Key Components

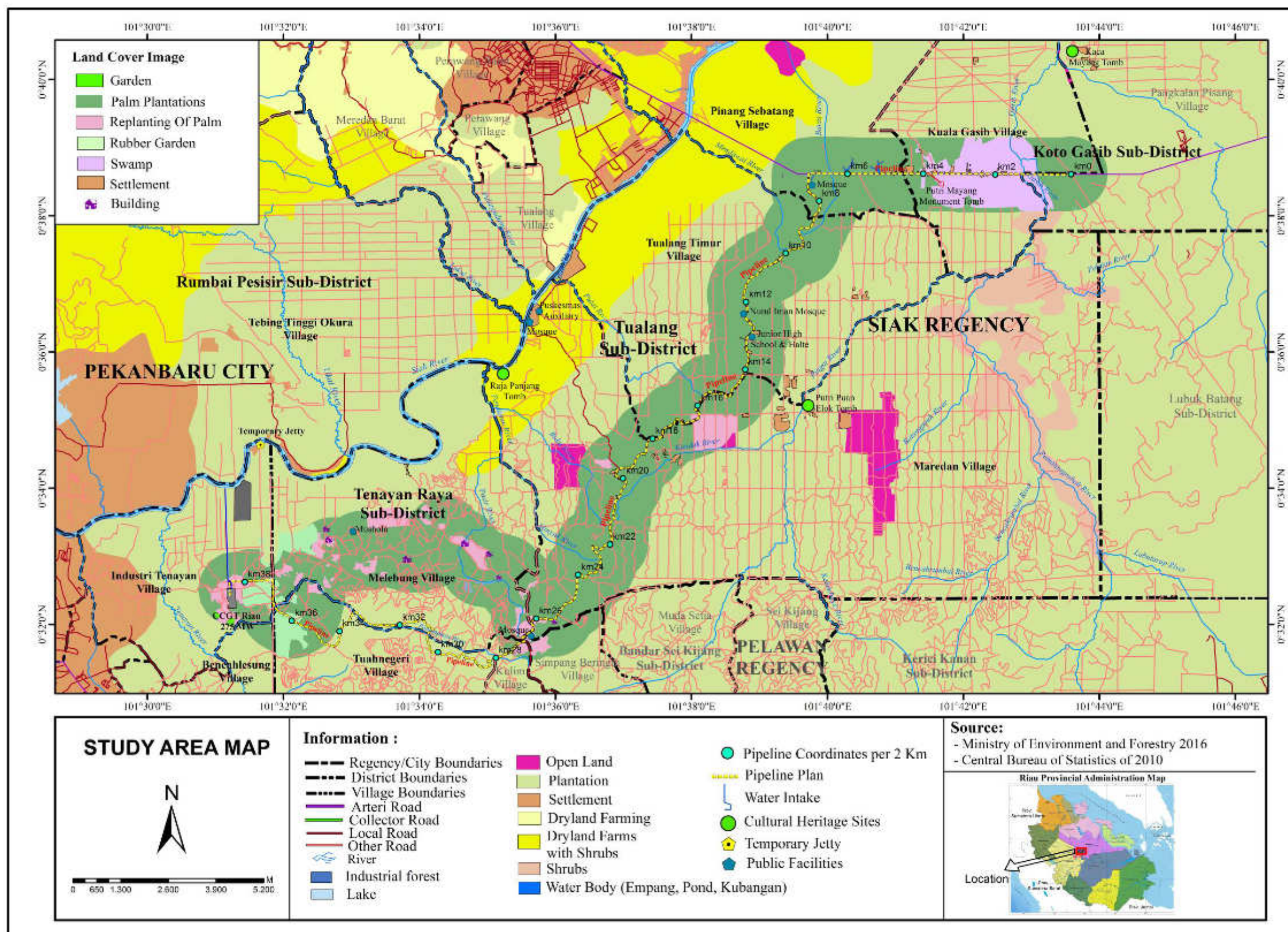


Figure 4.2 : Villages within Sub-Districts of Pekanbaru City and Siak Regency

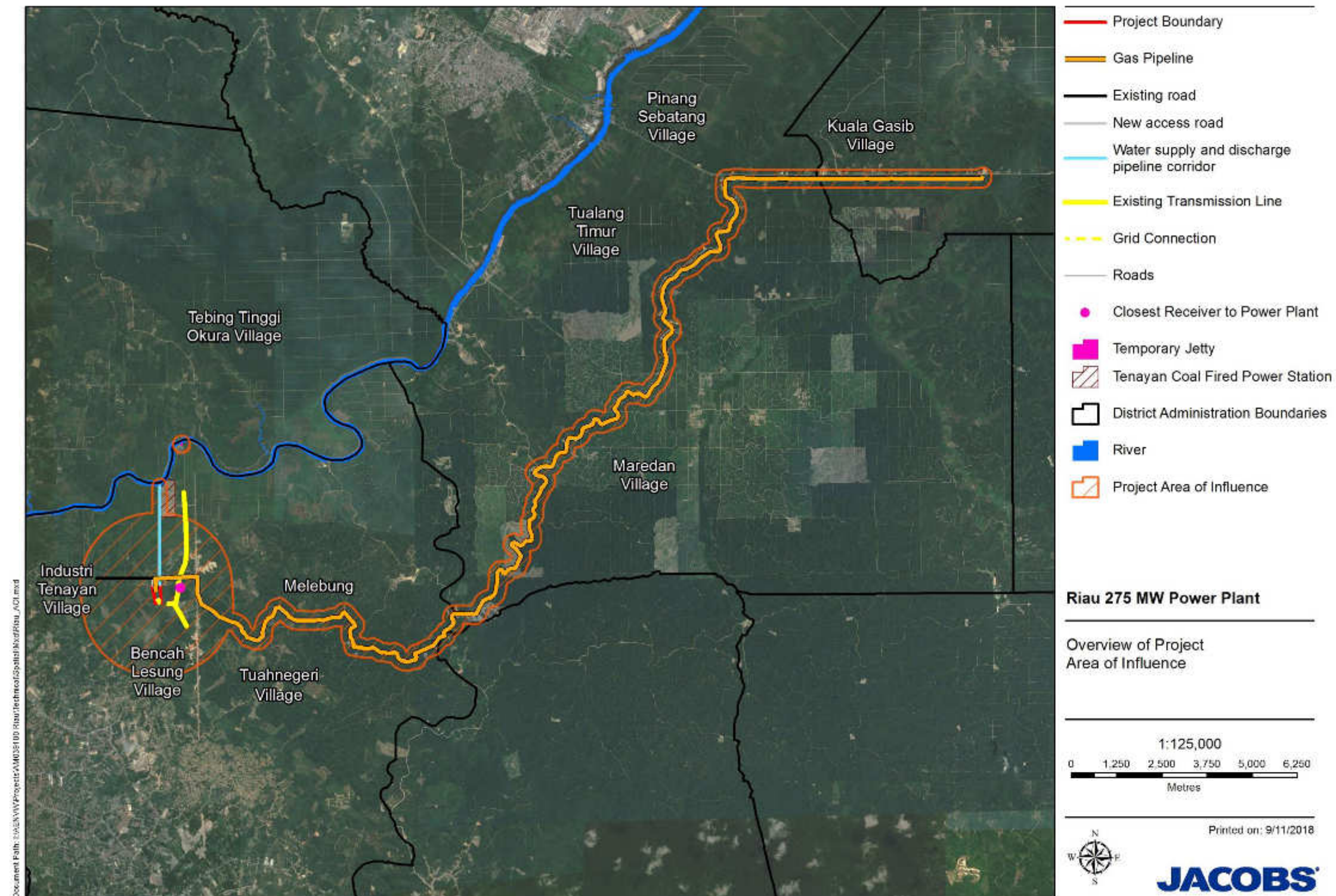


Figure 4.3 : Project Area of Influence

4.4 Okura Village – Fisher Folk

In September 2018 a survey was conducted of the Okura Village fisher folk to identify the scale of the fishing community in the village and the extent of their fishing area within the Siak River, as well as determining whether fishing at the Siak River is a source of livelihood or a simple pastime for the villagers. Ultimately the purpose of the survey was to understand whether the Project will have any impacts to the Okura Village fisher folk and these are further discussed in Section 6.

The survey comprised focus group discussions (FGD) with 14 households who reside near the Siak River and regularly conduct fishing activities along the river. The FGDs collected the following information:

- Gender of the head and members of household;
- Age of the head and members of household;
- Religion/faith of the head of household;
- Residential status and length of residence at the village;
- Ethnicity of the head of household;
- Total number in family including the head of household;
- Marital status of the head and members of the household;
- Level of education of the head and members of the household;
- Occupation of the head and members of the household;
- Fish aggregating devices owned and/or used by the household;
- Type of boat owned and/or used by the household for fishing activities;
- The types of fish species caught by the household;
- The roles of the household members in fishing activities;
- Number of years doing fishing activities;
- Local areas frequently used to do fishing;
- Frequency of fishing activities in a week;
- Duration of each fishing activity;
- Qualitative comparison of fish catch in the past 2 – 5 years;
- Quantity of fish catch of each household;
- Fish catch for income-generation and for household consumption;
- Financial condition of the household in the past 2 years; and
- Access issues to the fishing areas.

Based on local statistical data, *Kecamatan Rumbai Pesisir Dalam Angka 2017* by BPS, the number of people working in the fishery industry is 316 out of the total population of 5432 people in Tebing Tinggi Okura village. The fishery industry in this respect also include households that have fish farms and not limited only to those fishing in Siak River. The most recent statistical data, *Kecamatan Rumbai Pesisir Dalam Angka 2018* by BPS, was not referred to because there was no data on employment/livelihood and Tebing Tinggi Okura village was split into a new village, Sungai Ukai village, in January 2017. Table 4.4 provides employment / livelihood statistical data of Tebing Tinggi Okura village and other villages within the in Rumbai Pesisir subdistrict in 2016.

Table 4.4 : Employment / Livelihood Statistical Data of Tebing Tinggi Okura Village in 2016 for People > 15 years Old. (Source: Kecamatan Rumbai Pesisir Dalam Angka 2017, BPS Kota Pekanbaru)

Village	Field of Occupation				
	Edible Crop Agriculture	Plantation	Fishery	Livestock	Other Types of Agriculture
Meranti Pandak	18	40	92	117	170
Limbungan	73	239	93	117	170
Lembah Sari	53	231	87	122	163
Lembah Damai	20	145	55	69	103
Limbungan Baru	5	380	146	187	271
Tebing Tinggi Okura	11	184	316	43	60
Total	180	1219	789	655	937

Types of fishing gear used by the fisher folk of the Okura Village include the following:

- Belat: A passive fish aggregating device made from 0.15 mm nets propped by bamboo or timber poles of 2 – 2.5 meters height with a length varying from 50 – 100 m to a level 1.7 – 2 meters above the riverbed, parallel to the river banks.
- Lukah: Lukah or Luka is a passive box trap device made from bamboo ribs and tied by rattan formed into a cylindrical shape with a cone shaped rear section.
- Rawai: a passive fish aggregating device, consisting of multiple hooks with baits, nylon fishing lines, a bamboo or wooden rod, weighs, and buoys.
- Langgai.
- Cast net.
- Fishing rod and line.

The areas fished by the respondents of the FGD are from Teluk Patin in the west to Melebung in the east, in total a 20 km stretch of the Siak River encompassing the Project area. An overview of the expanse of the Siak River fished in detailed in Figure 4.4 below.

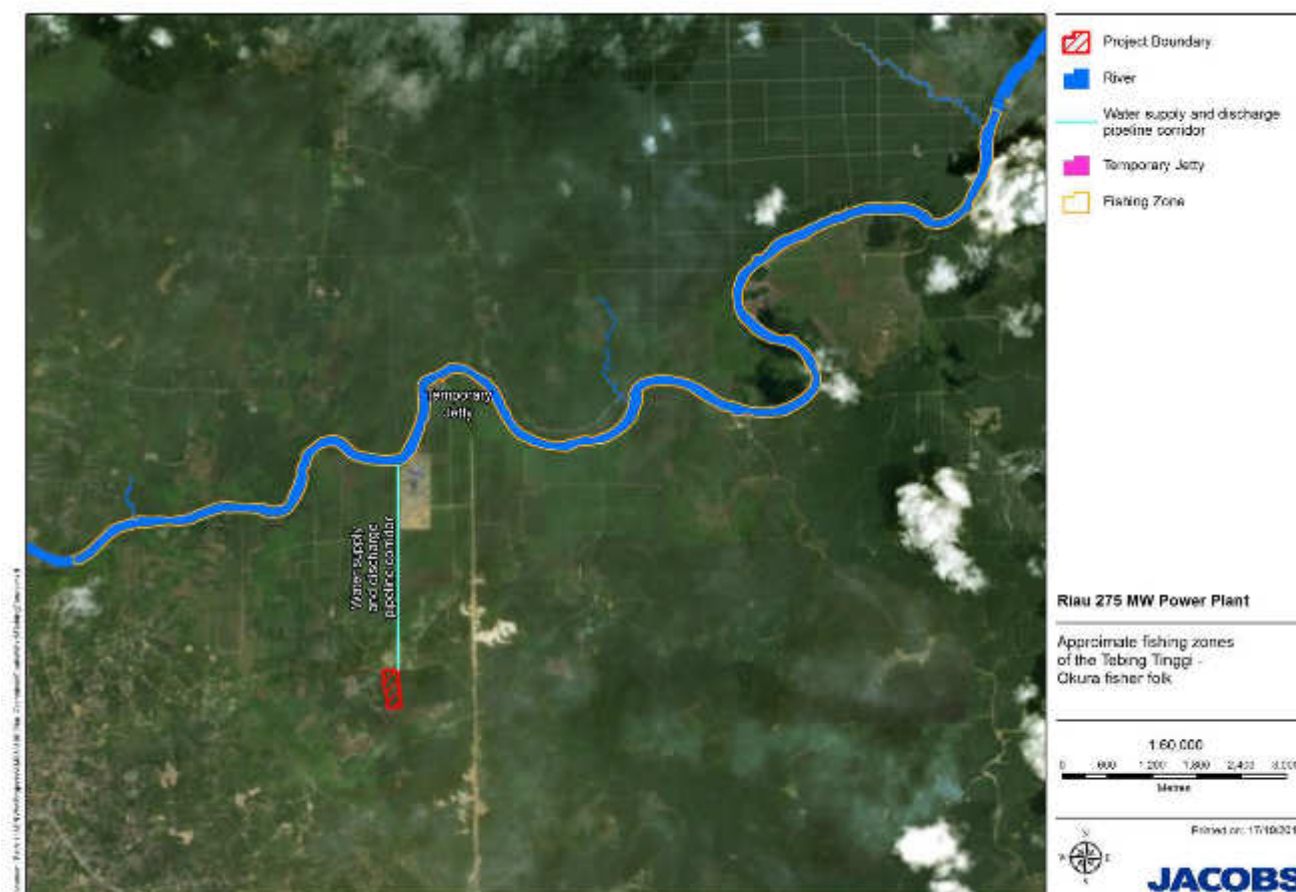


Figure 4.4 : Approximate Fishing Area of the Okura Village Fisher Folk

The yield for fish catches from all the respondents of the FGDs ranged from 1 kg up to 15 kg per catch and comprises a range of fish species. Fish species are detailed further in ESIA Volume 2 – EIA – Water Quality and Freshwater Ecology.

The respondents were found to be generally well experienced in catching fish with an average of 29 years' experience between them. Most fish every day with a few doing it 3 times a week due to other occupations (i.e. working in the palm oil plantations). They predominantly fish using the passive method, meaning they set up the fish aggregating device at noon or afternoon and collect the fish during low tide in the evening. They spend an average of 8 to 10 hours fishing at the Siak River, about the same time as in the past 2 to 5 years. However, in recent years they are fishing more frequently because the quantity of fish catches is declining due to what they believe to be the polluted nature of the Siak River. The fishermen are also wary of the river traffic along the Siak River, particularly barges, as the traffic affects the fish habits and potentially damage their passive fishing devices (i.e. wooden logs or branches tearing the nets or breaking the devices).

Most fishermen have their own motorised boats as well as paddle boats. A few fishermen rent motorised boats from their colleagues if required. Their primary fishing method remains the traditional use of passive technique by the river banks. Nonetheless, the fishermen sometimes catch fish to the middle of the river by boat if conditions warrant it.

Further detail on age, gender, education levels and sources of income of the Okura Villagers are detailed in the sections below.

4.5 Land Use, Planning and Development

This section outlines land use and development intentions of Pekanbaru City and the Siak Regency as outlined in local government and city planning document.

The Indonesian regulations for land tenure and acquisition are listed earlier in Section 2.2. In addition, the process to investigate land ownership, tenure, and purchase is explained later in Section 6.2. Further detailed information on the Power Plant and Off-Site land requirements are detailed in ESIA Volume 1: Introduction Tables 3.1 and 3.2.

4.5.1 Pekanbaru City

In accordance with local government terminology land use in the City of Pekanbaru can be divided into two main categories: developed areas and non-developed areas. Of the total 'area' in the City of Pekanbaru around 23.55% or about 63,226 ha (632.26 km²) consists of residential (73.29%), industrial (12.05%) and commercial (4.47%) land with the remainder of the land being plantations, forests, agriculture and undeveloped land.

In the category 'non-developed land', 24,733.49 ha is classified as brush and scrub and 18,372.33 ha is classified as plantation. This plantation land is mostly located in the northern area of Pekanbaru, which is in the Rumbai, Rumbai Pesisir and Tenayan Raya Sub-Districts. Based on BAPPEDA (Planning and Development Agency) data in Pekanbaru, land use in Tenayan Raya Sub-District covers only 10% or only 17,129 km². This is similar to the other two Sub-Districts of Rumbai and Rumbai Pesisir. Based on these findings, the city council plans to relocate development from the city centre, (which is already very developed), to these three areas. Plans are underway for a new economic centre in Tenayan Raya and a tourism centre in Rumbai.

In relation to the above data, the planned development of the Industri Tenayan administrative area (KIT) and the Pekanbaru government office complex is to be located in the undeveloped areas which is currently plantation and scrub. Industri Tenayan and Tuah Negeri kelurahans have been chosen as the most suitable locations to match the development needs required for the industrial and office uses

The KIT development plan was established from the General Plan of Spatial Planning (RUTR) Pekanbaru 1991 - 2015. The KIT development plan was reinforced by Pekanbaru's Mayor's Decree No. 650/13-WK / 1999, which stipulated that the area allocated in Industri Tenayan is 1,550 ha. The KIT Master Plan was developed in 2001. The only industrial development to date is the 2 x 110 MW Tenayan CFPP which utilised 40 ha of land and has been in use since 2013. In the near future, the construction of a container terminal and central market with an area of 14 ha will begin.

Pekanbaru City has turned over KIT management to Sarana Pembangunan Pekanbaru (SPP) Company. The proposed KIT land is currently utilised as palm oil plantation. The CCPP project is located outside of Tenayan Industrial Area (KIT) that will be under management of Sarana Pembangunan Pekanbaru. However, it is still located in Industri Tenayan Sub District (Kelurahan) Administrative area, in which the area has been designated as an industrial area based on the draft of Spatial/Zoning Planning of Pekanbaru City.

Table 4.5 provides a breakdown of land allocated for plantations in Pekanbaru City.

Table 4.5 : Land Allocated for Plantations by Commodity in Pekanbaru City (2007)

No	District / Kecamatan	Area Size by Type of Plant (ha)*			
		Coconut	Palm oil	Rubber	Cane
1	Pekanbaru Kota	0	0	0	0

No	District / Kecamatan	Area Size by Type of Plant (ha)*			
		Coconut	Palm oil	Rubber	Cane
2	Sail	0	0	0	0
3	Sukajadi	0	0	0	0
4	Lima Puluh	0	0	0	0
5	Senapelan	0	0	0	0
6	Bukit Raya	158.45	14.91	0	0.96
7	Marpoan Damai	42.39	10.51	0	0.80
8	Payung Sekaki	17.50	26.59	0	0
9	Tampar	26.45	15.01	1.50	17.77
10	Rumbai	145.49	1,531.60	0	0
11	Rumbai Pesisir	146.67	5,410.50	30.41	6.91
12	Tenayan Raya	429.01	2,191.87	39.87	0
	Pekanbaru	965.69	9,200.99	71.78	29.38

Source: Survey of Agriculture and Estate Crops Office Pekanbaru (2007)

*Area is aggregate not overlay

Based on the data presented above approximately 90% of the land allocated for plantations is located in Rumbai Pesisir, Tenayan Raya and Rumbai Sub-Districts. The most widely planted commodity in these three districts is palm oil. Particularly in Tenayan Raya district, in addition to plantation crops, there are also lots of cultivated land for horticulture, namely, vegetables and fruits (annual and seasonal). According to the same data, there is an area of 118.12 ha for cassava and corn, 15 ha for vegetable crops and 565.32 for fruit crops in Pekanbaru City. Then there are also 53.92 ha of land for cattle, goats, buffaloes, pigs and poultry farms, though most of the land is for raising cattle in Pekanbaru City. For fisheries, there is 3.4 ha of land used for catfish cultivation ponds in Pekanbaru City.

From the baseline survey results and interviews in the three villages within the study area, it can be seen that palm oil plantations are found in the Industri Tenayan and Tuah Negeri administrative areas. Likewise, farmland and livestock are found in the Industri Tenayan and Tuah Negeri administrative areas. In the Bencah Lesung administrative area there is very little land available for plantations and agricultural land since most of it is allocated for settlements. In addition, in these three villages, land is used for the brick industry, on average between 200 - 300 m² which is spread out in residential areas, the majority of which is in Tuah Negeri.

In Rumbai Pesisir Sub-District, the number of palm oil plantations has more than doubled compared to the Tenayan Raya Sub-District. On the other hand, Rumbai Pesisir Sub-District has less coconut plantation and rubber area but more sugarcane area. Okura Village have more rubber than palm-oil plantation areas and many of the villagers also grow fruits. The Okura Villagers also utilise the Siak River for fishing and this is further detailed in the following section.

4.5.2 Siak Regency

The principal oil field in Central Sumatra is found within the Siak Regency. The main basin is Minas Field, which was discovered in 1944 by the Japanese army and the first production was conducted in 1952, with total reserves estimated at 2 billion barrels. The production zone is estimated to be 28 km x 10 km with a depth of 2,000 ft – 2,600 ft. The number of production wells is about 345, including eight dry wells and 47 water injection wells. The total field production was 350,000 barrels per day. However, throughout the first quarter of 2014, oil production had reached 230,170 barrels per day (Tempo Magazine, 8 July 2017).

Other than oil fields, approximately 33.7% of the land in the Siak Regency is categorised in the spatial plan as 'Other Utilization Area' (Areal Penggunaan Lain). The approximate remaining land use is as follows:

- 23.1% is categorised as state forest;
- 143,375.85 ha (20.9%) is categorised as plantation;
- 133,022.95 ha (19.4%) is not cultivated.

Currently, production forest areas included in the Siak Forest Management Unit and used for logging activities cover an area of 495,000 ha.

There are five important commodities for Siak Regency which include: palm oil, rubber, sago, coconut and cacao, see Table 4.6 below. It is important to note that Siak Regency data from 2014 stated that this regency has natural areas of peat, comprising up to 50% in all district areas, with a total coverage of 459,193 ha. Approximately 299,278 ha of this area has more than 3 m of peat depth (BPS Kab Siak, 2016; Pemda Siak, 2016).

Table 4.6 : Agricultural / Forest Commodities in Siak Regency

Commodity	2011 (ha)	2014 (ha)	2015 (ha)
Palm Oil	237,043	287,331	288,362
Rubber	13,851	15,768	15,477
Sago	11,758	11,522	10,150
Coconut	1,605	1,657	1,628
Cacao	61	66	54

Source: Forestry and Plantation Sector of Siak Regency (2016)

Palm oil covers the largest area, from 237,043 ha in 2011 to 288,362 ha in 2015. Rubber has been increasing from 2011 whilst sago, coconut and cacao areas have been in decline.

In relation to Project land use, the proposed power plant area is located in a palm oil plantation and villages along the gas pipeline route consist of significant palm oil plantation areas, especially in Melebung Village. Most of this Melebung Village area is in palm oil plantations managed mostly by companies and some are managed privately.

4.6 Social Organisation

Every village or Kelurahan has a village head or Kelurahan Head. Each village receives funds from the Regency and central government budget. The amount of village funds from the central government depends on the number of the people, level of poverty, the number of poor people, the distance of the village to the regency capital, and other factors.

The villagers have a yearly meeting to decide the agreed allocation of funds by involving all groups and factions. The result of the meeting will decide how the fund will be used.

The village or Kelurahan headman is assisted by the sub-village headman and Rural Government Board that consists of a village council the members of which are elected by the people.

There are also prominent village figures that are respected by the community. They are religious figures, and ethnic figures. The youth also often have their own organisation.

The female villagers have an organisation called PKK (Perkumpulan Kesejahteraan Keluarga / The Association for Family Welfare). This organisation deals with health, sanitation, education and other aspects. The Muslim women usually gather once a week for a prayer (wirid). The catholic women have a group named 'Wanita Katolik' ('Catholic Women') and the Protestant women have an organisation that is named 'The social organisation of Women'.

4.7 Demographic Overview

4.7.1 Population and Growth

Outlined in Table 4.7 below is a demographic overview of Pekanbaru City and Siak Regency and their Sub-Districts.

Table 4.7 : Demographic Overview of Pekanbaru City and Siak Regency

Area	Coverage Areas (km ²)	Total Population	Density	Male	Female	Total Households
Pekanbaru City	632.26	1,064,556	1,684	546,400	518,166	253,533
Tenayan Raya Sub-District	171.27	158,519	926	81,777	16,742	36,742
Siak Regency	8,556.09	453,052	529	232,553	220,499	NA
Tualang Sub-District	383.97	124,894	325	64,536	60,358	28,313
Koto Gasib Sub-District	702.7	22,059	31	11,230	10,829	5,323

Source: BPS Kota Pekanbaru (2017)

As outlined in Table 4.7 above, Siak Regency is about 13 times larger than Pekanbaru City. However, the population in Pekanbaru City is much higher than Siak Regency (more than 100% total population of Siak Regency). In addition to this, the new Pekanbaru City administration headquarters is being built 3 km from the MRPR power plant site which may cause change to the demographics of the area due to the influx of people travelling to the area to work and the supporting industries which will develop with the new administration headquarters.

In general, the female population is lower when compared to the male population. However, the difference is not significant at the Regency and Sub-District level. The number of the households in Pekanbaru City are about 253,533 households with an average of four members in every household. Data is not available regarding the number of households in Siak Regency.

Among all the affected Sub-Districts, Koto Gasib Sub-District has the largest area (702.7 km²) compared to Tualang Sub-District (383.97 km²) and Industri Tenayan Sub-District (171.27 km²). Tenayan Raya Sub-District has the highest number of households (36,742 households) and population (158,519 people) compared to Koto Gasib which has only 5,323 households and 22,059 people.

4.7.2 Population Composition

The population composition for the nine villages / kelurahans within the Project AoI area based on gender according to Pekanbaru City and Siak Regency statistics office is presented in Table 4.8 below. The table shows administrative area and villages based on their Sub-District, coverage area in km², sex, its total population, including density/km² and number of households.

Table 4.8 : Population Composition for Kelurahan and Villages within Project Aol

Sub-District / District	Kelurahan / Village	Coverage Area (km ²)	Total Population			Density per km ²	Total Households
			Male	Female	Total		
Tenayan Raya / Pekanbaru City	Industri Tenayan	24.54	2,223	2,133	4,356	178	1,124
	Bencah Lesung	19.01	1,068	1,127	2,195	115	572
	Tuah Negeri	10.1	5,180	5,197	10,377	1,027	2,544
Rumbai Pesisir / Pekanbaru City	Tebing Tinggi Okura	136.79	2,950	2,482	5,432	40	1,690
Tenayan Raya / Pekanbaru City	Melebung	36.67	451	383	834	23	151
Tualang / Siak Regency	Maredan	145.25	1,762	1,689	3,451	24	852
	Tualang Timur	9.98	3,021	2,716	5,737	575	1,637
	Pinang Sebatang	40.88	2,250	1,700	3,950	97	1,130
Koto Gasib / Siak Regency	Kuala Gasib	85.2	998	890	1,888	22	449

As shown in the table above, within the nine villages, the Tuah Negeri administrative area has the highest population with 10,377 inhabitants. Melebung Village located in the middle of the palm oil plantation has the smallest population with 834 inhabitants. Maredan Village has the largest area size (145.2 km²) followed by the old village of Okura located across the Siak River from the Tenayan CFPP.

The villages with the smallest land area have the highest number of families and population. Among the nine villages, Bencah Lesung and Tuah Negeri have the population with the largest number of females. Tuah Negeri is the most densely populated area followed by Tualang Timur Village and Industri Tenayan administrative area.

The composition of respondents in each village study location can be seen in Table 4.9.

Table 4.9 : Number of Male and Female Respondents to Census Survey in each Village

Village	Number of Respondents		
	Male	Female	Total
Tuah Negeri	16	14	30
Industri Tenayan	14	16	30
Melebung	14	16	30
Maredan	15	15	30
Tualang Timur	17	13	30
Pinang sebatang	13	17	30
Kuala Gasib	17	13	30

Village	Number of Respondents		
	Male	Female	Total
Total	106	104	210

The composition of male and female respondents by status in households can be seen in Table 4.10:

Table 4 10 : Number of Male and Female Respondents by Sstatus in Household (Wet and Dry season surveys)

	Head of Family Respondents		Family Member Respondents		Total Respondents	
	Male	Female	Male	Female	Male	Female
Dry Season*	26	4	4	26	30	30
Wet Season	70	6	6	68	76	74

*does not include the respondents from Bencah Lesung

There are 90% of male respondents as head of household and 10% of female respondents as head of household. In contrast there are 10% of male respondents and 90% of female respondents.

The composition of the role of husband and wife in the household can be seen in the table 4.11. The role of wife or woman is quite large in supporting the household economy. Generally the wife's work is commerce, day laborer, trading and sell in stalls or kiosks at home.

Table 4 11 : Composition of Working Husband's and Wife's Role

Area	Working Husband	Working Wife	Remark
Power Plant	84 % morning-noon	12 % morning-noon	16% of unemployed husbands are husbands who are unable to work or have passed away and the husbands who have not left for work 88% of unemployed wives are housewives or wives already passed away and wives of workers who have not left for work.
Gas Pipeline	90 % morning-noon	33 % morning-noon	10% of not working husbands are husbands who can not work or no husband and worker husband have not left for work. 67% of not working wives are housewives or wives in sick condition.
Power Plant	81% morning-evening	46% noon-evening	19% of unemployed husbands are husbands who are unable to work or have passed away, worker husband who have yet leave for work and worker husband who has returned from work. 54% of unemployed wives are housewives or wives already passed away and workers wife who have not yet left for work
Gas Pipeline	84% Morning-Afternoon	31% Morning-Afternoon	16% of not working husbands are husbands who are unable to work or no husband and worker husband are already at home or husbands workers who have not yet left for work. 69% of not working wives are housewives or wives in sick conditions and already homes after work wives
Power Plant	9% night	1% night	81% of unemployed husbands are husbands who are unable to work or have passed away and their husbands are already at home 99% of unemployed wives are housewives or dead wives and worker wives already at home

Area	Working Husband	Working Wife	Remark
Gas Pipeline	23% Night shift	16% Night shift	77% of not working husbands are husbands who are unable to work or have no husbands and worker husbands already at home. 84% of not working wives are housewives or wives in sick conditions and wives who have finished work

An overview of the population age group with Pekanbaru City and Siak Regency is presented in Table 4.12 below.

Table 4.12 : Population Age Group within Pekanbaru City and Siak Regency

Age Group	Pekanbaru City 2017	Siak Regency 2016
0 – 4	109,012	40,052
5 – 9	94,233	55,345
10 – 14	87,316	54,867
15 – 19	101,860	44,669
20 – 24	123,587	41,373
25 – 29	101,873	46,834
30 – 34	91,377	50,180
35 – 39	86,621	44,577
40 – 44	76,456	38,475
45 – 49	62,326	28,058
50 – 54	46,609	17,658
55 – 59	34,521	11,742
60 – 64	20,597	7,729
65+	28,128	10,408
TOTAL	1,064,566	453,052

Based on the data shown above the largest population group in Pekanbaru City and Siak Regency is generally the young between the age groups of 0-4 years old to 30-34 years old. In both areas, the population decreases beyond the group of 35.

The Okura Village fisher folk surveyed averaged 48 years old and have lived in the village for more than 10 years with four residing from birth, see Table 4.13 below.

Table 4.13 : Okura Village Respondents Age and Gender

Respondent	Gender	Age (years)	Length of stay at village (years)	Native resident of village	Ethnic Group
1	Male	50	> 10	Yes	Melayu
2	Male	46	> 10	Yes	Melayu
3	Male	48	> 10	Yes	Melayu
4	Male	55	> 10	Yes	Melayu

Respondent	Gender	Age (years)	Length of stay at village (years)	Native resident of village	Ethnic Group
5	Male	51	> 10	Yes	Melayu
6	Male	57	> 10	Yes	Melayu
7	Male	49	> 10	Yes	Melayu
8	Male	53	From birth	Yes	Melayu
9	Male	35	5 to 10	No	Nias
10	Male	51	From birth	Yes	Melayu
11	Male	63	From birth	Yes	Melayu
12	Male	39	> 10	No	Melayu
13	Male	37	1 – 5	No	Jawa
14	Male	42	From birth	Yes	melayu

4.8 Religion

No statistical data is available of religious groups at Pekanbaru City or Siak Regency level. However, there is statistical data for some of the villages within the Aol as detailed in Table 4.14 below.

Table 4.14 : Religious Composition of Population some Villages / Kelurahan within Project Aol

Kelurahan / Village	Religious Composition of Population						Total
	Islam	Catholic	Protestant	Hindu	Buddhist	Taois / Confucism	
Industri Tenayan	594	641	320	534	64	42	2,195
Meredan	2,246	55	1,125				3,426
Pinang Sebatang	2,740	455	769		26		3,990
Kuala Gasib	1,999	10	304				2,313

As outlined in the table above, Islam is the most widely practiced religion in all villages, followed by Catholic, Protestant, Hindu, Buddhist and Taoism/Confucism. In some areas of Siak Regency, Bahai is also practiced. Pinang Sebatang and Kuala Gasib villages have more Protestants than Catholics.

There are 651 mosques in Pekanbaru and 449 small mosques (musholla). In addition, there are 153 Protestant churches and 10 Catholic churches. In addition, Pekanbaru City has 59 Confucius temples (kelenteng) and Vihara for Buddhists (Bappeda, 2015). There is no data available on religion for Siak Regency.

4.9 Ethnicity and Language

No statistical data on ethnic groups in Pekanbaru City or Siak Regency is available. One of the original native ethnic groups in the project area is the Malay. Near the power plant, there are other ethnic groups such as the Jawanese and the Batak from North Sumatra also the Minang from West Sumatra and the Nias ethnic group who came after the tsunami in 2004. In addition, a small Chinese population have lived in this region for generations, mostly in Pekanbaru City and Selat Panjang Sub-District.

Along the gas pipeline route there are numerous migrants from North Sumatra (The Bataks or the Jawanese) and some from West Sumatra. A small proportion of the population come from other areas of Indonesia. Along the gas pipeline route, there are also Malays from Gasib Village. Some of the Gasib people reported that they relocated from Johor in Malaysia a hundred years ago. The Malay ethnic group are living around the temporary jetty area and have lived there for generations. In Melebung there are Ambonese and Nias people.

The majority of the Okura Village respondents interviewed are Malay with Nias and Jawanese also represented, see Table 4.9.

Bahasa Indonesia is commonly spoken in Riau, including Pekanbaru, but each ethnic group has their own language. Further discussion on ethnicity is detailed in Section 4.10 below Gender

As noted in Section 4.5.2, there are approximately 10% more males than females in Pekanbaru City, but there are four Sub-Districts that have more females compared to males: Sail, Lima Puluh, and Payung Sekaki and Senapelan.

It is important to note that there is a decreased rate of violence against women and children from 2011 compared to 2016 as indicated by Pekanbaru's mayor in the LKPJ (Performance Accountability Report, 2016).

All Sub-District heads are male and almost all heads of the administrative areas are male. The head of Tenayan Sub-District is also a male. There is only one female administrative area head, who used to be a community facilitator. In public consultations in relation to the Project, this leader called on the company to ensure that women are employed at the power plant.

Female parliament members make up 20% of Pekanbaru's legislature (DPRD) and in Siak Regency, only 2.5% of the DPRD members are female.

As this information suggests, most decision-makers in the community are male, which creates situations where women's needs and aspirations are often neglected. In order to ensure appropriate representation and opinion for the Project, consultation between male and female was separated.

Table 4.15 below provides an overview of Riau Province Districts gender development index. Gender Development Index (GDI) measures gender gaps in human development achievements by accounting for disparities between women and men in three basic dimensions of human development—health, knowledge and living standards using the same component indicators as in the GDI. (<http://hdr.undp.org/en/content/gender-development-index-gdi>).

Table 4.15 : Gender Development Index within Riau Province Districts (2014)

District	Gender Development Index 2014
Kuantan Singingi	87.81
Indragiri Hulu	86.27
Indragiri Hilir	80.99
Pelalawan	87.83
Siak	89.3
Kampar	88.78
Rokan Hulu	79.36
Bengkalis	88.86
Rokan Hilir	84.3

District	Gender Development Index 2014
Kepulauan Meranti	84.37
Pekanbaru	91.83
Dumai	89.35
Riau	87.62

Source: BPS Riau (2017)

The table above shows that Pekanbaru City has the highest GDI Index (91.83) and Siak District is the third highest in Riau Province (89.3).

Some of the villagers within the Project AoI come from West Sumatra and are referred to as the Minang. Some Minang communities are matrilineal means tracing descent through maternal line. The Minang women are famous as good traders.

From the survey it was identified that 90% of male respondents are head of household and 10% of female respondents are head of household. In contrast there are 10% of male respondents and 90% of female respondents. The number of male and female respondents were a relatively even split with 106 male respondents and 104 female respondents. There is no data available on the impact on women and children in the Project AoI caused by the influx of workers for the construction of the Tenayan coal fired power plant.

4.10 Indigenous People

This section provides a summary of the Indigenous People Assessment.

4.10.1 Approach and Methodology

The Indigenous People Assessment collected information from the following:

- Secondary data including ethnographic monographs, academic papers on indigeneity in Indonesia, history of Adat and indigenous people in Indonesia;
- Household surveys across all villages within AoI;
- Key informant interviews, namely with Village Leaders / Village Elders living in the Project AoI;
- Village interviews;
- Institutional meeting with Aliansi Masyarakat Adat Nusantara (AMAN) Indigenous Peoples Alliance of the Archipelago;
- Institutional meeting with Lembaga Adat Melayu (LAM) Malay Customary Institute for Riau Province and Pekanbaru City;
- Institutional meeting with local and regional councils (Pekanbaru Municipality and Riau Province);
- Key informant meetings with Sakai and Limo Batin ethnic groups; and
- Communications with international and national sociologist and anthropologists.

4.10.2 Indonesian Indigenous Persons Reference Framework

IFC Performance Standard 7 - Indigenous Peoples

IFC Performance Standard 7 recognises that Indigenous Peoples, as social groups with identities that are distinct from mainstream groups in national societies, are often among the most marginalised and vulnerable

segments of the population. Indigenous Peoples are particularly vulnerable if their lands and resources are transformed, encroached upon, or significantly degraded. Their languages, cultures, religions, spiritual beliefs, and institutions may also come under threat. Consequently, Indigenous People may be more vulnerable to the adverse impacts associated with project development than non-indigenous communities. This vulnerability may include loss of identity, culture, and natural resource-based livelihoods, as well as exposure to impoverishment and diseases.

Moreover, Performance Standard 7 defines the term “Indigenous Peoples” as referring to a distinct social and cultural group possessing the following characteristics in varying degrees:

- Criteria 1: Self-identification as members of a distinct indigenous cultural group and recognition of this identity by others;
- Criteria 2: Collective attachment to geographically distinct habitats or ancestral territories in the project area and to the natural resources in these habitats and territories;
- Criteria 3: Customary cultural, economic, social, or political institutions that are separate from those of the mainstream society or culture; or
- Criteria 4: A distinct language or dialect, often different from the official language or languages of the country or region in which they reside.

Critically, however, as stated in IFC guidance notes on [GN5]:

*“this Performance Standard [PS7] applicability is determined on the basis **of the four characteristics** presented [above] in paragraph 5 of Performance Standard 7. Each characteristic is evaluated independently, and no characteristic weighs more than the others.”².*

ADB Indigenous Peoples Safeguards

ADB Criteria on indigenous peoples are similar to the IFC Criteria. ADB Indigenous Peoples Safeguards are triggered if a project directly or indirectly affects the dignity, human rights, livelihood systems, or culture of Indigenous Peoples or affects the territories or natural or cultural resources that Indigenous Peoples own, use, occupy, or claim as an ancestral domain or asset. The term Indigenous Peoples is used in a generic sense to refer to a distinct, vulnerable, social and cultural group possessing a range of characteristics in varying degrees, including:

- 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 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.

ADB Safeguards defines “Indigenous Peoples” in a generic sense to refer to a distinct, vulnerable, social, and cultural group possessing the above four characteristics in varying degrees. ADB employs the term ‘vulnerable’ which is not found in the IFC definition. ADB IP safeguard policy states:

*“To determine whether project-affected people are IP under the SPS, an assessment of the people involved against the **four above characteristics**, along with their relative vulnerability, is needed”*

² IFC Guidance Notes (2012)

Indonesian Law Recognition of Indigenous People

There is currently no international agreement on the definition of indigenous people. The term 'indigenous peoples' presents difficulties when it is applied to the Indonesian context. Indonesia has more than 350 different ethnic groups who consider themselves 'original' to Indonesia. They have their own self-identification, their own language and their own territory and many of them are already integrated in the mainstream economy and political system. In Indonesia the term *masyarakat adat* meaning 'customary law societies' is used to refer to community that may have a shared history, own customary land, have adat law, possess specific property relations and inheritance or adat artefacts and have a customary governance system. The basic concept of 'adat' is one a self-governing community. The longer a group has resided in an area the longer it has had to self-govern and create 'social order'. This is not the case with any of the ethnic groups identified in the Project Aol.

Indigenous people is a relational term: "*in a socio-political respect, this term refers to the relationship of a smaller, less powerful society to a more powerful majority or dominant society or nation-state, and implies the marginalisation and discrimination they experienced due to their culture*". This is not the case with the Batin or any other ethnic group residing in the project Aol.

The *masyarakat adat* in Riau Province consist of the Sakai, the Talang Mamak, and the Akit peoples (sea gypsies). The Talang Mamak live in the highland areas of Siberida District and the Sakai live in Dumai District and the Akit people live in Riau Islands, all of which is outside the project AOI. In the past, their livelihoods were based on hunting and gathering. This is still the case with some groups of the Talang Mamak. The Sakai have lost their forest and some of them work on oil palm plantations as labourers. The Akit still practice their traditional modes of living. There are no *masyarakat adat* residing in the Project Aol.

4.10.3 Ethnic Groups in the Project Area of Influence

Consultation were held with traditional village leaders, Administrative Heads of villages through interviews and surveys (see section 4.1 of the SIA). There are four predominant ethnic groups in Industri Tenayan and Pinang Sebatang, namely: Malay, Javanese, Minang and Batak. Interviews and household surveys conducted in these villages, secondary data, as well as additional findings confirmed the existence of the Batin people living in the project area. The majority ethnic group in Industri Tenayan is Javanese; Malay in Pinang Sebatang and Kuala Gasib.

Table 4.16 : Population based on ethnicity POI villages

Village	Ethnicity						Total
Industri Tenayan	Malay	Javanese	Minang	Batak	Banjar	Sunda	Total
	594	641	320	534	64	42	2,195
Pinang Sebatang	Malay	Javanese	Minang	Batak	Aceh	Sunda	
	1,828	484	622	1,041	12	3	3,990
Kuala Gasib	Malay	Javanese	Minang	Batak	Nias	-	
	739	725	33	467	14	-	1,978

Source: Monograph Industri Tenayan, Pinang Sebatang and Kuala Gasib, (2017)

Household surveys were undertaken in nine villages across the project AOI as part of the socio-economic baseline data collection. For the Gas pipeline, the five villages of Kuala Gasib, Pinang Sebatang, Maredan, Okura and Melebung were surveyed. Similar to the monographs, the surveys revealed a spread of ethnicity within each village. The Malay were found to be the dominant ethnic group in each village, followed by Javanese with pockets of Nias, Batak and Minang. There is a small population of Ambonese people living only in one village. These household interviews were followed up with key informant interviews (KII). One outcome of these KII was to discover that ethnic Buginese people from South Sulawesi also resided in the area.

Table 4.17 : Percentage of Ethnic Groups in Five Villages Along the Gas Pipeline

Village	Ethnicity						Total
	Malay	Minang	Batak	Javanese	Nias	Ambonese	
Melebung	53	10	7	20	7	3	100
Maredan	37	0	17	43	3	0	100
Pinang Sebatang	30	7	23	40	0	0	100
Tualang Timur (Okura)	27	16	37	20	0	0	100
Kuala Gasib	30	7	23	40	0	0	100

Source: household surveys (2018, NBC)

The three villages of Tuah Negeri, Bencah Lesung and Industri Tenayan are located several kilometres from the power plant (though the nearest settlement); were surveyed as part of the household surveys.

Table 4.18 : Percentage of Ethnic Groups in Three Villages Around the Power Plant site, Transmission Line and Access Road

Village	Ethnicity						Total
	Malay	Minang	Batak	Javanese	Nias	Ambonese	
Tuah Negeri	37	40	3.3	13.3	6.7	0	100
Industri Tenayan	30	13.3	17	40	0	0	100
Bencah Lesung	20	53.3	20	3.3	3.3	0	100

Source: household surveys (2018, NBC)

From both Table 4.17 and Table 4.18, it can be concluded that each of the project affected villages is heterogeneous. The Malay and Javanese constitute a significant population in each village. The remaining part of the indigenous assessment will determine whether these six identified ethnic groups residing close to the project area meet the criteria of being IP as per the international standards requirements.

Based on engagement with various stakeholders noted in Section 4.9.1, Table 4.19 provides a summary of findings related to whether any of the ethnic groups present in the AOI, meet one/ more criteria as stipulated in section 4.9.2.

Table 4.19 : Summary of IP Claim from Stakeholder Meetings

Stakeholder	Summary of Main Issue	IP by IFC and ADB*
Ethnographic Monographs	Ethnically and religious heterogeneity in project villages, providing evidence of transmigration, relocation, with majority ethnicity (by language, numbers, culture) are the Malay which are the mainstream.	Inconclusive
Household surveys	Ethnically heterogeneous with two ethnic groups dominating: Malay and Javanese. Both are mainstream cultures within and outside of the region.	Inconclusive (Not IP) for any of the 6 ethnicities in Project Aoi
Village Leaders / Elders	No one ethnic group, Village Elder or community leader 'self-identified' as 'adat', indigenous people or isolated tribe. Only one family (Respondent 10) claimed to be	Criteria 1 triggered for only Batin Tenayan

Stakeholder	Summary of Main Issue	IP by IFC and ADB*
	other group called Batin Tenayan, and they self-identified as indigenous from the area which is now the site of the power plant.	No other groups self-identified. No other claims for customary ownership
AMAN (map)	No evidence from the AMAN Map of IPs in the Project Aol.	No Trigger for any of the 6 ethnicities in Project Aol
AMAN (Jakarta)	No evidence from AMAN Jakarta of IPs in the Project Aol.	No Trigger for any of the 6 ethnicities in Project Aol
AMAN (Riau)	AMAN Riau does not recognise Batin Tenayan or any ethnic groups as adat in the Project area.	No Trigger for any of the 6 ethnicities in Project Aol
LAM	Recognition of Batin Tenayan however, batin are not able to buy and sell land.	Criteria 1 triggered for only Batin Tenayan
Pekanbaru Municipality	No indigenous people recognised in the Project Aol.	No Trigger for any of the 6 ethnicities in Project Aol
Riau Province Social Department	No indigenous people recognised in the Project Aol. The information provided by Riau Province Social Service is accepted by AMAN, LAM, academics and historians.	No Trigger for any of the 6 ethnicities in Project Aol
Independent Academics	No support or recognition of Batin Tenayan. A local academician suggests that customary land is being bought and sold by the same group.	No Trigger for any of the 6 ethnicities in Project Aol

* Using IFC and ADBs four criteria on indigenous people

4.10.4 Indigenous People Profiling and Assessment Against ADB and IFC Criteria

As discussed in Section 4.9.2, the section below has assessed each ethnic group against the four IFC and ADB criteria with the addition of contextualising each ethnic group from the perspective of their history, migration, place of origin, and their place in history of Riau. It should also be noted that both IFC and ADB note that the criteria for indigenous people applies to communities or groups not individuals.

4.10.4.1 Batak

The Batak recognise themselves as a separate ethnic group. Their identity can largely be attributed to Christian Protestant or Catholic beliefs. They do not self-identify as indigenous nor 'adat' in the project area.

No claims have been made or are recognised for customary land by the Batak as the project area is not customary land to the Batak. Most Batak in the project area have their own privately held land.

The opening of oil palm plantation required labourers. In 1997, migrants from North Sumatra, the ethnic Batak, moved to the project area. The Batak are spread throughout villages such as Kuala Gasib, Pinang Sebatang, Tualang Timur and also Maredan.

After migrating in 1997, their livelihoods have since moved beyond working as labourers at palm oil plantations, to becoming involved in trade. They have capitalised on their location adjacent to the main road (land adjacent to the road was given by the government to settlers). Whilst Batak remain employed as farm labourers, living in plantations far from their villages or settlements, they also cultivate, nurture and harvest private land which they have purchased since migrating to the area. Some Batak work as security guards for the plantations.

The Batak are integrated within a heterogeneous village system. If there are events that are held by Batak they also serve 'halal' dishes. Muslim citizens also invite other village members to their events. There is mutual cooperation with community activities.

The Batak still use elements of their cultures and traditions from their place of origin e.g. wedding ceremonies. Traditional 'tuak' (alcoholic beverage) is consumed by Batak people but only in their village. In general, their social life has been influenced by Malay culture and tradition.

Batak community usually have ties through the church network and *lapo* (food stalls that provide typical food of Batak/karo). This organisation is merely a glue between people of the same ethnic background.

Batak is spoken by this group, yet those who speak this language also speak Bahasa and Malay.

In conclusion, whilst a distinct language is spoken (notably alongside Bahasa and Malay) this ethnic group does not remain a marginalised group linked to customary lands, or uphold any such customary institutions..

4.10.4.2 Javanese

Javanese people identify as an ethnic group. Yet this ethnic group is part of the mainstream. They do not identify as indigenous nor 'adat' in the project area.

The Javanese moved into the Sumatra during the transmigration movements of the 1980s. An example of this migration is from Respondent 5 (village Chair of Tuah Negeri) who traces his origin from Java. He states that his family moved to the project area in 1982, as "pioneers" – opening up forest and grassland to create the village in Tuah Negeri. According to Respondent 5, the area of Tenayan Raya has become further populated since "linking" to the city of Pekanbaru around the year 2000.

The second wave of migration was in 1997 as the opening of oil palm plantation required labourers. Migrants came from North Sumatra, who were both ethnic Javanese and Batak. Now they are spread in various villages such as Kuala Gasib, Pinang Sebatang, Tualang Timur and also Maredan. Most of them now have their own land, and are employed as labourers, farmers, garden workers or traders.

No claims by the Javanese have been made for customary land, nor is any land in the project area recognised by ethnic groups or the government as being customary.

There is no evidence of collective attachment to geographically distinct habitats or ancestral territories in the project area and to the natural resources in these habitats within the project area and therefore *from the above analysis, Criteria 2 is not triggered.*

The Javanese have no links to natural resources within the project area. Conversely, the Javanese are employed in the informal sector with a small portion working in the formal sector as civil servants or for the private sector.

The Javanese (along with the Nias, Minang and Batak) still use elements of their cultures and traditions from their place of origin e.g. wedding ceremonies. For traditional art such as *wayang kulit* (Indonesian shadow puppetry) is still performed at certain events by ethnic Javanese. They also retain 'Family Associations' a form of social gatherings within their ethnicity. The Javanese have their Java Riau Ikatan Keluarga Jawa Riau. These are not distinct cultural institutions separate from the mainstream.

The Javanese in Riau have had their social life largely influenced by the customs of the Malay culture and traditions.

Whilst the Javanese speak their own language this is the second most common language (after Malay) spoken in Indonesia by 84 million people.

In conclusion, the Javanese are an ethnic group which are part of the mainstream. Correspondingly their language is part of the mainstream. Javanese are not marginalised, nor do they hold customary lands, or uphold such institutions in the project area.

4.10.4.3 Minang People

The Minang, or Minangkabu, who follow Islam, identify as a separate ethnic group. They do not self-identify as indigenous nor 'adat' in the project area.

The Minang originate from the Minangkabu Highlands of Western Sumatra. No claims have been made or are recognised for customary land by the Minang.

The Malay community from other regions began to move into land in the project area and take ownership. These settlements later developed into villages. Over time, land has been traded to migrants from outside of the areas, such as the Minang, frequently switching ownership without any certificate of title.

Only a small number of ethnic Minang reside in the project areas, 320 in Industri Tenyan; 622 in Pinang Sebatang and 33 in Kuala Gasib. The only village where the Minang do not live is Maredan.

The Minang community, who were predominantly located in Tuah Negeri Village are now dispersed. With more immigrants settling to the project villages and Minang moving out to other villages reflects the heterogeneous settlements of the project area.

The Minang have no links to natural resources. Conversely, along with the ethnic Chinese the Minang are traders, (Minang restaurants exists) or are employed in the local brick making factory.

No claims by the Minang have been made for customary land, nor is any land in the project area recognised by ethnic groups or the government as being customary.

The Minang still use elements of their cultures and traditions from their original place of origin e.g. wedding ceremonies

Minang language is close to Malay. Due to the huge proximity between the Minangkabau language and Malay language there is some controversy regarding the relationship between the two. Arguably Minangkabau could be considered a non-standardised dialect of Malay, whilst alternatively other consider of Minangkabau as a proper Malay language.

In conclusion, whilst the Minang are an ethnic group, they do not self-identify as indigenous or 'adat'. The Minang do not have a distinct language, nor do they exist as a marginalised group, nor hold customary lands, or uphold such institutions in the project area.

4.10.4.4 Nias People

The Nias are from Nias Island North Sumatra. The Nias are a distinct ethnic group but they do not self-identify as indigenous nor 'adat' in the project area.

Significant migration to Tenayan Raya (east of Pekanbaru) began to take place around 1980 (when Tenayan was still included as a part of Kampar district). Many migrants began to move to Pekanbaru City in 1999.

The inclusion of Nias residents to the Tenayan Raya district contributed substantially to the population growth in the region. There was significant migration of Nias people to the Tenayan Raya district after the 2004 tsunami. In 2004 Pekanbaru Municipal Government accepted Nias as refugees in Tenayan Raya by providing tents and

other basic necessities Within three years since the tsunami had occurred, the district experienced a rapid population increase owing to influx of ethnic Nias.

The existence of Nias living in the district has been a cause of concern for local government, especially in Tuah Negeri Village where most of the residents are Nias. The problem stems from the situation, wherein majority of Nias are not legally recorded, due to them not holding local ID cards or reporting their presence in the area. On paper the population of registered Nias people is small compared to the actual situation on the ground. One of the Nias community leaders in Tuah Negeri Village, Respondent 6, said that currently in Tenayan Raya District there are 3,700 Nias households, although the actual numbers is likely to be more, primarily because of the absence of recorded individuals.

According to the Village Secretary of Tuah Negeri, Respondent 2, most of the residents in his village are Nias people. He states that problems in the village relate to administration of the population. "Generally, they come without a form of identity, as this was lost in the tsunami". *"Many Nias come without any moving reports or with identity cards which incorrectly state that they are domiciled in Nias"*. Furthermore, data on marriage births and deaths, remain unrecorded after having moved to the area.

Since 2004, Nias have found employment in brick moulding. Many brick entrepreneurs are willing to hire them because of their work ethics. Nias have begun to settle down in the local areas and have managed to obtain access to livelihood and owing to this, new wave of Nias migrants continue to arrive. They are willing to be placed in different fields of work, especially those that rely on physical abilities. Men, women, and even children work to produce bricks.

Employment is not related to a geographically distinct area or to natural resources. No claims by the Nias have been made for customary land, nor is any land in the project area recognised by ethnic groups or the government as being customary.

There is no evidence of customary cultural, economic, social, or political institutions that are separate from those of the mainstream society in the project areas.

Key informant interviews revealed that where religious, cultural, or social divides could have arisen as separate institutions from the mainstream society or culture, they have not. For example, when the Nias proposed to build a church in Tuah Negeri Village the wider community initially refused because it did not have permission, but after dialogue facilitated by Forum Kerukunan Umat Beragama (FCUB) the wider ethnic community accepted the decision to build. The church exists today and there is no problem between the ethnic groups.

Cultural associations based on ethnic lines exist with Nias Family Association of Riau (*Ikatan Keluarga Nias Riau*) and the Family Association of South of Nias who migrated to Riau (*Ikatan Keluarga Riau Asal Nias Selatan*).

Nias people have their own language while some Nias speak Malay. However, allegedly the Nias are challenged with language skills which could have potentially limited their assimilation in an otherwise integrated community.

In conclusion, whilst a distinct language is spoken by the Nias, this ethnic group does not remain a marginalised group linked to customary lands in the project area. Nor do the Nias hold any customary institutions in the project area which are outside of the mainstream.

4.10.5 Ambonese People

Ambonese are from Ambon island in Maluku, Sulawesi. They are predominantly Christian or Muslim. Only a small percentage actually exist in the project area (<5 households). They identify as a separate ethnic group. They do not self-identify as indigenous or 'adat'.

Only a small number of Ambonese were recorded in the household surveys. They reside only in one village – Melebung. The Ambonese have no links to natural resources in the project area. No claims by the Ambonese have been made for customary land, nor is any land in the project area recognised by ethnic groups or the government as being customary.

Conversely the Ambonese are employed in the informal sector with a small portion working in the formal sector as civil servants or for the private sector. The Ambonese predominately work in the plantations and are involved with planting, cultivating crops, harvesting or as arborists

No cultural institutions are evident from interviews, surveys or discussions undertaken with community Elders.

Ambonese Malay or simply Ambonese is a Malay based language. Christian speakers use Ambonese Malay whereas, Ambonese Muslims use Ambonese Malay as a second language.

In conclusion, this ethnic group does not self-identify as indigenous nor adat. the Ambonese language is an adaptive form of the mainstream language. This ethnic group does not remain a marginalised group linked to customary lands in the project area. Nor do the Ambonese hold any customary institutions in the project area which are outside of the mainstream.

4.10.5.1 Malay (Batin) People

From key informant interviews and Household surveys, Batin identify as both 'Malay (or Melayu in Bahasa), Malay-Riau, Batin, Batin Gasib or Batin Tenayan. The differing interpretations points to self-identification of this ethnic group having a relationship to the larger overall ethnic Malay group, rather than of itself.

Whilst there are approximately 29 Batin ethnic groups in Sumatra, in the project regencies (Siak and Pekanbaru), there are only two Batins: Batin Gasib and Batin Tenayan.

Furthermore, the numbers of people claiming to be Batin is actually limited and in conflict with their claim to self-identify as Batin. Those who claim to have Batin Tenayan ancestry state that their name only goes back three generations to the original Batin Tenayan. Whereas, other Batin members refuse to recognise that Batin Tenayan actually exist as an ethnic or *adat* group. The urbanisation of indigenous groups (Industri Tenayan is in close proximity to Batin Tenayan) could be a possibility for this dissipation and dissolution of a subgroup within the ethnic Malay.

Batin Gasib on other hand is another group who self-identify in the Project Aol as indigenous. There is a possibility that the Gasib name was appropriated by the Malay Batin as it is associated with the name of the Gasib River, and not necessarily the Gasib Kingdom. The relevance of such distinction is that the historical legacy to the river could indicate Batin Gasib as migrants who have travelled up the river, rather than being original settlers. The Batin name exists in Siak and Pekanbaru Regions. The river demarcates the Batins' border and acts as a natural boundary to Batins historical claims to areas in which they formally resided.

Culture lies at the core of what Indonesia calls '*adat*'. Culture as a distinctive mark of indigenous peoples that others do not possess is used in international and national or local discourses, implies a "politicization of culture and its treatment as property".³ The Batins' distinction as a cultural group who are actively repositioning themselves to preserve cultural affiliations relating to geographic areas is recognised by local authorities.

The Batin do not claim to be an indigenous group distinct from other Riau Malay communities which is recognised by the Malay Customary institution, LAM although not by AMAN, but the Batin do self-identify.

It is recognised by the authorities that the Batin abrogated their user rights to the land and aligned to government structure after the Siak Kingdom. The regional government does not recognise the existence of

³ As referenced by Greene (2004:2012)

customary land claims by the Batin Gasib, as such an approach would be increasingly viewed as 'reactive' to the government's revised policy on customary forests. Interviews conducted during the baseline surveys indicate contradiction and inconsistency within the Batin community: some individuals want to claim their relinquished land (i.e. Batin Tenayan) whereas other Batin members (Batin Gasib) recognise their land was duly compensated (NBC social survey, 2018), which is the AOI. Respondent 18, an eminent Batin Gasib community leader recognises that he has no claim to customary land. Through interviews he indicated/confirmed that his predecessor already handed over the authority to the government. In respect to his own privately held land he already received compensation from a company which went on to receive cultivation rights (HGU) from central government.

The Batin claim to customary land is uniform across the ethnic or Malay sub-group and the Batin do not claim to be an indigenous group distinct from other Riau Malay communities which is recognised by the Malay Customary institution, LAM. From the above analysis, Criteria 2 is not triggered for the Batin Gasib.

Batin Tenayan - Customary Claims have been made by this sub-group of Malay for land in Industri Tenayan⁴:

The customary claim on the Industri Tenayan land is manifold: the wider community has now incorporated 'Kebatinan Tenayan' into Industri Tenayan Village claiming Municipal Government land to be customary land of the Batin Tenayan, thus bringing their claim into the AOI. There are further plans by some members of the community to build a Malay customary village in RT 03/02 Industri Tenayan Village in an effort to establish their claims of customary Batin Tenayan land through introduction of customary cultural institutions – a pre-requisite for 'adat' definition.

In the year 2000, land was purchased by the private companies and used for oil palm plantation. The unclear status of this land is used by speculators, land brokers and village government officials to allegedly manipulate the data so that Certificate of Ownership are issued. Then the remaining Tenayan customary land (which is not owned by an individual or Company) including those located in RT 03 / RW 02 territory was finally purchased by the City Government, and was not returned to Tenayan people. In 2009, the City Government issued a regulation that the land can be utilised by the community / farmer group with the condition that it should not be planted with hard plants and each group receive 1 ha. However, a group of farmers traded this land.

When the coal-based power plant was under construction, the land was owned by Pekanbaru Municipal Government, but the developers still had to compensate farmers who 'managed' the land. The head of LPM District of Bencah Lesung, stated that *"the company (SPP) was fighting with farmers groups because they claimed compensation payments for land they didn't own wasn't enough!"* Yet the local government does not recognise the existence of customary land of Batin Tenayan. Some informants stated that customary land in Tenayan doesn't exist. *"If it did exist it is in Kampar regency"*⁵.

Interviews conducted with the Village Head of Tenayan confirmed that there is no evidence, as stated by Respondent 10 and his group, of the customary land claim. The village Head does not recognise any plot of land being customary land in Tenayan Raya. As described earlier by Mr Nurhamlin from Riau university, *"the Batin Tenayan, are more of a family, [than an indigenous or adat]. They have inherited their [recent] history [rather than belonging or being part] of the 'communal' who are entitled to a particular area of land"*.

Finally, as recorded in secondary data and key informant interviews on several occasions, the Siak Kingdom - and by default the Batin Tenayan who lived under this jurisdiction - surrendered their governance power to the Government of Indonesia (to become Siak District). Thus, as beneficiaries of the Sultanate Kingdom, the Batin effectively abrogated their 'customary' rights – aligning to mainstream governance structures. Hence land ownership structures reflect the change in user rights, moving from usufruct to titled. Areas of land, such as forests became managed by the central government departments.

⁴ See Section 5.6.2 Customary Claims to land in the IP Assessment

⁵ Interviews with village members from Industri Tenayan

Collective attachment to resources of both Batin groups no longer exists.

Desk based studies reveal the Batin to be linguistically and culturally heterogeneous⁶. In 2007, the Siak District Government promoted cultural heritage of the Batins in the region, including the Batin Gasib. The intention of Siak District Municipality was to promote local customs and culture in the region.

Batin Gasib members have focused on reviving Malay customs. In addition, local customs are being promoted by LAM in Siak and Pekanbaru. Customary institutions do not remain outside of the mainstream. Whilst there is an effort to revive cultural institutions, this is generally more for ceremonial purposes rather than integral part of the existing culture. Although there are cases where the institution is also based on Indonesian Law. The Malay remain the majority ethnic group throughout the province. The Malay Batin are Muslims, although it's not clear at what period they became Muslim.

In Riau, the largest spoken language is Malay along with Bahasa, both of which are spoken by the Malay Batin. *As the anthropologist Oyvind Sandbukt states: "Malay is a lingua franca that may have limited or suppressed language differentiation. Interlinked coastal chieftainships, which morphed in kingdoms, fed on both local trade and on inter Asian trade through the Malacca strait and greatly contributed to the homogenization of language".*

In other words, Malay language is used widely, blending with other dialects and to create a uniform language which is dominant in the region. Through inter-ethnic marriages, migration and trade, the field studies undertaken as part of this study revealed that the Malay speak the majority language of the area. It should be noted that Malay is spoken throughout Sumatra, Malaysia, Brunai, Kalimantan and Java.

In conclusion, the Batin do self-identify as indigenous or '*adat*' to the Project area, although this remains contested and is probably only applicable to the Batin Gasib. The Batin speak the mainstream language. This ethnic group does not remain a marginalised group linked to customary lands or natural resources in the Project area. Nor do the Batin hold customary institutions in the Project area which are outside of the mainstream. The Batin do not trigger all four characteristics to classify them as indigenous people under ADB guidelines, the ADB Safeguard Policy Statement and corresponding policies. *In conclusion the Batin do not trigger indigenous people under this IP Assessment.*

Table 4.20 below provides consideration of the cultural groups identified against IFC Performance Standard 7 criteria.

Table 4.20 : Summary of Indigenous People Profile for Ethnicities in Project Aol Against IFC and ADB Criteria

Ethnicity	Criteria 1: Self-Identify	Criteria 2: Collective Attachment	Criteria 3: Institutions	Criteria 4: Language / Dialect
Batak	X	X	X	✓
Minang	X	X	X	X
Javanese	X	X	X	X
Nias	X	X	X	✓
Ambonese	X	X	X	X
Malay Batin (Tenayan)	✓	X	X	X
Malay Batin (Gasib)	✓	X	X	X

The above assessment was made against IFC's four criteria to determine whether IPs exist in the Project Area of Influence. As is evident from Table 4.20 not one ethnic group held collective attachment to land (Criteria 2)

⁶ Steinebach (2013).

nor held customary cultural, economic, social, or political institutions that are separate from those of the mainstream society or culture (criteria 3) within the project area of influence.

Only the Malay Batin trigger Criteria 1, 'Self-identification as members of a distinct indigenous cultural group and recognition of this identity by others'. However, these groups are not recognised by others as IPs. Indonesia's foremost advocacy group for indigenous people, AMAN, does not recognise any IP within the project area – specifically as there is no self-determination of the ethnic Malay Batin, thus negating the notion that Criteria one is triggered.

Only Criteria 4: 'a distinct language or dialect, often different from the official language or languages of the country or region in which they reside' is triggered for two ethnic groups because they speak a distinct language. However, they also speak the mainstream language of the region, Bhasa. Based on the IFC PS7 only one criteria is triggered: language. Those who speak a distinct language are migrants to the area and do not hold customary attachment to land.

4.10.6 Conclusion

Significant attempts have been made to determine the origins of ethnic groups and the ethnic claims to the project Aol as to whether those residing or holding land in the Project Aol are *adat* or indigenous.

The ethnographic monologues and household surveys point to the villages in the Project Aol being ethnically heterogeneous with the Malay and Javanese being the dominant group – the latter being a migrant group. The Malay are the mainstream cultural, linguistic ethnicity in the province. They are not a minority group. However, Malay claims to land are tenuous because they are migrants to the area, and in other regions some Malay are known to be nomadic.

Over twenty key informant interviews were undertaken with village leaders or village Elders. During interviews the ethnicity of village Elders was identified, and the opportunity was given for them to question the Project, object or support the development and make a claim for their *adat*/indigenous status. From all the key informant interviews in the villages no one individual or group self-identified as Indigenous as per the IFC/ADB criteria. No one group or individual claimed to be 'remote indigenous community', as per the standards of AMAN and the State. However, one claim was made to LAM by one individual and his family to be a sub-group of Malay Batin and thus they have made a customary claim to the land within Industri Tenayan. Importantly this does not align with the IFC and ADB guidelines for indigenous people which only applies to 'communities or groups' not individuals. In addition, based on key informant interviews with neighbouring village leaders and Elders, this claim for customary land was refuted. Neighbouring village and cultural leaders perceive the claimant () have been acting as land brokers -selling land under their jurisdiction which paradoxically they claim to be customary. Whilst customary land can be traded, it is not considered under its own definition that customary land can be sold to outside groups.

Using interviews and evidence from the leading NGO on Indigenous 'rights', AMAN, there was no evidence to support the Batin Tenayan claims. The AMAN map illustrates that there are no customary claims to land in the Project area. Interviews undertaken with AMAN in Riau clarified that only the Sakai tribe are a recognised indigenous group, who live outside the Project Aol, in Rokan Hilir Regency and Bengkalis Regency. AMAN does not recognise that ethnic groups living in Okura Village on the opposite side of the Siak River from the Project are *adat*. The Village is outside of the Project Aol and will not be impacted. AMAN has criteria for referring to a group as *adat* and the Batin Tenayan do not meet this criterion.

Whilst LAM recognise Batin Tenayan, they do not recognise them as a 'remote indigenous community', a term used by AMAN and the State to define *adat* or indigenous people. LAM also confirmed that a Batin is not able to buy or sell land.

The municipal and regency governments of Pekanbaru and Riau recognise indigenous people but claim no indigenous people exist in the Project area. They recognise the Sakai and Akit which live in other parts of the region, outside of the Project Aol.

Several international and national anthropologists and sociologists who collectively have over 150 years' experience in anthropology specialising in Riau have provided comment. Two local sociologists consider the claim of the Batin Tenayan to be erroneous and arguably opportunistic, responding to the development of the Industri Tenayan area. Other anthropologists provide no evidence to support IFC/ADB criteria of indigeneity.

The indigenous profiles of each ethnic group living in the Project area indicate that no four indigenous people characteristics are triggered. There is no evidence of autochthonic origin⁷ of the Batin in the Project area, therefore each of the four IFC/ADB criteria was reviewed independently. From this analysis only one the IFC/ADB criteria of indigenous people were triggered for the Malay: they 'self-identify' as indigenous. However, as the term indigenous is also used by the IFC to identify marginalised people, this is not the case of the Malay Batin who are the dominant ethnic group within Riau and the Project area. Whilst the Batin claim to be indigenous they do not claim to be an indigenous cultural group distinct from other Riau Malay communities which is recognised by LAM. Furthermore, the Batin Gasib and the 'disputed' Batin Tenayan have no collective attachment to the geographically distinct habitat or ancestral domain in the study area nor to the natural resources in these habitats and territories (the sub-group, Batin Gasib, admitted to being compensated for their land and trees – which would otherwise form a natural resource claim to the land).

Importantly during the ESIA presentation to the community undertaken during September 2018, a resident of Kuala Gasib Village who is an aide to the Batin Gasib did not raise any concerns or objections over the Project.

Whilst there is a claim made by the Batin Tenayan to ancestral domain, evidence from key informant interviews: anthropologists, the Social Development Department of the Regional and Local government refute the claim of the Batin Tenayan. Local stakeholders have provided evidence of Batin Tenayan selling land which would otherwise be customary and should have never been sold.

'Legitimate' indigenous or *adat* groups i.e. those recognised by AMAN and state institutions in Riau and Pekanbaru are the Batin Limo or Batin Sakai – the latter of whom rebut claims made by the Batin Tenayan for ancestral ownership, as Batin Sakai land would otherwise border their land; yet they are unaware of this ethnic sub group. In terms of *adat* land and customary ownership a rebuttal from Sakai would nullify the Tenayan claim. Malay cultural, economic, social and political institutions remain part of the public institutions and are not separated from them - reflecting the dominance and mainstream of Malay culture in Riau. The Batin language or dialect is the same as Malay, being one of the dominant languages of Indonesian and is understood by those speaking Bahasa.

When one examines the impact from the Project, the power plant, the 750 m transmission line and 500 m access road are being constructed on land either privately held or owned by the government where no one is residing. The gas and water pipelines will be buried under an existing right of way and for a short 1.5 km section of the gas pipeline, on privately owned land. Temporary impacts during construction of the gas pipeline will be limited to 500 m sections that will last approximately one week. In summary, the Project impacts are considered to be negligible.

The basic concept of '*adat*' is one a self-governing community. The longer a group has resided in an area the longer it has had to self-govern and create 'social order'. This is not the case with any group in the Project Aol.

As stated earlier in this assessment indigenous people is a relational term: "*in a socio-political respect, this term refers to the relationship of a smaller, less powerful society to a more powerful majority or dominant society or nation-state, and implies the marginalisation and discrimination they experienced due to their culture*"⁸. This is not the case with the Batin or any other ethnic group residing in the project Aol.

⁷ Autochthonous people are anchored in their territory; from which they are said to originate. Indigeneity and autochthony have in common a reference to a supposed primo-occupancy and cultural specificity as a basis for specific rights, the latter often linked either to controlling access to a resource or territory or to maintaining cultural specificity, leading in many cases to demands for self-determination. (Quassett, Kenrick, Gibb; 2011)

⁸ Hauser-Schäublin, Brigitta (2013)

As the sociocultural distinctiveness of these groups is ethnically heterogeneous in the project area (as evidenced from the survey work), the degree to which these social cultural and linguistic characteristics exist, does not warrant classification of these ethnic groups as IPs. Furthermore, national policy is not prescriptive in recognising a unique status for the groups, including Batin Tenayan. The levels of vulnerability are akin to the surrounding populous, thus again signifying their non-Indigenous People status.

Thus, Jacobs does not consider IP PS7 is triggered in the Project Area of Influence, due to the level of impact being negligible and only one of the four criteria being met.

Following ADB's almost self-same criteria to define IPs, the ADB do not consider that their IP policy (Safeguard Requirement 3) is triggered.

On the basis of the assessment of the six ethnic groups in the project AOI and review of the IFC PS 7 requirement, it is concluded that while some of these ethnic groups are considered IPs in other parts of Indonesia, in the project location given the level of their integration into the heterogenous local community, the lack of collective attachment to land or ancestral territories and self-identification while they retain their ethnic identity they are not considered IPs under PS7.

In this respect, the ethnic populations residing in the project area do not satisfy the criterion above as to be classified as "Indigenous People" and therefore are not assessed in this ESIA further.

4.11 Economic Profile

Understanding the influence of various sectors in the Project area will assist in identifying potential community development projects which could shape the Company Social Responsibility Program. An overview of the economic profile of Pekanbaru City is detailed in Table 4.21 below.

Table 4.21 : Overview of the Gross Regional Domestic Product by Industry within Pekanbaru City

Sectors	Gross Regional Domestic Product (GRDP) at Current Prices by Industry in Pekanbaru, 2010 – 2016 (Percentage)						
	2010	2011	2012	2013	2014	2015	2016
Agriculture, Forestry and Fisheries	1.76	1.73	1.66	1.69	1.57	1.6	1.63
Mining and Quarrying	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Processing Industry	20.86	20.92	20.6	20.29	18.98	19.97	19.93
Provision of Electricity and Gas	0.22	0.2	0.17	0.16	0.16	0.18	0.2
Water Supply, Waste Management, Waste and Recycling	0.03	0.02	0.02	0.02	0.02	0.02	0.02
Construction	28.93	29.02	28.8	29.58	29.98	29.6	29.7
Wholesale and Retail: Repair of Cars and Motorcycles	28.45	28.51	28.85	28.32	30.01	29.31	29.6
Transportation and Warehousing	2.41	2.33	2.38	2.47	2.43	2.52	2.54
Provision of accommodation, foods & drinks	1.81	1.84	1.98	2.09	2.39	2.17	2.1
Information and Communication	2.6	2.45	2.46	2.32	2.14	2.17	2.1
Financial Services and Insurance	3.25	3.4	3.63	3.7	3.61	3.55	3.56
Real Estate	2.88	2.93	2.91	2.91	2.76	2.87	2.8

Sectors	Gross Regional Domestic Product (GRDP) at Current Prices by Industry in Pekanbaru, 2010 – 2016 (Percentage)						
	2010	2011	2012	2013	2014	2015	2016
Company Services	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Administration, Defence and Compulsory Social Security	4.37	4.18	4.22	4.08	3.46	3.29	3.07
Education services	1.16	1.14	1.05	1.04	1.11	1.14	1.12
Health Services and Social Activities	0.41	0.42	0.42	0.44	0.45	0.49	0.48
Other services	0.84	0.87	0.81	0.85	0.9	1.08	1.1
Gross Domestic Regional Product	100	100	100	100	100	100	100

Source: BPS Pekanbaru City, 2017

Construction, wholesale and retail, and processing industries are the third largest sectors contributing to GRDP in Pekanbaru City. Between 2010-2016, growth in the following sectors was in decline: agriculture –forestry and fisheries, processing industry, real estate, information and communication, administration-defence and compulsory social security, and education services. In contrast, construction, transportation and warehousing, health services and other services are slowly increasing in GRDP. Company services, mining and quarrying are stable whilst electricity and gas fluctuates. The construction and wholesale and retail sectors are the highest contributors to Pekanbaru's GRDP. An overview of the economic profile of Siak Regency is detailed in Table 4.22 below.

Table 4.22 : Overview of the Gross Regional Domestic Product by Industry within Siak Regency

Sectors	Gross Regional Domestic Product (GRDP) at Current Prices by Industry in Pekanbaru, 2011 – 2016 (Percentage)					
	2011	2012	2013	2014	2015	2016
Agriculture, Forestry and Fisheries	15.42	14.05	14.15	15.04	17.27	18.46
Mining and Quarrying	47.15	53.18	51.49	48.01	38.89	36.5
Processing Industry	30.72	26.42	27.49	29.4	34.82	35.38
Provision of Electricity and Gas	0	0	0	0	0.01	0.01
Water Supply, Waste Management, Waste and Recycling	0	0	0	0	0	0
Construction	3.43	3.11	3.35	3.48	4.17	4.55
Wholesale and Retail: Repair of Cars and Motorcycles	1.16	1.13	1.24	1.58	1.83	1.98
Transportation and Warehousing	0.07	0.07	0.07	0.08	0.1	0.1
Provision of accommodation, foods & drinks	0.02	0.03	0.03	0.04	0.04	0.05
Information and Communication	0.14	0.14	0.15	0.16	0.2	0.2
Financial Services and Insurance	0.18	0.24	0.27	0.32	0.34	0.35
Real Estate	0.25	0.27	0.29	0.32	0.39	0.41
Company Services	0	0	0	0	0.01	0.01
Administration, Defense and Compulsory Social Security	0.64	0.62	0.64	0.65	0.78	0.78

Sectors	Gross Regional Domestic Product (GRDP) at Current Prices by Industry in Pekanbaru, 2011 – 2016 (Percentage)					
	2011	2012	2013	2014	2015	2016
Education services	0.38	0.34	0.36	0.4	0.48	0.5
Health Services and Social Activities	0.12	0.12	0.12	0.14	0.19	0.19
Other services	0.31	0.28	0.32	0.38	0.48	0.52
Gross Domestic Regional Product	100	100	100	100	100	100

In contrast to Pekanbaru City, Siak Regency's three biggest sectors that contribute to the GRDP are: mining and drilling, processing industry and agriculture, forestry and fisheries.

Mining and drilling growth sectors are on a downward trend, whereas in the transportation and warehousing sector, education and health services sectors, information and communication sectors, growth is gradually increasing in GRDP.

4.11.1 Livelihood of Villages within Aol

In general, the livelihood of the villagers varies from one village to another, and each family tends to have a primary and secondary job. Most of the villages along the gas pipeline work as palm oil plantation workers and farmers. Some of the Melayu people tap rubber and fish. In addition, some of the villagers have also opened restaurants, based upon the increased traffic passing their villages. For example, Tualang Timur Village, Kuala Gasib Village, and Pinang Sebatang Village have developed new restaurants. Some of them have also opened a workshop and a few of them work as employees.

The villagers in Melebung Village, which are located in the middle of the palm oil plantation, generally work as fishermen and palm oil plantation workers. The inhabitants of Okura Village, mostly of Malayan origin, generate income from rubber-tapping as their traditional livelihood. Some of their families also plant palm oil. The inhabitants of this village also work as fishermen along the river bank, even though the fish population is decreasing due to the pollution in the river.

The villages near the power plant are close to Pekanbaru City. Most of the villagers work as public servants, private company employees and traders. The villagers of Tuah Negeri and Bencah Lesung make bricks. Some of the villagers have secondary jobs growing fruit such as pineapple, raising cows, pigs and fish. Some of the women also make bricks, open food stalls, raise farm animals and plant spices and vegetables.

Some villagers in Bencah Lesung make tofu and crackers as secondary jobs to support their living. Due to the proximity of the village with Pekanbaru, villagers of Minang and Chinese ethnicities tend to open electronic shops, grocery shops, restaurants and hand phone shops. Some villagers in Industri Tenayan administrative area also grow corn, vegetables and pineapples. Some of them also make bread, while others open small shops and food stalls as secondary jobs. Figure 4.5 below provides an overview of the market at Tualang Timur Village.



Figure 4.5 : Market at Tualang Timur Village (NBC Social Survey Report, 2018)

Income and Expenditure

For the five villages along the gas pipeline route, it is important to understand their economic status. Based on data obtained during the social survey from respondents from the five villages along the gas pipeline route, their income is detailed in Table 4.23 below.

Table 4.23 : Average Income per month for each Household for Villages along the Gas Pipeline Route

Income (IDR)	Village						
	Melebung	Industri Tenayan	Tuah Negeri	Meredan	Pinang Sebatang	Tualang Timur	Kuala Gasib
< 500,000		7%		10%			
500,000 – 1,000,000	3.3%	10%	7%		10%	3.3%	10%
1,000,000 – 2,500,000	80.0%	63%	57%	60%	40%	53.3%	50%
2,500,000 – 5,000,000	10.0%	13%	30%	20%	33%	33.3%	30%
5,000,000 - 10,000,000	6.7%	7%	3%	6.7%	10%	3.3%	10%
> 10,000,000			3%	3.3%	7%	3.3%	
No income						3.3%	
Total	100%	100%	100%	100%	100%	100%	100%

More than 50% of respondents' income in the five villages is between 1,000,000/month (USD 72.63) to 5,000,000 (USD 363.17). The lowest income village is Meredan Village with only 10% of respondents having income less than 500,000/month (USD 36.31). In contrast, a small proportion of the respondents in Meredan Village, Pinang Sebatang and Tualang Timur Villagers have an income of more than IDR 10,000,000 (USD 720.63). Approximately 3.3% of respondents in Tualang Timur Village have no income.

The family economic classification is presented below (Table 4.24). The Riau Province poverty line for 2015 is 457,456 (532,986 for 2017) per person. A large proportion of respondents are considered to be below the poverty line or poor. In the census survey 33 PAPs out of 154, total income was below the poverty line.

Table 4.24 : Percentage of Respondents in the Different Economic Classifications

Data	Below PL (< Rp 457,456)	Poor (Rp 457,456 – Rp 78,000)	Middle income (Rp 780,000 – 1,580,000)	Rich (> Rp 1,580,000)
Melebung	33%	43%	17%	7%
Meredan	43%	23%	17%	13%
Pingang Sebatang	40%	23%	23%	13%
Tualang Timur	50%	23%	10%	17%
Kuala Gasib	43%	30%	20%	7%

In relation to the land procurement process, the villagers with low incomes are most likely those who cannot afford to obtain legal certificate for their properties. This situation needs to be taken into consideration during the negotiation process for the right of way for the gas pipeline construction. The majority of their income which is at poverty level should be put into consideration.

Data on expenditure per month for each village along the gas pipeline route was also collected as part of the social survey and is presented in Table 4.25 below.

Table 4.25 : Average Expenditure per month for each Household along Gas Pipeline Route

Expenditure (IDR)	Village						
	Melebung	Industri Tenayan*	Tuah Negeri*	Meredan	Pinang Sebatang	Tualang Timur	Kuala Gasib
750,00 – 1,000,000	13.3%			6.4%	10%		16.7%
1,100,000 – 2,000,000	50.0%	30	27	36.7%	36.7%	36.7%	16.7%
2,100,000 – 3,000,000	23.3%	67	43	30.0%	13.3%	26.7%	36.7%
3,100,000 – 4,000,000			10	10.0%	16.7%	13.3%	10%
4,100,000 – 6,000,000	6.6%		13		6.6%	3.3%	10%
6,100,000 – 10,000,000	3.3%	3	7	6.7%	6.6%	3.3%	3.3%
> 10,000,000				3.3%	3.3%		
None	3.3%			3.3%	6.7%	10%	
Total	100%	100%	100%	100%	100%	100%	100%

Note: * Industri Tenayan and Buah Negeri percentages for 1,100,000 – 2,000,000 is between 500,000 -1,500,000 and 2,100,000 – 3,000,000 is between 1,500,000 – 3,000,000

In line with the income level, more than 50% of the respondents have a monthly expenditure between 1,100,000 (USD 79.89) to 3,000,000 (USD 217.9). The next highest is monthly expenditure between 3,100,000 (USD

225.16) to 4,100,000 (USD 297.83). There is a wealthy group category consisting of around 3.3% of respondents that has expenditure more than 10,000,000 (USD 720.63) per month.

From the Okura Village survey a total of 14 respondents out of 200 villagers indicated that their main source of income is fishing (Table 4.26).. The findings from this survey are presented in ESIA Volume 5 – Technical Appendices. From the survey, the fisher folk represent only a small proportion of the population in Tebing Tinggi Okura Village. However, most have other occupations with the palm oil plantation that are abundant in the region. A few of the respondents have their own palm oil plantation but most are workers on other plantations. It also should be noted that all of the fisher folk surveyed did not rely on fishing as their sole source of income.

Table 4 26: Fish Catch Data and Income Generation

Respondent ID code	Least catch (kg)	Most catch (kg)	Fish for household consumption or for selling?	Income from selling fish (Rp.)
1	1	5	Both	75,000 to 150,000 per whole sale
2	2	5	Both but most are sold to market	100,000 per day
3	2	7	Both but most are sold to market	100,000 to 150,000 per whole sale
4	1	10	Sold to market	100,000 to 200,000 per whole sale
5	1	5	Both but most are sold to market	Not defined
6	1	10	Both but most are sold to market	100,000 per whole sale
7	2	10	Both but most are sold to market	100,000 to 200,000 per whole sale
8	2	15	Both but most are sold to market	100,000 per day
9	2	15	Both but most are sold to market	100,000 per day
10	2	15	Both but most are sold to market	100,000 per day
11	2	15	Both but most are sold to market	100,000 per day
12	2	15	Both but most are sold to market	100,000 per day
13	2	15	Both but most are sold to market	< 100,000 per day
14	2	15	Both but most are sold to market	< 100,000 per day

The households interviewed are generally in poor financial condition, as they rely upon fishing activity and unskilled labour activity to support the household needs. Fish catch quantity is dwindling due to poor ecological condition of the Siak River (refer to ESIA Volume 2 – EIA Section 8) and the unskilled labour activity is not regular nor large enough to provide a steady stream of income.

Assuming a household earns a minimum of Rp. 100,000 per day over 25 working days in a month, the monthly income is at least Rp. 2,500,000. With an average household size of 5 people, the calculated monthly income is insufficient to cover basic necessities for the whole household.

The average household comprised five members, the smallest having only three persons and the most have seven members. The households reside in the same neighbourhood of the Tebing Tinggi Okura village at RT 03/RW 05.

Of the 64 household members, only 20 have some form of occupation or livelihood and most are as fisherman (14 people, the head of households). 50 of the 64 people are of the productive age between 17 and 64 years

old, comprising of 25 males and 25 females. Of the 50 productive age people, 26 are unemployed and 4 are still students at school (all females, 50% at senior high school and 50% at university).

4.12 Education

4.12.1 Educational Profile

There are three types of education providers in Riau Province; 1) state schools, 2) private schools, both of which are under the supervision of the Ministry of Education, and 3) schools under the Ministry of Religious Affairs. The private schools can determine their school fees, however, many of them are also supported financially by the Ministry of Education. The Ministry of Religious Affairs is responsible for schools such as Madrasah, Tsanawiyah and Aliyah. The educational enrolment ratio for Pekanbaru City and Siak Regency is detailed in Table 4.27 below.

Table 4.27 : Net Enrolment Ratio within Siak Regency and Pekanbaru City (2015 – 2017)

District / City	Elementary School / Madrasah			Middle School / Ibtidaiyah			High School / Vocational School		
	2015	2016	2017	2015	2016	2017	2015	2016	2017
Siak Regency	93.03	97.48	100	79.91	78.73	78.33	78.26	71.83	70.89
Pekanbaru City	94.25	95.88	94.5	77.01	70.88	71.93	69.18	70.84	70.51
Riau Province	96.63	96.74	97.08	78.22	78.53	78.87	62.6	62.76	63.02

Source: Accountability Report of Pekanbaru Mayor and Siak District Head (2018)

In general, Siak Regency has a higher net enrolment ratio for elementary school, secondary school and high school compared to Pekanbaru City. The schools in Siak Regency consist of public schools and private schools with some schools under Ministry of Religion.

As detailed in Table 4.20 above, almost all school children are enrolled in elementary school. In contrast, around 20% of middle school students in Siak Regency and 30% in Pekanbaru City did not continue to high school. A similar trend is shown for high school students. Riau Province has a lower net enrolment ratio for high school students than Pekanbaru City and Siak Regency. It is not known why Pekanbaru City educational enrolment is lower at elementary and middle school level compared to other areas in Riau Province.

Data on the number of schools, the number of students and teachers throughout the Tenayan Raya, Koto Gasib and Tualang Sub-Districts where the nine villages within the Project Aol are located can be seen in Table 4.28 below.

Table 4.28 : Number of Schools, Students and Teachers in Sub-Districts of Tenayan Raya, Tualang and Koto Gasib

Sub-District	Elementary	Madrasah	Middle School	Tsanawiyah	High School	Aliyah
Tenayan Raya Sub-District						
Schools	35	4	2	7	6	4
Students	13,529	951	21	1,689	3,298	1,138
Teachers	636	48	16	140	223	60

Sub-District	Elementary	Madrasah	Middle School	Tsanawiyah	High School	Aliyah
Ratio of Students to Teachers (%)	21.27	19.81	1.62	12.06	14.79	18.97
Tualang Sub-District						
Schools	33	4	19	2	12	1
Students	17,226	922	1,534	155	5,712	84
Teachers	806	41	376	18	314	8
Ratio of Students to Teachers (%)	19	12.67	17	9	16	11
Koto Gasib Sub-District						
Schools	18	0	5	3	2	1
Students	3,256	0	938	307	627	74
Teachers	212	0	47	16	42	14
Ratio of Students to Teachers (%)	15	0	10.2	18	14	7

Source: Accountability Report of Pekanbaru Mayor and Siak District Head (2018)

The data presented above shows that Koto Gasib Sub-District has the lowest number of schools, students and teachers. All the Sub-Districts, show a reasonable balance of students to teachers with a ratio of between 1.6 to 19.81%. However, in many cases absence of teachers and head of schools can be an issues in Indonesia. A restricted number of high schools can be a problem if high schools are not well distributed.

Using data from the social survey conducted along the gas pipeline route, Table 4.29 provides an overview of educational facilities for each of the five villages.

Table 4.29 : Educational Facilities for Villages along the Gas Pipeline Route

Villages / Kelurahan	Nursery	Elementary School	Junior High School	High School
Kuala Gasib	2 Puteri Kaca Mayang	1 (state) SDN 01 Kuala Gasib	1 (state)	-
Pinang Sebatang	1	2 (private) SDN	1 (state)	-
Tualang Timur	1	1 (state) SDN 10 Tualang	1 (state) SMPN 02 Tualang	-
Maredan	2	2 (private)	2 (private)	(1 (state))
Melebung	-	1 (state)	-	-

For the five villages along the gas pipeline route, only Maredan Village has a high school facility. Four villages have secondary school facilities and all villages have primary school facilities. With the exception of Melebung Village, all villages have one or two nursery schools. Melebung Village has only one elementary school. The issue facing the education facilities along the gas pipeline route includes the need for clean water for school sanitation facilities, books for the library and a laboratory to practice their subjects such as physics and chemistry for junior high school students. The schools consist of state and private schools.

The excerpt shown below provides an overview of a woman initiative in developing education programmes in the village of Tualang Timur which is located along the gas pipeline route.

“Building the first school in Tualang Timur Village: from eight students in 1989 to 400 students in 2018

Mrs. Khatanah and her family moved to Tualang Timur Village in 1989. At that time, the population of this village was only 15 households. In 2018, the population has increased into 150 households. Mrs. Khatanah start to run this elementary school from 1990, named SD Negeri 10 Tualang with only eight students and two teachers, Mrs. Khatanah herself and her husband.

Up to February 2018, the school has obtained 400 students and 28 teachers. Eighty percent of students come from the palm oil plantation settlements, mostly the children of palm oil workers. The palm oil plantation company provides a bus for their workers’ children to go to school and return to their homes. This company also assists to renovate the school facilities and to fund some school activities. Most students continue their education to junior high school that is located not very far from the elementary school. This elementary school provides books and uniforms for poor students. The students don’t have to pay any fees to study in this school.

Mrs. Khatanah is proud of SD Negeri 10 Tualang and villagers respect her as a woman who tries to improve education situation in Tualang Timur Village, Siak Regency.”

4.12.2 Level of Education

The majority of the respondents from the census survey along the pipeline having secondary school education. 18 out of the 104 respondents are educated at a tertiary level (Table 4.30). Most individuals will be eligible for unskilled labour work.

Table 4.30 : Total Number of Potentially Affected Persons from the Census Survey Different Levels of Education

Village	Not Educated	Elementary School (not graduated)	Elementary School	Secondary School	Tertiary	Total
Industri Tenayan			1	1		2
Kuala Gasib	1	3	10	7	1	22
Maredan		4	1	6	1	12
Melebung		2	3		1	6
Pinang Sebatang	4	1	5	11	3	24
Tuah Negeri			2		3	5
Tualang Timur	3		10	11	9	33
Total (All Villages)	8	10	32	36	18	104

The Okura Village respondents identified that most head of households are elementary school graduates with two which did not complete elementary school.

The head of households is the sole primary provider to the household and only four households have children who can provide a degree of additional financial support to the household.

4.13 Health Profile

Birth rate and mortality data for the Tenayan Raya District for the years 2013 to 2016 is provided in Table 4.31 below. The birth rates in Tenayan Raya District over the last four years are low, ranging from 11 to 18 per 1,000 people. The mortality rate in Tenayan Raya District during the last four years is low, ie. 3-4 per 1000 people.

Table 4 31 : Birth and Mortality Rates for Tenayan Raya District

No	Year	Population Number	Number of Births	Birthrate	Number of Active KB Participants	Number of Deaths	Mortality
1	2013	136,716	2,442	18	10,029	571	4
2	2014	141,584	2,501	18	10,029	446	3
3	2015	152,984	1,668	11	10,272	479	3
4	2016	158,519	NA	NA	13,039	NA	NA

Source: BPS Pekanbaru City, 2014 sd. 2017

Information: 1. Category of birthrate: i) <20 = low; ii) 20-30 = mid; iii) >30 = high, 2. Category of mortality rate i) <13 = low; ii) 13 -18 = mid; iii) >18 = high

Health statistics on the health status of the local communities has been collected, however, the data only relates to under 5 year olds, as health statistic are not collected in Indonesia on persons above this age.

The following Table 4.32 provides statistics on the prevalence of pneumonia in children under 5 year olds for the districts of Siak and Tenayan Raya for years 2012 to 2016.

Table 4 32 : Prevalence of Pneumonia In Children < 5 Years Old According to Gender In Siak and Tenayan Raya Province

2016												
District	Number of Children < 5 yrs old			Pneumonia in Children < 5 yrs old								
				Estimated No. of Patients			Patients diagnosed and treated					
	Male	Female	Male+Fe male	Male	Female	Male+Fe male	Male		Female		Male+Female	
							Number	%	Number	%	Number	%
Siak	23,393	21,694	45,087	2,339	2,169	4,508	1,115	48	872	40.20	1,987	44.10
Tenayan Raya												
2015												
District	Number of Children < 5 yrs old			Pneumonia in Children < 5 yrs old								
				Estimated No. of Patients			Patients diagnosed and treated					
	Male	Female	Male+Fe male	Male	Female	Male+Fe male	Male		Female		Male+Female	
							Number	%	Number	%	Number	%
Siak	24,898	23,095	47,993	2,490	2,310	4,800	1,051	42	984	43	2,035	4.2
Tenayan Raya	6,546	4,365	10,911	654	437	1,091	75	11.47	45	10.30	120	11.00
2014												
District	Number of Children < 5 yrs old			Pneumonia in Children < 5 yrs old								
				Estimated No. of Patients			Patients diagnosed and treated					
	Male	Female	Male+Fe male	Male	Female	Male+Fe male	Male		Female		Male+Female	
							Number	%	Number	%	Number	%
Siak	2,086	19,402	40,262	2,086	194	4,026	1,160	-	987	-	2,147	30.0
Tenayan Raya	6,275	6,108	12,383	628	611	1,239	272	43.30	265	43.40	537	43.40
2013												
District	Number of Children < 5 yrs old			Pneumonia in Children < 5 yrs old								
				Estimated No. of Patients			Patients diagnosed and treated					
	Male	Female	Male+Fe male	Male	Female	Male+Fe male	Male		Female		Male+Female	
							Number	%	Number	%	Number	%
Siak			47,203			4,720					2,130	45.10
Tenayan Raya	6,275	6,108	12,383	628	611	1,239	270	43.00	317	51.90	587	47.40
2012												
District	Number of Children < 5 yrs old			Pneumonia in Children < 5 yrs old								
				Estimated No. of Patients			Patients diagnosed and treated					
	Male	Female	Male+Fe male	Male	Female	Male+Fe male	Male		Female		Male+Female	
							Number	%	Number	%	Number	%
Siak	20,591	19,784	40,375	2,059	1,978	4,038	990	48.08	953	48.17	1943	48.12
Tenayan Raya												

Health facilities within Pekanbaru City comprise state-owned and private which include military health services. Pekanbaru City has 21 hospitals, 20 health centres (puskesmas) at city level, 34 health centres at village level including six maternal hospitals and 137 private health clinics. Private health services employ specialist medical doctors, general practitioners, midwives and nurses but not dentists and dental nurses. Siak Regency has only one local hospital and 14 health centres for all Sub-Districts and only the local government as a service provider.

Using Tenayan Raya Sub-District health centre data there are five major reported illnesses in the community including: infection of the upper respiratory system, skin diseases, diarrhoea, hypertension and diabetes. These findings are important in considering possible future company intervention related to CSR or initiatives related to health. The number of cases in 2016 for Tenayan Raya Sub-District for each disease in detailed in Table 4.33 below.

Table 4.33 : Major Illnesses at Tenayan Raya Sub-District Health Centre (2016)

Diseases	Number of Cases
Infection of Upper Respiratory	2,564
Skin diseases	1,045
Diarrhoea	841

Diseases	Number of Cases
Hypertension	428
Diabetes	423

Source: Tenayan Raya Sub-District (2018)

Infection of the upper respiratory system is the most common illness. Skin diseases are most likely related to access and availability of clean water facilities and hypertension and diabetes are likely related to life style choices.

Details of the 10 main types of diseases that are experienced by the communities located on the gas pipeline route are based on data recap at Pustu of each village is outlined in Table 4.34

Table 4 34: 10 Main Types of Diseases Experienced in Communities.

Kuala Gasib		Pinang Sebatang		Tualang Timur		Maredan	
Disease	Patients	Disease	Patients	Disease	Patients	Disease	Patients
Influenza	358	ARI	152	ARI	274	Influenza	624
ARI	315	Skin	32	Rheumatic	159	Skin	270
Gastritis	236	Psychological	27	Influenza	147	KLL/Trauma	145
Rheumatic	206	Gastritis	26	Skin infection	123	Rheumatic	125
Trauma	161	KLL/Trauma	25	Gastritis	105	ARI	101
Hypertension	115	Diarrhea	19	KLL/Trauma	91	Gastritis	100
Diarrhea	90	Influenza	18	Diarrhea	86	Dental	74
Caries	70	Caries	15	Myalgia	85	Diarrhea	59
Stomatitis	55	Rheumatic	14	Mata	63	Hypertension	38
Disentri	45	Hypertension	13	Dental	60	Eye	29

There is no data for Melebung or the villages located near the power plant (Industri Tenayan and Tuah Negeri). Data collected during the social survey on health facilities, health personnel and diseases/illnesses treated between January and July 2017 for villages with the Project Aol is detailed in Table 4.35 below.

Table 4.35 : Health Facilities, Health Personnel, Type of Diseases/Illnesses and Number of Cases for Villages within Project Aol

Village	Health Facilities	Health Personnel	Type of Disease/Illness and Number of Cases from January – July 2017
Kuala Gasib	1 health clinic, 1 health post	1 midwife, 1 nurse	Flu (358), Infection of, Gastritis (236), Rheumatic (206), trauma (161), hypertension (115), diarrhoea (90), dysentery (45).
Meredan	1 health clinic, 1 health post, 1 health centre (posyandu)	6 midwives	Flu (624), skin disease (270), trauma (144), ISPA (101), gastritis (100), diarrhoea (59), hypertension (38) and eyes (29).
Melebung	1 health clinic	1 midwife	ISPA (350), hypertension (255), diabetes (154), fever (97), skin infection (93), gastritis (86), pulpae (72), dysentery (68), diarrhoea (66), dermatosis (553).

Village	Health Facilities	Health Personnel	Type of Disease/Illness and Number of Cases from January – July 2017
Pinang Sebatang	1 health clinic, 1 health post, 10 health centres (posyandu)	3 medical doctors, 2 midwives	ISPA (152), skin infection (32), mental illnesses (27), gastritis (26), trauma (25), diarrhoea (19), flu (18), carried teeth (15), rheumatic (14), hypertension (1).
Tualang Timur	No health clinic, one health post	1 midwife	ISPA (274), Rheumatic (159), flu (147), skin infection (123), gastritis (105), trauma (91), diarrhoea (86), myalgia (85), eyes (63), toothache (60).
Tuah Negeri	No health clinic, 7 health posts	no medical personnel	Since these three <i>kelurahans</i> are new administrative areas data is not available at this level. For further information at Sub-District level refer to Table 4.17 above.
Industri Tenayan	No health clinic, 2 health posts	no medical personnel	
Bencah Lesung	1 health clinic, 10 health posts	1 nurse	
Okura	1 health clinic, 6 health posts	1 nurse	Data for one month only. Upper respiratory system Infection (13), fever (9), hypertension (6), coughing (4), anorexia (4), arthritis (3).

The number and types of health personnel in Pekanbaru City are presented in Table 4.36 below. Total number for Siak Regency is also presented; however, types of personnel are not available.

Table 4.36 : Health Services Personnel within Pekanbaru City and Siak Regency (2015)

Types	Pekanbaru City (2015)				Siak Regency (2015)
	State	Private	Military	Total	Total
Specialist Medical Doctor	111	483	19	613	20
General Practitioner	131	203	23	357	78
Dentist	54	43	11	108	25
Midwives	253	470	36	759	367
Nurses	837	1445	109	2391	509
Dental Nurses	35	10	7	52	29

Source: BPS Pekanbaru City (2015); BPS Siak Regency (2015)

Based on the data presented in the table above, Pekanbaru City in terms of facilities and health personnel, has significantly greater numbers and resources than Siak Regency.

As outlined in the table above, the villages of Tualang Timur, Industri Tenayan and Bencah Lesung do not have at least health clinics. Tuah Negeri and Industri Tenayan have no health personnel, which is probably because these villages are new administration areas and are very sparsely populated. Pinang Sebatang Village has three general practitioners and Meredan Village has six midwives. Common illnesses in these villages comprise: infection of upper respiratory system (ISPA), hypertension, diarrhoea, dysentery and skin diseases.

The other major health issue in the area is HIV/AIDS incidents. In Pekanbaru City, HIV/AIDS patients are increasing in number. In 2014, there were only 533 cases of HIV and 537 cases of AIDS patients. However, in

2016 the number increased significantly to 1,159 cases of HIV patients and 1,006 of AIDS patients (BPS Pekanbaru, 2015). In addition, there are 62 cases of neonatal mortality in the Pekanbaru City area.

Pekanbaru City and Siak Regency Health facilities are important for the Project for the following reasons:

- If there are any major health accidents and illnesses with construction workers, these health facilities can be the first option for treatment;
- Health facilities can assist the Project to deal with first aid actions in and around the Project;
- Health resources can assist the Project to inform employees on what major illnesses in the area and how to prevent them. They can also provide awareness for villages in and around the Project area on the potential major health issues arising from the type of industry MRPR are looking to develop; and
- The Project can collaborate with health facilities as part of Corporate Social Responsibility (CSR) on how to strengthen awareness among villagers on how to mitigate major illnesses, reduce maternal-children and baby mortality ratio.

4.14 Community Facilities and Utilities

4.14.1 Clean Water Facilities

Based on the Pekanbaru City Mayor's Performance Achievement Report (2016), clean drinking water is available to 74.77% of the city's inhabitants. Wells are also used to obtain water and there are still some areas where the river is used for washing and bathing. Most people from the three administrative areas in and around the power plant site near Pekanbaru City collect fresh water from PDAM (Water Supply Company), however some of them still need to buy fresh water.

In comparison, 50% of Siak Regency' communities have to buy drinking water and they use the Siak River for bathing (BPS Siak District, 2016). However, the river is polluted from various sources including palm oil waste and as a result the water quality of Siak River is very poor (refer to ESIA Volume 2: EIA for water quality results at points adjacent to the Project area). The water intake and discharge pipelines are located in the Melebung and part of Maredan PDAM. Other areas still use well water and most villagers of Kuala Gasib, Pinang Sebatang, Maredan, Tualang Timur Villages buy gallon water for drinking purposes.

4.14.2 Sanitation Facilities

Pekanbaru City waste disposal service covers approximately 58.45% of the area. In contrast, Siak Regency sanitation facility services cover 95.7% of the area, which at a national level is very high. Many villagers in the three villages/kelurahans near the power plant site have sanitation facilities within their properties while others use communal toilets in the villages. The social survey identified that 88% of the respondents have sanitation facilities at home, 7% of them use the Siak River for sanitation means, 3% use public toilets and the remainder use the gutter or any available places including Siak River (2%).

4.14.3 Waste

Domestic liquid waste such as water from the bathroom or dish water is disposed to the backyard. The waste is left to be absorbed by the land. The social survey identified that, 48% respondents dispose liquid waste to the gutter, 36% dispose it to the septic tank, 11% to any available places and 5% dispose it to the Siak River.

The social survey also identified that 96% of respondents dispose of solid waste through incineration, 3% dispose it to any available places, 1% take it to a waste disposal facility and 1% dispose to the Siak River.

4.14.4 Telecommunication

Many villagers within the Project AoI have cellular phones with Telkomsel being the service provider; however, not all locations have good signals.

4.14.5 Electricity

Based on Pekanbaru City Mayor's Performance Achievement Report (2016), 263,192 households had electricity or almost all of Pekanbaru households. In comparison in Siak Regency in 2015, 68.3% of households had access to electricity, about 20% use non-state electricity facilities and around 10% do not have electricity. Based on the social survey, the three administrative areas of Bencah Lesung, Industri Tenayan and Tuah Negeri have access to electricity supplied by PLN while some of villagers have to use diesel power generators, pay to use their neighbours power or the head of the kelurahans.

The villages along the gas pipeline route do not have access to electricity, with the exception of Kuala Gasib Village where approximately 50% of households have had electricity since January 2018. As of January 2018 electrification hasn't reached Meredan Village, Pinang Sebatang Village and Tualang Timur Village. Most of the villagers are still using diesel power generators and some of them still use oil lamps.

4.15 Quality of Life

The Human Development Index (HDI) is used as a standard to measure the quality of life. The measurement includes indicators for a long and healthy life, knowledge attainment and decent standard of living. An overview of the HDI between 2010 – 2016 for all districts in Riau Province is detailed in Table 4.37 below.

Table 4.37 : Human Development Index for Riau Province (2010 – 2016)

District / City	2010	2011	2012	2013	2014	2015	2016
Kuantan Singingi	65.07	65.72	66.31	66.65	67.47	68.32	68.66
Indragiri Hulu	65.1	65.93	66.5	66.68	67.11	68	68.67
Indragiri Hilir	61.98	62.82	63.04	63.44	63.8	64.8	65.35
Pelalawan	65.95	66.58	67.25	68.29	68.67	69.82	70.21
Siak	69.78	70.2	70.45	70.84	71.45	72.17	72.7
Kampar	68.62	69.64	70.08	70.46	70.72	71.28	71.39
Rokan Hulu	63.59	64.2	64.99	66.07	67.02	67.29	67.86
Bengkalis	69.29	69.72	70.26	70.6	70.84	71.29	71.98
Rokan Hilir	64.13	64.76	65.09	65.46	66.22	66.81	67.52
Kepulauan Meranti	59.71	60.38	61.49	62.53	62.91	63.25	63.9
Pekanbaru	77.34	77.71	77.94	78.16	78.42	79.32	79.69
Dumai	69.55	70.43	71.07	71.59	71.86	72.2	72.96
Riau Province	68.65	68.9	69.15	69.91	70.33	70.84	71.2

Source: BPS Provinsi Riau (2017)

Based on data outlined in the table above, the HDI for all districts/cities in Riau Province has increased from 2010 to 2016. Pekanbaru City has an HDI of 79.69 and Siak Regency 72.7 in 2016. The Siak Regency HDI of 72.7 is the third highest in Riau Province after Pekanbaru City and Dumai.

In Indonesia, Pekanbaru City is in a high HDI group but has a lower figure in comparison with DKI Jakarta (79.7), South Jakarta (83.94) the highest in Indonesia, Central Jakarta (80.34) and Padang (81.06). Siak Regency has a medium to high HDI range.

In comparison to other parts of the world, Indonesia is classified a Medium Country category with an HDI of 68.9, compared to Norway, the highest HDI country in the world which has a HDI index of 94.9.

4.16 Vulnerability

ADB defines a vulnerable group as, *“unlike mainstream groups, these groups are typically socially excluded, frequently disadvantaged by discriminatory practices, and limited in their capacity to access or take advantage of development opportunities because of their social characteristics.”*

IFC defines vulnerability as *“people who by virtue of gender, ethnicity, age, physical or mental disability, economic disadvantage or social status may be more adversely affected than others.”*

Groups that are vulnerable in the villages within the Project Aol are generally the poor, elderly, widows, single mothers, female head of household, and the disabled. The Riau Province poverty line is IDR 532,986 for 2017 per capita. The census survey identified that 25 of the potential affected persons had income that was below the Riau Province poverty line. Most of these head of households were from Tualang Timur and Pinang Sebatang.

One distinct ethnic group that is vulnerable is the Nias people. They migrated to this area because of a tsunami in 2004. Most have limited skills and are uneducated and many of them do not have identity cards. This means that their children cannot obtain access to free education of the state conditional cash transfer scheme, a national scheme to provide cash benefits to poor women who have children who attend schools.

The Okura people are also considered as vulnerable since the majority of their livelihood depends on the quality of natural resources i.e. the Siak River. Men and women use the Siak River for their livelihood, for fishing, bathing and drinking water. The Okura fisherfolk have also been identified to poor.

Some of the palm oil worker settlements in the middle of the palm oil plantation areas such as in Melebung Village are considered vulnerable as well. The village of Melebung consists of 30 families and given they live far from larger settlement areas, access to education and health services for their family members is limited, which means that their accommodation and clean water conditions are sometimes compromised. From the census survey five head of households were identified as poor.

5. Stakeholder Engagement

5.1 Stakeholder Engagement Plan

A process of identifying relevant stakeholders that may be directly or indirectly affected by the project has been completed. A Stakeholder Engagement Plan (SEP) has been prepared for the Project to guide engagement activities for the Project. The SEP can be found in ESIA Volume 5: Technical Appendices. The objectives of this SEP are to:

- Identify the local legal framework of consultation activities and disclosure requirements, particularly in respect of those public consultation activities that are directly required under the local permitting process;
- Identify potential stakeholders in the area of influence, as well as relevant interested parties such as government agencies and other key stakeholders;
- Record all consultation activities, including those prior to the commencement of the ESIA process;
- Describe how concerns or grievances will be handled via a Grievance Mechanism (refer to mitigation and monitoring Sections 8.1 and 8.2 of the SIA);
- Provide an action plan for further consultation including at least two meetings bi-annually in each affected community during preparation, construction and operational phases of the Project, including details on appropriate formats for effective and culturally meaningful interaction with the community and relevant stakeholders; and
- Provide a disclosure plan, including the identification of any locations where relevant project documentation will be available locally and elsewhere as well as languages to be used.

The SEP will be revised and updated periodically including upon completion of the ESIA to assist with ongoing engagement throughout the Project. A copy of the SEP which includes the Grievance Mechanism is provided in ESIA Volume 5 – Technical Appendices.

5.2 Public Engagement to Date

5.2.1 Public Meetings

The first public AMDAL consultation for the Project was conducted on 11th October 2016 and was attended by 140 participants including 11 women, 2 non-governmental organisations (NGO) and a University of Riau lecturer in Kelurahan Bencah Lesung Office, see Figure 5.1 below.

Suggestions from the communities for the Project include:

- Expectation that the MRPR improve the bridge at Tenayan Jaya road. This is located outside of the Project area and is not considered further within the ESIA. However, MRPR as part of their CSR activities during operation will address the community request during public consultation. Any consideration of upgrades to the bridge will be after further coordination and agreement with village representatives. Based on MRPRs preliminary investigation, the bridge is located on granted (wakaf) land. As a private company, it will be unwise for MRPR to make any construction without a relevant permit in place;
- Based on community experiences from similar Project development activities, many community members did not know the route of the gas pipeline. They hoped that signs will be produced indicating where the pipeline route is located;
- Would like to see local community members being employed. They want to ensure the bad practices of Tenayan CFPP who only employed three villagers as security officers will not be followed;

- In order to formulate CSR activities, it is hoped that the MRPR Community Liaison Officer will discuss proposals with Sub-District and District Government Officers in order to fulfil the needs and aspirations of the villagers;
- The MRPR project office should be accessible to local communities in order to build good relationships;
- Villagers would like to know what impact the power plant will have on the palm oil plantations surrounding the site;
- Improve the condition of roads used to transport heavy equipment to the power plant site;
- MRPR to conduct training to improve the capacity building of local human resources; and
- Women to have the opportunity to apply for jobs.

MRPRs representative responded to all questions and queries raised by the community at the meeting and noted that any concerns will be considered a priority. MRPR Community Liaison Officer will also continue to discuss any further issues raised by the villagers.

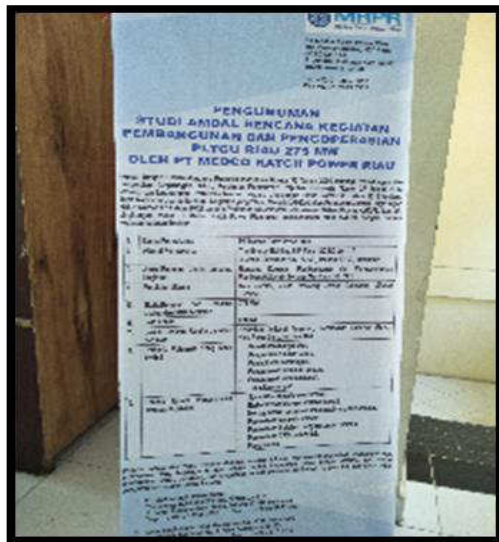


Figure 5.1 : Public Consultation Board used in Meetings with the Community

5.2.2 Progress to Date

MRPRs Community Liaison Officer have visited the villages around the power plant and along the gas pipeline in order to maintain communications and provide ongoing information related to the Project.

During the lender's visit on the 11th – 15th of December 2017, two community member meetings at two locations along the gas pipeline and one meeting in the office of Kelurahan Tenayan Raya were conducted. A social survey of Buah Negeri, Bencah Lesing and Industri Tenayan Villages adjacent to the power plant and the five villages along the gas pipeline route Kuala Gasib, Pinang Sebatang, Meredan, Tualang Timur and Melebung was conducted by NBC. During the social surveys any community concerns in relation to the Project were recorded. Figure 5.2 below shows the public consultation event undertaken at Industri Tenayan Kelurahan.



Figure 5.2 : Public Consultation at Industri Tenayan Kelurahan

In September 2018 the ESIA disclosure to the community was undertaken in Industri Tenayan and Tualang Timur Villages, as shown in Figure 5.3 below. As part of this visit the Lenders also participated in community meetings at villages along the Project AoI. 228 people participated in the ESIA disclosure consultation. MRPR warned the participants to watch for middle-men in recruitment and that no up-front fees would be required for recruitment. They also expressed interest in prioritising woman employment over man, should they have similar level of skills.



Figure 5.3 : ESIA Disclosure to the Community

Indigenous People Assessment

As part of the indigenous people assessment consultation was undertaken with the following:

- Key informant interviews, namely with Village Leaders / Village Elders living in the Project AoI;
- Village interviews;
- Institutional meeting with Aliansi Masyarakat Adat Nusantara (AMAN) Indigenous Peoples Alliance of the Archipelago;
- Institutional meeting with Lembaga Adat Melayu (LAM) Malay Customary Institute for Riau Province and Pekanbaru City;
- Institutional meeting with local and regional councils (Pekanbaru Municipality and Riau Province);
- Key informant meetings with Sakai and Limo Batin ethnic groups; and
- Communications with international and national sociologist and anthropologists.

Okura Village Fisher Folk Survey

As detailed earlier in Section 4, a Focus Group Discussion with 14 households in Okura Village was undertaken in September 2018 to understand the level of use of the Siak River for fishing, their reliance on it for their livelihood and whether the Project is likely to impact them.

Census Survey

A census survey was undertaken as part of the Livelihood Restoration Plan (LRP) in August 2018 to identify persons within the Project area that may be impacted by the construction and/or operation of the Project. The

Census Survey interviewed 154 head of households, the majority of which are located along the gas pipeline and two on the water pipeline. The results are discussed further in Section 6 below and in the LRP.

Livelihood Restoration Plan Disclosure

On the 3rd/4th November the meetings disclosing the LRP were held. Meetings were held in Melebung, Pinang Sebatang, Tualang timur, Kuala Gasib and Meredan. In total 56 were involved with discussions. Main area of interest was being involved in the project and getting employment opportunities. MRPR CLO provided information around the construction of the gas pipeline and its potential impacts to those who resided and have businesses on the pipeline route.

Further meetings were held on 6 November 2018 at Tuah Negeri Village – with guards and workers in palm oil plantation which the gas pipeline will go through attending. On 6th November 2018 consultations were held by MRPR with the two warung owners at water intake pipeline (Tenayan Raya Village) who may have to be moved. The warungs owners said they were aware that their stalls were on government land and were prepared to move as required by the project.

5.3 Community Perceptions of the Project

From the social survey conducted at the power plant approximately 60% of respondents in Tuah Negeri, 70% of respondents in Bencah Lesung and 40% of respondents in the Industri Tenayan administrative areas did not know about the power plant development. However, when the goals of the project were explained, the majority of respondents seemed in favour of the Project as it would provide benefit to local communities. The respondents who were not in favour cited a lack of clarity concerning benefits and fear of environmental impacts.

Based on the social survey along the gas pipeline route in August 2018, approximately 45% of the respondents were aware of the Project. An estimated 32% of the respondents confirmed knowledge of the Project from the power plant employees, 9% respondents knew the Project from their friends, and 2% of the respondents knew the Project from the village or Sub-District officers. Only 1% of the respondents knew the Project from the Sub-District officers. Approximately 96% respondents along the gas pipeline route approved of the project.

Community concerns and suggestions in relation to the Project which were raised by respondents during social surveys are detailed in Table 5.1 below along with how the ESIA will address these concerns and suggestions.

Table 5.1 : Community Concerns / Suggestions raised during Social Survey and how the ESIA Addresses them

Community Concerns / Suggestions	How the ESIA has Addressed the Concerns / Suggestions
They are afraid that the project might impose danger to the nearby settlement.	The ESIA assesses the potential environmental and social impacts from the Project and recommends mitigation measures to reduce any significant impacts identified that are not already addressed through the design of the Project.
They disapprove of cutting down their privately-owned trees. They want MRPR to request the village official's permission and to act respectively in the village.	Any vegetation required to be removed will be noted in the ESIA and in the Analisis Mengenai Dampak Lingkungan (AMDAL) which will require approval prior to work commencing. Ongoing community engagement will be conducted through MRPR's Community Liaison Officer and any community concerns identified will be addressed.
They demanded appropriate compensation for their loss and refused to be dislocated if the Project development trespasses their private territory.	MRPR is addressing this through the land procurement process on a case by case basis. Any compensation would be dealt with through a Livelihood Restoration Plan (LRP).

Community Concerns / Suggestions	How the ESIA has Addressed the Concerns / Suggestions
They demanded for MRPR to be honest and to bring benefit to the public.	MRPR will be honest and open about all matters relating to the Project that may impact on local communities. Ongoing community engagement will be conducted through MRPR's Community Liaison Officer and any community concerns identified will be addressed.
They demanded for MRPR to confirm to the village officials regarding any issues, and not to take personal gains, and not to lie to them.	
There should be an announcement and meeting with the villagers about the impact and benefits of the Project.	Following completion of the ESIA, a meeting will be conducted with the local communities to communicate the findings of the ESIA.
There should be precaution measures to the gas pipeline and prevention of black out.	<p>The gas pipeline will be designed to avoid any impacts to the local communities including for example being trenched and buried.</p> <p>The transmission and distribution of power are the responsibility of PT Perusahaan Listrik Negara (Persero) (PLN). The power station will contribute to the security of supply in the region and so help prevent black outs.</p>
The presence of the gas pipeline for generating electricity should guarantee availability of electricity in the village.	The distribution of electricity generated by the Project will be determined by PLN.
There should be job opportunities for the villagers.	<p>MRPR will seek to employ members of the local community as far as possible.</p> <p>There will be approximately 60 permanent employees at the power plant, and others will be required to assist with maintenance from time to time. The local community and villagers will be encouraged to apply for jobs at the power plant and suitably qualified applicants will be hired where appropriate.</p>
There should be a significant approach to help the villagers. The Project authority should provide support to the villagers during the development of the Project.	MRPR will ensure that local communities are supported through ongoing consultation with MRPR's Community Liaison Officer and through MRPRs CSR programs.
The construction of the Project should not trespass on the villagers' settlement and they should avoid disrupting the public facilities.	The power station, transmission line and water pipelines are not close to any current settlements. The gas pipeline route will pass through several villages and settlements, but any disruption will be temporary, during construction. Where the gas pipeline design cannot be altered to avoid existing structures, MRPR will address any issues through the land procurement process on a case by case basis. Any compensation would be dealt with through a LRP.
The Project should ensure safety and assist villages' public facilities such as electricity and freshwater.	<p>MRPR and their Engineering Procurement Construction (EPC) Contractors will ensure public health and safety is maintained via management plans.</p> <p>The provision of electricity and water to villages is not MRPR's responsibility. However, the power plant will contribute to the security of supply in the region.</p>
There should be fair compensation and secrecy of personal data.	MRPR will ensure any compensation necessary is fair and that any data disclosed by the local communities is kept securely.
MRPR has to be responsible for any problems that may occur as a result of the Project and provide early warning before disrupting the villagers.	Ongoing community engagement will be conducted through MRPR's Community Liaison Officer and any community concerns identified will be addressed.

Community Concerns / Suggestions	How the ESIA has Addressed the Concerns / Suggestions
MRPR should be aware of the economic conditions of people in the plantation. Many are poor and some are elderly.	This SIA highlights the economic conditions of the local communities within the Project Aol and any potential impacts to vulnerable people will be avoided or mitigated as far as possible.
The gas pipeline should be monitored on monthly basis.	MRPR will ensure appropriate maintenance of Project facilities including the gas pipeline are conducted on a regular basis.

Further perceptions of the Project are noted within the Indigenous Peoples Assessment, the minutes of meeting from the ESIA disclosure to the community and the Okura Village Fisher Folk survey which are detailed in the ESIA Volume 5 – Technical Appendices.

6. Social Impact Assessment

6.1 Employment

The Project will create a range of direct and indirect employment opportunities during construction and operation. These are discussed in further detail below.

6.1.1 Direct Employment

Labour requirements will fluctuate throughout the 3-year construction period. According to construction labour estimates the following:

- Construction workforces will peak at approximately 956 workers for the power plant and 299 workers for the gas pipeline;
- The power plant construction will generate over 10,000 person-months of labour; and
- The gas pipeline construction will generate over 2,200 person-months of labour.

It is anticipated that many of those will be employed from the local communities in the immediate Project area. However, a number of roles will require specialist skills and/or further education and may require sourcing from Pekanbaru City or further afield.

During operation, a total of 62 individuals will be employed, with only one of these anticipated to be sourced from overseas. All others are expected to be from Indonesia, and it is expected that many will be drawn from the current workforce in the Pekanbaru area.

The station operational workforce will require a mix of senior managers, supervisors, operations staff, maintenance staff, and clerical support. The proposed organisational structure is provided in ESIA Volume 5 – Technical Appendices, Appendix G of the Process Description. It is anticipated that appropriately qualified individuals from the immediate local communities will be employed in some of these roles.

Potential Beneficial Impacts

As identified in Section 4.12.1, a large proportion of local communities within the Project AoI have low incomes and can be considered to be of Medium sensitivity (refer to Sensitivity criteria in Table 3.2). Direct employment is anticipated to generate a number of jobs for the local community that will continue over a number of years both during construction and operation. This can be considered to be of Moderate magnitude. Direct employment opportunities are therefore anticipated to be of **Moderate** beneficial impact.

Potential Negative Impacts

If the Project employs workers from outside the villages located within the Project AoI it may lead to conflict, especially if the villagers feel that resources are not properly being dedicated to building the capacity of local villagers.

The proposed EPC Contractor for the power plant is Lotte Engineering and Construction (Lotte) who are from South Korea. Lotte's approach may not be sensitive to the local culture and religion. However, it should be noted that Lotte does have prior and current experience working in Indonesia and will therefore be experienced in managing any local cultural differences. The gas pipeline Contractor is Citra Panji Manunggal (CPM), an Indonesian company which has significant experience working through the country.

Although employment of locals from villages within the Project AoI will occur, additional employment will occur from further afield. It is likely that many villagers may not qualify for some of the operational jobs as the criteria

for these positions can include advanced education and specialist skills. However, there will be many positions where technical expertise is not required.

Any potential impacts arising from conflict associated with employment of individuals outside the Project Aol or from cultural differences of the EPC Contractor is considered to be of Moderate magnitude. With sensitivity considered to be Medium, overall impacts are determined to be **Moderate**.

6.1.2 Indirect Employment

In addition to direct employment, the Project will require goods and services throughout the construction period. These would generate indirect employment opportunities through additional business for local companies. For example, catering meals for workers, providing construction equipment, cleaning services, car rental services, security services and small maintenance jobs.

During operation, local businesses could further expand to provide better quality services and support other projects in Pekanbaru City. The Project may then provide a foundation for developing sustainable local businesses. Increased indirect opportunities for local businesses is considered to be of Minor magnitude. In consideration of existing employment sensitivity discussed in Section 6.1.1 above overall impacts to the Project from indirect employment is determined to be of **Minor** beneficial impact.

6.2 Land Procurement Impacts

6.2.1 Land Procurement

Land procurement will be carried out through prior consultation with land owners and local government representatives and this process is still ongoing.

Land owners and land users will be compensated as appropriate and their needs addressed in line with IFC Performance Standard 5 and ADB Social Safeguards. Land procurement for the Project will be conducted on a willing-seller willing-buyer basis, at no point will the Indonesian Government's expropriation powers under Law No. 2/2012 on Land Procurement for Development in the Public Interest will be used to acquire land for the Project. In other words, land procurement will be based on mutual agreement and costs identified by land/agriculture valuation experts and local government institutions. Compensation will be provided based on market value for land and if required for replacement value of affected assets, even when government rates issued by the regional government are lower. Based on this there will be no involuntary resettlement.

The compensation and voluntary resettlement process will take into account livelihood restoration, quality of life, and especially, compensation for vulnerable villagers (see Section 4.17). This means that cash compensation is not always the best alternative as it can be spent quickly. Replacement land with easy access and similar or better quality can often be a better option. Placement of the power plant and re-routing of the gas pipeline and water intake and discharge pipelines have been selected to reduce the potential level of conflict that the land procurement process can generate. All site and route considerations are discussed in the assessment of alternatives section of ESIA Volume 1: Introduction.

In line with the national voluntary resettlement process, set out below are the stages of the Land Procurement Process that will be completed for the Project by MRPR.

Land Procurement Process

The land procurement process is divided into two main areas, one being the power plant and transmission line and the other the gas pipeline route. Further information on the Power Plant and Off-Site land requirements are detailed in ESIA Volume 1: Introduction, Section 3.3. These tables are also provided below:

Table 6.1: Power Plant Land Requirements

Riau 275MW CCPP Power Plant Land Area Requirements	Approximate Area (ha)
Power plant and main plant buildings (GTGs, HRSGs, STG & Control Room)	1.2
Cooling tower	0.2
Balance of plant area	2.5
Switchyard (150 kV) (part of the Special Facilities to be owned by PLN)	1.5
Total	5.4

Table 6.2 : Off-Site Land Requirements

Equipment Item	Approximate Dimensions (m x m)	Approximate Area (ha)
River Water Pump House plus Local Building	50 x 40	0.2
Water Supply and Discharge Pipeline Corridor	6 x 3,000	1.8
Gas Supply Pipeline	2 x 40,000	8
Transmission Line (including 4 towers) – normally via an easement.	75 x 750	5.6
Transmission Line Towers (straddled by transmission line)	4 x 40 x 40	0.64
Access Road	8 x 400	0.32
Temporary Jetty	100 x 70	0.7
Total		17.26

Figure 6.1 below provides an overview of the land procurement flow chart for the power plant and transmission line and Figure 6.2 provides a flow chart for the gas pipeline. The land procurement process being followed by MRPR for the Project is detailed in the following points below.

A customary land claim has been made by Batin Tenayan which includes the power plant site, water and wastewater pipeline and temporary jetty and will be dealt with to the extent allowable in the Indonesian context for a private company.

Power Plant and Transmission Line

- The required land (herein referred to as 'targeted plots') of land for the power plant consist of 12 parcels of land located within the authority of Pekanbaru City administration and are currently used as palm oil plantation. Based on the current collected data, the plots of land are owned by ± 6 individual farmers and are located remotely from dense residential areas. According to the measurement by Land Office (BPN) of Pekanbaru City, the total area of Power Plant is 91,561 m² for power plant, special facilities and four transmission towers, and other supporting facilities, including office buildings.

Currently, MRPR has managed to obtain Conditional Land Purchase Agreement (Perjanjian Jual Beli/PPJB) for all of the required land in Power Plant area. On April 2018, MRPR has begun the process of land certification (HGB under current land owner) in land office of Pekanbaru City, while waiting for the issuance of location permit.

- For transmission line, it is estimated that additional land purchase will be required for approximately 2,500 m². The land for transmission line is currently owned by single land owner ($\pm 2,100$ m²) under a "Right to Own"/Hak Milik Certificate issued by BPN. Currently, MRPR is still in the land price negotiation and legal

checks for the ownership of the land. The negotiation process with land owners will be done more than once and the final price will be agreed based on a willing seller-willing buyer basis.

Gas Pipeline

Based on meetings and joint surveys with the related stakeholders and authority in Riau Province, the gas pipeline route will be located in the available road space along the existing city/provincial road/State-owned Property area/Plantation road, as follow:

- ± 7 km along the Provincial Road will be located in the road space controlled by Production Sharing Contract (PSC) contractors and/or owned by DJKN, Ministry of Finance;
- ± 20 km along the Provincial Road will be located in the road space owned by Riau Province (Right of Way/Ruang Milik Jalan/RUMIJA);
- ± 6 km along plantation road will be located in road space owned by MOU/LOI PT Budi Tani;
- ± 4.5 km in Plantation Road is currently owned by Private Companies. Thus, the area for gas pipeline route will be acquired from the respective owner; and
- ± 2.5 km along the City Road will be located in the road space owned by Riau Province (Right of Way/Ruang Milik Jalan/RUMIJA).

It should be noted that the ESIA does not represent a legal opinion in respect to the land procurement process being conducted by MRPR.

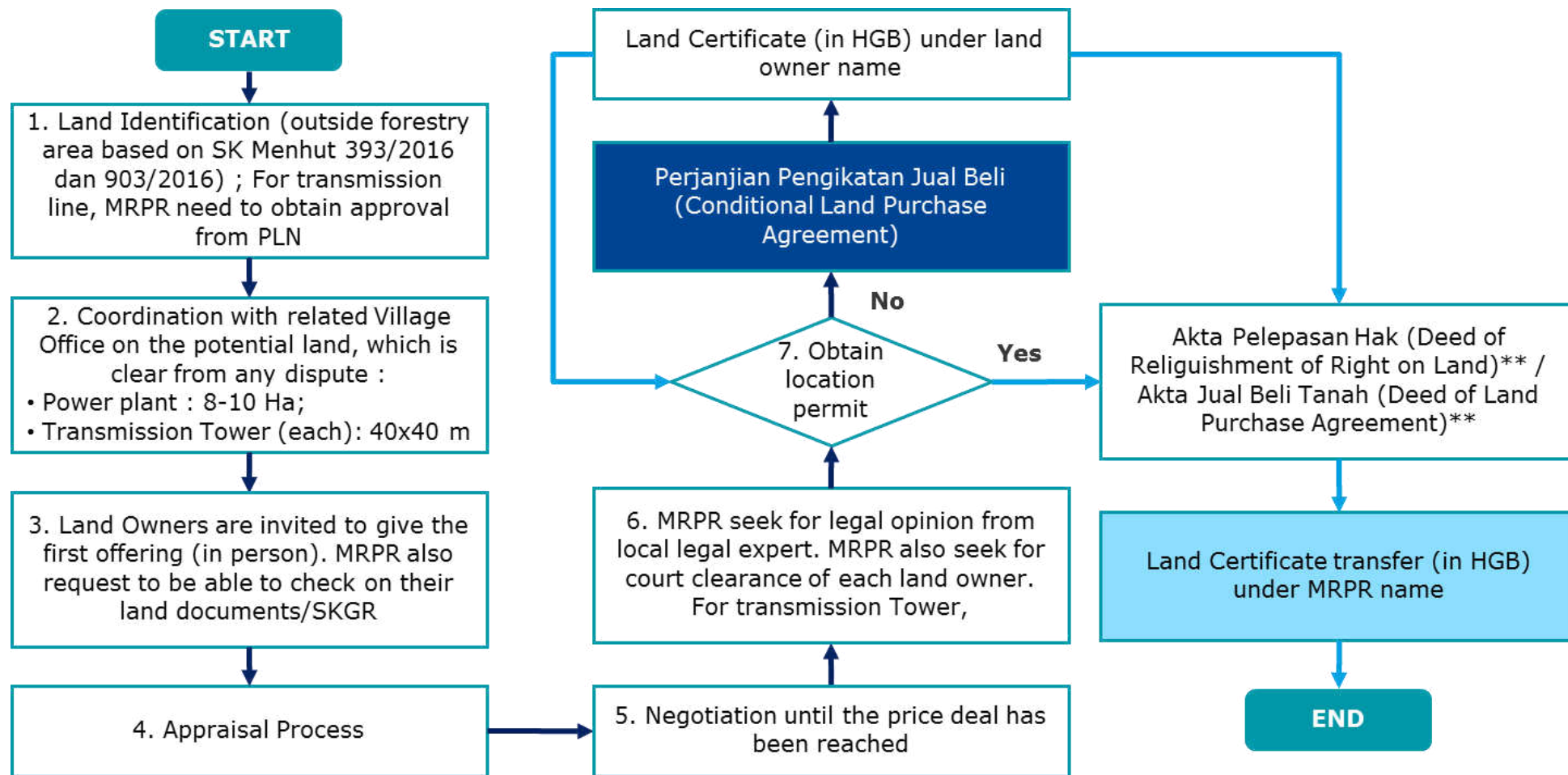
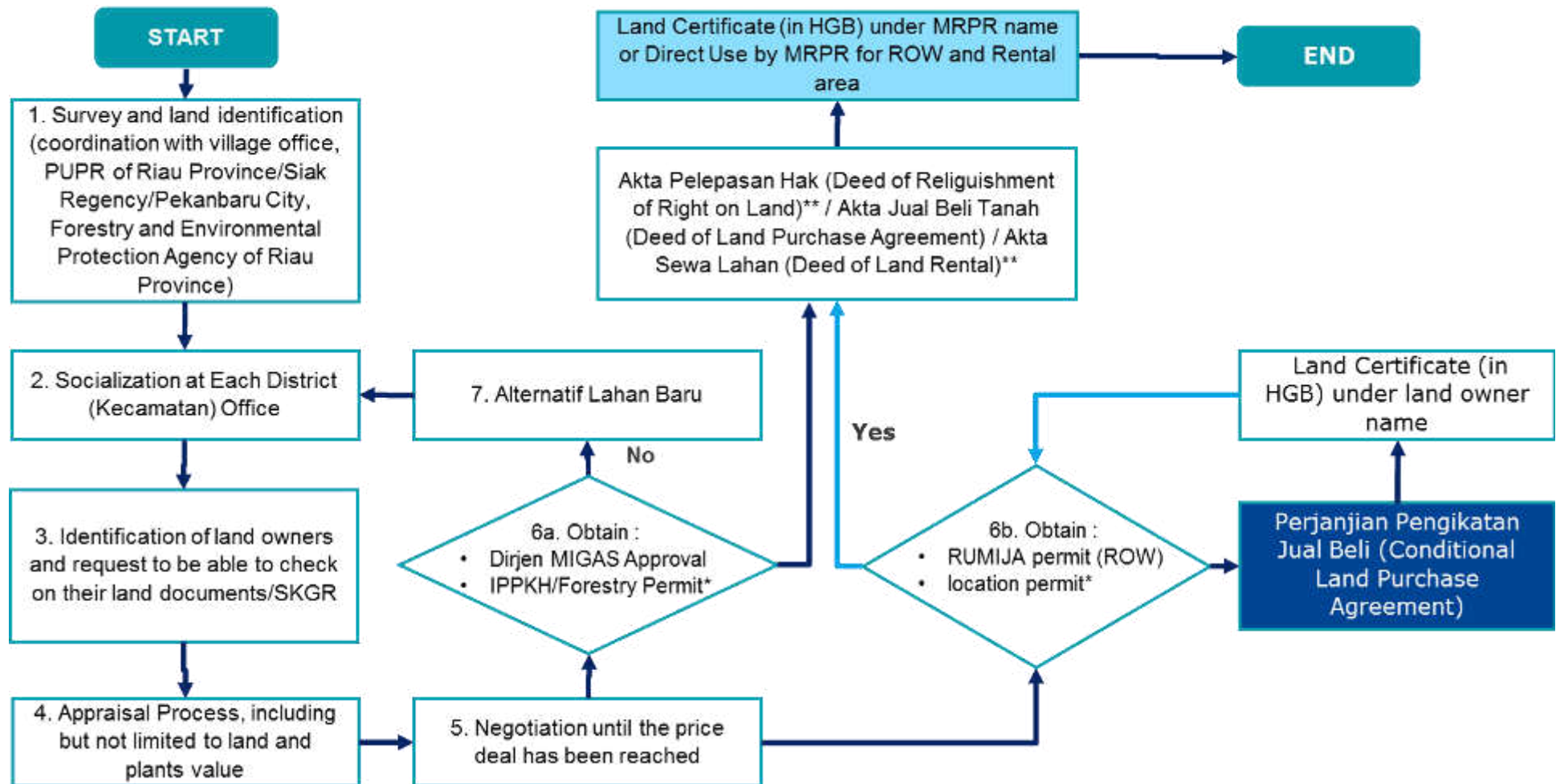


Figure 6.1 : Land Procurement Flowchart for the Power Plant and Transmission Line



Target Land

Most of the Target Land is categorized as unregistered land meaning that the plots of land have not been certificated by the Land Office (Badan Pertanahan Nasional/BPN)⁹. The evidence of ownership of the individual owners over the land is in the form of Compensation Statement Letter / Surat Keterangan Ganti Rugi (SKGR). The issuance of a SKRG involves the relevant Head of Village (Lurah) and Head of Subdistrict (Camat). Based on discussion with the Land Office of Pekanbaru, MRPR was informed that SKGR is more or less similar to *girik* land commonly found in Java island, although not exactly the same.

As the Target Land is not a certificated land, MRPR has sought an opinion from a Law Lecturer of Riau University, namely Dr. Maryati Bachtiar, S.H., M.Kn, to advise on the status of SKGR, the legal impediments and the land purchases process under SKGR (Legal Opinion). According to the Legal Opinion, SKGR was originally derived from a document issued by the relevant head of village permitting a person to carry out land clearing (cutting down trees, etc), known as Registration Statement Letter - *Surat Keterangan Terdaftar* (SKT). Unlike in Java Island, the areas in Riau province (including Pekanbaru) were dominated by forest; the primary activity of the local people was in plantation forests.

If the holder of SKT intended to sell the land to another party, an SKGR would then be issued as evidence of all the costs and expenses the SKT holder has spent for the land clearing process. Pursuant to the Legal Opinion, the use of SKT and SKGR were a common practice in Pekanbaru started as early as 1970. SKGR is acknowledged by the government of Pekanbaru City as one of the supporting documents to apply for land certificate.

In the process of collecting the required evidence of ownership of the Target Land, MRPR requests the land owners directly provide the relevant documents to be reviewed by a Land Deed Official at Pekanbaru to review the documents. If the Land Deed Official states the documents are incomplete, then MRPR team will communicate with the land owners, Head of Village, Head of Subdistrict to obtain the required documents. It should be noted that SKGR related documentation in the Village/Sub-District Office are not well maintained compared to those in most Village/Kelurahan Offices in Java Island for *girik* land.

As the timing for the issuance of the Spatial Plan/RTRW of Riau Province is still unknown (as of November 2017) and MRPR needs to minimise the legal and commercial risks, MRPR agree to follow the recommendation provided under the Legal Opinion, as follows:

- MRPR and each of the land owners of the Target Land sign a Conditional Sale and Purchase of Land (*Perjanjian Pengikatan Jual Beli* - "PPJB"). PPJB is the pre-contractual arrangement for the land purchase before the signing of a definitive Sale and Purchase Agreement (locally known as "Akta Jual Beli/ AJB"). PPJB signing will be followed by transfer of a down payment from MRPR to land owners. The land ownership document is usually kept with the appointed Notary until the signing of the AJB.
- The land will be first registered and certificated under the name of the relevant landowner. The land owners to issue a Power of Attorney to MRPR (with the right of substitution) authorizing it to process the land certification (under HGB title) to the relevant land office.
- The Deed of Sale and Purchase of Land (*Akta Jual Beli Tanah* – "AJB") will be executed after : (i) BPN issues the HGB certificate under existing landowners' name; and (ii) MRPR obtains the location permit. MRPR team will monitor and ensure that all required documentation is properly signed/executed on the signing date of the Deed of Sale and Purchase of Land.
- MRPR will then apply to the relevant land office to have its name registered and recorded on the land certificate.

⁹ The Director of the National Land Agency (BPN) states 70% of plantations are unregistered with BPN

It should be noted that the price negotiation with land owners can be done more than once depending on the situation in the field, based on willing buyer willing seller. In case of power plant, the final land prices have been agreed with an amount higher than recorded in the final report issued by the independent appraisal appointed by MRPR.

The current stage of the land purchase process includes negotiation for the price and compensation. The value of negotiated land is expected to demonstrate fair and reasonable compensation for physical and economic impacts.

Previous Land Purchase

Most of the Target Land is not registered and has not been certificated by the Land Office (Kantor Pertanahan / BPN). The evidence of ownership of the individual owners over the land is in the form of Compensation Statement Letter / Surat Keterangan Ganti Rugi (SKGR), registered / acknowledged in the Village Office and the current land owner name is recorded in the Land Book (Buku Pertanahan) of each Village for the last 5 years. However, the village office does not maintain the history or the track-changes of the previous land owner.

Based on verbal information of current land owner and the related village authorities, it was known that previous land owner of the Power Plant area was a farmer that had already moved with his family to Java Island years ago, and no communication was maintained. Therefore, no records was found on the previous land owner.

In case of gas pipeline, further investigation regarding the possibility of any requirement for land purchase is still ongoing. Based on the discussion with Village Authority and related stakeholders, some of the required land for the gas pipeline route is currently owned by ±3 private palm plantation companies. However, one of the plantation companies no longer maintains the palm plantation activities. The plantation lapsed and the affected area is now occupied by people who have moved into the area. Therefore, MRPR will conduct legal investigation through the National Land Agency (BPN), of land ownership and current land users. MRPR will consult with company records from the palm plantation company and with the village authorities. Compensation packages and land purchase will be negotiated based on a willing buyer-willing seller basis. The Land Purchase / Negotiation Activities to date are detailed in Table 6.3 below.

Table 6.3: : Land Purchase Negotiation Activities to Date

No	Date	Document	Comments
1	12-14 June 2018	Appraisal	Based on Market Approach. Appraisal Report available
2	19 June 2018	First Price Offering from current landowners and Preliminary Negotiation	Minutes of Meeting available
3	June-September 2017	Further price negotiation	Negotiation mostly conducted in person in the convenience of both parties
4	20 September 2017	Final price has been agreed and further negotiation on the Payment Milestones. MRPR also seek current land owners permission and approval to conduct soil investigation	Minutes of Meeting available
5	20 October 2017	MRPR and current landowners agreed to proceed with Conditional Land Purchase Agreement	Minutes of Meeting available

Records of the transactions have not been appended to this report, since they contain personal information concerning community individuals. However, they are available on request for Legal Due Diligence purpose. Whilst it should be stressed that this ESIA does not represent a legal opinion, it would appear that the current land owner for power plant area has obtained court clearance from the Court of Pekanbaru City showing the there is no land dispute in the plot of land for the last 5 years and has started the registration and certification process in National Land Agency from April 2018. The HGB certification process is expected to take approximately 6 months, including 2 months for Public Announcement and Objection Period (Masa Sanggah).

Appraisal Method

MRPR has appointed independent party to conduct appraisal in Kelurahan Industri Tenayan, Kecamatan Tenayan Raya, Pekanbaru City, for Power Plant and Transmission Line.

The Appraisal process used Market Approach in accordance with the prevailing regulation (Indonesia Valuation Standard/Standar Penilaian Indonesia ("SPI") VI edition, year 2015). The market price was determined based on following information:

- Survey and interview
- Previous land transaction for similiar type of land around project location
- The available land ownership certificates, owned by current land owners
- Land map

The land value estimation process has also considered following factors:

- Access and location
- Available Transportation and Easement
- Land Contour and topography
- Land Utilization/Designation in accordance with the prevailing regulation

6.2.2 Efforts to Avoid or Minimise Displacement

A number of options for placement of the power plant and routing of the water intake and discharge pipeline and gas pipeline have been considered and these options have been discussed further in ESIA Volume 1: Introduction. The preferred options have been selected to avoid, and as far as possible minimise physical and economic displacement to local communities. Any potential impacts in relation to physical and economic displacement are discussed in Sections 6.2.3 and 6.2.4 below.

6.2.3 Physical Displacement Impacts

For the power plant and transmission line, the type of land is palm oil plantations owned by \pm 6 individuals consisting of 12 parcels of land for the power plant and two to three individuals consisting of three parcels of land for the transmission line. The power plant and transmission line do not have any people residing on the land and according to the draft Zoning Plan for Riau Province, the area is designated for industrial and commercial use and as such no physical displacement will occur. The baseline surveys identified no persons or structures residing on the proposed power plant site.

The preferred water intake and discharge pipeline route is within government owned land with no residents located nearby and therefore no physical displacement impacts will occur. There are two warungs that have been identified on land adjacent to the water intake and discharge pipeline route and will need to be temporarily moved. These warungs are used for business activity only with no residential occupation. The temporary jetty is

located on the opposite bank of the Siak River to the Okura village and therefore it will not result in the physical displacement of any villager.

There are five villages along the gas pipeline route which comprise a range of properties which may be affected during construction on a temporary basis. The census survey conducted in August 2018 interviewed 154 head of households. Out of the 154 interviewed, 47 were deemed to not be affected by the Project. Of the remaining 107, 59 will potentially have their building affected. Buildings in this context are predominantly wooden structured warungs / kiosks as shown in Figure 6.3 below.



Figure 6.3 : Example of Warung along the Gas Pipeline

All houses will be avoided via re-routing of the gas pipeline and the main impacts will be temporary during construction rather than during the operation of the facility. It should be noted also that adjacent properties are not likely to be impeded, rather any construction effects will be contained within the project property boundaries. At the proposed gas metering facility location, there are two nearby properties. However, the gas metering facility is located sufficiently far enough away from these properties, therefore it will not result in any physical displacement. A more detailed overview of affected properties and land within each village along the gas pipeline route is provided in the Livelihood Restoration Plan (LRP).

The gas pipeline will be constructed 500 m at a time and will be trenched and buried and therefore any physical displacement will be for short durations of approximately a week. As such there will be no permanently physically displace any villagers along the gas pipeline route.

Some of the individuals in the affected properties are vulnerable (see LRP) and therefore sensitivity is considered to be Medium. Any temporary physical displacement as a result of the Project is expected to be of Minor magnitude and therefore overall impacts are determined to be **Minor**.

6.2.4 Economic Displacement and Livelihood Impacts

The palm oil plantation within the Project AoI represents a source of income for local communities that work on the land and therefore the removal of palm oil plantation land associated with the Project will impact on their livelihood. The workers are transient and work over a wide area of palm oil plantation and are not reliant on one relatively small area. The LRP Census Survey did not identify any respondents at the power plant and transmission line site and therefore impacts to livelihood from the power plant and transmission is determined to be of **Negligible** impact.

At the temporary jetty site, Okura Villagers utilise the Siak River for their livelihood as discussed earlier in the SIA. The Okura Villagers are considered vulnerable based on their reliance of the Siak River and poor economic situation and therefore their sensitivity can be considered High. The Okura Villagers have been identified to fish approximately a 20 km stretch of the Siak River and when considering use of both banks this rises to 40 km. In the context of the Project, the temporary jetty and water intake combined will use 110 m of the Siak River and this would result in the loss of 0.3% of the total area fished. As such impacts to Okura villagers' livelihood is considered to be of Negligible magnitude. Overall livelihood impacts from the temporary jetty are determined to be of **Negligible** impact significance.

The water intake and discharge pipeline routes are currently proposed to be located near to two warungs which will need to be temporarily relocated to outside the working area, approximately 10 m. However, these will only need to be relocated to outside the working area which will be in the order of 10 m whilst construction is ongoing. MRPR will be undertaking a site investigation of the river bank to determine the final location of the water intake structure. MRPR will as part of this final site location determination will endeavour to avoid any impacts to these two warungs.

The presence of construction workers may result in increased business for the two warungs. As such impacts associated with economic displacement during construction of the water intake and discharge pipeline are considered to be of Minor magnitude. As outlined in Section 4.12.1 income is typically low in the Project Aol and therefore economic displacement from construction of the water intake and discharge pipelines can be considered to be of Medium sensitivity. Overall impacts are therefore determined to be of **Minor** impact significance.

A number of properties have been identified along the gas pipeline route that may be affected during construction. Although no permanent physical displacement is anticipated, businesses such as warungs (food stalls) and kiosks may require temporary re-location. ADB defines a significant impact if 200 or more persons will experience major impacts, which are defined as:

- i) Being physically displaced from housing; and
- ii) Losing 10% or more of their productive assets (income generating).

Economic displacement is defined by the ADB SPS as loss of land, assets, access to assets, income sources, or means of livelihoods as results of:

- i) Involuntary acquisition of land; or
- ii) Involuntary restrictions on land use or on access to legally designated parks and protected areas.

Performance Standard 5 applies to economic displacement resulting from the following types of land-related transaction:

- Land rights or land use rights acquired through expropriation or other compulsory procedures in accordance with the legal system of the host country;
- Land rights or land use rights acquired through negotiated settlements with property owners or those with legal rights to the land if failure to reach settlement would have resulted in expropriation or other compulsory procedures;
- Project situations where involuntary restrictions on land use and access to natural resources cause a community or groups within a community to lose access to resource usage where they have traditional or recognizable usage rights;
- Certain project situations requiring evictions of people occupying land without formal, traditional, or recognizable usage rights; or

- Restriction on access to land or use of other resources including communal property and natural resources such as marine and aquatic resources, timber and non-timber forest products, freshwater, medicinal plants, hunting and gathering grounds and grazing and cropping areas.

Bullet points 3 and 4 of the list apply to the PAPs living along the gas pipeline route and as such Performance Standard 5 is triggered.

It is unlikely that the temporary short-term involuntary restrictions (such as movement of warungs away from the gas pipeline construction area) during gas pipeline construction would result in a major significant impact as defined by ADB. While these impacts are not considered major, they still trigger Performance Standard 5 and MRPR has developed a Livelihood Restoration Plan (LRP) detailing the livelihood restoration measures that will be implemented for any persons affected by the Project.

The construction of the gas pipeline will be carried out in 500 m sections that are anticipated to take no more than a week to complete, therefore impacts to livelihood of any affected communities will be small in number (less than 200) and temporary, resulting in Moderate magnitude. Of the 107 identified as affected, 14 are determined to be vulnerable and therefore sensitivity is Medium. Overall impacts to livelihood from construction of the gas pipeline is determined to be of **Moderate** impact significance.

6.2.5 Impacts to Tourism

Within the Project Aol, the village of Kuala Gasib is most likely to be affected by the Project in respect to tourism activities. This is small area in the context of the overall gas pipeline route and therefore tourism can be considered to be of Low sensitivity. The gates of Princess Kaca Mayang cemetery are located approximately 2-3 km from the gas pipeline route and therefore will not be impacted as a result of the Project. Nuisances such as traffic, noise and dust during the construction phase may discourage interest in the local tourism businesses, though construction activities will last less than a year. Impacts may consist of roadway restrictions during construction that will influence visitors' access to historical sites. As construction of the pipeline will be in 500 m sections that may last up to a week, disruption to any tourism businesses in that section will be of short duration and therefore impacts to areas of tourism interest will be of Negligible magnitude. Overall impacts from the Project on tourism businesses within the Project Aol are anticipated to be of **Negligible** impact.

6.3 Community Health, Safety and Security Impacts

Community safety impacts with respect to the operation of the gas pipeline is discussed in the Qualitative Risk Assessment (QRA) which can be found in ESIA Volume 2 – Environmental Impact Assessment (EIA). The health and safety in relation to those working on the Project is discussed further in the Occupational Health and Safety and Working Conditions assessment report which can be found in ESIA Volume 5 – Technical Appendices and is also summarised in ESIA Volume 2 – EIA. These sections include procedures and processes for managing emergency incidents that may impact on local communities.

6.3.1 Health

The Project will employ many workers during construction and operation and there is potential therefore, that this may increase the rate of spread of communicable diseases in the Project area. In addition, there is potential for personnel from outside the Project area to be present during construction and operation, which may introduce new diseases and/ or a more virulent strain of an existing disease. There is no current intention to establish a labour camp. Another factor that could influence the prevalence and rates of communicable diseases is the creation of vector habitat for insects during construction and during operations e.g. standing water which may result from certain project activities such as alterations to drainage patterns, establishment of trenches (which can fill with water during rainy periods).

The introduction of the workforce can potentially contribute to an increase in the commercial sex trade in the Project area, especially given that the Project location is close to Pekanbaru City, the capital of Riau Province.

An increase in the commercial sex trade is often associated with large scale developments, particularly when a large (often mainly male) workforce is required for a short period of time. In the case of this Project, at the peak of construction more than 1,000 workers will be employed. If appropriate precautions are not taken, increased rates of communicable diseases in the Project area could occur. This may contribute to increased rates of HIV/AIDS and other sexually transmitted diseases in the local communities.

Therefore, an increase in the transmission of communicable diseases may occur as the result of the introduction of workers into the area, creation of vector habitat, and/ or possibly the presence of commercial sex workers. If left untreated communicable diseases can lead to long-term health issues and/ or in some instances death. In other words, the impact can be characterized as being long-term and in some instances permanent. This could be exacerbated by the fact that few villagers may recognise the symptoms of some of these diseases.

As the workforce to be introduced will be relatively small against the existing population and the opportunity for creation of vector habitat limited, the magnitude of potential health impacts from the Project is considered to be Minor. There are a number of existing healthcare facilities adjacent to the Project area and Pekanbaru City is only 10 km to the west. Therefore, there is good capacity to absorb any increased healthcare demands as a result of the Project. Consequently, sensitivity can be considered to be Low. Overall impacts to health is determined to be of **Negligible** impact.

6.3.2 Safety and Security

Potential safety and security issues for the Project include:

- Waterway impacts to Okura Villagers who use the Siak River as a means of travelling around using traditional boats and canoes e.g. children travelling to school, fishing etc; and
- Impacts on the communities from increased road traffic associated with the delivery of materials and equipment for the project.

During construction equipment and material will be delivered to the Project via the following:

- vessels unloading at the temporary jetty site, which will result in increased river traffic; and
- Trucks, delivering bulk materials and equipment to the power plant site and along the gas pipeline route.

An increase in waterway and roadway traffic as a result of Project activities could increase accidents in the community. As river traffic within the Siak River is already extremely busy with boat movements to Pekanbaru City and to the existing Tenayan CFPP and therefore river traffic associated with the Project is anticipated to be insignificant against existing river traffic levels. For further details on the level of impact on river traffic from the Project, refer to the Traffic Impact Assessment detailed in ESIA Volume 2 – EIA. Consequently, increased safety and security to the Okura villagers will be of Negligible magnitude. Although the Okura villagers are deemed vulnerable and therefore of Medium sensitivity, overall impacts as determined to be of **Negligible** impact significance.

6.4 Gender Impacts

The construction and operations stages of the Project will result in the employment of a number of people as discussed in Section 6.1 above. Many of the employment positions are for skilled positions that will likely result in a gender bias towards men. This may lead to conflict with women, mainly in the local communities but also potentially further afield such as in Pekanbaru City. However, MRPR has no intention of limiting employment to males. For example, facilities for males and females will be provided in all buildings as MRPR anticipates that many of the permanent operations and maintenance staff will be female.

Indirect employment opportunities resulting from the construction and operation of the Project may contribute to lessening gender bias through increased support to local businesses that employ women. Impacts to gender bias is therefore anticipated to Minor of magnitude. As noted in Section 4.9, there is a pre-existing gender bias towards men particularly in more senior roles within the local communities and therefore sensitivity is considered to be Medium. Overall impacts to gender bias as a result of the Project is determined to be of **Minor** significance.

6.5 Vulnerable Impacts

As outlined in Section 4.17, the following have been identified as vulnerable within the Project Aol:

- Nias people;
- Okura people;
- Melebung Villagers; and
- Elderly, disabled, single mother, unemployed, female and poor.

There are no identified impacts to the Okura Villagers. Impacts to those identified as vulnerable are mainly in relation to the limited potential temporary economic displacement as discussed in Section 6.2.4. The census survey identified 33 vulnerable head of households from the 154 interviewed along the gas pipeline route. The key impact from economic displacement is in relation to the construction of the gas pipeline which is most at risk of affecting vulnerable people including the elderly, disabled, single mother, unemployed, female, indigenous, poor. Impacts to vulnerable including those on low income is determined to be of **Moderate** significance.

6.6 Education Impacts

The construction of the gas pipeline may potentially affect one school in each of the villages of Tualang Timur and Maredan. Schools can be considered a sensitive receptor with limited means to absorb change and therefore sensitivity is considered to be Medium. Physical impacts to the school will be avoided through re-routing of the gas pipeline and should this not be possible would only result in disturbance to the school fence. The construction of the gas pipeline will result in noise which may disrupt ongoing education at these schools. However, as construction of the gas pipeline will be carried out in 500 m sections that will be approximately one week in duration, disruption to educational activities will be temporary and therefore overall impact magnitude is considered to be Negligible. Overall impacts to education from construction of the gas pipeline is determined to be of **Negligible** significance.

Beneficial education impacts may arise through capacity building to the local community in relation to local employment and associated training. However, the majority of persons interviewed had a secondary education and as a result this will limit their employment opportunities to unskilled and semi-skilled labour roles. As numbers of skilled workers or those with higher education in the area and relevant to the proposed development are likely to be limited (considered to be of Medium sensitivity) any capacity building is anticipated to be of Minor magnitude. Overall beneficial educational impacts are determined to be of **Minor** significance.

6.7 Ecosystems Services

Ecosystem services are defined by the IFC Performance Standards (2012) as the benefits that people, including businesses, derive from ecosystems. They are organised into four types: (1) provisioning services (the products people obtain from ecosystems); (2) regulating services (the benefits people obtain from the regulation of ecosystem processes); (3) cultural services (the nonmaterial benefits people obtain from ecosystems); and (4) supporting services (the natural processes that maintain the other services).

Table 6.4 provides the ecosystem service type in the different areas of the Project and the impact from the Project on these services.

Table 6.4 : Ecosystem Services

Area	Ecosystem Service Type	Description	Project Impact
Power Plant	<u>Provisioning Services</u>		Negligible
	Raw materials	Building materials, fuel and energy	
	Medicinal resources	biological substances for use in traditional medicine	Negligible
	Food	Edible plants	Negligible
Gas pipeline	<u>Provisioning Services</u>		Negligible
	Raw materials	Building materials, fuel and energy	
	Food	Edible plants	Negligible
	Medicinal resource	Biological substance for use in traditional medicines	Negligible
	<u>Supporting Services</u>		Minor – See ESIA Vol 5 Technical Appendix P
	Habitat	Natural habitat where Agile gibbons and Sunda Pangolin reside	
Water intake & temporary jetty	<u>Provisioning Services</u>		Negligible
	Water supply	For bathing and washing clothes	
	Food	Wild-caught fish	Negligible
	<u>Cultural Services</u>		Negligible
	Recreation	Kayaking, boating	
	<u>Supporting Services</u>		Negligible – will be monitored – See ESIA Vol 4 ESMP
	Habitat	Siak River habitat for fish	

Components of the Project that are associated with the Siak River include the intake and discharge water pipelines and the temporary jetty. The construction of these structures will result in minimal land take and river traffic will be insignificant against existing river traffic levels. The area taken up by the construction and operation of the water intake and the temporary jetty in comparison to the fishing zone is 0.3%. Although the Okura Fisherfolk depend on the Siak River as a means of income, loss of livelihood is not expected as fish aggregating devices can be moved to another area of the river.

Other villagers within Kuala Gasib, Meredan, Pinang Sebatang, Melebung also use rivers for various purposes. In all these villages, many people use wells for drinking water, bathing and washing. Villagers along the river and at riparian areas develop charcoal from local trees for cooking and drying fish. The temporary jetty and water intake won't impact on the amenity values such as transport and bathing and washing. During operation, discharges of water from the site will not impact on the water quality or ecological features of the Siak River (refer to ESIA Volume 2 – EIA, Hydrology and Water Quality and Freshwater Ecology Impact Assessment section) as it has been identified to be of already poor ecological quality. As such the magnitude of impact to ecosystem services associated with the Siak River is considered to be Negligible. The Siak River is a large river with good capacity to absorb proposed changes and therefore it is considered to be of low sensitivity. Overall impacts are determined to be of **Negligible** impact significance.

Villagers along the gas pipeline (Kuala Gasib, Maredan, Tualang Timur and Pinang Sebatang) also plant medicinal plants such as ginger, turmeric, temulawak, mostly within the confines of their own properties. A study of medicinal plants in Situgal Village close to Tesso Nilo National Park, Riau Province have found more than 500 types of medicinal plants. The Project affected villages are noted to have previously lost medicinal plants in the forest, however, as noted earlier, planting practices occurs within properties and not anticipated to be abundant in the existing infrastructure corridors.

The Sialang trees which are historically important to the Malay Batin and were used to collect Sialang honey. In present day the majority of the Sialang trees have been cut down for production plantation forest. There are only two trees known to remain and are located on the banks of the Siak River in Industri Tenayan. It is understood that these trees are located outside of the Project area.

The power plant, transmission line and water intake and discharge pipelines will be sited within land comprising palm oil plantation and the gas pipeline will predominantly within the reserve of existing road or through palm oil plantation land. The removal of vegetation will therefore predominantly comprise palm oil plantation and is not anticipated to cause any widespread impact on plants that are used for medical purposes. The majority of medicinal plants are understood to already be lost in the area with the majority present only within the confines of properties that have planted them therefore sensitivity is considered to be Negligible. The impact magnitude associated with removal of plants used for medicinal purposes is considered to be Negligible. Overall impacts are therefore determined to be of **Negligible** impact significance.

The two remaining sialang trees are located outside of the Project area and will not be impacted.

6.8 Indigenous People Assessment

As discussed in the IP Assessment, it is considered that the project impacts are negligible. Therefore, the need for Free Prior and Informed Consent is not triggered. Furthermore, FPIC is not required because the following project impacts are not breached:

1. Any impact of IP lands and natural resources subject to traditional ownership or under customary use;
2. Relocation of indigenous peoples from lands and natural resources subject to traditional ownership or under customary use;
3. Significant impacts on critical cultural heritage that is essential to the identity and/or cultural, ceremonial, or spiritual aspects of Indigenous Peoples lives, including natural areas with cultural and/or spiritual value such as sacred groves, sacred bodies of water and waterways, sacred trees, and sacred rocks (Natural areas with cultural value are equivalent to priority ecosystem services as defined in IFC Performance Standard 6 in that they may be central to the identity and/or cultural, ceremonial, or spiritual aspects of Indigenous Peoples' lives); or
4. Any impact of IP lands and natural resources subject to traditional ownership or under customary use;

As FPIC will not be triggered, the extensive consultation to date (>1000 people have been consulted) will continue with ICP throughout the ESMP. These actions will not generate the need for an Indigenous People Plan.

6.9 Cumulative Impacts

The demographic change of Pekanbaru City and the eastern peri urban area will influence the rural area becoming urban. This impact of the demographic change is currently unknown.

The only other major development in the area is the existing Tenayan CFPP which is located 2 km north of the proposed power plant site. The two projects are not anticipated to cause any adverse cumulative impacts to the local communities in the area. However, ongoing community engagement through MRPR's Community Liaison Officer will be important in understanding and managing any community concerns. The capacity building and employment opportunities associated with the Project will be important considerations to be taken forward.

7. Cultural Heritage

7.1 Introduction

Assessment of Project's impacts on cultural heritage identifies the following aspects for consideration:

- Above ground sensitive features;
- Potential for survival of archeologically artefacts;
- National or international designated features of cultural significance; and
- Intangible cultural heritage resources.

The method of assessing impacts is as described above in Section 3. The spatial extent of the cultural heritage baseline described below follows the Project AoI.

7.2 Baseline

Cultural heritage including archaeological sites, old mosques, burial sites, sacred grounds, temples, and other historical objects should be protected and maintained since they are national and international assets. Based on the social survey undertaken for this Project, the power plant site does not contain any historical and cultural heritage sites.

However it was noted from the baseline census survey that many of the local poems and songs are derived from nature and many stories are related to trees and animals from the forests. Their canoes, paddles and houses are from trees. As discussed previously with the establishment of extensive palm oil plantations in the area the trees and animals these songs and poems relate to no longer exist.

The social survey also identified that Okura Village contains a sacred cemetery of village elders located close to the village settlement in a place called Tebing Tinggi, located on the opposite side of the Siak River to the project site. Given its location no direct impacts are anticipated to this cultural heritage feature and therefore no further assessment has been discussed in Section 7.3.

The social survey also noted the following as being located along the gas pipeline route:

- in Koto Gasib Village, there is a burial site of Princess Kacamayang, daughter of a king during the Gasib kingdom which is located approximately 3 km from the gas pipeline.
- The Putri Puan Elok's tomb, one of the daughters of a noblemen during Gasib Kingdom era. This is located approximately 2 km from the gas pipeline. According to villagers, some notable tombs belong to Raja Panjang and a nobleman are located there. Some of the villagers consider these tombs sacred and often visit them as a form of respect.

These sacred sites can be mapped and analysed in corporation with Riau Museum and Education and Culture division of district and province. However, the exact locations are not included here in order to protect the integrity and privacy of these resources for cultural preservation purposes.

7.3 Impact Assessment

As discussed in Section 7.2 a number of sacred sites have been identified along the gas pipeline route and hold cultural value to the local communities, therefore sensitivity can be considered to be Medium. The construction of the gas pipeline route could potentially cause damage to the sacred sites described above. Workers who are not aware of the importance of culture heritage sites may damage them unknowingly and excavation of the gas pipeline trench might encourage looters to find and sell artefacts and in the process damage the sacred sites.

However, the gas pipeline will be designed to avoid disturbance to any sacred sites identified and therefore no impacts are anticipated resulting in Minor magnitude. The temporary jetty will be sited away from the sacred cemetery in Okura Village and therefore no impacts to this site are expected. Overall impacts to cultural heritage sites are determined to be of **Minor** impact. There are therefore no direct impacts or loss of cultural heritage features and therefore IFC Performance Standard 8 is not triggered.

7.4 Chance Find Procedure

'Chance finds' are defined as physical cultural resources encountered unexpectedly during project implementation. 'Physical cultural resources' (PCR) are defined as movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance. Their cultural interest may be at the local, municipal, department or international level. The requirements for the chance finds will follow the recommendations of the ADB Environmental Safeguard (point number 11) as detailed in the ADB Safeguard Policy Statement (ADB, 2009) and the IFC Performance Standard 8 (IFC, 2012). The Chance Find Procedure can be found in Appendix R, ESIA Volume 5 – Technical Appendices.

8. Mitigation, Enhancement Measures and Residual Impacts

8.1 Mitigation and Enhancement Measures

Specific mitigation in addition to those inherently within the design of the Project is required to reduce significant impacts (those assessed as Major or Moderate) on social impacts. However, mitigation has also been proposed in the form of good practice measures that will minimise impacts identified in Section 6 and 7 above. The measures described will be collated in the Environmental and Social Management Plan (ESMP) which forms Volume 4 of this ESIA. The ESMP describes actions to be taken to eliminate or reduce impacts to an acceptable level. It will stipulate monitoring regimes required to track the measures implemented. The mitigation and monitoring measures as set out in the ESMP will be implemented via the Project Environmental and Social Management System (ESMS).

Outlined in the sections below are mitigation and enhancement measures associated with the following:

- Employment and Tourism;
- Physical and Economic Displacement;
- Community Health, Safety and Security; and
- Cultural Heritage.

8.1.1 Employment and Tourism

Prior to construction, the following considerations will be undertaken in the development of the ESMS by MRPR and the contractor.

- MRPR and the EPC Contractors will design employment and recruitment opportunities that supports the local community. These will be developed via consultations with local stakeholders, Kecamatan/Kelurahan (Village) administration office and other local stakeholders, including woman and vulnerable groups.
- MRPR in conjunction with the EPC Contractors will establish a local employment brokerage that will publicise job vacancies in ways and during times that villagers will be able to participate. It is important that the employment process is well managed, and that the local community is able to actively participate to the extent feasible.
- MRPR will encourage local employment prioritising the three administrative areas: Industri Tenayan, Bencah Lesung and Tuah Negeri along with adjacent villages. Also include the five villages (Meredan, Tualang Timur, Pinang Sebatang, Kuala Gasib, Melebung) and along the gas pipeline route location and Okura Village which is across the Siak River from the temporary jetty location.
- Local villagers will be informed of job opportunities along with the required qualifications in a timely manner, ensuring the advertising process is culturally and administratively appropriate.
- Local businesses will be informed of contracting opportunities in a timely manner.
- MRPR will ensure that the hiring process is conducted as transparently as possible to help the community to understand strategic staffing decisions for the Project.
- MRPR will develop and monitor an internal standard to guide labour practices and apply this to the supply chain for the operation phase.
- MRPR will develop and implement a Workers Code of Conduct that addresses issues such as anti-social behaviour and drug and alcohol consumption and respect for women in accordance with the applicable regulation. The EPC Contractors will be required to conform to the Code of Conduct.

- MRPR will define targets the employment of women (at all levels and skills) whenever possible. It will be disclosed that recruitment is also open to women in the local communities. Specific recruitment strategies targeting women will be defined in accordance with the culture, regulation and required qualifications.
- MRPR and the EPC contractors will provide opportunities for women and women groups to participate in the workforce, and assist them in having good quality work standards so they can train others and are able to work with other companies in the future.
- MRPR will ensure that any grievances raised by any tourism providers or other local businesses will be managed in an appropriate and timely manner. Where corrective actions are required; they will be implemented effectively and in a timely manner.

Skills and Training

- MRPR will develop a Workforce Development Strategy – a commitment to maximise employment and skills opportunities for local people.
- MRPR will advise the EPC Contractor to maximise the employment of locals and based on the requisites of qualifications and skills required.
- MRPR and their EPC Contractors will design and develop a capacity building program including mentoring, coaching and apprenticeship opportunities for local villagers to maximise skills development for local people. The employment of local villagers for higher level positions should be maximised to facilitate good community relations.
- MRPR will make efforts to facilitate the growth and development of new entrepreneurs, both individuals and groups originating from affected communities.

Community Development

- MRPR will establish a Community Development Fund to undertake a range of community development initiatives.
- Community Social Responsibility (CSR) programmes will be designed and implemented by also coordinating with District (Kecamatan) and Village (Kelurahan) Offices, including in partnership with local agencies to create business opportunities for the local community. The CSR programmes will be available to the local community, including the workforce that is no longer involved after the construction of the Project. The CSR programmes will be developed in consultation with local community leaders and special interest groups.
- CSR programmes will also seek to improve levels of education and skills for people affected by the Project.

8.1.2 Physical and Economic Displacement

A draft LRP has been prepared which defines the strategy and steps required to mitigate the social impacts caused by land procurement and/or restriction of accesses on land and natural resources by local communities. The LRP will be implemented prior to the commencement of Project construction in accordance with ADB Safeguard Policy Statement Safeguard Policy Statement on Involuntary Resettlement (2009) and IFC Performance Standards Performance Standard 5 (PS5) on Land Acquisition and Involuntary Resettlement (2012).

8.1.3 Community Health, Safety and Security

- To prevent social tensions between the workforce and the local population, MRPR will develop a Worker's Code of Conduct. It also includes guidance on visits, prescribed actions for conduct violations and a grievance mechanism for complaints.
- The EPC Contractors will undertake pre- employment screening to ensure employees are fit to work.

- MRPR and their EPC Contractors' will provide free and anonymous health surveillance and active screening and treatment of workers including sexually transmitted diseases.
- MRPR and their EPC Contractors' will prevent illness among workers in local communities by undertaking health awareness and education amongst the workforce and in the neighbouring communities.
- MRPR and their EPC Contractors' will prepare and implement a Sexually Transmitted Disease Management Plan/Procedure.
- MRPR and their EPC Contractors' will define and implement measures to prevent vector-borne diseases (such as avoidance of stagnant water, measures to avoid mosquito development).
- MRPR and their EPC Contractors' will provide adequate and sufficient sanitation facilities for both female and male workers.
- Meals provided by MRPR or the EPC contractors shall be in line with international standards of hygiene and health requirements.
- The EPC Contractor shall involve external stakeholders (i.e. police or local authorities) in any on-site or off-site security incidents and ensure that appropriate incident response procedures are implemented.
- Access to all construction sites will be controlled with no unauthorised access from local communities permitted.
- MRPR and their EPC Contractors' will train the security guards on human rights issues. The security guards will not be armed. They will coordinate with local government security forces in case of need and will ensure that security and human rights of members of the local communities are respected.
- A Security Management Plan shall be developed in accordance with national law and the principles of good international industry practice.

8.1.4 Cultural Heritage

- MRPR will develop and implement a Chance Find Procedure for all Project components. This procedure will be applied by the EPC Contractor's and all Subcontractors during all Project construction works. See ESIA Volume 5 – Technical Appendices.
- The Worker's Code of Conduct will include a section on Cultural Heritage and respect of local beliefs and traditions in the local communities. All workers will be made aware of the Code of Conduct and awareness sessions will be organized for all new staff.
- If any element of cultural heritage is discovered during the construction of the Project, mitigation measures to protect them and to ensure that the local population can access them will be defined and implemented. These measures will be defined in a participatory manner with the affected persons or communities.

8.2 Monitoring

The following monitoring strategies shall be implemented:

- During construction and operation, the number of people being employed by the Project from the three villages adjacent to the power plant site (Industri Tenayan, Bencah Lesung and Tuah Negeri), the five villages along the gas pipeline route (Maredan, Kuala Gasib, Pinang Sebatang, Tualang Timur and Melebung) and Okura Village should be monitored.
- Monitoring of the recruitment process and implementation of employment, health, safety and security mitigation measures shall be implemented.
- Participatory monitoring shall be conducted by the local community members via representatives selected or appointed by the villagers.

- During construction and operation, surveys shall be conducted to determine the number of new businesses and increase or decreases in tourism businesses generated by the development and the level of indirect employment.
- MRPR will establish adequate numbers and training capacity of community liaison officers.
- A MRPR Community Liaison Officer will be responsible for updating and monitoring the implementation of the LRP and Grievance Mechanism defined in the SEP.
- An independent third-party review is recommended of the effective implementation of the LRP, one year after civil construction works commence.
- Examination of ADB Safeguards and IFC Performance Standards to be monitored by MRPR through on-site visits on a quarterly basis.
- The grievance mechanism resolution and grievance database shall be monitored with progress reported on a quarterly basis.
- The implementation of the LRP will be audited by a third party one year after construction has commenced to check that the restoration measures as set out in the LRP have been successfully applied.
- Monthly fyke net monitoring in the Siak River will be undertaken to identify and change in fish population

8.3 Residual Impacts

Residual impacts are those which remain once proposed mitigation measures have been put in place. All impacts identified from construction and operation of the Project are anticipated to be of Negligible significance apart from economic displacement which was determined to be of Moderate significance. In consideration of the mitigation measures described above overall residual impacts from the construction and operation of the Project are anticipated to be **Minor** to **Negligible** significance.

A summary of social impacts, mitigation and monitoring measures and residual impacts during construction and operation is summarised in Table 8.1 below.

Table 8.1 : Summary of Social Impacts during Construction and Operation

Activity	Potential Impact	Sensitivity	Magnitude	Significance	Key Mitigation (see Section 8)	Residual Impact Significance
Employment	Direct – Employment opportunities (Beneficial)	Medium	Moderate	Moderate	N/A	Moderate (Beneficial)
	Direct – Conflict from not employing local resources	Medium	Minor	Minor	See Section 8.1.1	Negligible
	Indirect – Employment opportunities for local businesses (Beneficial)	Medium	Minor	Minor	N/A	Minor (Beneficial)
Displacement	Temporary physical displacement	Medium	Minor	Minor	N/A	Negligible
Economic Displacement and Livelihood	Economic displacement at power plant	Low	Negligible	Negligible	Development and implementation of a LRP (see Section 8.1.2)	Negligible
	Economic displacement at temporary jetty	Low	Negligible	Negligible		Negligible
	Economic displacement at water intake and discharge pipelines	Medium	Minor	Minor		Negligible
	Economic displacement along gas pipeline route	Medium	Moderate	Moderate		Minor
Tourism	Disruption to areas of tourist interest and tourism businesses	Low	Negligible	Negligible	See Section 8.1.1	Negligible
Community Health, Safety and Security	Influx of workers – transmissible diseases	Low	Minor	Negligible	See Section 8.1.3	Negligible
	Safety and Security – Increased river traffic during construction	Medium	Negligible	Negligible		Negligible
Gender	Gender bias towards men	Medium	Minor	Minor	See Section 8.1.1	Negligible
Vulnerable	Economic displacement	Medium	Moderate	Moderate	Development and implementation of a LRP (see Section 8.1.2)	Minor
Indigenous People	Economic displacement and disruption	Low	Negligible	Negligible	N/A	Negligible
Education	Disruption to schools along the gas pipeline route	Medium	Negligible	Negligible	N/A	Negligible
	Capacity building / training	Medium	Minor	Minor	See Section 8.1.1	Minor (Beneficial)
Ecosystem Services	Loss of provisioning services associated Siak River	Low	Negligible	Negligible	N/A	Negligible

Activity	Potential Impact	Sensitivity	Magnitude	Significance	Key Mitigation (see Section 8)	Residual Impact Significance
	Removal of plants used for medicinal purposes	Negligible	Negligible	Negligible		Negligible
Cultural Heritage	Loss/damage to cultural heritage sites	Medium	Minor	Minor	Develop and implement a Chance Find Procedure (see ESIA Volume 5 – Technical Appendices). See Section 8.1.4 for further mitigation.	Negligible

9. References

- Asian Development Bank (2001). Social Protection Strategy. Accessed April 2018 at [\[https://www.adb.org/sites/default/files/institutional-document/32100/social-protection.pdf\]](https://www.adb.org/sites/default/files/institutional-document/32100/social-protection.pdf).
- Asian Development Bank (2003). Gender and Development Policy. Accessed April 2018 at [\[https://www.adb.org/sites/default/files/institutional-document/32035/gender-policy.pdf\]](https://www.adb.org/sites/default/files/institutional-document/32035/gender-policy.pdf).
- Asian Development Bank (2009). Safeguard Policy Statement. Accessed April 2018 at [\[https://www.adb.org/sites/default/files/institutional-document/32056/safeguard-policy-statement-june2009.pdf\]](https://www.adb.org/sites/default/files/institutional-document/32056/safeguard-policy-statement-june2009.pdf).
- Asian Development Bank (2012). Involuntary Resettlement Safeguards. A Planning and Implementation Good Practice Sourcebook – Draft Working Document. Accessed April 2018 at [\[https://www.adb.org/sites/default/files/institutional-document/32827/files/ir-good-practices-sourcebook-draft.pdf\]](https://www.adb.org/sites/default/files/institutional-document/32827/files/ir-good-practices-sourcebook-draft.pdf).
- Asian Development Bank (2013). Indigenous Peoples Safeguards. A Planning and Implementation Good Practice Sourcebook – Draft Working Document. Accessed April 2018 at [\[https://www.adb.org/sites/default/files/institutional-document/33748/files/ip-good-practices-sourcebook-draft.pdf\]](https://www.adb.org/sites/default/files/institutional-document/33748/files/ip-good-practices-sourcebook-draft.pdf).
- Badan Pusat Statistik Kabupaten Siak (2017). Kabupaten Siak Dalam Angka 2017 (Siak Regency in Numbers). Siak: BPS
- Badan Pusat Statistik Kota Pekanbaru (2017). Kota Pekanbaru Dalam Angka 2017 (Pekanbaru City in Numbers). Pekanbaru: BPS
- Badan Pusat Statistik Provinsi Riau (2017). Provinsi Riau Dalam Angka 2016 Riau Province in Numbers 2017). Pekanbaru: BPS
- IFC (2012). IFC Performance Standards on Environmental and Social Sustainability. Accessed April 2018 at [\[http://www.ifc.org/wps/wcm/connect/115482804a0255db96fbffd1a5d13d27/PS_English_2012_Full-Document.pdf?MOD=AJPERES\]](http://www.ifc.org/wps/wcm/connect/115482804a0255db96fbffd1a5d13d27/PS_English_2012_Full-Document.pdf?MOD=AJPERES).
- Kecamatan Koto Gasib (2017). Kecamatan Koto Gasib dalam Angka 2016 (Kotogasib sub district in Numbers 2016) Koto Gasib
- Kecamatan Tualang (2017). Kecamatan Tualang dalam Angka 2016 (Tualang sub district in Numbers 2016). Tualang
- Kecamatan Tenayan Raya (2017). Kecamatan Tenayan Dalam Angka 2016. Tenayan Raya
- Pemerintah Kabupaten Siak (2016). Laporan Keterangan Pertanggung Jawaban Kepala Daerah Akhir Masa Jabatan (LKPD KDH AMJ)- Accountability Report of District Head 2011-2016. Siak
- Pemerintah Kota Pekanbaru (2016). Laporan Kinerja Instansi Pemerintah tahun 2016/Report of Work Local government sectors 2016. Pekanbaru